

SENOLOGY INC (SNMX)

DEF 14A

Definitive proxy statements

Filed on 04/14/2011

Filed Period 05/26/2011



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UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

SCHEDULE 14A INFORMATION

Proxy Statement Pursuant to Section 14(a) of
the Securities Exchange Act of 1934 (Amendment No.)

Filed by the Registrant

Filed by a Party other than the Registrant

Check the appropriate box:

- Preliminary Proxy Statement
- Confidential, for Use of the Commission Only (as permitted by Rule 14a-6(e)(2))**
- Definitive Proxy Statement
- Definitive Additional Materials
- Soliciting Material Pursuant to §240.14a-12

Senomyx, Inc.

(Name of Registrant as Specified In Its Charter)

(Name of Person(s) Filing Proxy Statement, if other than the Registrant)

Payment of Filing Fee (Check the appropriate box):

- No fee required.
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 - (4) Date Filed: _____

SEKOMYX, INC.
4767 Nexus Center Drive
San Diego, California 92121

**NOTICE OF ANNUAL MEETING OF STOCKHOLDERS
TO BE HELD ON MAY 26, 2011**

Dear Stockholder:

You are cordially invited to attend the 2011 Annual Meeting of Stockholders of Senomyx, Inc., a Delaware corporation. The meeting will be held on May 26, 2011 at 9:00 a.m. local time at our corporate offices located at 4767 Nexus Centre Drive, San Diego, CA 92121, for the following purposes:

1. To elect the seven nominees for director set forth in Proposal 1 to hold office until our 2012 Annual Meeting of Stockholders.
2. To ratify the selection by the Audit Committee of our Board of Directors of Ernst & Young LLP as our independent registered public accounting firm for the fiscal year ending December 31, 2011.
3. To hold an advisory vote on executive compensation.
4. To hold an advisory vote on the frequency of future advisory votes on executive compensation.
5. To conduct any other business properly brought before the meeting.

These items of business are more fully described in the proxy statement accompanying this notice.

The record date for the annual meeting is April 6, 2011. Only stockholders of record at the close of business on that date may vote at the meeting or any adjournment or postponement thereof.

Important Notice Regarding the Availability of Proxy Materials for the Annual Meeting of Stockholders to be held on May 26, 2011 at 9:00 am Local Time at our corporate offices located at 4767 Nexus Centre Drive, San Diego, CA 92121. The proxy statement and annual report to stockholders are available at <http://proxy2011.senomyx.com>.

By Order of the Board of Directors



Kent Snyder
*Chief Executive Officer and
Chairman of the Board of Directors*

San Diego, California
April 14, 2011

You are cordially invited to attend the meeting in person. Whether or not you expect to attend the meeting, please vote over the Internet as instructed by these materials, or complete, date, sign and return the enclosed proxy card if you received a proxy card by mail, as promptly as possible in order to ensure your representation at the meeting. If you received a paper copy of the proxy card by mail, a return envelope (which is postage prepaid if mailed in the United States) is enclosed for your convenience. Even if you have voted by proxy, you may still vote in person if you attend the meeting. Please note, however, that if your shares are held of record by a broker, bank or other agent and you wish to vote at the meeting, you must request and obtain a proxy issued in your name from that record holder.

SEKOMYX, INC.
4767 Nexus Center Drive
San Diego, California 92121

**PROXY STATEMENT
FOR THE ANNUAL MEETING OF STOCKHOLDERS
TO BE HELD ON MAY 26, 2011**

QUESTIONS AND ANSWERS

Why have these proxy materials been made available to me?

We made these proxy materials available to you on the Internet and/or we have delivered printed versions of these materials to you by mail, because the Board of Directors of Senomyx, Inc. is soliciting your proxy to vote at its 2011 Annual Meeting of Stockholders, including at any adjournments or postponements of the meeting. You are invited to attend the annual meeting to vote on the proposals described in this proxy statement. However, you do not need to attend the meeting to vote your shares. Instead, you may simply complete, sign and return the accompanying proxy card.

Why did I receive a one-page notice in the mail regarding the Internet availability of proxy materials?

As permitted by rules adopted by the Securities and Exchange Commission, or SEC, we are making this proxy statement and our annual report available to stockholders electronically via the Internet. Accordingly, we are sending by mail a Notice of Internet Availability of Proxy Materials to our stockholders of record containing instructions on how to access the proxy materials and vote by proxy over the Internet. All stockholders have the ability to access the proxy materials on a website referred to in the Notice of Internet Availability of Proxy Materials or request the delivery of a printed set of proxy materials. If you received a Notice of Internet Availability of Proxy Materials by mail and would like to receive a printed copy of our proxy materials, you should follow the instructions for requesting such materials included in the Notice of Internet Availability of Proxy Materials.

We intend to mail the Notice of Internet Availability of Proxy Materials (or this proxy statement, our annual report and a proxy card to stockholders with pre-existing requests to receive paper copies of such materials) on or about April 14, 2011 to all stockholders of record entitled to vote at the annual meeting.

Who can vote at the annual meeting?

Only stockholders of record at the close of business on April 6, 2011, the record date for the annual meeting, will be entitled to vote at the annual meeting. At the close of business on the record date, there were 39,571,477 shares of common stock outstanding and entitled to vote.

Stockholder of Record: Shares Registered in Your Name

If at the close of business on the record date, your shares were registered directly in your name with our transfer agent, BNY Mellon Shareowner Services, then you are a stockholder of record. As a stockholder of record, you may vote in person at the meeting or vote by proxy using the accompanying proxy card. Whether or not you plan to attend the meeting, we urge you to fill out and return the accompanying proxy card to ensure your vote is counted.

Beneficial Owner: Shares Registered in the Name of a Broker, Bank or Other Agent

If at the close of business on the record date, your shares were held, not in your name, but rather in an account at a brokerage firm, bank or other agent, then you are the beneficial owner of shares held in "street name" and these proxy materials or the Notice of Internet Availability of Proxy Materials are being forwarded to you by your broker, bank or other agent. The broker, bank or other agent holding your account is considered to be the stockholder of record for purposes of voting at the annual meeting.

As a beneficial owner, you have the right to direct your broker, bank or other agent on how to vote the shares in your account. You are also invited to attend the annual meeting. However, since you are not the stockholder of record, you may not vote your shares in person at the meeting unless you request and obtain a valid proxy issued in your name from your broker, bank or other agent.

What am I voting on?

There are four matters scheduled for a vote at the annual meeting:

- the election of the seven nominees for director set forth in Proposal 1 to hold office until our 2012 Annual Meeting of Stockholders,
- the ratification of the selection by the Audit Committee of our Board of Directors of Ernst & Young LLP as our independent registered public accounting firm for the fiscal year ending December 31, 2011,
- an advisory vote on executive compensation, and
- an advisory vote on the frequency of future advisory votes on executive compensation.

What if another matter is properly brought before the meeting?

The Board of Directors knows of no other matters that will be presented for consideration at the annual meeting. If any other matters are properly brought before the meeting it is the intention of the persons named in the accompanying proxy to vote on those matters in accordance with their best judgment.

How do I vote?

For the election of directors, you may either vote "For" all nominees or you may "Withhold" your vote for any nominee you specify. With regard to your advisory vote on how frequently we should solicit shareholder advisory approval of executive compensation, you may vote for any one of the following: one year, two years or three years, or you may abstain from voting on that matter. For any other matter to be voted on, you may vote "For" or "Against" or abstain from voting. The procedures for voting are as follows:

Stockholder of Record: Shares Registered in Your Name

If you are a stockholder of record, you may vote in person at the annual meeting. Alternatively, you may vote by proxy through the Internet or using the accompanying proxy card. Whether or not you plan to attend the meeting, we urge you to vote by proxy to ensure your vote is counted. You may still attend the meeting and vote in person if you have already voted by proxy.

- To vote in person, come to the annual meeting and we will give you a ballot when you arrive.
- To vote on the Internet, go to <http://proxy2011.senomyx.com> and follow the instructions provided on the website. In order to cast your vote, you will be asked to provide the control number from the Notice of Internet Availability of Proxy Materials or the proxy card mailed to you. Your vote must be received by 11:59 p.m. Eastern Time on May 25, 2010 to be counted.
- To vote using the proxy card, simply complete, sign and date the accompanying proxy card and return it promptly in the envelope provided. If you return your signed proxy card to us before the annual meeting, we will vote your shares as you direct. If you received a Notice of Internet Availability of Proxy Materials and would like to request a proxy card by mail, please follow the instructions contained in the Notice of Internet Availability of Proxy Materials.

Beneficial Owner: Shares Registered in the Name of Broker, Bank or Other Agent

If you are a beneficial owner of shares registered in the name of your broker, bank or other agent, you should have received a Notice of Internet Availability of Proxy Materials or a proxy card and voting instructions with these proxy materials from that organization rather than from us. Simply follow the instructions in the Notice of Internet Availability of Proxy Materials received from your broker, bank or other agent to vote on the Internet or, if you received a proxy card by mail, complete, sign and return the proxy card to ensure that your vote is counted. To vote in person at the annual meeting, you must obtain a valid proxy from your broker, bank or other agent. Follow the instructions from your broker, bank or other agent included in the Notice of Internet Availability of Proxy Materials or with these proxy materials, or contact your broker, bank or other agent to request a proxy form.

We provide Internet proxy voting to allow you to vote your shares online, with procedures designed to ensure the authenticity and correctness of your proxy vote instructions. However, please be aware that you must bear any costs associated with your Internet access, such as usage charges from Internet access providers.

How many votes do I have?

On each matter to be voted upon, you have one vote for each share of common stock you own as of the close of business on April 6, 2011, the record date for the annual meeting.

What if I return a proxy card but do not make specific choices?

If you return a signed and dated proxy card without marking any voting selections, your shares will be voted "For" the election of all nominees for director, "For" the ratification of the selection of Ernst & Young LLP as our independent registered public accounting firm, "For" the advisory approval of executive compensation and "For" three years as the preferred frequency of advisory votes to approve executive compensation. If any other matter is properly presented at the meeting, one of the individuals named on your proxy card as your proxy will vote your shares using his or her best judgment.

Who is paying for this proxy solicitation?

We will pay for the entire cost of soliciting proxies. In addition to these mailed proxy materials, our directors and employees may also solicit proxies in person, by telephone, or by other means of communication. Directors and employees will not be paid any additional compensation for soliciting proxies. We may also reimburse brokerage firms, banks and other agents for the cost of forwarding proxy materials to beneficial owners.

What does it mean if I receive more than one Notice of Internet Availability of Proxy Materials or proxy card?

If you receive more than one Notice of Internet Availability of Proxy Materials or proxy card, your shares are registered in more than one name or are registered in different accounts. Please follow the voting instructions in **each** Notice of Internet Availability of Proxy Materials, or complete, sign and return **each** proxy card to ensure that all of your shares are voted.

Can I revoke or change my vote after submitting my proxy?

Yes. You can revoke your proxy and change your vote at any time before the applicable vote at the meeting. If you are the record holder of your shares, you may revoke your proxy in any one of four ways:

- you may submit another properly completed proxy with a later date,
- you may vote again by Internet at a later time,
- you may send a written notice that you are revoking your proxy to our Corporate Secretary at 4767 Nexus Center Drive, San Diego, California 92121, or
- you may attend the annual meeting and vote in person (however, simply attending the meeting will not, by itself, revoke your proxy or change your vote).

Your most current proxy card or Internet proxy is the one that is counted.

If your shares are held by your broker, bank or other agent, you should follow the instructions provided by them.

When are stockholder proposals due for next year's annual meeting?

To be considered for inclusion in next year's proxy materials, a stockholder proposal must be submitted in writing by December 16, 2011, to our Corporate Secretary at 4767 Nexus Center Drive, San Diego, California 92121. If you wish to submit a proposal that is not to be included in next year's proxy materials, your proposal generally must be submitted in writing to the same address no later than February 26, 2012 but no earlier than January 27, 2012. Please review our bylaws, which contain additional requirements regarding advance notice of stockholder proposals.

How are votes counted?

Votes will be counted by the inspector of election appointed for the meeting, who will separately count, for the proposal to elect directors, "For," "Withhold" and broker non-votes; with respect to the proposal regarding frequency of shareholder advisory votes to approve executive compensation, votes for frequencies of one year, two years or three years, abstentions and broker non-votes; and with respect to any other proposals, votes "For" and "Against", abstentions and, if applicable, broker non-votes. A "broker non-vote" occurs when a nominee holding shares for a beneficial owner does not vote on a particular proposal because the nominee does not have discretionary voting power with respect to that proposal and has not received instructions with respect to that proposal from the beneficial owner, despite voting on at least one other proposal for which it does have discretionary authority or for which it has received instructions. Abstentions will be counted towards the vote total for each proposal, and will have the same effect as "Against" votes. Broker non-votes have no effect and will not be counted towards the vote total for any proposal.

If your shares are held by your broker, bank or other agent as your nominee (that is, in "street name"), you will need to obtain a proxy form from the institution that holds your shares and follow the instructions included on that form regarding how to instruct your broker, bank or other agent to vote your shares. If you do not give instructions to your broker, bank or other agent, they can vote your shares with respect to "discretionary" items, but not with respect to "non-discretionary" items. Discretionary items are proposals considered routine under the rules of the New York Stock Exchange on which your broker, bank or other agent may vote shares held in street name in the absence of your voting instructions. On non-discretionary items for which you do not give instructions to your broker, bank or other agent, the shares will be treated as broker non-votes.

What are "broker non-votes"?

Broker non-votes occur when a beneficial owner of shares held in "street name" does not give instructions to the broker or nominee holding the shares as to how to vote on matters deemed "non-routine." Generally, if shares are held in street name, the beneficial owner of the shares is entitled to give voting instructions to the broker or nominee holding the shares. If the beneficial owner does not provide voting instructions, the broker or nominee can still vote the shares with respect to matters that are considered to be "routine," but not with respect to "non-routine" matters. Under the rules and interpretations of the New York Stock Exchange ("NYSE"), "non-routine" matters are matters that may substantially affect the rights or privileges of shareholders, such as mergers, shareholder proposals, elections of directors (even if not contested) and, for the first time, under a new amendment to the NYSE rules, executive compensation, including the advisory shareholder votes on executive compensation and on the frequency of shareholder votes on executive compensation.

How many votes are needed to approve each proposal?

- For the election of directors, the seven nominees receiving the most "For" votes (among votes properly cast in person or by proxy) will be elected. Only votes "For" or "Withheld" will affect the outcome.
- The ratification of the selection of Ernst & Young LLP as our independent registered public accounting firm must receive a "For" vote from the majority of shares present and entitled to vote either in person or by proxy. If you "Abstain" from voting, it will have the same effect as an "Against" vote. Broker non-votes will have no effect.
- Advisory approval of the compensation of the Company's named executive officers will be considered to be approved if it receives "For" votes from the holders of a majority of shares either present in person or represented by proxy and entitled to vote. If you "Abstain" from voting, it will have the same effect as an "Against" vote. Broker non-votes will have no effect.
- With respect to the advisory vote on the frequency of shareholder advisory votes on executive compensation, the frequency receiving the highest number of votes from the holders of shares present in person or represented by proxy and entitled to vote at the annual meeting will be considered the frequency preferred by the shareholders. Abstentions and Broker non-votes will have no effect.

What is the quorum requirement?

A quorum of stockholders is necessary to hold a valid meeting. A quorum will be present if at least a majority of the outstanding shares as of the close of business on the record date are represented by stockholders present at the meeting or by proxy. At the close of business on the record date, there were 39,571,477 shares outstanding and entitled to vote. Therefore, in order for a quorum to exist, 19,785,739 shares must be represented by stockholders present at the meeting or by proxy.

Your shares will be counted towards the quorum only if you submit a valid proxy (or one is submitted on your behalf by your broker, bank or other agent) or if you vote in person at the meeting. Abstentions and broker non-votes will be counted towards the quorum requirement. If there is no quorum, a majority of the votes present at the meeting may adjourn the meeting to another date.

How can I find out the results of the voting at the annual meeting?

Preliminary voting results will be announced at the annual meeting. In addition, final voting results will be published in a Current Report on Form 8-K that we expect to file within four business days after the annual meeting. If final voting results are not available to us in time to file a Form 8-K within four business days after the meeting, we intend to file a Form 8-K to publish preliminary results and, within four business days after the final results are known to us, file an additional Form 8-K to publish the final results.

What proxy materials are available on the Internet?

The proxy statement and Annual Report on Form 10-K for the fiscal year ended December 31, 2010 are available at *http://proxy2011.senomyx.com*.

PROPOSAL 1

ELECTION OF DIRECTORS

Our Board of Directors currently consists of seven members and there are seven nominees for director this year. Each director is to be elected at the annual meeting to serve until our 2012 Annual Meeting of Stockholders and until his or her successor is duly elected and qualified, or until his or her death, resignation or removal. Each of the nominees is currently a director of Senomyx and, with the exception of Dr. Mary Ann Gray, was previously elected by our stockholders. In September 2010, our Board of Directors authorized an increase in the number of directors from six to seven and appointed Dr. Gray to fill the vacancy.

Directors are elected by a plurality of the votes present at the meeting or by proxy and entitled to vote at the meeting. The seven nominees receiving the most "For" votes (among votes properly cast in person or by proxy) will be elected. If no contrary indication is made, shares represented by executed proxies will be voted "For" the election of the seven nominees named below or, if any nominee becomes unavailable for election as a result of an unexpected occurrence, "For" the election of a substitute nominee designated by our Board of Directors. Each nominee has consented to be named in the proxy statement and to serve as a director if elected, and we have no reason to believe that any nominee will be unable to serve.

We encourage, but do not require, our Board members to attend our annual meeting of stockholders. All of our directors who were then serving on our Board attended our 2010 Annual Meeting of Stockholders.

Nominees

The following is biographical information as of March 1, 2011 for each nominee for director.

It is important to note that the Corporate Governance and Nominating Committee seeks to assemble a Board of Directors that, as a whole, possesses the appropriate balance of professional and industry knowledge, financial expertise and high-level management experience necessary to oversee and direct our business. To that end, the Corporate Governance and Nominating Committee has evaluated nominees in the broader context of the Board's overall composition, with the goal of maintaining a group of individuals where each person's professional skills and experience will complement the skills and experience of the other members. In addition, the Corporate Governance and Nominating Committee also seeks to maintain a Board where each individual exhibits the high level of integrity and appropriate application of sound business judgment and other qualities that the committee views as important for the effective functioning of the Board.

The brief biographies below include information regarding the experience, qualifications, attributes or skills of each nominee that led the Corporate Governance and Nominating Committee to believe that the nominee should continue to serve on the Board. However, each of the members of the Corporate Governance and Nominating Committee may have a variety of reasons why he believes a particular person is an appropriate nominee for the Board, and these views may differ from the views of the other members.

<u>Name</u>	<u>Age</u>	<u>Position</u>
Roger D. Billingsley, Ph.D.	59	Director
Stephen A. Block, Esq.	66	Director
Mary Ann Gray, Ph.D.	58	Director
Michael E. Herman	69	Director
Jay M. Short, Ph.D.	53	Lead Independent Director
Kent Snyder	57	Chief Executive Officer and Chairman of the Board
Christopher J. Twomey	51	Director

Roger D. Billingsley, Ph.D. has served as a member of our Board of Directors since April 2008. Since March 2008 Dr. Billingsley has been serving as Senior Vice President, Technology and Product Development of Dole Fresh Vegetables, a division of Dole Food Company. From June 2006 to March 2008, he served as Division Vice President of Research and Development and Scientific Affairs of Abbott Nutrition, a division of Abbott Laboratories, Inc. From September 2004 to June 2006, Dr. Billingsley served as Division Vice President of Research and Development and Scientific Affairs of Ross Products, also a division of Abbott Laboratories, Inc. Prior to 2004, Dr. Billingsley held senior management positions at ConAgra Foods, Pet Incorporated, Nabisco Brands, Inc. and Kellogg Company. Dr. Billingsley currently serves as a director of Orange County Business Bank. Dr. Billingsley holds a B.S. and an M.S. from Southern Illinois University, Carbondale, a Ph.D. from the University of Tennessee, Knoxville and a post-doctoral degree from the University of Illinois, Champaign.

Dr. Billingsley's experience in research and development for packaged food and beverages contributes to the Board's understanding of the food and beverage industry and provides perspective into the priorities of our current and potential collaborators.

Stephen A. Block, Esq. has served as a member of our Board of Directors since March 2005. Mr. Block served as Chief Legal Officer and Secretary of International Flavors and Fragrances Inc., a leading creator, manufacturer and seller of flavors and fragrances (IFF), from January 1993 until his retirement in December 2003. He was named Senior Vice President, General Counsel and Secretary of IFF in February 2000. During his eleven years at IFF he also led the company's Regulatory Affairs department. Prior to 1993, Mr. Block held various management positions with GAF Corporation, a company specializing in specialty chemicals and building materials, and Celanese Corporation, a company specializing in synthetic fibers, chemicals and plastics. Mr. Block currently serves as an industry consultant and as a member of the Executive Committee, Westlake/Santa Barbara Network, of the Tech Coast Angels, a leading angel investing group. Mr. Block is also a director of ChromaDex Corporation, a reference standards and ingredient supply company, and of several privately held companies. Mr. Block received his B.A. cum laude in Russian Studies from Yale University and his law degree from the Harvard Law School. Mr. Block's background contributes to the Board's understanding of the flavor industry. In addition, Mr. Block contributes his experience in the area of corporate governance and public company financial reporting in his role as a member of multiple Board committees.

Mary Ann Gray, Ph.D. has served as a member of our Board of Directors since September 2010. Since 2003 Dr. Gray has served as President of Gray Strategic Advisors, LLC, which provides strategic consulting services to the biotechnology industry. From 1999 to 2003, Dr. Gray was Senior Analyst and Portfolio Manager for the Federated Kaufmann Fund. Prior to 1999, Dr. Gray led biotechnology equity research groups at Raymond James & Associates, Warburg Dillon Read, and Kidder Peabody. Dr. Gray currently serves on the Boards of Directors of two other publicly traded biopharmaceutical companies, Dyax Corp. and Acadia Pharmaceuticals, Inc. At Dyax she is also the lead independent director. Dr. Gray holds a Ph.D. in pharmacology from the University of Vermont and a B.S. in biology from University of South Carolina. Dr. Gray brings to the Board her experience as a financial analyst and portfolio manager in the biotechnology industry, as well as a background in scientific research. In addition, through her past and current service as a director for other development stage biotechnology companies Dr. Gray expands the Board's exposure to corporate and board governance practices at peer companies.

Michael E. Herman has served as a member of our Board of Directors since May 2005. Since 2006 Mr. Herman has been serving as President of the Herman Family Trading Company. From January 1992 to December 2000, Mr. Herman was President of the Kansas City Royals Baseball Club. From January 1990 to December 1999, he was Chairman of the Finance and Investment Committee of the Kauffman Foundation and was its President from January 1985 to December 1990. From October 1974 to December 1990, Mr. Herman was the Executive Vice President and Chief Financial Officer of Marion Laboratories. Mr. Herman is a director of Santarus, Inc., a biopharmaceutical company, Cerner Corporation, a health care information technology company, and also is a Trustee of Rensselaer Polytechnic Institute and the University of Chicago Graduate School of Business. Mr. Herman holds a B.S. in metallurgical engineering from Rensselaer Polytechnic Institute and an M.B.A. from the University of Chicago. Through Mr. Herman's prior business and financial experience, education and his service on other public company boards of directors he is able to provide operational expertise and leadership skills that are important to the Board, particularly in his capacity as Chairman of our Compensation Committee.

Jay M. Short, Ph.D. has served as a member of our Board of Directors since March 2004, and since May 2008 he has also served as our Lead Independent Director. Dr. Short is currently Executive Chairman, Chief Executive Officer and Principal of BioAtla, a protein therapeutics research and development services organization based in San Diego and Beijing. Dr. Short also is Founder of the E.O. Wilson Biodiversity Foundation, a 501(c)(3) public charity, and served as its President and Chairman from its inception in October 2005 through July 2008. From February 1999 to October 2005, Dr. Short was the President and Chief Executive Officer of Diversa Corporation (now a part of British Petroleum and Verenum). He was also a founder of Diversa Corporation, and served as Chief Technology Officer and as a director of the company from its inception in 1994 until October 2005. Dr. Short is a director and advisor of several privately-held companies, including Ciris Energy and Femta Pharmaceuticals, and served as a director of Invitrogen Corporation (now Life Technologies Corporation) from 1995 until 2008. Dr. Short received his Ph.D. in Biochemistry from Case Western Reserve University in Cleveland, Ohio and his B.A. with honors in Chemistry from Taylor University in Upland, Indiana. Dr. Short has also attended and received Director Certification from the UCLA Anderson School of Business. Dr. Short's scientific expertise combined with his current and prior experience as a chief executive and a director of other publicly traded companies in the biotechnology industry make him particularly well suited for his role as the Board's lead independent director and as a member of multiple Board committees. In 2006, Dr. Short was shortlisted by the editors of Nature Biotechnology as a personality making the most significant contribution to biotech in the past decade. Dr. Short also contributes to the Board's understanding of the

progress of the company's research and development programs, including serving as a liaison between the Board and the company's Scientific Advisory Board.

Kent Snyder joined Senomyx in June 2003 and has served as Chief Executive Officer and as a member of our Board of Directors since that time. From June 2003 until September 2009 Mr. Snyder also served as our President, and since May 2008 Mr. Snyder has served as our Chairman of the Board of Directors. From July 1991 to October 2001, Mr. Snyder held various marketing and sales management positions with Agouron Pharmaceuticals, Inc., a Pfizer company. Mr. Snyder's most recent position was President of Global Commercial Operations, and prior to that Mr. Snyder served as Senior Vice President of Commercial Affairs and Vice President of Business Development. Mr. Snyder is a director of Santarus, Inc., a publicly-held biopharmaceutical company. Mr. Snyder received his B.S. from the University of Kansas and his M.B.A. from Rockhurst College. Mr. Snyder contributes his extensive knowledge of the company and also ensures long-term continuity on the Board. In addition, he contributes operational and leadership skills that he has developed through his prior experience in various roles of increasing responsibility.

Christopher J. Twomey has served as a member of our Board of Directors since March 2006. Mr. Twomey joined Biosite Incorporated, a medical diagnostics company, in March 1990 serving in various roles of increasing responsibility, and most recently serving as Senior Vice President, Finance and Chief Financial Officer until his retirement in 2007. At Biosite he was responsible for the Finance, Human Resources, Facilities, and Information Systems departments. From 1981 to 1990, Mr. Twomey worked for Ernst & Young LLP, where he served as an audit manager. Mr. Twomey is a director of Cadence Pharmaceuticals, Inc., a biopharmaceutical company. Mr. Twomey holds a B.A. from the University of California at Santa Barbara. Mr. Twomey contributes substantial leadership skills and expertise in accounting and financial reporting that are especially valuable in his role as Chairman of our Audit Committee.

THE BOARD OF DIRECTORS RECOMMENDS A VOTE FOR THE ELECTION OF EACH NOMINEE NAMED ABOVE.

Background of Executives Not Listed Above

The following is biographical information as of March 1, 2011 for each of our executive officers not listed above.

Name	Age	Position
John Poyhonen	51	President and Chief Operating Officer
Donald S. Karanewsky, Ph.D.	59	Senior Vice President and Chief Scientific Officer
Sharon Wicker	55	Senior Vice President and Chief Commercial Development Officer
David B. Berger, Esq.	41	Vice President, General Counsel and Corporate Secretary
Antony E. Rogers	44	Vice President and Chief Financial Officer

John Poyhonen joined us in October 2003 as Vice President and Chief Business Officer and was promoted in April 2004 to Vice President, Chief Financial and Business Officer. In January 2006, he was promoted to Senior Vice President, Chief Financial and Business Officer and in September 2009 he was promoted to President and Chief Operating Officer. Before joining Senomyx, from 1996 until October 2003, Mr. Poyhonen served in various sales and marketing positions for Agouron Pharmaceuticals, a Pfizer company, most recently as Vice President of National Sales. Mr. Poyhonen is a director of Ardea Biosciences, Inc., a biopharmaceutical company. Mr. Poyhonen received his B.A. in Marketing from Michigan State University and his M.B.A. from the University of Kansas.

Donald S. Karanewsky, Ph.D., joined Senomyx in June 2007 as Senior Vice President, Discovery and was appointed Chief Scientific Officer in June 2010. From October 2002 to June 2007 Dr. Karanewsky was Executive Director of Chemistry at The Genomics Institute of the Novartis Research Foundation (GNF). At GNF, Dr. Karanewsky had management responsibility for the Departments of Medicinal Chemistry, Analytical Chemistry, Bioanalytical Chemistry, and Compound Management, and was a member of the GNF Drug Discovery Steering Committee and the Novartis Global Discovery Chemistry Leadership Team. Dr. Karanewsky has also directed chemistry research teams and had senior management roles at Ligand Pharmaceuticals and Idun Pharmaceuticals and he previously held principal positions at Glaxo Inc, Bristol-Myers Squibb, and the Squibb Institute for Medical Research. He received his Ph.D. in Chemistry from Harvard University and was granted a B.S. in Chemistry, Magna Cum Laude, from Stevens Institute of Technology in New Jersey. Dr. Karanewsky is an inventor on more than 85 issued US patents and has authored over 70 scientific publications.

Sharon Wicker has served as our Senior Vice President and Chief Commercial Development Officer since September 2009. From when Ms. Wicker joined Senomyx in April 2006 until September 2009 she served as our Senior Vice President of Commercial Development and Chief Strategy Officer. From 2003 to 2006, Ms. Wicker held various strategic marketing positions, most recently as President, Flavor Business Unit, at A.M. Todd Company. Prior to 2003 Ms. Wicker held various general management positions with Heinz, ConAgra and General Mills. Ms. Wicker received her B.S. in Food Science and Nutrition from Colorado State University and her M.B.A. from Michigan State University.

David B. Berger, Esq., Vice President, General Counsel and Corporate Secretary, joined us in January 2008. From 2003 until 2007 Mr. Berger was responsible for all commercial aspects of legal affairs at Biosite Incorporated, a medical diagnostics company. At Biosite, Mr. Berger most recently held the position of Vice President, Legal Affairs. Previously, Mr. Berger was an attorney at Cooley Godward LLP and Amylin Pharmaceuticals, Inc. Mr. Berger earned his J.D. from Stanford Law School and received his B.A. in Economics at the University of California, Berkeley.

Antony E. Rogers, Vice President and Chief Financial Officer, joined us in June 2001 and was appointed Director of Finance and Administration in February 2002. He has served in various roles of increasing responsibility and was appointed Vice President, Finance and Treasury in February 2006. He was promoted to his current position in September 2009. His previous experience includes various finance and accounting positions with Indiqu, Inc., Ancile Pharmaceuticals, Aurora Biosciences, and Sequana Therapeutics. Mr. Rogers received his B.S. in Accounting from San Diego State University.

Independence of the Board of Directors and its Committees

As required under NASDAQ Stock Market listing standards, a majority of the members of a listed company's Board of Directors must qualify as "independent," as affirmatively determined by the board. Our Board of Directors consults with our counsel to ensure that the Board's determinations are consistent with all relevant securities and other laws and regulations regarding the definition of "independent," including those set forth in applicable NASDAQ listing standards, as in effect from time to time. Consistent with these considerations, our Board has determined that all of our current directors are independent directors within the meaning of the applicable NASDAQ listing standards, except for Mr. Snyder, our Chief Executive Officer and Chairman.

As required under applicable NASDAQ listing standards, our independent directors meet in regularly scheduled executive sessions at which only independent directors are present. All of the committees of our Board of Directors are comprised entirely of directors determined by the Board to be independent within the meaning of the applicable NASDAQ listing standards and free of any relationship that would impair his individual exercise of independent judgment with regard to Senomyx.

We have also established a lead independent director policy that provides that if the Chairman of the Board is the Chief Executive Officer or is not an independent director, the independent directors shall appoint a lead independent director who shall be responsible for reviewing and providing input on the agendas for meetings of the Board of Directors, chairing executive sessions in the absence of the Chairman of the Board, serving as a liaison between the Chairman of the Board and the independent directors and serving as an independent point of contact for stockholders wishing to communicate to the Board of Directors other than through the Chairman of the Board.

Board Leadership Structure

Our Board of Directors is currently chaired by Mr. Snyder, who is also our Chief Executive Officer. As indicated above, the Board has also adopted a lead independent director policy and has appointed Dr. Short as the Board's lead independent director.

Our Board believes that Mr. Snyder's history as chief executive officer and his long tenure as a director make him well suited for the role of Chairman of the Board. In light of his day-to-day oversight of the company's operations, Mr. Snyder possesses a detailed knowledge of our business and strategy and he is able to efficiently communicate and oversee the implementation of feedback from the Board to other members of the company's management team. In addition, the Board believes that Mr. Snyder possesses the leadership skills and integrity that are appropriate for a Board Chairman, and he is able to effectively moderate the Board's discussions and build a consensus among different points of view.

The Board appointed Dr. Short as the lead independent director to help reinforce the independence of the Board as a whole. The position of lead independent director has been structured to serve as an effective balance to a combined Chief Executive Officer/Board Chair. Dr. Short is well qualified for the role based on his past service as an independent director on many other public and private company boards of directors combined with his previous experience as Chief Executive Officer of a publicly traded biotechnology company. As the lead independent director, Dr. Short is empowered to, among other duties and responsibilities, review and provide input on the agendas for meetings of the Board of Directors, chair

executive sessions in the absence of the Chairman of the Board, serve as a liaison between the Chairman of the Board and the independent directors and serving as an independent point of contact for stockholders wishing to communicate to the Board of Directors other than through the Chairman of the Board. As reinforcement of the importance of an independent Board, and as described above, the independent directors on the Board also routinely meet outside the presence of the company's management, including Mr. Snyder. For all of these reasons, the Board believes that the lead independent director can help ensure the effective independent functioning of the Board in its oversight responsibilities.

Board's Role in Risk Oversight

The Board receives regular reports from members of the company's senior management on areas of material risk to Senomyx and the full Board is primarily responsible for risk oversight associated with the company. In particular, our Board monitors and considers risk associated with our business strategy, scientific and technical risk, risk associated with existing and potential future collaborative research, development and license agreements, regulatory risk, liquidity risk and other external risks inherent in our business. The Board does not have a standing risk management committee, but has delegated some specific functions relating to risk oversight to each of its standing committees.

Under its charter, the Audit Committee has the responsibility to consider and review with management and the company's independent registered public accountants the company's major financial risk exposures and the steps taken by management to monitor and control these exposures. In that regard, the Audit Committee oversees the engagement and performance of services by our independent registered public accountants, including routinely meeting with our independent registered public accountants outside the presence of management. The Audit Committee also periodically reviews the company's investment policy and establishes appropriate complaint procedures whereby employees or others may report suspected questionable accounting or auditing matters, or violations of the company's Code of Business Conduct and Ethics.

Under its charter, the Compensation Committee reviews and approves our compensation policies and programs and benefit plans affecting our officers, but also other Senomyx employees generally. In the course of those reviews, the Compensation Committee evaluates the potential of those policies, programs and benefits to influence employees to encourage excessive risk-taking. The Compensation Committee also reviews and establishes appropriate insurance coverage for the company's officers and directors. We do not believe our compensation policies, programs and benefits are reasonably likely to have a material adverse effect on the company.

The Corporate Governance and Nominating Committee is involved in risk oversight associated with management succession by periodically reviewing and evaluating succession plans for our officers. The Corporate Governance and Nominating Committee also oversees the annual self-assessment process for our Board of Directors and each of its standing committees, which is intended to evaluate the effectiveness of Board and committee operations and proactively identify areas of potential improvement for the effective operation and performance of the Board and its committees.

While each committee is responsible for evaluating and managing certain risks, all of our directors are kept informed of those activities through committee reports provided during regularly scheduled meetings of our Board of Directors.

Information Regarding the Board of Directors and its Committees

Our Board of Directors has three standing committees to facilitate and assist the Board in the execution of its responsibilities. These committees are currently the Audit Committee, the Compensation Committee and the Corporate Governance and Nominating Committee. Each standing committee operates pursuant to a written charter. Charters for each standing committee are available on our website at <http://www.senomyx.com>.

The table below shows the current membership for each of the standing Board committees.

<u>Audit Committee</u>	<u>Compensation Committee</u>	<u>Corporate Governance and Nominating Committee</u>
Christopher J. Twomey, Chair	Michael E. Herman, Chair	Stephen A. Block, Esq., Chair
Stephen A. Block, Esq.	Roger D. Bilingsley, Ph.D.	Jay M. Short, Ph.D.
Roger D. Bilingsley, Ph.D.	Jay M. Short, Ph.D.	Christopher J. Twomey

In addition, our Board of Directors has determined that the Compensation Committee will be expanded to a total of four directors effective as of the Annual Meeting and Dr. Gray will be added as a member of the Compensation Committee at that time. From time to time the Board of Directors may also form special committees with responsibility for other matters as the need may arise. For instance, during 2008 the Board of Directors formed a Pricing Committee for the purpose of evaluating and approving a potential issuance of company securities pursuant to a shelf registration statement originally filed that year as well as other arrangements associated with a potential sale of securities. This Pricing Committee still remained in effect during 2010.

The following is a description of each standing committee and its functions.

Audit Committee

The charter of the Audit Committee grants the Audit Committee full access to all of our books, records, facilities and personnel, as well as authority to obtain, at our expense, advice and assistance from internal and external legal, accounting or other advisors and consultants and other external resources that the Audit Committee considers necessary or appropriate in the performance of its duties. The Audit Committee met five times during the fiscal year ended December 31, 2010. The functions of the Audit Committee include, among other things:

- reviewing and pre-approving the engagement of our independent registered public accounting firm to perform audit services and any permissible non-audit services;
- reviewing our annual and quarterly financial statements and reports and discussing the statements and reports with our independent registered public accounting firm and management;
- reviewing with our independent registered public accounting firm and management significant issues that arise regarding accounting principles and financial statement presentation, and matters concerning the scope, adequacy and effectiveness of our financial controls;
- reviewing and approving or rejecting transactions between Senomyx and any related persons; and
- establishing procedures for the receipt, retention and treatment of complaints received by us regarding financial controls, accounting or auditing matters.

Our Board of Directors has determined that Mr. Twomey qualifies as an "audit committee financial expert," as defined in applicable SEC rules and is independent within the meaning of the applicable NASDAQ listing standards. The Board made a qualitative assessment of Mr. Twomey's level of knowledge and experience based on a number of factors, including his formal education and prior work experience.

Report of the Audit Committee of the Board of Directors

The material in this report is not "soliciting material," is not deemed "filed" with the SEC, and is not to be incorporated by reference into any filing of Senomyx under the Securities Act of 1933, as amended, or the Securities Exchange Act of 1934, as amended.

The purpose of the Audit Committee is to assist our Board of Directors in its general oversight of, among other things: our financial reporting and the integrity of our financial statements and related financial information; our internal control environment, systems and performance; the qualifications and independence of our independent registered public accounting firm; and the performance of our independent registered public accounting firm.

In carrying out these responsibilities, the Audit Committee, among other things: oversees the preparation of our annual and quarterly financial statements by management and reviews with management and our independent registered public accounting firm, prior to issuance, the information to be released and our Annual Reports on Form 10-K and Quarterly Reports on Form 10-Q; retains our independent registered public accounting firm and oversees their work by reviewing the scope of audit services, approving all audit and non-audit services and fees to be paid, evaluating performance, and confirming independence; and oversees management's implementation and maintenance of effective systems of internal and disclosure controls, including review of the processes with respect to the certifications by our Chief Executive Officer and Chief Financial Officer that are required in periodic reports filed by Senomyx with the SEC.

The Audit Committee charter describes in greater detail the full responsibilities of the Audit Committee. Our Board of Directors has determined that all members of the Audit Committee are independent (as independence for audit committee members is currently defined in Rule 5605(c)(2)(A)(i) and (ii) of the NASDAQ listing standards).

Management is responsible for the preparation, presentation and integrity of the financial statements, accounting and financial reporting principles, and internal controls and procedures designed to ensure compliance with accounting standards, applicable laws and regulations. Our independent registered public accounting firm is responsible for annually performing an audit of financial statements and expressing an opinion as to their conformity with generally accepted accounting principles and the effectiveness of our internal control over financial reporting. In addition, our independent registered public accounting firm conducts quarterly reviews of our financial statements.

The Audit Committee reviews with our independent registered public accounting firm the scope of their services, the results of their audits and reviews, their evaluation of our internal controls, and the overall quality of our financial reporting. Our independent registered public accounting firm also periodically updates the Audit Committee about new accounting developments and their potential impact on our reporting. The Audit Committee meets regularly with our independent registered public accounting firm without management present. The Audit Committee also meets regularly with management without our independent registered public accounting firm present, and discusses management's evaluation of our independent registered public accounting firm's performance. The Audit Committee is not, however, employed by us, nor does it provide any expert assurance or professional certification regarding our financial statements. The Audit Committee relies, without independent verification, on the accuracy and integrity of the information provided, and representations made, by management and our independent registered public accounting firm.

With respect to 2010, the Audit Committee has reviewed and discussed the audited financial statements with management and our independent registered public accounting firm. The Audit Committee has reviewed and discussed with management its process for preparing its report on its assessment of the internal control over financial reporting, and at regular intervals received updates on the status of this process and actions taken by management to respond to issues and deficiencies identified. The Audit Committee discussed and reviewed with our independent registered public accounting firm their audit of internal control over financial reporting and their attestation report on management's assessment of the effectiveness of internal control over financial reporting, and the overall scope, plan and results of the independent registered public accounting firm's examination of the financial statements.

In discharging its oversight responsibility as to the audit process, the Audit Committee obtained from our independent registered public accounting firm a formal written statement describing all relationships between our independent registered public accounting firm and us that might bear on their independence consistent with applicable requirements of the Public Company Accounting Oversight Board, or PCAOB. The Audit Committee discussed with our independent registered public accounting firm any relationships that may impact their objectivity and independence, including fees paid relating to the audit and any non-audit services performed, and satisfied itself as to that firm's independence. The Audit Committee also discussed and reviewed with our independent registered public accounting firm all communications required by generally accepted accounting standards, including those described in Statement on Auditing Standards No. 61, as amended (AICPA, *Professional Standards*, Vol. 1. AU Section 380) as adopted by the PCAOB in Rule 3200T.

Based upon the Audit Committee's discussion with management and our independent registered public accounting firm and the Audit Committee's review of the representation of management and the report of the independent registered public accounting firm to the Audit Committee, subject to the limitations on the role and responsibility of the Audit Committee referred to in the written charter of the Audit Committee, the Audit Committee recommended to our Board of Directors that the audited financial statements be included in our Annual Report on Form 10-K for the year ended December 31, 2010 for filing with the SEC. The Audit Committee also approved the selection, subject to stockholder ratification, of our independent registered public accounting firm and the Board concurred in such authorization.

Audit Committee

Christopher J. Twomey, Chairman
Roger D. Billingsley, Ph.D.
Stephen A. Block, Esq.

Compensation Committee

The Compensation Committee met four times and acted by written consent one time during the fiscal year ended December 31, 2010. The functions of the Compensation Committee include, among other things:

- determining the compensation and other terms of employment of our executive officers and reviewing corporate performance goals and objectives relevant to such compensation;
- recommending to our Board of Directors the type and amount of compensation to be paid or awarded to board members;
- evaluating and recommending to our Board of Directors the equity incentive plans, compensation plans and similar programs for our employees, as well as modification or termination of existing plans and programs;
- establishing policies with respect to equity compensation arrangements;
- reviewing and approving the terms of any employment agreements, severance arrangements, change-in-control protections and any other compensatory arrangements for our executive officers; and
- reviewing with management our Compensation Discussion and Analysis and working with our management to prepare the relevant disclosures in proxy statements and other filings.

Typically, the Compensation Committee meets at least quarterly and with greater frequency if necessary. The agenda for each meeting is usually developed by the Chair of the Compensation Committee, in consultation with the Chief Executive Officer and other representatives of senior management and human resources as necessary. The Compensation Committee meets regularly in executive session. However, various members of management and other employees as well as outside advisors or consultants may be invited by the Compensation Committee to make presentations, provide financial or other background information or advice or otherwise participate in Compensation Committee meetings. For instance, the Compensation Committee routinely monitors legislative and regulatory developments that may impact the Company's compensation programs, and where appropriate solicits input from the Company's internal and external legal counsel with respect to actual and proposed changes in applicable laws and regulations. However, the Chief Executive Officer does not participate and is not present during deliberations or determinations of the Compensation Committee regarding his compensation. The charter of the Compensation Committee grants the Compensation Committee full access to all of our books, records, facilities and personnel, as well as authority to obtain, at our expense, advice and assistance from internal and external legal, accounting or other advisors and consultants and other external resources that the Compensation Committee considers necessary or appropriate in the performance of its duties. In particular, the Compensation Committee has the sole authority to retain compensation consultants to assist in its evaluation of executive and director compensation, including the authority to approve the consultant's reasonable fees and other retention terms.

During the past fiscal year, the Compensation Committee engaged Barney & Barney LLC, or Barney & Barney, as compensation consultants. The Compensation Committee requested that Barney & Barney evaluate compensation for our Board of Directors and executive team and make recommendations as necessary to achieve our compensation objectives.

As part of its engagement, Barney & Barney was requested by the Compensation Committee to identify a group of peer companies and to generate comparative compensation data from that peer group. At the request of the Compensation Committee, Barney & Barney, as necessary to perform their duties, also conducts individual interviews with members of senior management and human resources to learn more about Senomyx's business operations and strategy, key performance metrics and strategic goals, as well as the labor markets in which Senomyx competes. Barney & Barney, with management's assistance, ultimately developed recommendations that were presented to the Compensation Committee for its consideration. Barney & Barney performs no other services for us.

Under its charter, the Compensation Committee may form, and delegate authority to, subcommittees, as appropriate. The Compensation Committee has formed a Non-Officer Stock Option Committee, or NOSOC, currently composed of Mr. Snyder, to which it delegated authority to grant, without any further action required by the Compensation Committee, stock options to our employees who are not officers. From time to time the NOSOC may also be authorized to grant, without any further action required by the Compensation Committee, stock options to external advisors or consultants, such as members of our Scientific Advisory Board. The purpose of delegating authority to the NOSOC is to enhance the flexibility of option administration and to facilitate the timely grant of options to non-management employees, particularly new employees, and key external advisors and consultants within specified limits approved by the Compensation Committee. The size of grants made by the NOSOC must be within limits pre-approved by the Compensation Committee. During the fiscal year ended December 31, 2010, the NOSOC exercised its authority to grant options to purchase an aggregate of 400,600 shares to non-officer employees.

Historically, the Compensation Committee has made adjustments to annual compensation, determined bonus and equity awards and established new performance objectives at one or more meetings held during the first quarter of the year. However, the Compensation Committee also considers matters related to individual compensation, such as compensation for new executive hires, as well as high-level strategic issues, such as the efficacy of our compensation strategy, potential modifications to that strategy and new trends, plans or approaches to compensation, at various meetings throughout the year. Generally, the Compensation Committee's process comprises two related elements: the determination of compensation levels and the establishment of performance objectives for the current year. For executives other than the Chief Executive Officer, the Compensation Committee solicits and considers evaluations and recommendations submitted to the Compensation Committee by the Chief Executive Officer. In the case of the Chief Executive Officer, the evaluation of his performance is conducted by the Compensation Committee, which determines any adjustments to his compensation as well as awards to be granted. For all executives and directors, as part of its deliberations, the Compensation Committee may review and consider, as appropriate, materials such as financial reports and projections, operational data, tax and accounting information, tally sheets that set forth the total compensation that may become payable to executives in various hypothetical scenarios, executive and director stock ownership information, company stock performance data, analyses of historical executive compensation levels and current company-wide compensation levels, and recommendations of the Compensation Committee's compensation consultant, including analyses of executive and director compensation paid at other companies identified by the consultant.

The specific determinations of the Compensation Committee with respect to executive compensation are described in greater detail in the Compensation Discussion and Analysis section of this proxy statement.

Compensation Committee Interlocks and Insider Participation

As indicated above, the Compensation Committee currently consists of Mr. Herman and Drs. Billingsley and Short. No member of the Compensation Committee has ever been an officer or employee of Senomyx. None of our executive officers currently serves, or has served during the last completed fiscal year, on the Compensation Committee or Board of Directors of any other entity that has one or more executive officers serving as a member of our Board of Directors or Compensation Committee.

Corporate Governance and Nominating Committee

The charter of the Corporate Governance and Nominating Committee grants the Corporate Governance and Nominating Committee full access to all of our books, records, facilities and personnel, as well as authority to obtain, at our expense, advice and assistance from internal and external legal, accounting or other advisors and consultants and other external resources that the Corporate Governance and Nominating Committee considers necessary or appropriate in the performance of its duties. The Corporate Governance and Nominating Committee met two times during the fiscal year ended December 31, 2010. The functions of the Corporate Governance and Nominating Committee include, among other things:

- developing and maintaining a current list of the functional needs and qualifications of members of our Board of Directors;
- evaluating director performance on the Board and applicable committees of the Board and determining whether continued service on our Board is appropriate;
- interviewing, evaluating, nominating and recommending individuals for membership on our Board of Directors;
- evaluating nominations by stockholders of candidates for election to our Board;
- overseeing the self-assessment process for our Board and the applicable committees of the Board;
- developing, reviewing and amending a set of corporate governance policies and principles, including a code of ethics;
- considering questions of possible conflicts of interest of directors as such questions arise; and
- recommending to our Board of Directors the establishment of such special committees as may be desirable or necessary from time to time in order to address ethical, legal, business or other matters that may arise.

The Corporate Governance and Nominating Committee believes that candidates for director should have certain minimum qualifications, including being able to read and understand basic financial statements and having the highest personal integrity and ethics. The Corporate Governance and Nominating Committee also considers such factors as possessing relevant expertise upon which to be able to offer advice and guidance to management, having sufficient time to devote to our affairs, demonstrated excellence in his or her field, having the ability to exercise sound business judgment and having the commitment to rigorously represent the long-term interests of our stockholders. However, the Corporate Governance and Nominating Committee retains the right to modify its approach to evaluating the qualifications of director nominees from time to time.

Candidates for director nominees are reviewed in the context of the current composition of our Board of Directors, our operating requirements and the long-term interests of our stockholders. In conducting this assessment, the Corporate Governance and Nominating Committee considers diversity, age, skills, and such other factors as it deems appropriate given the current needs of the Board and Senomyx, to maintain a balance of knowledge, experience and capability. We do not currently have a policy regarding the consideration of diversity in identifying nominees for director; however, the Corporate Governance and Nominating Committee believes that it is essential that the Board members represent diverse viewpoints that will contribute to productive and effective oversight of the company as a whole. In the case of incumbent directors whose terms of office are set to expire, the Corporate Governance and Nominating Committee reviews such directors' overall service to us during their term, including the number of meetings attended, level of participation, quality of performance, and any other relevant considerations. In the case of new director candidates, the Corporate Governance and Nominating Committee also determines whether the nominee must be independent for NASDAQ purposes, which determination is based upon applicable NASDAQ listing standards, applicable SEC rules and regulations and the advice of counsel, if necessary. The Corporate Governance and Nominating Committee then uses its network of contacts to compile a list of potential candidates, but may also engage, if it deems appropriate, a professional search firm. The Corporate Governance and Nominating Committee conducts any appropriate and necessary inquiries into the backgrounds and qualifications of possible candidates after considering the function and needs of our Board of Directors. The Corporate Governance and Nominating Committee meets to discuss and consider such candidates' qualifications and then selects a nominee for recommendation to our Board of Directors by majority vote.

The Corporate Governance and Nominating Committee will consider director candidates recommended by stockholders. The Corporate Governance and Nominating Committee does not intend to alter the manner in which it evaluates candidates, including the minimum criteria set forth above, based on whether or not the candidate was recommended by a stockholder. Stockholders who wish to recommend individuals for consideration by the Corporate Governance and Nominating Committee to become nominees for election to the Board at an annual meeting of stockholders must do so by delivering at least 120 days prior to the anniversary date of the mailing of the proxy statement for our last annual meeting of stockholders a written recommendation to the Corporate Governance and Nominating Committee at the following address: Senomyx, Inc., 4767 Nexus Center Drive, San Diego, California 92121. Each submission must set forth: the full name of the proposed nominee; a description of the proposed nominee's business experience for at least the previous five years; complete biographical information for the proposed nominee; a description of the proposed nominee's qualifications as a director; and a representation that the nominating stockholder is a beneficial or record owner of our common stock. Any such submission must be accompanied by the written consent of the proposed nominee to be named as a nominee and to serve as a director if elected. To date, the Corporate Governance and Nominating Committee has not received a director nominee from a stockholder or stockholders holding more than 5% of our voting stock.

Meetings of the Board of Directors and Board and Committee Member Attendance

Our Board of Directors met eleven times and acted by written consent two times during the last fiscal year. Each Board member attended 75% or more of the aggregate of the meetings of the Board and of the committees on which he served, held during the period for which he was a director or committee member, respectively.

Stockholder Communications with the Board of Directors

Our Board of Directors has adopted a formal process by which our stockholders may communicate with our Board of Directors or individual directors. Stockholders who wish to communicate with our Board of Directors may do so by sending written communications addressed to our Corporate Secretary at Senomyx, Inc., 4767 Nexus Center Drive, San Diego, California 92121. Each communication must set forth: the name and address of the Senomyx stockholder on whose behalf the communication is sent; and the number of shares of our common stock that are owned beneficially by such stockholder as of the date of the communication. All communications will be compiled by our Corporate Secretary and submitted to our Board of Directors, the appropriate committee thereof or an individual director, as applicable, on a periodic basis.

CODE OF BUSINESS CONDUCT AND ETHICS

We have adopted a Code of Business Conduct and Ethics that applies to all of our officers, directors and employees. The Code of Business Conduct and Ethics is available on our website at <http://www.senomyx.com>. If we make any substantive amendments to the Code of Business Conduct and Ethics or grant any waiver from a provision of the Code of Business Conduct and Ethics to any executive officer or director, we will promptly disclose the nature of the amendment or waiver on our website, as well as via any other means then required by NASDAQ listing standards or applicable law.

ACCOUNTING AND AUDITING MATTERS OPEN DOOR POLICY

We have adopted an Open Door Policy for Reporting Complaints Regarding Accounting, Auditing and Other Matters to facilitate the receipt, retention and treatment of complaints regarding accounting, internal accounting controls or auditing matters, as well as the confidential, anonymous submission by our employees of concerns regarding these matters. The Open Door Policy is available on our website at <http://www.senomyx.com>.

PROPOSAL 2

RATIFICATION OF SELECTION OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

The Audit Committee of our Board of Directors has engaged Ernst & Young LLP as our independent registered public accounting firm for the fiscal year ending December 31, 2011 and is seeking ratification of such selection by our stockholders at the annual meeting. Ernst & Young LLP has audited our financial statements since 1998. Representatives of Ernst & Young LLP are expected to be present at the annual meeting. They will have an opportunity to make a statement if they so desire and will be available to respond to appropriate questions.

Neither our Bylaws nor other governing documents or law requires stockholder ratification of the selection of Ernst & Young LLP as our independent registered public accounting firm. However, the Audit Committee is submitting the selection of Ernst & Young LLP to our stockholders for ratification as a matter of good corporate practice. If our stockholders fail to ratify the selection, the Audit Committee will reconsider whether or not to retain Ernst & Young LLP. Even if the selection is ratified, the Audit Committee in its discretion may direct the appointment of one or more different independent registered public accounting firms at any time during the year if they determine that such a change would be in the best interests of Senomyx and our stockholders.

To be approved, the ratification of the selection of Ernst & Young LLP as our independent registered public accounting firm must receive a "For" vote from the majority of shares present and entitled to vote either in person or by proxy. Abstentions will be counted toward the tabulation of votes cast on proposals presented to the stockholders and will have the same effect as negative votes. Broker non-votes will be counted towards a quorum, but will not be counted for any purpose in determining whether this matter has been approved.

Principal Accountant Fees and Services

The following table provides information regarding the fees paid by us to Ernst & Young LLP for the fiscal years ended December 31, 2010 and 2009. All fees described below were approved by the Audit Committee.

	Fiscal Year Ended December 31, (1)	
	2010	2009
Audit Fees (2)	\$ 562,812(3)	\$ 251,365
Audit-related Fees	—	—
Tax Fees (4)	65,000	26,000
All Other Fees	7,000	—
Total Fees	\$ 634,812	\$ 277,365

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- (1) Amounts represent payments made during the applicable calendar year, some of which may relate to services rendered in prior years.
 - (2) Represents fees for services rendered for the audit and/or reviews of our financial statements. Also includes fees for services associated with SEC registration statements, periodic reports and other documents filed with the SEC or other documents issued in connection with securities offerings (e.g., comfort letters and consents), and assistance in responding to SEC comment letters.
 - (3) Fees paid in 2010 include fees related to our February 2010 public offering of common stock.
 - (4) Represents fees for preparation of federal, state and local income and franchise tax returns and related schedules and calculations, as well as general consultation regarding federal and state income tax matters, employment tax matters and sales and use tax matters.

Pre-Approval Policies and Procedures

The Audit Committee has adopted an Audit Committee Pre-Approval Policy for Services of Independent Auditor, which sets forth the procedures and the conditions pursuant to which services proposed to be performed by our independent registered public accounting firm are, or may be, pre-approved. A copy of the Audit Committee Pre-Approval Policy for Services of Independent Auditor was attached as Appendix C to the proxy statement for our 2005 Annual Meeting of Stockholders.

The Audit Committee has determined that the rendering of the services other than audit services by Ernst & Young LLP is compatible with maintaining the Ernst & Young LLP's independence.

THE BOARD OF DIRECTORS RECOMMENDS A VOTE FOR THE RATIFICATION OF THE SELECTION OF ERNST & YOUNG LLP AS OUR INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM FOR THE FISCAL YEAR ENDING DECEMBER 31, 2011.

PROPOSAL 3

ADVISORY VOTE ON EXECUTIVE COMPENSATION

Under the Dodd-Frank Wall Street Reform and Consumer Protection Act, or the Dodd-Frank Act, and Section 14A of the Exchange Act, our stockholders are now entitled to vote to approve, on an advisory basis, the compensation of our named executive officers as disclosed in this proxy statement in accordance with SEC rules. This vote is not intended to address any specific item of compensation, but rather the overall compensation of our named executive officers and the philosophy, policies and practices described in this proxy statement.

The compensation of our named executive officers subject to the vote is disclosed in the Compensation Discussion and Analysis, the compensation tables, and the related narrative disclosure contained in this proxy statement. As discussed in those disclosures, the compensation of the named executive officers is designed to enable us to attract and retain talented and experienced executives to lead Senomyx successfully in a competitive environment. Not only do we believe the compensation program for the named executive officers is consistent with a pay-for-performance philosophy, we also believe that the compensation program is strongly aligned with the long-term interests of our stockholders. Overall, we believe our compensation program for our named executive officers has been instrumental in our achievement of research and development, commercial and financial goals over the past several years.

Accordingly, the Board is asking stockholders to indicate their support for the compensation of our named executive officers as described in this proxy statement by casting a non-binding advisory vote "FOR" the following resolution:

"RESOLVED, that the compensation paid to the Company's named executive officers, as disclosed pursuant to Item 402 of Regulation S-K, including the Compensation Discussion and Analysis, compensation tables and narrative discussion is hereby APPROVED."

Because the vote is advisory, it is not binding on the Board of Directors or Senomyx. Nevertheless, the views expressed by stockholders, whether through this vote or otherwise, are important to management and the Board and, accordingly, the Board and the Compensation Committee intend to consider the results of this vote in making determinations in the future regarding executive compensation arrangements.

Advisory approval of this proposal requires the vote of the holders of a majority of the shares present in person or represented by proxy and entitled to vote at the annual meeting. Abstentions will be counted toward the tabulation of votes cast on proposals presented to the stockholders and will have the same effect as negative votes. Broker non-votes will be counted towards a quorum, but will not be counted for any purpose in determining whether this matter has been approved.

**THE BOARD OF DIRECTORS RECOMMENDS
A VOTE FOR PROPOSAL 3**

PROPOSAL 4

ADVISORY VOTE ON THE FREQUENCY OF AN ADVISORY VOTE ON EXECUTIVE COMPENSATION

The Dodd-Frank Act and Section 14A of the Exchange Act also enable our stockholders to indicate their preference regarding how frequently we should solicit a non-binding advisory vote on the compensation of our named executive officers as disclosed in our proxy statements. Accordingly, we are asking stockholders to indicate whether they would prefer an advisory vote every year, every other year, or every three years, or abstain. As with the Advisory Vote on Executive Compensation described above in Proposal 3 (the "Advisory Vote on Executive Compensation"), the vote described in this Proposal 4 is non-binding.

The Board has determined that providing stockholders with the Advisory Vote on Executive Compensation once every **THREE** years will be the most effective means for conducting and responding to the Advisory Vote based on a number of considerations, including the following:

- Our compensation program is designed to motivate and reward performance over a multi-year period;
- A three -year cycle will provide investors sufficient time to evaluate the effectiveness of our shorter- and longer-term compensation strategies and the related business outcome of the Company; and
- The composition and level of compensation paid to executives in the market evolves over multiple years. A triennial approach will allow us to review evolving practices in the market to ensure our compensation programs reflect best practices over the long-term.

While the Board believes that its recommendation is appropriate at this time, the stockholders are not voting to approve or disapprove that recommendation, but are instead asked to indicate their preferences, on an advisory basis, as to whether the non-binding advisory vote on the approval of the company's executive officer compensation practices should be held every year, every other year, or every three years, or abstain.

The option among those choices that receives the highest number of votes from the holders of shares present in person or represented by proxy and entitled to vote at the annual meeting will be deemed to be the frequency preferred by the stockholders.

The Board and the Compensation Committee value the opinions of the stockholders in this matter and, to the extent there is any significant vote in favor of one frequency over the other options, even if less than a majority, the Board will consider the stockholders' concerns and evaluate any appropriate next steps. However, because this vote is advisory and therefore not binding on the Board of Directors or the company, the Board may decide that it is in the best interests of the shareholders that we hold an advisory vote on executive compensation more or less frequently than the option preferred by the shareholders. The vote will not be construed to create or imply any change or addition to the fiduciary duties of the company or the Board.

**THE BOARD RECOMMENDS THAT STOCKHOLDERS VOTE, ON AN ADVISORY BASIS,
FOR THE ADVISORY VOTE ON EXECUTIVE COMPENSATION TO OCCUR ONCE EVERY THREE YEARS**

SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT

The following table provides information regarding the beneficial ownership of our common stock as of March 1, 2011 by: (i) each of our directors, (ii) each of our named executive officers, (iii) all of our directors and executive officers as a group and (iv) each person, or group of affiliated persons, known by us to beneficially own more than five percent of our common stock. The table is based upon information supplied by our officers, directors and principal stockholders and a review of Schedules 13D and 13G, if any, filed with the SEC. Unless otherwise indicated in the footnotes to the table and subject to community property laws where applicable, we believe that each of the stockholders named in the table has sole voting and investment power with respect to the shares indicated as beneficially owned.

Applicable percentages are based on 39,554,802 shares outstanding on March 1, 2011, adjusted as required by rules promulgated by the SEC. These rules generally attribute beneficial ownership of securities to persons who possess sole or shared voting power or investment power with respect to those securities. In addition, the rules include shares of common stock issuable pursuant to the exercise of stock options or warrants that are either immediately exercisable or exercisable on April 30, 2011, which is 60 days after March 1, 2011. These shares are deemed to be outstanding and beneficially owned by the person holding those options or warrants for the purpose of computing the percentage ownership of that person, but they are not treated as outstanding for the purpose of computing the percentage ownership of any other person. Certain of the options in this table are exercisable at any time but, if exercised, are subject to a lapsing right of repurchase until the options are fully vested.

Name and Address of Beneficial Owner (1)	Number of Shares Beneficially Owned	Percentage of Shares Beneficially Owned
T. Rowe Price Associates, Inc. (MD) (2)	4,924,904	11.5%
Prescott Group Capital Management, L.L.C. (3)	2,176,800	5.1
BlackRock, Inc. (4)	2,149,786	5.0
Kent Snyder (5)	1,725,600	4.0
John Poyhonen (6)	477,740	1.1
Sharon Wicker (7)	374,867	*
Antony E. Rogers (8)	256,364	*
Donald S. Karanewsky, Ph.D. (9)	213,967	*
Michael E. Herman (10)	151,140	*
Jay M. Short, Ph.D. (11)	117,038	*
Christopher J. Twomey (12)	98,807	*
Stephen A. Block, Esq. (13)	95,293	*
Roger D. Billingsley, Ph.D. (14)	72,550	*
Mary Ann Gray, Ph.D. (15)	30,000	*
All directors and executive officers as a group (12 persons) (16)	3,825,970	8.9

* Less than one percent.

- (1) Except as otherwise noted above, the address for each person or entity listed in the table is c/o Senomyx, Inc., 4767 Nexus Center Drive, San Diego, CA 92121.
- (2) The address for T. Rowe Price Associates, Inc. (MD) is 100 East Pratt Street, Baltimore, MD 21202. T. Rowe Price Associates, Inc. has sole dispositive power for all of the shares reported herein and sole voting power for 1,288,489 shares. These securities are owned by various individual and institutional investors including T. Rowe Price New Horizons Fund, Inc. (which owns 2,076,123 shares), which T. Rowe Price Associates, Inc. (Price Associates) serves as investment adviser with power to direct investments and/or sole power to vote the securities. For the purposes of the reporting requirements of the Securities Exchange Act of 1934, Price Associates is deemed to be a beneficial owner of such securities; however, Price Associates expressly disclaims that it is, in fact, the beneficial owner of such securities. Reflects shareholder information as of December 31, 2010 based on Schedule 13G filed on February 14, 2011.
- (3) Reflects shareholder information as of December 31, 2010 based on Schedule 13G filed on February 14, 2011.
- (4) Reflects shareholder information as of December 31, 2010 based on Schedule 13G filed on February 8, 2011.
- (5) Includes 1,578,942 shares of common stock subject to options exercisable within 60 days of March 1, 2011. Reflects 40,798 shares of common stock held by The Snyder 2000 Children's Trust. Mr. Snyder disclaims beneficial ownership of the shares held by The Snyder 2000 Children's Trust, except to the extent of his pecuniary interest in the entity. Reflects 105,860 shares of common stock held by The Snyder Family Trust.
- (6) Includes 404,718 shares of common stock subject to options exercisable within 60 days of March 1, 2011. Reflects 73,022 shares of common stock held by The Poyhonen Family Trust.
- (7) Includes 338,067 shares of common stock subject to options exercisable within 60 days of March 1, 2011.
- (8) Includes 232,878 shares of common stock subject to options exercisable within 60 days of March 1, 2011.
- (9) Includes 213,967 shares of common stock subject to options exercisable within 60 days of March 1, 2011.
- (10) Includes 108,340 shares of common stock subject to options exercisable within 60 days of March 1, 2011, 5,639 shares of which are not vested as of April 30, 2011. Also includes 1,000 shares held by Mr. Herman's wife. Reflects 41,800 shares of common stock held by a trust and limited

partnerships. Mr. Herman disclaims beneficial ownership of the shares held by the trust, the limited partnerships, and his wife, except to the extent of his pecuniary interest therein.

- (11) Includes 99,360 shares of common stock subject to options exercisable within 60 days of March 1, 2011, 5,639 shares of which are not vested as of April 30, 2011.
- (12) Includes 98,807 shares of common stock subject to options exercisable within 60 days of March 1, 2011, 5,639 shares of which are not vested as of April 30, 2011.
- (13) Includes 94,293 shares of common stock subject to options exercisable within 60 days of March 1, 2011, 5,639 shares of which are not vested as of April 30, 2011.
- (14) Includes 72,550 shares of common stock subject to options exercisable within 60 days of March 1, 2011, 5,639 shares of which are not vested as of April 30, 2011.
- (15) Includes 30,000 shares of common stock subject to options exercisable within 60 days of March 1, 2011, 24,167 shares of which are not vested as of April 30, 2011.
- (16) Includes 3,457,352 shares of common stock subject to options exercisable within 60 days of March 1, 2011, 52,362 shares of which are not vested as of April 30, 2011.

SECTION 16(A) BENEFICIAL OWNERSHIP REPORTING COMPLIANCE

Section 16(a) of the Securities Exchange Act of 1934 requires our directors and executive officers, and persons who own more than ten percent of a registered class of our equity securities, to file with the SEC initial reports of ownership and reports of changes in ownership of our common stock and other equity securities. Officers, directors and greater than ten percent stockholders are required by SEC regulation to furnish us with copies of all Section 16(a) forms they file.

To our knowledge, based solely on a review of the copies of such reports furnished to us and written representations that no other reports were required, during the fiscal year ended December 31, 2010, all Section 16(a) filing requirements applicable to our officers, directors and greater than ten percent beneficial owners were complied with.

DIRECTOR COMPENSATION

The following table sets forth in summary form information concerning the compensation that we paid during the fiscal year ended December 31, 2010 to each of our non-employee directors.

Name	Fees Earned or Paid in Cash (2) (\$)	Option Awards (3)(4)(5) (\$)	Total (\$)
Roger D. Billingsley, Ph.D.	49,000	33,774	82,774
Stephen A. Block, Esq.	57,000	33,774	90,774
Mary Ann Gray, Ph.D. (1)	6,522	76,257	82,779
Michael E. Herman	61,000	33,774	94,774
Jay M. Short, Ph.D.	71,250	33,774	105,024
Christopher J. Twomey	68,000	33,774	101,774

- (1) Dr. Gray's service on our Board of Directors commenced in September 2010.
- (2) Includes \$5,000 earned by Dr. Short in his capacity as the Board of Directors' liaison to our Scientific Advisory Board.
- (3) Amounts listed in this column represent the full grant date fair value calculated in accordance with FASB ASC Topic 718 for awards granted during the fiscal year. Assumptions made for the purpose of computing these amounts are discussed in our Annual Report on Form 10-K for the year ended December 31, 2010 in "Management's Discussion and Analysis of Financial Condition and Results of Operations" and Note 1 to Financial Statements under the heading "Stock-Based Compensation." The actual amount ultimately realized by a director will likely vary based on a number of factors.
- (4) Each Board member except Dr. Gray was granted a stock option award on June 3, 2010 with a grant date fair value of \$33,774. Dr. Gray was granted a stock option award on September 27, 2010, concurrent with her joining the Board, having a grant date fair value of \$76,257.
- (5) The aggregate number of shares subject to option awards as of December 31, 2010 was 72,550, 94,293, 30,000, 108,340, 99,360 and 98,807 for Dr. Billingsley, Mr. Block, Dr. Gray, Mr. Herman, Dr. Short and Mr. Twomey, respectively.

We provide each of our non-employee directors cash compensation in the form of an annual retainer of \$25,000, except in the case of an independent Chairman of the Board or lead independent director who receives an annual retainer of \$45,000. In addition, the chairperson of the Audit Committee receives an additional annual retainer of \$12,000, the chairperson of the Compensation Committee receives an additional annual retainer of \$8,000 and the chairperson of the Corporate Governance and Nominating Committee receives an additional annual retainer of \$5,000. Each non-employee director also receives \$2,000 for each in-person Board of Directors meeting attended, and \$1,000 for each telephonic Board of Directors meeting attended. In addition, the chairperson of each committee receives \$2,000 for each committee meeting attended, and each other committee member receives \$1,000 for each committee meeting attended. We also reimburse our non-employee directors for their reasonable expenses incurred in attending meetings of our Board of Directors and committees of the Board. In addition to the cash compensation described above, Dr. Short also receives \$5,000 per day for each meeting of our Scientific Advisory Board he attends as our Board of Directors' liaison, not to exceed \$60,000 for these liaison services in any 12-month period.

In addition, from time to time the Board of Directors may form special committees with responsibility for matters as the need may arise. For instance, during 2008 the Board of Directors formed a special Pricing Committee for the purpose of evaluating and approving a potential issuance of company securities pursuant to a shelf registration statement filed during 2008, and other arrangements associated with a potential sale of securities. The Board of Directors has maintained this Pricing Committee during 2009 and into 2010. Members of the Pricing Committee receive a fixed annual retainer of \$5,000 for service on the committee, regardless of the number of meetings held.

Each of our non-employee directors also receives stock option grants under our non-employee directors' nonstatutory stock option program, or the directors' program, which is a part of and administered under our amended and restated 2004 equity incentive plan, or the 2004 Plan. Only our non-employee directors or an affiliate of such directors (as defined in the Internal Revenue Code) are eligible to receive options under the directors' program. Options granted under the directors' program are intended by us not to qualify as incentive stock options under the Internal Revenue Code.

Option grants under the directors' program are non-discretionary. Each person who becomes a non-employee director automatically receives an initial option grant to purchase 30,000 shares of our common stock upon his or her election or appointment (45,000 shares in the case the person is also appointed as our Chairman of the Board). If a current non-employee director becomes our Chairman of the Board, that person automatically receives a one-time option grant to purchase 15,000 shares of our common stock upon his or her appointment. These grants are referred to as initial grants.

Each person who is a non-employee director on the date of each annual meeting of our stockholders where he or she is re-elected to our Board of Directors is automatically granted, on the date of such re-election, an option to purchase 15,000 shares of our common stock (21,000 shares in the case of our Chairman of the Board). These grants are referred to as annual grants. The size of any annual grant made to a non-employee director who has served for less than 12 months at the time of the annual meeting is reduced pro-rata for each full month prior to the date of grant for which such person did not serve as a non-employee director.

The exercise price of the options granted under the directors' program is equal to 100% of the fair market value of the common stock on the date of grant. Initial grants vest in equal monthly installments over a three-year period following the date of grant. Annual grants vest in equal monthly installments over a one year period following the option grant date. In the event of a change in our control, all outstanding options under the directors' program become vested in full and fully exercisable. In general, the term of stock options granted under the directors' program may not exceed ten years.

Under the 2004 Plan, unless the terms of an optionee's stock option agreement provide for earlier or later termination, if an optionee's service relationship with us, or any affiliate of ours, ceases due to disability or death, the optionee, or his or her beneficiary, may exercise any vested options up to 12 months, or 18 months in the event of death, after the date such service relationship ends. If an optionee's service relationship with us, or any affiliate of ours, ceases without cause for any reason other than disability or death, the optionee may exercise any vested options up to twelve months from cessation of service, unless the terms of the stock option agreement provide for earlier or later termination. If an optionee's relationship with us, or any affiliate of ours, ceases with cause, the option will terminate at the time the optionee's relationship with us ceases. In no event may an option be exercised after its expiration date.

Acceptable consideration for the purchase of common stock issued under the 2004 Plan, of which the directors' program is a part, will be determined by our Board of Directors and may include cash, common stock previously owned by the optionee, the net exercise of the option, consideration received in a "cashless" broker-assisted sale and other legal consideration approved by our Board of Directors. Generally, an optionee may not transfer a stock option other than by will or the laws of descent and distribution unless the optionee holds a nonstatutory stock option that provides otherwise. However, an optionee may designate a beneficiary who may exercise the option following the optionee's death.

In addition, under the 2004 Plan, the Board has the power to accelerate the time at which an option may first be exercised or the time during which an option will vest and the Board may amend the terms of any option, including, but not limited to, amendments to provide terms more favorable than previously provided in the agreement evidencing an option. The Board also has the power to make additional stock awards to directors outside of the non-discretionary directors' program. In February 2009, based upon the recommendation of our Compensation Committee, our Board of Directors approved a special stock option award covering 11,300 shares of common stock for each of our non-employee directors that was serving at that time. Because these additional stock option awards were intended to provide additional long-term retention incentive for the continuation of service of our non-employee directors, these stock option awards to non-employee directors vest monthly over a three year period. These supplemental stock option awards were granted with an exercise price of \$3.21 per share and otherwise carry the same terms and conditions applicable to stock awards under the directors' program.

Under the directors' program, during the fiscal year ended December 31, 2010, we made annual grants to purchase 15,000 shares at an exercise price of \$3.85 per share to each of our non-employee directors, other than Dr. Gray. On September 27, 2010, in connection with Dr. Gray joining the Board, she was granted a stock option award to purchase 30,000 shares with an exercise price of \$4.35 per share.

As of March 1, 2011, stock options to purchase 107,474 shares granted under the directors' program had been exercised.

EXECUTIVE COMPENSATION

Compensation Committee Report

The material in this report is not "soliciting material," is not deemed "filed" with the SEC, and is not to be incorporated by reference into any filing of Senomyx under the Securities Act of 1933, as amended, or the Securities Exchange Act of 1934, as amended.

The Compensation Committee presently consists of the three independent directors listed below. The Compensation Committee has reviewed and discussed with management the Compensation Discussion and Analysis contained in this proxy statement. Based on this review and discussion, the Compensation Committee has recommended to our Board of Directors that the Compensation Discussion and Analysis be included in this proxy statement and incorporated into our Annual Report on Form 10-K for the fiscal year ended December 31, 2010.

Compensation Committee

Michael E. Herman, Chairman
Roger D. Billingsley, Ph.D.
Jay M. Short, Ph.D.

Compensation Discussion and Analysis

This Compensation Discussion and Analysis explains our compensation philosophy, policies and practices with respect to our chief executive officer, chief financial officer and the other three most highly-compensated executive officers during the 2010 fiscal year determined in accordance with applicable SEC regulations. We refer to these five individuals, which we have listed below, as our named executive officers:

Name	Title
Kent Snyder	Chief Executive Officer and Chairman of the Board
John Poyhonen	President and Chief Operating Officer
Donald S. Karanewsky, Ph.D.	Senior Vice President and Chief Scientific Officer
Sharon Wicker	Senior Vice President and Chief Commercial Development Officer
Antony E. Rogers	Vice President and Chief Financial Officer

Executive Summary

Our compensation program for executive officers is designed to encourage our management team to continually achieve our short-term and long-term corporate objectives while effectively managing business risks and challenges. We provide what we believe is a competitive total compensation package to our executive management team through a combination of base salary, an annual performance-based bonus and long-term equity-based incentives. Additionally, our executive officers are entitled to other benefits, such as medical, dental, life and disability insurance and company matching contributions to employee 401(k) plans, all of which are generally available to our employees at large.

An important goal of our compensation program is to provide a compensation package that will retain our current highly skilled and experienced executive officers, who we believe possess a unique understanding of our technology and business model. Each named executive officer has been a member of our management for over five years, except for Dr. Karanewsky who joined Senomyx in 2007. We believe the stability of our senior leadership was an important factor in our achievement of key research and development, commercial and financial goals over the past year. We believe stock options are especially important to attract and retain talented and entrepreneurial executives. To promote retention, our stock option awards typically vest 25% at the end of the first year following the date of the award and 1/48th per month thereafter through a four year period and have a ten year term.

We also believe it is equally important that our compensation program place significant emphasis on pay-for-performance and encourage the achievement of both near-term and long-term objectives in a way that is aligned with the interests of the Company's stockholders. For that reason, our executive compensation can be highly variable, and is heavily influenced by the Company's achievement of corporate goals and the performance of our stock price over time. For example, cash bonus awards to our named executive officers are determined based entirely on our achievement of corporate goals for the applicable year. With respect to equity based compensation, the amount of an annual stock option award is primarily determined by the company's overall performance during the prior year; however, the person's individual performance during the prior year and his or her level of responsibility within the organization are also taken into consideration.

Importantly, because we rely on stock options with time based vesting for the majority of equity based compensation, and not restricted stock, our named executive officers will only benefit from these equity-based awards if the company's stock price increases over an extended period following the date of the award. Overall, we believe our cash and equity based compensation programs provide appropriate incentives for the achievement of both near-term and long-term business objectives.

We also believe it is appropriate for a company at our stage of development to offer our named executive officers certain protections in the event of a change-in-control event. For that reason, we have change-in-control agreements with each of our named executive officers. However, these agreements only provide for benefits to the officer if the individual's employment with the company is actually or effectively terminated following a change-in-control transaction. Our agreements do not include any benefits solely as a result of a change-in-control.

We believe our executive compensation program is relatively simple in design and serves the company well. We do not provide tax reimbursements or supplemental retirement benefits to the named executive officers, nor do we provide other perquisites to our named executive officers that are not available to employees generally.

Overall, we believe the compensation program for the named executive officers was instrumental in driving the Company's strong performance in 2010.

The Role of Our Compensation Committee

The Compensation Committee of our Board of Directors is comprised of independent directors within the meaning of the applicable SEC and Nasdaq Stock Market rules. The Compensation Committee responsibilities and duties are outlined in detail under the heading "Information Regarding the Board of Directors and its Committees — Compensation Committee" and the Compensation Committee charter, which is available on our website at www.senomyx.com. A primary responsibility of the Compensation Committee is to determine compensation for our executive officers, including the determination and confirmation of annual corporate and individual goal achievement.

Use of Peer Group Data

During 2010, the Compensation Committee utilized the compensation consulting services of Barney & Barney LLC, or Barney & Barney. Barney & Barney was involved with the process of selecting an appropriate peer group for us and in collecting and analyzing compensation data of the companies within our peer group. This peer data was then used as a tool to determine appropriate compensation levels for our executive officers. For 2010 our peer group was comprised of 24 companies in the biotechnology industry that were selected primarily based on their similarities to Senomyx, as of the time that the survey was performed, with respect to revenue, market capitalization, nature of operations, number of employees and location. For example, our peer group was mostly comprised of companies with revenue of less than \$50 million, market capitalization of between \$100 million and \$500 million, and between 50 and 400 employees. Most of the exceptions were companies that were included in our peer group during the previous year and that the Compensation Committee still believed were appropriate peers although they did not necessarily meet all of the filters for the current year as of the date of the survey. With respect to company location and type of business, 15 of the 24 companies in our peer group are located in California and all of the companies are primarily life science or biotechnology companies.

Our specific list of companies that the Compensation Committee considered as our peers during 2010 is as follows:

Arena Pharmaceutical, Inc.	Immunogen, Inc.	Peregrine Pharmaceuticals, Inc.
Ariad Pharmaceuticals, Inc.	Infinity Pharmaceuticals, Inc.	Rigel Pharmaceuticals, Inc.
Arquele Inc.	Ligand Pharmaceuticals, Inc.	Santarus, Inc.
Array Biopharma, Inc.	Maxygen, Inc.	Supergen Inc.
Cytori Therapeutics, Inc.	Momenta Pharmaceuticals, Inc.	Synta Pharmaceuticals Corp.
Dyax Corp.	Neurocrine Biosciences, Inc.	Trubion Pharmaceuticals, Inc.
Dynavax Technologies Corporation	Optimer Pharmaceuticals, Inc.	Vical, Inc.
Geron Corp.	Orexigen Therapeutics Inc.	Xenoport, Inc.

During the year Barney & Barney developed recommendations for executive compensation and board of director compensation primarily utilizing data from our peer group. Our compensation programs were benchmarked against the programs of our peer group. In general, we target total cash compensation for our executive officers, which is comprised of base salary and the annual performance-based bonus, at the 75th percentile within our peer group. We believe this is appropriate based on the level of biotechnology and food industry experience of our management team and the importance we place on retaining our executive management who possess a unique understanding of our technology and business model. Barney & Barney does not provide us with any other services. During the year, the Compensation Committee commissioned all projects performed by Barney & Barney.

To aid the Compensation Committee in performing its duties, our chief executive officer provides recommendations concerning the compensation of the executive officers, excluding himself. Additionally, our chief executive officer, with the assistance of the entire management team, provides the Compensation Committee with the management team's analysis of annual corporate goal achievement.

Components of Executive Compensation Program

The Company's executive compensation program for the named executive officers includes:

- Base salaries;
- Annual performance based cash bonus awards;
- Long-term equity awards in the form of stock options and through participation in the Company's employee stock purchase plan; and
- Other benefits, including severance and change-in-control benefits.

Base Salary

The initial base salary for each executive officer was established at the time of hire taking into account the officer's qualifications, experience, prior salary, competitive salary information and internal equity. Each executive officer's salary is reviewed annually by the Compensation Committee. 2010 and 2011 base salaries were determined by the Compensation Committee based on an assessment of the executive's performance against job responsibilities, overall company performance and competitive salary information. In assessing competitive salary information, the Compensation Committee reviews and considers peer group information provided by Barney & Barney as described above, and then considers adjustments to more closely align each executive's base salary with the 75th percentile within the peer group. Those potential adjustments are then further refined by the Compensation Committee's subjective assessment of the level and scope of responsibilities of the individual compared to persons performing similar roles at companies within the peer group. Also, when considering annual base salary increases, the Compensation Committee considers the Company's targets for total cash compensation as described above. Furthermore, on an individual-by-individual basis, the Compensation Committee also considers the corresponding average percentage base salary increase approved for non-executive level employees of the Company with a similar individual job performance rating as compared to the individual executive. Finally, the Compensation Committee also considers the internal equity impact of any potential adjustment to an executive's base salary. While all of these factors are taken into consideration, the actual adjustment to any executive's base salary is ultimately at the discretion of the Compensation Committee and significantly dependent on the individual's performance against job responsibilities and the Company's performance overall.

In January 2010, the Compensation Committee approved a 3.3% annual base salary increase for our chief executive officer from \$480,000 to \$496,000, effective January 1, 2010. Also in January 2010, each of our other named executive officers, received an increase in his or her base salary ranging from 3.0% to 3.3%, effective January 1, 2010. In June 2010, the Compensation Committee approved an additional 2.3% increase in annual base salary for Dr. Karanewsky in recognition of his appointment as our Chief Scientific Officer. Base salary information for our named executive officers is detailed in the Summary Compensation Table.

In January 2011, the Compensation Committee approved a 3.6% annual base salary increase for our chief executive officer from \$496,000 to \$513,900, effective January 1, 2011. Also in January 2011, each of our other named executive officers received an increase in his or her base salary ranging from 3.4% to 3.6%, effective January 1, 2011, with the exception of Mr. Rogers who received an increase of his annual base salary of 7.9% in recognition of his performance in 2010 and to align his total target cash compensation for 2011 closer to the 75th percentile of other Chief Financial Officers within the Company's peer group.

Annual Performance-Based Bonus

The Company's performance based cash bonus awards are designed to reward employees for achieving stretch research and development, commercial and financial goals. These goals are key to the success of our business and are aligned with the short and long-term interests of our stockholders.

2010 Bonus Plan. In March 2010 the Compensation Committee established our performance-based 2010 Executive Bonus Plan, or 2010 Bonus Plan. Under the 2010 Bonus Plan, our executives were provided with the opportunity to earn cash bonus payments conditioned upon the achievement of specified corporate goals. Under the 2010 Bonus Plan, each individual is assigned a target and range of bonus opportunity, calculated as a percentage of that individual's 2010 base salary, based on the person's role and title in the company.

In designing the 2010 Bonus Plan, the Compensation Committee considered its compensation philosophy of targeting total cash compensation for executives at the 75th percentile of the company's peer group, except that where the peer group data was inadequate for a specific position, the Compensation Committee also considered external compensation survey data. With that in mind, in the design of the 2010 Bonus Plan it was the intent of the Compensation Committee that for each individual executive, a cash payout for achievement of the individual's target bonus opportunity together with that individual's base salary would, in the aggregate, approximate the 75th percentile of total cash compensation earned by persons performing similar roles within the company's peer group. However, the Compensation Committee also considered other factors in the design of the 2010 Bonus Plan, such as the individual's tenure in their specific role, the internal equity impact of a specific bonus payout structure, and the Compensation Committee's subjective assessment of the level and scope of responsibilities of the individual executive compared to persons with similar titles at companies within the peer group. Therefore, the 75th percentile was only a guidepost and the Compensation Committee exercised its independent judgment in determining the actual 2010 target compensation for each executive.

Under the 2010 Bonus Plan, the range of bonus opportunity as a percentage of 2010 base salary for each of our named executive officers is as follows:

<u>Name</u>	<u>Title</u>	<u>Threshold</u>	<u>Target</u>	<u>Maximum</u>
Kent Snyder	Chief Executive Officer and Chairman of the Board	30%	60%	90%
John Poyhonen	President and Chief Operating Officer	22.5%	45%	67.5%
Donald S. Karanewsky, Ph.D.	Senior Vice President and Chief Scientific Officer	20%	40%	60%
Sharon Wicker	Senior Vice President and Chief Commercial Development Officer	20%	40%	60%
Antony E. Rogers	Vice President and Chief Financial Officer	20%	40%	60%

Under the terms of our 2010 Bonus Plan, the cash payout for all of our officers is calculated based on our achievement of corporate goals during 2010 and a minimum weighted average goal achievement of greater than or equal to 50% is required for an executive to earn any performance-based cash bonus, except that, as noted below, the Compensation Committee retained some degree of discretion over the specific payout amount. The threshold bonus is earned if a weighted average goal achievement of 50% is obtained. The target bonus is earned if the weighted average goal achievement of 75% is obtained. The maximum bonus is earned if a weighted average goal achievement of 100% is obtained. The specific bonus amount is based on a linear continuum from threshold to maximum. However, the Compensation Committee also retained discretion to modify the 2010 Bonus Plan at any time, including the methodology for calculating the specific bonus amounts. The Compensation Committee also retained discretion to either increase the calculated payout under the 2010 Bonus Plan for extraordinary achievement, either individually or with respect to corporate goals, or to reduce payout if economic and business conditions warranted.

Our corporate goals are collectively designed to be stretch goals intended to be very challenging but attainable (i.e., viewed by Senomyx as 100% goal achievement being attainable only rarely and substantially less than 50% of the time). 100% goal achievement would represent an extremely high level of success in each of our discovery and development programs coupled with achievement of each of our numerous financial and commercial goals. For 2010, our corporate goals were a combination of discovery and development goals, which represented 57.5% of our corporate goals, commercialization goals, which represented 10% of our corporate goals, and financial goals, which represented the remaining 32.5% of our corporate goals.

The details of our 2010 corporate goals are as follows:

	<u>Goal Weighting</u>
<u>Discovery and Development Goals</u>	
Achieve selection of S6973 for commercialization by at least one collaborative partner	20%
Advance a second sucrose enhancer to late stage development activities in support of potential future regulatory submission	5%
Select a fructose enhancer for initial development	10%
Submit at least one bitter blocker for regulatory approval in the United States	7.5%
Complete salt enhancer research plan	10%
Select at least one flavor ingredient from an earlier stage research program for initial development	5%
Subtotal	57.5%
<u>Commercialization Goals</u>	
Demonstrate expanded commercial adoption of approved savory flavor ingredients by collaborative partners	5%
Launch at least one product utilizing an approved sweet enhancer	5%
Subtotal	10%
<u>Financial Goals</u>	
Generate recognized revenue from committed R&D funding, milestone payments, new collaboration revenue or royalty revenue in line with internal business objectives	15%
Achieve FY2010 net loss within guidance range provided to investment community in Q1 2010	2.5%
Achieve FY2010 net cash used in operating activities within guidance range provided to investment community in Q1 2010 and end year with cash resources adequate to support long term business objectives	15%
Subtotal	32.5%

In January 2010, the Compensation Committee reviewed the achievement of the Company's corporate goals and approved the 2010 performance-based bonus payout for each executive officer based on an overall corporate goal achievement of 86.25%. As described above, a minimum goal achievement of greater than or equal to 50% was required for an executive to earn any performance-based cash bonus. The threshold bonus is earned if a weighted average goal achievement of 50% is obtained. The target bonus is earned if the weighted average goal achievement of 75% is obtained. The maximum bonus is earned if a weighted average goal achievement of 100% is obtained. The specific bonus amount is based on a linear continuum from threshold to maximum.

As mentioned above, the Compensation Committee also retained discretion to increase the payout under the 2010 Bonus Plan for extraordinary achievement. In January 2011 the Compensation Committee determined to award each executive officer an additional cash bonus award in recognition of the Company's overachievement of all of the stated financial goals and the completion of the Company's new collaboration agreement with PepsiCo in August 2010. The incremental discretionary cash bonus brought the total cash bonus payout to each executive officer equal to the maximum amount payable under the 2010 Bonus Plan for the individual. Cash bonuses for 2010 performance were paid in February 2011. The Summary Compensation Table provides the detailed cash bonus information for each of our named executive officers, and distinguishes between the performance-based cash bonus and the incremental discretionary cash bonus awarded by the Compensation Committee in January 2011.

2011 Bonus Plan. In January 2011, our Compensation Committee approved our 2011 Executive Bonus Plan, or 2011 Bonus Plan, under which our executives are provided with the opportunity to earn bonus payments conditioned upon the achievement of specified corporate goals. Under the 2011 Bonus Plan, each individual is assigned a target and range of bonus opportunity, calculated as a percentage of that individual's 2011 base salary, based on the person's role and title in the company.

Under the 2011 Bonus Plan, the range of bonus opportunity as a percentage of 2011 base salary for each of our named executive officers is as follows:

<u>Name</u>	<u>Title</u>	<u>Threshold</u>	<u>Target</u>	<u>Maximum</u>
Kent Snyder	Chief Executive Officer and Chairman of the Board	30%	60%	90%
John Poyhonen	President and Chief Operating Officer	22.5%	45%	67.5%
Donald S. Karanewsky, Ph.D.	Senior Vice President and Chief Scientific Officer	20%	40%	60%
Sharon Wicker	Senior Vice President and Chief Commercial Development Officer	20%	40%	60%
Antony E. Rogers	Vice President and Chief Financial Officer	20%	40%	60%

Under the terms of our 2011 Bonus Plan, the payout for all of our officers is calculated entirely based on our achievement of corporate goals during 2011 and a minimum weighted average goal achievement of greater than or equal to 50% is required for an executive to earn any performance-based cash bonus. The threshold bonus is earned if a weighted average goal achievement of 50% is obtained. The target bonus is earned if a weighted average goal achievement of 75% is obtained. The maximum bonus is earned if a weighted average goal achievement of 100% is obtained. The specific bonus amount is based on a linear continuum from threshold to maximum. However, it is also important to note that the Compensation Committee retains broad discretion to modify the 2011 Bonus Plan at any time, including the methodology for calculating the specific bonus amounts. The Compensation Committee may also, in its sole discretion, determine to either increase the payout under the 2011 Bonus Plan for extraordinary achievement or to reduce payout if economic and business conditions warrant.

Our corporate goals are collectively designed to be stretch goals intended to be very challenging but attainable (i.e., viewed by Senomyx as 100% goal achievement being attainable only rarely and substantially less than 50% of the time). 100% goal achievement would represent an extremely high level of success in our discovery and development programs coupled with achievement in our numerous financial and commercial goals. More specifically, 100% goal achievement could be accomplished either by achievement of each individual goal, or by a combination of over-achievement of some goals and under-achievement of others. For 2011, our corporate goals are a combination of discovery and development goals, which represent 47.5% of our corporate goals, commercialization goals, which represent 20% of our corporate goals, and financial goals, which represent the remaining 32.5% of our corporate goals. The details of our 2011 corporate goals are as follows:

	<u>Goal Weighting</u>
<u>Discovery and Development Goals</u>	
Implement development of a sucrose enhancer for application in additional beverage fields which has been selected by a collaborator	5%
Advance a fructose enhancer into development in support of potential future regulatory submission	15%
Complete 2011 research plan for natural sweet enhancers and natural high potency sweetener	7.5%
Advance new savory flavor ingredients consistent with internal business objectives	2.5%
Complete 2011 salt enhancer research plan	15%
Select cool flavor ingredient for initial development	2.5%
Subtotal	47.5%
<u>Commercialization Goals</u>	
Demonstrate expanded commercial adoption of approved savory flavor ingredients by collaborative partners	5%
Demonstrate commercial adoption of approved sweet enhancers by Firmenich customers	15%
Subtotal	20%
<u>Financial Goals</u>	
Generate recognized revenue from committed R&D funding, milestone payments, new collaboration revenue or commercial revenue in line with internal business objectives	15%
Achieve FY2011 net loss within guidance range provided to investment community in Q1 2011	5%

Achieve 2011 year end cash and investment balance within guidance range provided to investment community in Q1 2011 to support long term business objectives	12.5%
Subtotal	32.5%

Under the 2011 Bonus Plan, the Compensation Committee retains the discretion to pay bonus awards in full or in part in the form of cash or as Stock Awards under our 2004 Equity Incentive Plan, as amended from time to time, or any similar equity incentive plan that we subsequently adopt. In the event that the Compensation Committee elects to pay a bonus under the 2011 Bonus Plan in the form of a stock award, the Compensation Committee will have discretion to determine the specific form and number of such awards that would be equivalent to the dollar value of bonus payable under the terms of the 2011 Bonus Plan.

Long-Term Equity-Based Incentives

Stock Option Awards

Our long-term equity-based incentives are primarily in the form of annual stock option awards under the 2004 Plan. An important objective of the stock option awards is to further enhance our executive officers' long-term incentive to increase stockholder value, including our stock price. We believe that stock option-based compensation achieves this objective by directly linking the economic benefit to recipients of stock option awards with our stock's performance. We believe that the performance of the executive team has a direct effect on stock price. We also believe that stock option-based compensation encourages executive retention because the awards are designed to vest over time and have a 10 year term.

We do not time the granting of stock options with any favorable or unfavorable news released by the Company. Stock options granted to our named executive officers are approved by the Compensation Committee and, since December 2006, are granted effective as of the 15th day of the month following the date of approval (or the next business day if the 15th is not a business day). Prior to December 2006, stock options were generally granted effective as of the date of approval. Stock options granted to our named executive officers are incentive stock options, to the extent permissible under the Internal Revenue Code, and commence vesting upon the effective date of grant. Generally, 25% of the shares subject to the stock options vest one year from the effective date of grant and the remainder of the shares vest in equal monthly installments over the 36 months thereafter, subject to acceleration of vesting in certain circumstances. As noted above, the stock options expire ten years from the effective date of grant. The exercise price per share of each stock option granted to our named executive officers is equal to the fair market value of our common stock on the effective date of grant, which is deemed to be equal to the closing sales price of our common stock as reported on the Nasdaq Stock Market on the last market trading day prior to the effective date of grant.

In general, each executive officer receives stock option grants in connection with his or her hire or promotion, and annually in the first quarter of each year. The size of each annual grant is typically based on an analysis of the following key factors for each executive:

- the emphasis placed on equity in the mix of total compensation;
- corporate and individual performance against goals;
- the scope, responsibility and business impact of the officer's position; and
- benchmarking against our peer group, including an analysis of option plan utilization percentages.

In January 2010, the Compensation Committee approved annual stock option grants to our named executive officers tied to 2009 performance. The size of these annual stock option grants was based on the analysis described above. In addition, in June 2010 the Compensation Committee approved an additional stock option award to purchase 20,000 shares of our common stock to Dr. Karanewsky in recognition of his appointment as our Chief Scientific Officer. Stock option grants made during 2010 to named executive officers are reflected in the Grants of Plan-Based Awards Table and outstanding stock option awards to named executive officers as of December 31, 2010 are reflected in the Outstanding Equity Awards at Fiscal Year-End Table.

Employee Stock Purchase Plan

During 2004, we adopted the 2004 Employee Stock Purchase Plan, or the Purchase Plan. The Purchase Plan allows all eligible employees to purchase shares of our common stock at the lower of: (i) 85% of the fair market value on the first day of a two-year offering period; or (ii) 85% of the fair market value on the last date of each six-month purchase period within the two-year offering period, with the objective of allowing employees to profit when the value of our common stock increases over time. During 2010 our named executive officers purchased an aggregate of 46,363 shares of our common stock at a weighted average price of \$1.56 per share under the terms of the Purchase Plan.

Severance and Change in Control Payments

We believe the interests of stockholders will be best served if the interests of our executive management are aligned with them. By offering change in control benefits we believe we will eliminate the reluctance of executive management to pursue potential change in control transactions that may be in the best interests of stockholders. We also believe severance and change in control benefits are an essential element of our executive compensation package and assist us in recruiting and retaining talented individuals. As such, we have entered into employment agreements containing severance benefits and change in control agreements with certain of our executive officers, the terms of which are described under the headings "Employment and Change in Control Agreements" and "Potential Payments Upon Termination or Change in Control."

Sabbatical Leave Benefit

Under a legacy arrangement, all employees who commenced employment with us on or before February 12, 2004 are eligible for four weeks of paid sabbatical after four years of employment with Senomyx. Employees who joined Senomyx after February 12, 2004 are not eligible for this benefit. Messrs. Snyder, Poyhonen and Rogers are eligible for this program, but to date have not taken any paid sabbatical leave. Dr. Karanewsky and Ms. Wicker are not eligible for this benefit. If an eligible employee should leave Senomyx without using all or part of his or her sabbatical, the employee will be paid out their remaining sabbatical at the time of separation from the company.

Other Benefits

We provide benefits such as an opportunity to participate in our 401(k) savings/retirement plan, medical, dental and life insurance and disability coverage to all our employees, including our executive officers. We also maintain a 401(k) matching program available to all employees, including executive officers. Under the terms of the 401(k) matching program, we will match 50% of employee participant contributions up to 3% of salary, resulting in a maximum match of not more than 1.5% of the employee participants' salary (subject to IRS and plan limitations). Contribution matches under the 401(k) matching program are subject to a four-year vesting schedule measured from the date of an individual's commencement of employment with us. We also provide personal paid time off and other paid holidays to all employees, including our executive officers, which are comparable to those provided at similar companies.

Accounting and Tax Considerations

Section 162(m) of the Internal Revenue Code generally prohibits us from deducting any compensation over \$1 million per taxable year paid to any of our executive officers unless such compensation is treated as "performance-based compensation" within the meaning of the Internal Revenue Code. As the cash compensation paid by us to our named executive officers is expected to be below \$1 million and the Compensation Committee believes that stock options granted under the 2004 Plan to our named executive officers meet the requirements for treatment as performance-based compensation, the Compensation Committee believes that Section 162(m) will not affect the tax deductions available to Senomyx with respect to the compensation of its executives. In determining the form and amount of compensation for our named executive officers, the Compensation Committee will continue to consider all elements of the cost of such compensation, including the potential impact of Section 162(m).

Summary of Compensation

The following table sets forth in summary form information concerning the compensation that we paid during the fiscal years ended December 31, 2010, 2009 and 2008 to our named executive officers.

Summary Compensation Table (1)

Name and Principal Position	Year	Salary (\$)	Bonus (2) (3) (\$)	Option Awards (4) (\$)	Non-Equity Incentive Plan Compensation (2) (\$)	All Other Compensation (5) (\$)	Total (\$)
Kent Snyder <i>Chief Executive Officer and Chairman of the Board of Directors</i>	2010	495,446	81,840	341,884	364,560	3,675	1,287,405
	2009	479,385	—	705,049	264,960	7,191	1,456,584
	2008	459,446	—	974,506	195,408	5,105	1,634,465
John Poyhonen <i>President and Chief Operating Officer</i>	2010	361,198	44,748	232,188	199,332	3,675	841,141
	2009	325,231	—	418,293	132,710	4,878	881,111
	2008	304,631	—	296,802	89,304	3,519	694,256
Donald S. Karanewsky, Ph.D. <i>Senior Vice President and Chief Scientific Officer</i>	2010	331,325	36,509	190,845	162,630	3,675	724,983
	2009	312,423	—	290,563	119,568	3,769	726,323
Sharon Wicker <i>Senior Vice President and Chief Commercial Development Officer</i>	2010	316,882	34,892	145,117	155,428	3,636	655,955
	2009	307,692	—	295,601	120,736	3,796	727,825
	2008	297,691	—	286,567	87,540	17,172	688,970
Antony E. Rogers <i>Vice President and Chief Financial Officer</i>	2010	277,820	30,591	147,458	136,269	3,675	595,812
	2009	240,754	—	133,449	74,146	3,611	451,961

- (1) In accordance with the rules of the SEC, the compensation described in this table does not include perquisites and other benefits received by a named executive officer which do not exceed \$10,000 in the aggregate.
- (2) These amounts represent bonuses earned during the applicable fiscal year. Annual bonuses earned during a fiscal year are paid in the first quarter of the subsequent fiscal year.
- (3) In January 2011 the Compensation Committee determined to award each executive officer an additional cash bonus award in recognition of the Company's overachievement of all of the stated financial goals and the completion of the Company's new collaboration agreement with PepsiCo in August 2010. The incremental discretionary cash bonus brought the total cash bonus payout to each executive officer equal to the maximum amount payable under the 2010 Bonus Plan for the individual.
- (4) Amounts listed in this column represent the aggregate grant date fair value computed in accordance with FASB ASC Topic 718. Assumptions made for the purpose of computing these amounts are discussed in our Annual Report on Form 10-K for the year ended December 31, 2010 in "Management's Discussion and Analysis of Financial Condition and Results of Operations" and Note 1 to Financial Statements under the heading "Stock-Based Compensation." The actual amount ultimately realized by a named executive officer will likely vary based on a number of factors.
- (5) For Dr. Karanewsky and Messrs. Snyder, Poyhonen and Rogers the amounts disclosed in the column entitled "All Other Compensation" for all years presented represent the cash value of company matches to employee contributions to the 401(k) Plan. For Ms. Wicker, the amounts disclosed in the column entitled "All Other Compensation" for 2008 reflect \$17,000 in connection with hire incentive cost and \$172 for the cash value of company matches to employee contributions to the 401(k) Plan and for 2009 and 2010 reflect only the cash value of company matches to employee contributions to the 401(k) Plan.

Employment and Change in Control Agreements

We entered into an employment letter agreement with Kent Snyder dated June 2, 2003 providing for an annual salary of \$350,000, later increased to \$513,900 for 2011, a discretionary bonus of up to 30%, later increased to a target bonus of 60%, of the current base salary under the terms of our 2011 Bonus Plan, and upon commencement of employment the grant of an option to purchase our common stock under the 2004 Plan constituting 4% of our outstanding shares on a fully diluted basis as of the date of grant assuming conversion of all outstanding preferred stock to common stock and including all shares reserved for issuance under the 2004 Plan. The employment letter agreement provides that Mr. Snyder's employment is terminable at will upon 30 days' notice. However, if we terminate Mr. Snyder's employment for any reason other than cause, he will be entitled to one year's salary from the date of termination. In December 2008 we amended Mr. Snyder's employment letter agreement for purposes of compliance with recently adopted regulations under Section 409A of the Internal Revenue Code.

We entered into an employment letter agreement with John Poyhonen, dated September 8, 2003, providing for an annual salary of \$225,000, later increased to \$374,700 for 2011, a discretionary bonus of up to 25%, later increased to a target bonus of 45% of the current base salary under the terms of our 2011 Bonus Plan and, upon commencement of employment, the grant of an option to purchase 93,837 shares of our common stock. The employment letter agreement provides that Mr. Poyhonen's employment is terminable at will.

We entered into an employment letter agreement with Donald S. Karanewsky, Ph.D., dated April 13, 2007, providing for an annual salary of \$285,000, later increased to \$347,100 for 2011, and the grant of an option to purchase 87,000 shares of our common stock. Dr. Karanewsky is also eligible to receive a discretionary target bonus of up to 40% of his base salary under the terms of our 2011 Bonus Plan. The employment letter agreement provides that Dr. Karanewsky's employment is terminable at will.

We entered into an employment letter agreement with Sharon Wicker, dated March 20, 2006, providing for an annual salary of \$275,000, later increased to \$328,000 for 2011, a signing bonus of \$100,000 payable in three installments as defined below, and upon commencement of employment, the grant of an option to purchase 150,000 shares of our common stock. The signing bonus was payable as follows: \$50,000 within ten days of commencement of employment, \$33,000 within ten days of the first anniversary of employment and \$17,000 within ten days of the second anniversary of employment. Accordingly, the signing bonus has been fully paid. Ms. Wicker is also eligible to receive a discretionary target bonus of up to 40% of her base salary under the terms of our 2011 Bonus Plan. The employment letter agreement provides that Ms. Wicker's employment is terminable at will upon 30 days' notice. However, if we terminate Ms. Wicker's employment for any reason other than cause, she will be entitled to six months' salary from the date of termination. In December 2008 we amended Ms. Wicker's employment letter agreement for purposes of compliance with recently adopted regulations under Section 409A of the Internal Revenue Code.

We entered into an employment letter agreement with Antony E. Rogers, dated February 20, 2002 providing for an annual salary of \$125,000, later increased to \$300,000 for 2011, and upon commencement of employment, the grant of an option to purchase 32,000 shares of our common stock. Mr. Rogers is also eligible to receive a discretionary target bonus of up to 40% of his base salary under the terms of our 2011 Bonus Plan. The employment letter agreement provides that Mr. Rogers' employment is terminable at will.

On October 10, 2006, we entered into change in control agreements with Messrs. Snyder, Poyhonen and Rogers, Dr. Karanewsky and Ms. Wicker. All of the change in control agreements with our named executive officers were amended in December 2008 for purposes of compliance with regulations under Section 409A of the Internal Revenue Code. We subsequently amended our change in control agreements with Messrs. Poyhonen and Rogers in September 2009 in connection with their respective promotions at that time.

Mr. Snyder's change in control agreement provides that if his employment is terminated by us without cause or by him for good reason within one month prior or 36 months after a change in control, Mr. Snyder's stock options will immediately vest in full. In addition, if Mr. Snyder's employment is terminated by us without cause or by him for good reason within one month prior or 18 months after a change in control, he will be entitled to a lump sum payment equal to 150% of the sum of his annual salary in effect on the date of termination and his last annual bonus received prior to the date of termination.

Mr. Poyhonen's change in control agreement provides that if his employment is terminated by us without cause or by him for good reason within one month prior or 18 months after a change in control, Mr. Poyhonen's stock options will immediately vest in full. In addition, if Mr. Poyhonen's employment is terminated by us without cause or by him for good reason within one month prior or 18 months after a change in control, he will be entitled to a lump sum payment equal to 125% of the sum of his annual salary in effect on the date of termination and his last annual bonus received prior to the date of termination.

The change in control agreements for Dr. Karanewsky, Mr. Rogers and Ms. Wicker provide that if the executive's employment is terminated by us without cause or by the executive for good reason within one month prior or 18 months after a change in control, the executive will be entitled to immediate vesting in full of the executive's stock options and a lump sum payment equal to 100% of the sum of the executive's annual salary in effect on the date of termination and the executive's last annual bonus received prior to the date of termination.

All of the change in control agreements also provide for reimbursement for health insurance benefits elected by the executives for themselves and their families under the Consolidated Omnibus Reconciliation Act of 1985 (COBRA) until the earliest of 12 months following termination, the expiration of continuation coverage under COBRA or the date the executive

becomes eligible for health insurance benefits with a subsequent employer. All benefits received under any of the change in control agreements are subject to delivery of a general release in favor of Senomyx and payments under the agreements may be reduced in order to provide for the best after tax treatment of the payments in the event the payments are subject to the excise taxes imposed by Section 4999 of the Internal Revenue Code.

In establishing the triggering events for payment obligations in connection with termination events under our employment and change in control agreements with our named executive officers, the Compensation Committee considered several factors. Payments upon termination by us without cause are provided as a recruiting and retention tool and because we consider such a termination to be generally beyond the control of a terminated employee and a termination that under different circumstances would not have occurred. The termination benefits are intended to ease the consequences to an employee of an unexpected termination of employment. Senomyx benefits by requiring a general release from terminated employees. Payments and option acceleration upon terminations in connection with a change in control are intended to mitigate the distraction and loss of key management personnel that may occur in connection with rumored or actual fundamental corporate changes. Such payments protect stockholder interests by enhancing employee focus during rumored or actual change in control activity through incentives to remain with Senomyx despite uncertainties while a transaction is under consideration or pending, assurance of severance and benefits for terminated employees and access to the equity component of total compensation after a change in control.

Potential Payments Upon Termination or Change-in-Control

The following table sets forth potential payments to our named executive officers upon various termination or change in control events assuming such events occurred as of December 31, 2010.

Name	Benefit	Termination without Cause (\$)	Termination without Cause or for Good Reason and Change in Control (1) (\$)
Kent Snyder	Cash Severance	496,000	1,141,440
	Option Awards	—	1,757,387
	Insurance Coverage (COBRA)	—	16,901
John Poyhonen	Cash Severance	—	494,310
	Option Awards	—	1,109,785
	Insurance Coverage (COBRA)	—	24,281
Donald S. Karanewsky, Ph.D.	Cash Severance	—	454,568
	Option Awards	—	794,028
	Insurance Coverage (COBRA)	—	16,901
Sharon Wicker	Cash Severance	158,600	437,936
	Option Awards	—	742,081
	Insurance Coverage (COBRA)	—	16,866
Antony E. Rogers	Cash Severance	—	352,246
	Option Awards	—	571,929
	Insurance Coverage (COBRA)	—	24,115

(1) Amounts shown for option awards represent the value of unvested options that would have accelerated if the named executive officer was terminated on December 31, 2010 in connection with a change in control based on the difference between the market value of our common stock on that date and the exercise price of the respective options.

Grants of Plan-Based Awards

We grant stock options to our executive officers under the 2004 Plan. As of March 1, 2011, options to purchase a total of 9,003,276 shares were outstanding under the 2004 Plan, and a total of 4,121,494 shares remained available for grant under the 2004 Plan.

All stock options granted to our named executive officers are incentive stock options, to the extent permissible under the Internal Revenue Code. Generally, 25% of the shares subject to options vest one year from the date of hire and the remainder of the shares vest in equal monthly installments over the 36 months thereafter, subject to acceleration of vesting pursuant to the employment agreements described in "Employment and Change in Control Agreements." Options expire ten years from the date of grant.

The exercise price per share of each option granted to our named executive officers was equal to the fair market value of our common stock on the date of the grant. The fair market value of our common stock on a given date is deemed to be equal to the closing sales price for such stock as reported on the Nasdaq on the last market trading day prior to such date.

The following table provides information regarding grants of plan-based awards to the named executive officers in the fiscal year ended December 31, 2010.

Name	Grant Date	Approval Date	Estimated Possible Payouts Under Non-Equity Incentive Plan Awards (1)			All Other Option Awards: Number of Securities Underlying Options (#)	Exercise or Base Price of Option Awards (\$/Sh)	Closing Price on Grant Date (\$/Sh)	Grant Date Fair Value of Stock and Option Awards (2) (\$)
			Threshold (\$)	Target (\$)	Maximum (\$)				
Kent Snyder	2/16/10	1/27/10	—	—	—	219,100	2.50	2.55	335,157
John Poyhonen	2/16/10	1/27/10	148,800	297,600	446,400	—	—	—	—
			81,360	162,720	244,080	148,800	2.50	2.55	227,619
Donald S. Karanewsky, Ph.D. (3)	2/16/10	1/27/10	—	—	—	91,500	2.50	2.55	139,967
	6/15/10	6/2/10	—	—	—	20,000	3.92	3.90	47,122
			66,379	132,759	199,138	—	—	—	—
Sharon Wicker	2/16/10	1/27/10	—	—	—	93,000	2.50	2.55	142,262
			63,440	126,880	190,320	—	—	—	—
Antony E. Rogers	2/16/10	1/27/10	—	—	—	94,500	2.50	2.55	144,557
			55,620	111,240	166,860	—	—	—	—

- (1) The amounts shown in these columns represent the threshold, target and maximum payout levels under our 2010 Executive Bonus Plan. The actual amount of incentive bonus earned by each named executive officer in 2010 is reported in the Summary Compensation Table.
- (2) Amounts listed in this column represent the aggregate grant date fair value computed in accordance with FASB ASC Topic 718. Assumptions made for the purpose of computing these amounts are discussed in our Annual Report on Form 10-K for the year ended December 31, 2010 in "Management's Discussion and Analysis of Financial Condition and Results of Operations" and Note 1 to Financial Statements under the heading "Stock-Based Compensation." The actual amount ultimately realized by a named executive officer will likely vary based on a number of factors.
- (3) In June 2010 Dr. Karanewsky was appointed Chief Scientific Officer and he received an increase in pay. Dr. Karanewsky's threshold, target and maximum payouts were calculated on a pro-rata basis assuming a \$327,500 base salary for the portion of 2010 prior to his salary increase, and assuming a \$335,000 base salary for the portion of 2010 subsequent to his salary increase.

Outstanding Equity Awards at Fiscal Year-End

The following table provides information regarding all outstanding equity awards held by each of our named executive officers as of December 31, 2010. Certain options listed in the table permit early exercise of unvested shares, in which case all unvested shares are subject to repurchase by us.

Name	Grant Date	Option Awards (1)			
		Number of Securities Underlying Unexercised Options Exercisable (#)	Number of Securities Underlying Unexercised Options Unexercisable (#)	Option Exercise Price (\$)	Option Expiration Date
Kent Snyder	6/16/2003	308,428	—	0.74	6/15/2013
	6/25/2004	228,440	—	6.02	6/24/2014
	1/19/2005	154,100	—	8.60	1/18/2015
	2/1/2006	279,000	—	16.25	1/31/2016
	2/15/2007	174,576	7,590	12.91	2/14/2017
	2/15/2008	155,125	63,875	7.49	2/14/2018
	2/16/2009	160,371	189,529	3.21	2/15/2019
	2/16/2010	—	219,100	2.50	2/15/2020
John Poyhonen	6/25/2004	37,600	—	6.02	6/24/2014
	1/19/2005	56,600	—	8.60	1/18/2015
	2/1/2006	70,000	—	16.25	1/31/2016
	2/15/2007	48,731	2,119	12.91	2/14/2017
	2/15/2008	47,246	19,454	7.49	2/14/2018
	2/16/2009	71,638	84,662	3.21	2/15/2019
	10/15/2009	11,667	28,333	3.99	10/14/2019
2/16/2010	—	148,800	2.50	2/15/2020	
Donald S. Karanewsky, Ph.D.	6/15/2007	76,125	10,875	14.79	6/14/2017
	2/15/2008	26,492	10,908	7.49	2/14/2018
	2/16/2009	66,092	78,108	3.21	2/15/2019
	2/16/2010	—	91,500	2.50	2/15/2020
	6/15/2010	—	20,000	3.92	6/14/2020
Sharon Wicker	4/28/2006	150,000	—	14.27	4/27/2016
	2/15/2007	32,939	1,432	12.91	2/14/2017
	2/15/2008	45,617	18,783	7.49	2/14/2018
	2/16/2009	67,238	79,462	3.21	2/15/2019
	2/16/2010	—	93,000	2.50	2/15/2020
Antony E. Rogers	2/10/2004	1,223	—	0.74	2/9/2014
	6/25/2004	2,997	—	6.02	6/24/2014
	1/20/2005	14,800	—	8.74	1/19/2015
	2/1/2006	80,000	—	16.25	1/31/2016
	2/15/2007	47,169	2,051	12.91	2/14/2017
	2/15/2008	26,067	10,733	7.49	2/14/2018
	2/16/2009	23,008	27,192	3.21	2/15/2019
	10/15/2009	3,646	8,854	3.99	10/14/2019
	2/16/2010	—	94,500	2.50	2/15/2020

(1) Each of the option awards vest over four years as follows: 1/4th of the shares vest upon the first anniversary of the grant date and 1/48th vest monthly thereafter.

Option Exercises and Stock Vested

The Option Exercises and Stock Vested table provides information regarding the number of shares of common stock acquired and the value realized pursuant to the exercise of stock options, and all stock awards vested and the value realized pursuant to the vesting of stock awards, during 2010 by each of our named executive officers. There were no stock options exercised by our named executive officers during 2010 and we have not granted other stock awards, such as restricted stock or other performance shares. Accordingly, we have not included this table for 2010.

Pension Benefits

We have no pension plans.

Nonqualified Defined Contribution and Other Nonqualified Deferred Compensation Plans

We have no nonqualified defined contribution or other nonqualified deferred compensation plans.

Equity Compensation Plan Information

The following table provides certain information as of December 31, 2010, with respect to all of our equity compensation plans in effect on that date.

	Number of securities to be issued upon exercise of outstanding options, warrants and rights (a)	Weighted-average exercise price of outstanding options, warrants and rights (b)	Number of securities remaining available for issuance under equity compensation plans (excluding securities reflected in column (a)) (c)
Equity compensation plans approved by stockholders (1)	7,405,296	\$ 6.80	4,342,005
Equity compensation plans not approved by stockholders (2)	—	—	—
Total	7,405,296	\$ 6.80	4,342,005

(1) Includes the 2004 Plan and the Purchase Plan. 297,041 shares under column (c) are attributable to the Purchase Plan.

(2) As of December 31, 2010, we did not have any equity compensation plans that were not approved by our stockholders.

POLICIES AND PROCEDURES WITH RESPECT TO RELATED PARTY TRANSACTIONS

Our Board of Directors is committed to upholding the highest legal and ethical conduct in fulfilling its responsibilities and recognizes that related party transactions can present a heightened risk of potential or actual conflicts of interest. Accordingly, as a general matter, it is Senomyx's preference to avoid related party transactions.

Our Audit Committee charter requires that members of the Audit Committee, all of whom are independent directors, review and approve all related party transactions for which such approval is required under applicable law, including SEC rules and Nasdaq listing standards. A related party transaction includes any transaction, arrangement or relationship involving an amount that exceeds \$120,000 in which Senomyx is a participant and in which any of the following persons has or will have a direct or indirect interest: any executive officer, director, or more than 5% stockholder of Senomyx, including any of their immediate family members, and any entity owned or controlled by such persons.

In addition, the Audit Committee is responsible for reviewing and investigating any matters pertaining to the integrity of management, including conflicts of interest and adherence to our Code of Business Conduct and Ethics. Under our Code of Business Conduct and Ethics, directors, officers and all other members of the workforce are expected to avoid any relationship, influence or activity that would cause or even appear to cause a conflict of interest.

CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS

During the fiscal year ended December 31, 2010, we granted options to purchase an aggregate of 771,900 shares of our common stock to our directors and named executive officers, with exercise prices ranging from \$2.50 to \$4.35 per share.

Our bylaws provide that we will indemnify our directors and executive officers, and may indemnify other officers, employees and other agents, to the fullest extent permitted by law. Our bylaws also permit us to secure insurance on behalf of any officer, director, employee or other agent for any liability arising out of his or her actions in connection with their services to us, regardless of whether our bylaws permit such indemnification. We have obtained a policy of directors' and officers' liability insurance.

We have entered, and intend to continue to enter, into indemnification agreements with our directors and executive officers, in addition to the indemnification provided for in our bylaws. These agreements, among other things, require us to indemnify our directors and executive officers for certain expenses, including attorneys' fees, judgments, fines and settlement amounts incurred by a director or executive officer in any action or proceeding arising out of their services as one of our directors or executive officers, or any of our subsidiaries or any other company or enterprise to which the person provides services at our request.

HOUSEHOLDING OF PROXY MATERIALS

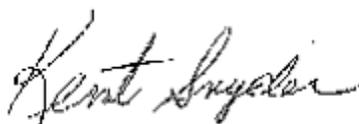
The SEC has adopted rules that permit companies and intermediaries (e.g., brokers, banks or other agents) to satisfy the delivery requirements for Notices of Internet Availability of Proxy Materials and annual meeting materials with respect to two or more stockholders sharing the same address by delivering a single Notice of Internet Availability of Proxy Material or set of annual meeting materials addressed to those stockholders. This process, which is commonly referred to as "householding," potentially means extra convenience for stockholders and cost savings for companies.

This year, a number of broker, banks or other agents with account holders who are stockholders of Senomyx will be "householding" our proxy materials. A single Notice of Internet Availability of Proxy Material or set of annual meeting materials will be delivered to multiple stockholders sharing an address unless contrary instructions have been received from the affected stockholders. Once you have received notice from your broker, bank or other agent that it will be "householding" communications to your address, "householding" will continue until you are notified otherwise or until you revoke your consent. If, at any time, you no longer wish to participate in "householding" and would prefer to receive a separate Notice of Internet Availability of Proxy Material or set of annual meeting materials, please notify your broker, bank or other agent, and direct a written request for the separate Notice of Internet Availability of Proxy Material or set of annual meeting materials to 4767 Nexus Center Drive, San Diego, California 92121, Attn: Corporate Secretary, or contact David B. Berger at (858) 646-8306. Stockholders whose shares are held by their broker, bank or other agent as nominee and who currently receive multiple copies of the Notice of Internet Availability of Proxy Material or set of annual meeting materials at their address that would like to request "householding" of their communications should contact their broker, bank or other agent.

OTHER MATTERS

Our Board of Directors knows of no other matters that will be presented for consideration at the annual meeting. If any other matters are properly brought before the meeting, it is the intention of the persons named in the accompanying proxy to vote on such matters in accordance with their best judgment.

By Order of the Board of Directors



Kent Snyder
*Chief Executive Officer
and Chairman of the Board*

San Diego, California
April 14, 2011

A copy of our Annual Report on Form 10-K for the fiscal year ended December 31, 2010 filed with the SEC is available without charge upon written request to: 4767 Nexus Center Drive, San Diego, California 92121, Attn: Corporate Secretary.

YOUR VOTE IS IMPORTANT. PLEASE VOTE TODAY.
We encourage you to take advantage of Internet voting.
Available 24 hours a day, 7 days a week.

Internet voting is available through 11:59 PM Eastern Time the day prior to the shareholder meeting date.

SENOMYX, INC.

INTERNET
<http://www.proxyvoting.com/snmx>
 Use the Internet to vote your proxy.
 Have your proxy card in hand when
 you access the web site.

If you vote your proxy by Internet you do NOT need to mail back your proxy card.

To vote by mail, mark, sign and date your proxy card and return it in the enclosed postage-paid envelope.

Your Internet vote authorizes the named proxies to vote your shares in the same manner as if you marked, signed and returned your proxy card.

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▼ FOLD AND DETACH HERE ▼

UNLESS A CONTRARY DIRECTION IS INDICATED, THIS PROXY WILL BE VOTED FOR ALL NOMINEES LISTED IN PROPOSAL 1 AND FOR PROPOSAL 2, AS DESCRIBED IN THE ACCOMPANYING PROXY STATEMENT. IF SPECIFIC INSTRUCTIONS ARE INDICATED, THIS PROXY WILL BE VOTED IN ACCORDANCE THEREWITH.

Please mark your votes as indicated in this example

THE BOARD OF DIRECTORS RECOMMENDS A VOTE FOR THE ELECTION OF EACH NOMINEE NAMED BELOW

FOR ALL WITHHOLD EXCEPTIONS FOR ALL

PROPOSAL 1 – To elect directors to hold office until our 2012 Annual Meeting of Stockholders.

- Nominees:
- | | |
|--------------------------------|--------------------------|
| 01 Roger D. Billingsley, Ph.D. | 05 Jay M. Shortl, Ph.D. |
| 02 Stephen A. Block, Esq. | 06 Kent Snyder |
| 03 Mary Ann Gray, Ph.D. | 07 Christopher J. Twomey |
| 04 Michael E. Herman | |

(INSTRUCTIONS: To withhold authority to vote for any individual nominee, mark the "Exceptions" box above and write that nominee's name in the space provided below.)

*Exceptions _____

THE BOARD OF DIRECTORS RECOMMENDS A VOTE FOR THE RATIFICATION OF THE SELECTION OF ERNST & YOUNG LLP AS OUR INDEPENDENT AUDITORS FOR THE FISCAL YEAR ENDING DECEMBER 31, 2011.

FOR AGAINST ABSTAIN

PROPOSAL 2 – To ratify the selection by the Audit Committee of our Board of Directors of Ernst & Young LLP as our independent registered public accounting firm for the fiscal year ending December 31, 2011.

PROPOSAL 3 – To approve, on an advisory basis, the compensation of the Company's named executive officers, as disclosed in the proxy statement.

THE BOARD OF DIRECTORS RECOMMENDS 3 YEARS ON THE FOLLOWING PROPOSAL

3 YEARS 2 YEARS 1 YEAR ABSTAIN

PROPOSAL 4 – To indicate, on an advisory basis, the preferred frequency of stockholder advisory votes on the compensation of the Company's named executive officers.

Will Attend Meeting YES

Mark Here for Address Change or Comments
SEE REVERSE

NOTE: Please sign as name appears hereon. Joint owners should each sign. When signing as attorney, executor, administrator, trustee or guardian, please give full title as such.

Signature _____ Signature _____ Date _____

You can now access your Senomyx, Inc. account online.

Access your Senomyx, Inc. account online via Investor ServiceDirect® (ISD).

BNY Mellon Shareowner Services, the transfer agent for Senomyx, Inc., now makes it easy and convenient to get current information on your shareholder account.

- View account status
- View certificate history
- View book-entry information
- View payment history for dividends
- Make address changes
- Obtain a duplicate 1099 tax form

**Visit us on the web at <http://www.bnymellon.com/shareowner/equityaccess>
For Technical Assistance Call 1-877-978-7778 between 9am-7pm
Monday-Friday Eastern Time**

**Investor ServiceDirect®
Available 24 hours per day, 7 days per week
TOLL FREE NUMBER: 1-800-370-1163**

Choose **MLink™** for fast, easy and secure 24/7 online access to your future proxy materials, investment plan statements, tax documents and more. Simply log on to **Investor ServiceDirect®** at www.bnymellon.com/shareowner/equityaccess where step-by-step instructions will prompt you through enrollment.

Important notice regarding the Internet availability of proxy materials for the Annual Meeting of Stockholders. The Proxy Statement and the 2010 Annual Report to Stockholders are available at: <http://proxy2011.senomyx.com>

▼ FOLD AND DETACH HERE ▼

PROXY

**PROXY SOLICITED BY THE BOARD OF DIRECTORS
FOR THE ANNUAL MEETING OF STOCKHOLDERS
TO BE HELD ON MAY 26, 2011
SENOMYX, INC.**

4767 Nexus Centre Drive
San Diego, California 92121

The undersigned hereby appoints Kent Snyder and David B. Berger, and each of them, as attorneys and proxies of the undersigned, with full power of substitution, to vote all of the shares of stock of Senomyx, Inc. which the undersigned may be entitled to vote at the 2011 Annual Meeting of Stockholders of Senomyx, Inc. to be held on May 26, 2011 at 9:00 a.m. local time at the Company's corporate office located at 4767 Nexus Centre Dr., San Diego, CA 92121, and at any and all postponements, continuations and adjournments thereof, with all powers that the undersigned would possess if personally present, upon and in respect of the following matters and in accordance with the following instructions, with discretionary authority as to any and all other matters that may properly come before the meeting.

Address Change/Comments (Mark the corresponding box on the reverse side)

BNY MELLON SHAREOWNER SERVICES
P.O. BOX 3550
SOUTH HACKENSACK, NJ 07606-9250

(Continued and to be marked, dated and signed, on the other side)

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