SENOMYX INC Form SC 13G February 03, 2005

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

SCHEDULE 13G

Under the Securities Exchange Act of 1934 (Amendment No.)*

SENOMYX, INC.
(Name of Issuer)
COMMON STOCK
(Title of Class of Securities)
81724Q107
(CUSIP Number)
DECEMBER 31, 2004
(Date of Event Which Requires Filing of this Statement)
Check the appropriate box to designate the rule pursuant to which this Schedule is filed:
_ Rule 13d-1(b) _ Rule 13d-1(c) X Rule 13d-1(d)
*The remainder of this cover page shall be filled out for a reporting person's initial filing on this form with respect to the subject class of securities, and

The information required in the remainder of this cover page shall not be deemed to be "filed" for the purpose of Section 18 of the Securities Exchange Act of 1934 (the "Act") or otherwise subject to the liabilities of that section of the Act but shall be subject to all other provisions of the Act (however, see the Notes).

for any subsequent amendment containing information which would alter the

disclosures provided in a prior cover page.

CUSIP No.	81724Q107 					
1	NAME OF REPORTING PER	 RSONS				
	Merrill Lynch Venture	Merrill Lynch Ventures L.P. 2001				
2	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (See Instructions (a) _ (b) X					
3	SEC USE ONLY					
4	CITIZENSHIP OR PLACE	CITIZENSHIP OR PLACE OF ORGANIZATION				
	Delaware					
		5	SOLE VOTING POWER			
			0			
	NUMBER OF SHARES	6	SHARED VOTING POWER			
	OWNED BY		2,857,141			
	EACH REPORTING	7	SOLE DISPOSITIVE POWER			
	PERSON WITH		0			
		8	SHARED DISPOSITIVE POWER			
			2,857,141			
9	AGGREGATE AMOUNT BENE	EFICIALLY	OWNED BY EACH REPORTING PERSON			
	2,857,141(1)					
10		CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES (See Instructions) _				
11	PERCENT OF CLASS REPI	RESENTED	BY AMOUNT IN ROW (9)			
	11.3%					
12	TYPE OF REPORTING PERSON (See Instructions)					
	PN					

⁽¹⁾ As of January 20, 2005, Merrill Lynch Ventures L.P. 2001 beneficially owned no shares of the common stock of Senomyx, Inc., having sold all shares in public market transactions.

NAME OF REPORTING PERSON Merrill Lynch Ventures, CHECK THE APPROPRIATE I (a) _ (b) X SEC USE ONLY	, LLC	A MEMBER OF A GROUP (See Instructions)	
CHECK THE APPROPRIATE I		A MEMBER OF A GROUP (See Instructions)	
(a) _ (b) X	BOX IF	A MEMBER OF A GROUP (See Instructions)	
SEC USE ONLY			
CITIZENSHIP OR PLACE OF	CITIZENSHIP OR PLACE OF ORGANIZATION		
Delaware			
	5	SOLE VOTING POWER	
		0	
SHARES	6	SHARED VOTING POWER	
OWNED BY		2,857,141	
REPORTING	7	SOLE DISPOSITIVE POWER	
PERSON WITH		0	
	8	SHARED DISPOSITIVE POWER	
		2,857,141	
AGGREGATE AMOUNT BENEF	ICIALLY	OWNED BY EACH REPORTING PERSON	
2,857,141(1)			
	CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES (See Instructions) _		
PERCENT OF CLASS REPRES	SENTED	BY AMOUNT IN ROW (9)	
11.3%			
TYPE OF REPORTING PERSO	TYPE OF REPORTING PERSON (See Instructions)		
00			
	NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH AGGREGATE AMOUNT BENEF: 2,857,141(1) CHECK BOX IF THE AGGREG SHARES (See Instruction PERCENT OF CLASS REPRES: 11.3% TYPE OF REPORTING PERSO	Delaware 5 NUMBER OF SHARES 6 BENEFICIALLY OWNED BY EACH REPORTING 7 PERSON WITH AGGREGATE AMOUNT BENEFICIALLY 2,857,141(1) CHECK BOX IF THE AGGREGATE AM SHARES (See Instructions) PERCENT OF CLASS REPRESENTED 11.3% TYPE OF REPORTING PERSON (See	

⁽¹⁾ As of January 20, 2005, Merrill Lynch Ventures, LLC beneficially owned

no shares of the common stock of Senomyx, Inc., having sold all shares in public market transactions.

	81724Q107			
1	NAME OF REPORTING PERSO	ONS		
	Merrill Lynch Group, In	nc.		
2	CHECK THE APPROPRIATE F	BOX IF	A MEMBER OF A GROUP (See Instructions)	
3	SEC USE ONLY			
4	CITIZENSHIP OR PLACE OF	F ORGAN	IZATION	
	Delaware			
		5	SOLE VOTING POWER	
	NUMBER OF		Disclaimed (See #9 below)	
	SHARES BENEFICIALLY	6	SHARED VOTING POWER	
	OWNED BY EACH		Disclaimed (See #9 below)	
	REPORTING PERSON	7	SOLE DISPOSITIVE POWER	
	WITH		Disclaimed (See #9 below)	
		8	SHARED DISPOSITIVE POWER	
			Disclaimed (See #9 below)	
9	AGGREGATE AMOUNT BENEF	ICIALLY	OWNED BY EACH REPORTING PERSON	
	Merrill Lynch Group, Inc. disclaims beneficial ownership in all shares of Senomyx, Inc. held by Merrill Lynch Ventures L.P. 200 and/or Merrill Lynch Ventures, LLC.			
10		CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES (See Instructions) _		
11	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (9)			
	Disclaimed (See #9 above)			
12	TYPE OF REPORTING PERSO	ON (See	Instructions)	

	81724Q107			
1	NAME OF REPORTING PERSO	 NS		
	Merrill Lynch & Co., In	c.		
2	CHECK THE APPROPRIATE B (a) _ (b) X	OX IF	A MEMBER OF A GROUP (See Instructions)	
3	SEC USE ONLY			
4	CITIZENSHIP OR PLACE OF	ORGAN	IZATION	
		 5	SOLE VOTING POWER	
			Disclaimed (See #9 below)	
	NUMBER OF SHARES	6	SHARED VOTING POWER	
	BENEFICIALLY OWNED BY		Disclaimed (See #9 below)	
	EACH REPORTING	7	SOLE DISPOSITIVE POWER	
	PERSON WITH		Disclaimed (See #9 below)	
		8	SHARED DISPOSITIVE POWER	
			Disclaimed (See #9 below)	
9	AGGREGATE AMOUNT BENEFI	CIALLY	OWNED BY EACH REPORTING PERSON	
	Merrill Lynch & Co., Inc. disclaims beneficial ownership in all shares of Senomyx, Inc. held by Merrill Lynch Ventures L.P. 2001 and/or Merrill Lynch Ventures, LLC.			
10		CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES (See Instructions) _		
11	PERCENT OF CLASS REPRES	 ENTED	BY AMOUNT IN ROW (9)	
	Disclaimed (See #9 abov	e)		
12	TYPE OF REPORTING PERSON (See Instructions)			
	HC, CO			

Item 1.

(b)

(a) NAME OF ISSUER. Senomyx, Inc. ADDRESS OF ISSUER'S PRINCIPAL EXECUTIVE OFFICES. (b) 11099 North Torrey Pines Road, La Jolla, California 92037 Item 2. NAME OF PERSON FILING. (a) Merrill Lynch Ventures L.P. 2001 Merrill Lynch Ventures, LLC Merrill Lynch Group, Inc. Merrill Lynch & Co., Inc. (b) Address of Principal Business Office or, if none, Residence. Merrill Lynch Ventures L.P. 2001 4 World Financial Center New York, New York 10080 Merrill Lynch Ventures, LLC 4 World Financial Center New York, New York 10080 Merrill Lynch Group, Inc. 4 World Financial Center New York, New York 10080 Merrill Lynch & Co., Inc. 4 World Financial Center New York, New York 10080 CITIZENSHIP. (C) The citizenship of all Reporting Persons is Delaware. (d) TITLE OF CLASS OF SECURITIES. Common Stock, par value \$0.001 per share. (e) CUSIP NUMBER. 81724Q107 Item 3. If this statement is filed pursuant to ss. 240.13d-1(b) or ss. 240.13d-2(b) or (c), check whether the person filing is a: |_| Broker or dealer registered under Section 15 of the Act. (a)

|_| Bank as defined in section 3(a)(6) of the Act.

|_| Insurance company as defined in section 3(a)(19) of the Act.

- (d) $|_|$ Investment company registered under section 8 of the Investment Company Act of 1940.
- (e) |_| An investment adviser in accordance with ss. 240.13 (d) 1 (b) (1) (ii) (E).
- (f) |_| An employee benefit plan or endowment fund in accordance with ss. 240.13d-1 (b) (1) (ii) (F).
- (g) |_| A parent holding company or control person in accordance with ss. 240.13d-1 (b) (1) (ii) (G).
- (h) $|_|$ A savings association as defined in Section 3(b) of the Federal Deposit Insurance Act (12 U.S.C. 1813).
- (i) $|_|$ A church plan that is excluded from the definition of an investment company under section 3(c)(14) of the Investment Company Act of 1940.
- (j) $|_|$ Group, in accordance with ss. 240.13d-1(b)(1)(ii)(J).

Item 4. Ownership.

Provide the following information regarding the aggregate number and percentage of the class of securities of the issuer identified in Item 1.

- (a) Amount Beneficially Owned: 2,857,141
- (b) Percent of Class: 11.3%
- (c) Number of shares as to which the person has:
 - (i) sole power to vote or to direct the vote: See Item 5 of the Cover Pages.
 - (ii) shared power to vote or to direct the vote: See Item 6 of the Cover Pages.
 - (iii) sole power to dispose or to direct the disposition of: See Item 7 of the Cover Pages.
 - (iv) shared power to dispose or to direct the disposition of: See Item ${\tt 8}$ of the Cover Pages.

Item 5. Ownership of Five Percent or Less of a Class.

If this statement is being filed to report the fact that as of the date hereof the reporting person has ceased to be the beneficial owner of more than five percent of the class of securities, check the following. |X|

Item 6. Ownership of More than Five Percent on Behalf of Another Person.

Merrill Lynch Group, Inc. and Merrill Lynch & Co., Inc. disclaim beneficial ownership of the shares of common stock beneficially owned by Merrill Lynch Ventures L.P. 2001 and Merrill Lynch Ventures, LLC, which such shares may be deemed to be beneficially owned by Merrill Lynch Group, Inc. and Merrill Lynch & Co., Inc. because Merrill Lynch Ventures L.P. 2001 is a partnership in which Merrill Lynch Ventures, LLC is the general partner, which is a

wholly-owned subsidiary of Merrill Lynch Group, Inc., which is a wholly-owned subsidiary of Merrill Lynch & Co., Inc.

Item 7. Identification and Classification of the Subsidiary Which Acquired the Security Being Reported on By the Parent Holding Company.

Not applicable.

Item 8. Identification and Classification of Member of the Group.

Although Merrill Lynch Ventures L.P. 2001, Merrill Lynch Ventures, LLC, Merrill Lynch Group, Inc., and Merrill Lynch & Co., Inc. are affiliates and are filing jointly, the reporting persons are of the view that such affiliation does not cause them to act as a group for purposes of Rule 13d.

Item 9. Notice of Dissolution of Group.

Not applicable.

Item 10. Certification.

Not applicable.

SIGNATURE

After reasonable inquiry and to the best of my knowledge and belief, I certify that the information set forth in this statement is true, complete and correct.

Merrill Lynch Ventures L.P. 2001
February 3, 2005
Date
/s/ Mandakini Puri
Signature
Mandakini Puri, Executive VP of Merrill Lynch Ventures, LLG General Partner of Merrill Lynch Ventures L.P. 2001
Name/Title
Merrill Lynch Ventures, LLC
February 3, 2005
Date
/s/ Mandakini Puri
Signature

Mandakini Puri, Executive VP of Merrill Lynch Ventures,	LL(
Name/Title	
Merrill Lynch Group, Inc.	
February 3, 2005	
Date	
/s/ Frank Marinaro	
Signature	
Frank Marinaro, Attorney-in-Fact of Merrill Lynch Group,	In
Name/Title	
Merrill Lynch & Co., Inc.	
February 3, 2005	
Date	
/s/ Frank Marinaro	
Signature	
Frank Marinaro, Attorney-in-Fact of Merrill Lynch & Co.,	Ind

Name/Title