



DIVISION OF
CORPORATION FINANCE

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

February 23, 2011

Antony Rogers
Vice President and Chief Financial Officer
Senomyx, Inc.
4767 Nexus Centre Drive
San Diego, CA 92121

Re: Senomyx, Inc.
Form 10-K for the Fiscal Year Ended December 31, 2009
Form 10-Q for the Quarterly Period Ended September 30, 2010
File No. 000-50791

Dear Mr. Rogers:

We have completed our review of your filings and do not have any further comments at this time.

Sincerely,

Joel Parker
Accounting Branch Chief