



Codexis, Inc.  
**200 Penobscot Drive**  
Redwood City, CA 94063  
Tel: 650.421.8100  
Fax: 650.421.8102  
www.codexis.com

February 20, 2013

**VIA EDGAR**

Mr. Terence O'Brien  
Accounting Branch Chief  
Securities and Exchange Commission  
Division of Corporation Finance  
Washington, DC 20549

RE: Codexis, Inc.  
Form 10-Q for the Fiscal Quarter Ended September 30, 2012  
Filed November 7, 2012  
File No. 001-34705

Dear Mr. O'Brien:

This letter is in response to your letter of January 29, 2013 to John Nicols, President and Chief Executive Officer of Codexis, Inc. (the "**Company**" or "**Codexis**"), concerning our Form 10-Q for the fiscal quarter ended September 30, 2012, which was filed with the Securities and Exchange Commission (the "**Commission**") on November 7, 2012. For ease of review, we have set forth below in **bold** type each of the numbered comments received from the staff of the Commission (the "**Staff**") and have followed each comment with the Company's response thereto.

Form 10-Q for the Fiscal Quarter Ended September 30, 2012

Critical Accounting Policies and Estimates, page 24

1. **In your response to prior comment 1, you discuss a quantitative impairment test of goodwill on October 1, 2012, in connection with ASC 350-20-35-30. It appears your quantitative impairment test consisted of a comparison of your market capitalization to net assets. Your accounting policy disclosure on page 62 of your Form 10-K discusses the assessment of cash flows but does not discuss comparison of market capitalization. Please tell us whether you**

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**use a cash flow method as part of your impairment test of goodwill or under what circumstances you would and describe your method. We note market capitalization has dipped below total stockholders' equity, you have a sizable accumulated deficit, and you have reported losses from operations for each of the last five years. Tell us the date of your annual test of goodwill under ASC 350-20-35-28.**

*Response:*

In our annual impairment test of goodwill under ASC 350-20-35-28, which we perform each year as of October 1, we use our market capitalization as an indicator of fair value. We historically have used our market capitalization as an indicator of fair value because we have only one reporting unit. We believe this approach is consistent with ASC 350-20-35-22 which provides that "quoted market prices in active markets are the best evidence of fair value and shall be used as the basis for measurement if available. However, the market price of an individual equity security (and thus the market capitalization of a reporting unit with publically traded equity securities) may not be representative of the fair value of the reporting unit as a whole". We believe that since our reporting unit is publicly traded, the ability of a controlling shareholder to benefit from synergies and other intangible assets that arise from control might cause the fair value of our reporting unit as a whole to exceed its market capitalization. Therefore, we believe that the fair value measurement need not be based solely on the quoted market price of an individual share our common stock and also consider the impact of a control premium in measuring the fair value of a reporting unit. We note that for approximately 19 business days during the quarter ended September 30, 2012, our market capitalization was less than our stockholder's equity by amounts ranging from \$2 to \$15 million, which amounts reflect less than 1% and up to 16% of our stockholder's equity as of September 30, 2012, respectively. The timing of this decrease in market capitalization, generally from August 10, 2012 to September 6, 2012, corresponds to our August 9, 2012 announcement that we did not expect any continued research funding from Equilon Enterprises LLC dba Shell Oil Products US ("*Shell*") after October 31, 2012, our September 4, 2012 announcement of the termination of our Amended and Restated Collaborative Research Agreement with Shell (the "*Shell Research Agreement*") and our related cost reduction exercise, and our September 6, 2012 announcement of our plan to close our Singapore facility. Given the materiality of these announcements, we determined that our closing stock price during this period reflected temporary price volatility and did not fairly reflect our enterprise market capitalization. We further note that our average market capitalization for the two weeks prior to September 30, 2012 was approximately \$116.6 million and exceeded the carrying value of our reporting unit.

Our annual test date is October 1, and, accordingly, we performed the test of possible goodwill impairment at that time. Further, in consideration of the termination of the Shell Research Agreement effective August 31, 2012, we performed an interim assessment as of September 30, 2012. This analysis compared our market capitalization as of September 30, 2012, of \$113.2 million with the carrying value of our net assets of \$93.0 million in total. The comparison of our market capitalization, excluding any potential adjustment for a control premium, to the carrying amount of our net assets as of September 30, 2012 indicated no impairment to our goodwill.

We anticipate that should our market capitalization be less than our total stockholder's equity as of our annual test date or as of any interim impairment testing date, we would first consider recent trends in our stock price over a reasonable period and if appropriate, consider other factors to determine whether our implied fair value of goodwill is greater than our carrying amount of goodwill, such as a risk assessment, control premium, the use of a discounted cash flow method or market comparables. If we were to use a discounted cash flow method, we would establish a fair value by estimating the present value of our

projected future cash flows expected to be generated from our business. The discount rate applied to the projected future cash flows to arrive at the present value would be intended to reflect all risks of ownership and the associated risks of realizing the stream of projected future cash flows. Our discounted cash flow methodology would use our projections of financial performance for a period of several years combined with an estimated residual value. The most significant assumptions we would use in a discounted cash flow methodology are the discount rate, the residual value and expected future revenues, gross margins and operating margins, along with considering any implied control premium when compared against our market capitalization, to determine whether our implied fair value of goodwill is greater than our carrying amount of goodwill.

We note that the critical accounting policy for impairment of goodwill and intangible assets and other long-lived assets that is described on page 62 of our Annual Report on Form 10-K for the period ended December 31, 2011 inadvertently omitted a description of our policy for evaluating impairment of goodwill. In future filings, we will enhance the description of our accounting policy related to goodwill impairment and explicitly state that we use market capitalization as one of the possible indicators of fair value for our annual and any interim test of possible goodwill impairment.

2. **We have read your response to comment 2 from our letter dated December 14, 2012. In your response you state that you prepared your forecasted undiscounted cash flow analysis using projections which included assumptions surrounding new collaborations for your CodeXol™ detergent alcohols program. Based on disclosures in your filings we did not observe material contracts for your detergent or discussion of negotiations to enter a material contract. Please tell us more about the new collaborations assumed as part of your analysis, including the status of any new collaborations, the amount of revenue and cash flows included in your analysis that is not based on a signed contract, the expected growth rate through 2016, and your basis for including these amounts in your assumptions. Tell us whether the undiscounted cash flows, without inclusion of amounts not based on signed contracts, would be sufficient to exceed the carrying value of the asset group and the amount of the difference.**

*Response:*

We prepared our forecasted undiscounted cash flow analysis in reliance on the guidance under ASC-360-10-35-30, which states as follows:

Estimates of future cash flows used to test the recoverability of a long-lived asset (asset group) shall incorporate the entity's own assumptions about its use of the asset (asset group) and shall consider all available evidence. The assumptions used in developing those estimates shall be reasonable in relation to the assumptions used in developing other information used by the entity for comparable periods, such as internal budgets and projections, accruals related to incentive plans, or information communicated to others.

Specifically, we note that the estimates of future cash flows we used to test the recoverability of our long lived assets as of September 30, 2012 were consistent with financial information used by the entity and provided to the Board of Directors for review and comment during that time. **[CONFIDENTIAL TREATMENT REQUESTED PURSUANT TO RULE 83 (17 CFR 200.83)]** Therefore, given that our

estimated cash flows used in our impairment analysis were used internally and provided externally for critical projects of the company, we conclude that we have met the standard set forth in ASC-360-10-35-30.

The forecasted undiscounted cash flow analysis we prepared as of September 30, 2012 for purposes of performing our long lived assets recoverability test included management's estimates and assumptions surrounding, among other things, potential future cash inflows from collaborations for our CodeXol™ detergent alcohols program. At that time, we were in active discussions with [CONFIDENTIAL TREATMENT REQUESTED PURSUANT TO RULE 83 (17 CFR 200.83)]. We are also currently engaged in discussions with [CONFIDENTIAL TREATMENT REQUESTED PURSUANT TO RULE 83 (17 CFR 200.83)].

[CONFIDENTIAL TREATMENT REQUESTED PURSUANT TO RULE 83 (17 CFR 200.83)] The projections of undiscounted cashflows for CodeXol™ were based on management's estimates and assumptions and all the evidence available at the time as to the potential collaboration arrangements that would generate cash flows in the coming years, including the active discussions we were having at the time. [CONFIDENTIAL TREATMENT REQUESTED PURSUANT TO RULE 83 (17 CFR 200.83)] The majority of the CodeXol™ revenue included in the analysis is collaborator funding of a full-time employee equivalent ("*FTE*") rate for research and development activities. The FTE rate that we used in our analysis was similar to the annual FTE rate that Shell paid to us for our US-based FTEs under our Shell Research Agreement throughout the six-year research program with Shell.

If the [CONFIDENTIAL TREATMENT REQUESTED PURSUANT TO RULE 83 (17 CFR 200.83)] projected net cash inflows directly related to CodeXol™ through 2016 were excluded from our September 2012 analysis, our remaining undiscounted cash flows would have exceeded the carrying value of the net asset group by [CONFIDENTIAL TREATMENT REQUESTED PURSUANT TO RULE 83 (17 CFR 200.83)]. In estimating this net cash flow in excess of the carrying value of the net asset group exclusive of the projected CodeXol™ cash flows, we have included an estimate of the residual value of the asset group at December 31, 2016. [CONFIDENTIAL TREATMENT REQUESTED PURSUANT TO RULE 83 (17 CFR 200.83)]

We note that the use of assumptions and estimates in testing the recoverability of a long-lived asset group, which is permitted under ASC-360, involves risks and uncertainties. In future filings beginning with our Form 10-K for the year ended December 31, 2012 we will include additional disclosure relating to the critical assumptions that we use in our analysis and the potential risks and uncertainties associated with these critical assumptions.

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We advise the Staff that we have engaged an independent third party to assist us in testing our long lived assets for possible impairment at December 31, 2012. While this analysis is not yet complete, the preliminary analysis indicates that our total undiscounted cash flows continue to exceed the carrying value of the net asset group as of December 31, 2012. We will disclose the conclusion of the final impairment analysis and the material assumptions used in preparing the analysis in our Annual Report on Form 10-K for the period ended December 31, 2012.

Please do not hesitate to contact David O'Toole, Chief Financial Officer and Senior Vice President, at (650) 421-8152 with any questions or comments regarding this correspondence.

Sincerely,

/s/ David O'Toole

David O'Toole  
Senior Vice President, Chief Financial Officer

cc: John Nicols, Codexis, Inc.  
Douglas T. Sheehy, Codexis, Inc.  
Patrick A. Pohlen, Latham & Watkins LLP  
Christian W. Nolet, Ernst & Young LLP  
Candileigh K. Monzo, Ernst & Young LLP

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