

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

April 18, 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 March 8, 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

- Paragraph 35-30 of ASC 360-10-35 states you should consider all evidence in testing the recoverability of a long-lived asset. Please tell us how you have considered the uncertainty involved in the potential future cash inflows from collaborations for your CodeXol detergent alcohols program, given you have not secured an agreement with a new collaborator. To the extent there is a range of possible future cash flows, the likelihood of those possible outcomes should be considered.**

Response:

We employed a best-estimate of future cash flows approach in which management assessed that the single most likely outcome for the CodeXo[®] detergent alcohols program was collaboration with a partner. The likelihood of this outcome was in part based on our discussions with [CONFIDENTIAL TREATMENT REQUESTED PURSUANT TO RULE 83 (17 CFR 200.83)], as described in our comment response letter dated February 20, 2013. The majority of the CodeXo[®] revenue included in the analysis is collaborator funding of a full-time employee equivalent ("**FTE**") rate for research and development activities, which we considered to be our best-estimate of future cash flows. 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. These assumptions were based on management's best-estimate based on available data, judgments, and expected course of action as of September 30, 2012.

However, as we indicated in our February 20, 2013 letter, even if all of the cash flows directly related to CodeXo[®] 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)]

CONFIDENTIAL TREATMENT
REQUESTED BY CODEXIS, INC.
CDX-2001

[CONFIDENTIAL TREATMENT REQUESTED PURSUANT TO RULE 83 (17 CFR 200.83)]

As described below in the response to Comment Number 3, we have subsequently refocused our business on the pharmaceuticals market and have refined our business strategy for the CodeXol® detergent alcohols program. As a result of this refocusing and refinement, the Company's impairment analysis of long-lived assets as of December 31, 2012 includes undiscounted cash flows associated with potential strategic transactions associated with respect to our existing CodeXol® detergent alcohols program. The amount of estimated cash inflows was determined by probability weighting different scenarios to arrive at a weighted average of most probable outcomes for the CodeXol® program.

2. In your response you indicate that you "are also currently engaged in discussions with..." Tell us how you have considered the guidance in paragraph 35-30 of ASC 360-10-35 regarding alternative courses of action and the requirement to consider the likelihood of possible related outcomes.

Response:

As we noted above in our response to Comment Number 1, management's best-estimate of future cash flows reflected management's assessment that the most likely outcome for the CodeXol® detergent alcohols program was a collaboration with a partner, and that a majority of revenue produced from the resulting collaboration would be based on an FTE model similar to what we experienced under the Shell Research Agreement. Although we were in discussions with **[CONFIDENTIAL TREATMENT REQUESTED PURSUANT TO RULE 83 (17 CFR 200.83)]**, and had previously been in discussion with others, management assessed that it was not likely that more than one collaboration would result from such discussions, but rather that the most likely outcome would be a collaboration with a single partner.

Based on subsequent discussions with potential collaboration partners during the fourth quarter of 2012, it was determined that a collaboration partner approach to our CodeXol® detergent alcohols program was not necessarily the best outcome for our business. As a result, the Company decided in late December 2012 to also explore other options for a potential strategic transaction with respect to our CodeXol® program. As described below in the response to Comment Number 3, the Company's impairment analysis of long-lived assets as of December 31, 2012 does include estimated cash flows determined by probability weighting different scenarios to derive at a weighted average of most probable outcomes for the CodeXol® program.

3. In future filings, please expand your critical accounting policy disclosures to provide investors with a discussion of the key assumptions underlying your test of the recoverability of your long-lived assets, including:

- **Information in your January 14, 2013, letter regarding your grouping of long-lived assets into a single asset group;**
- **A description of your method for testing impairment;**
- **A description of the cash flows included in your analysis, including estimated cash flows from collaborative agreements and the residual value of the asset group;**
- **An explanation of the method used to calculate the residual value of the asset group and the key underlying assumptions;**
- **The amount of CodeXol revenue and cash flows included in your analysis, quantification of the portion of that amount based on signed contracts vs. amounts based on collaborations that do not exist, and a comparison to amounts historically earned;**

- **A detailed explanation of how you estimate amounts of revenue and cash flows based on collaboration agreements that have not been negotiated and do not exist and the reasons you believe it is reasonable to rely on these assumptions.**

Please provide us with an example of the disclosure you expect to include in future filings.

Response:

In response to the Staff's comment, the Company included the following disclosure in its Annual Report on Form 10-K for the fiscal year ended December 31, 2012, filed with Commission on April 2, 2013 (the "**Form 10-K**"), in Part II, Item 7—"Management's Discussion and Analysis of Financial Condition and Results of Operations":

"Impairment of Long-Lived Assets and Intangible Assets

Long-lived and intangible assets with finite lives are reviewed for impairment whenever events or changes in circumstances indicate the carrying amount of an asset may not be recoverable. Recoverability of these assets is measured by comparison of their carrying amounts to future undiscounted cash flows the assets are expected to generate.

The Company's intangible assets with finite lives consist of customer relationships, developed core technology, trade names, and the intellectual property ("IP") rights associated with the acquisition of Maxygen's directed evolution technology in 2010. Intangible assets were recorded at their fair values at the date we acquired the assets and, for those assets having finite useful lives, are amortized using the straight-line method over their estimated useful lives. The Company's long-lived assets include property, plant and equipment, and other non-current assets.

We determined that we have a single entity wide asset group ("Asset Group"). The directed evolution technology patent portfolio acquired from Maxygen ("Core IP") is the most significant component of the Asset Group since it is the base technology for all aspects of our research and development, and represents the basis for all of our identifiable cash flow generating capacity. Consequently, we do not believe that identification of independent cash flows associated with our long-lived assets is currently possible at any lower level than the Asset Group.

The Core IP is the only finite-lived intangible asset on our balance sheet as of December 31, 2012 and is considered the primary asset within the Asset Group. The remaining useful life of the Core IP extends through the fourth quarter of 2016. There has been no significant change in the utilization or estimated life of our Core IP since we acquired the technology patent portfolio from Maxygen. The estimated remaining useful life of our Core IP is not impacted by the termination of the Shell Research Agreement.

The carrying value of our long-lived assets in the Asset Group may not be recoverable based upon the existence of one or more indicators of impairment which could include: a significant decrease in the market price of the Company's common stock; current period cash flow losses or operating losses combined with a history of losses or a forecast of continuing losses associated with the use of the assets; slower growth rates in our industry, significant adverse changes in the business climate or legal factors; accumulation of costs significantly in excess of the amount originally expected for the acquisition or construction of the assets; loss of significant customers or partners; or the current expectation that the assets will more likely than not be sold or disposed of significantly before the end of their estimated useful life.

We evaluate recoverability of our long-lived assets and intangible assets based on the sum of the undiscounted cash flows expected to result from the use, and the eventual disposal of, the Asset Group. We make estimates and judgments about the future undiscounted cash flows over the remaining useful life of the Asset Group. Our anticipated future cash flows include our estimates of existing or in process product revenues, production and operating costs, future capital expenditures, working capital needs, and assumptions regarding the ultimate sale of the Asset Group at the end of the life of the primary asset. The useful life of the Asset Group was based on the remaining useful life of the Core IP, the primary asset.

As of December 31, 2012 we determined that our continued operating losses and the termination of the Shell Research Agreement were indications of impairment. Consequently, we tested our long-lived assets and intangible assets for impairment as of December 31, 2012.

As part of a comprehensive strategic planning exercise the Company undertook in the fourth quarter of 2012 and early 2013, we developed a detailed multi-year operating plan of both revenue and expense. Our best-estimate of future cash flows used to test the recoverability of the Asset Group as of December 31, 2012 was developed directly from this plan using a forecast period consistent with the remaining useful life of the Core IP. Although our cash flow forecasts are based on assumptions that are consistent with our plans, there is significant exercise of judgment involved in determining the cash flows attributable to our Asset Group over its estimated remaining useful life.

The undiscounted cash flows included revenue and expense from our core pharmaceutical business and other enzyme markets adjacent to our pharmaceutical business. These adjacent enzyme businesses, which will leverage our Core IP and pharmaceutical technology and processes, include business opportunities in the fine chemical and enzymatic therapeutic markets.

We typically receive revenues from our core pharmaceutical business and expect to receive revenues from other enzyme markets adjacent to our pharmaceutical business in the form of one or more of the following: up-front payments, milestone payments, payments based upon the number of full-time employee equivalents, or FTEs, engaged in related research and development activities and licensing fees and royalties. Our best estimate of future cash flows does not include any CodeXol[®] and CodeXyme[®] revenues associated with collaboration research and development agreements, but does include an estimate of cash flows from potential strategic transactions with respect to our CodeXyme[®] and CodeXol[®] programs, as described below.

Approximately 69% and 31% of total Company revenues included in our estimated undiscounted cash flows (excluding cash flows from potential strategic transactions with respect to our CodeXyme[®] and CodeXol[®] programs) over the remaining useful life of the Core IP are derived from our core pharmaceutical business and adjacent enzyme opportunities, respectively.

Our core pharmaceutical business revenues are estimated based on existing commercial relationships, signed agreements or contracts, and conservative estimates for the capture of additional market share that management determined to be reasonably achievable. For existing and in process customer revenues we assumed a modest rate of growth based on our historical business model for our core pharmaceutical business, including research and development services revenue from partners and customers, which management determined to be reasonably achievable. We have historically worked closely with our pharmaceutical partners, such as Merck, to evolve, engineer and develop enzymes that meet their specific needs. Our business model is based on having our partners and customers pay in whole or in part for the research and development required to engineer the enzymes required.

In determining which adjacent enzyme markets to exploit, management assessed various segments of the large and growing enzyme markets and selected those adjacent markets where we already had entry points through our existing pharmaceutical business relationships, such as fine chemicals and enzymatic therapeutics markets. Estimated revenues associated with these adjacent markets are based on market penetration and adoption rates that management determined to be reasonably achievable.

We calculated our expected residual value in 2016 by applying a Gordon Growth Model to our estimated 2016 normalized net cash flows using a discount rate of 18% ("Estimated Weighted-Average Cost of Capital"), long term growth rate of 2%, and a capitalization factor of 6.25. The 18% discount rate reflects the nature and the risk of the underlying forecast, and includes such financial components as the risk free rate, systemic stock price risk based on an evaluation with peer companies ("beta"), equity risk premium, size premium, and company specific risk. The long term growth rate of 2% reflects projected inflation and general economic conditions. Based on these estimates, judgments, and factors, we determined that the residual value included in the undiscounted cash flows was \$72.3 million.

We also included in the undiscounted cash flows an estimate of cash flows from potential strategic transactions with respect to our existing CodeXym[®] cellulase enzymes and CodeXol[®] detergent alcohols programs. The amount of estimated cash flows was determined by probability weighting different scenarios to derive at a weighted average of

most probable outcomes, with CodeXol® and CodeXyme® representing 11% and 27%, respectively, of the total undiscounted cash flows associated with the Asset Group. These amounts are not based on any existing signed contracts or agreements.

The result of our fourth quarter 2012 impairment analysis indicates that the undiscounted cash flows for the Asset Group are greater than the carrying value of the Asset Group by approximately 14%.

Any inability to align future production costs, operating costs, capital expenditures and working capital needs with significant changes in the timing and/or level of estimated future revenue could adversely impact our projected undiscounted cash flows. Future changes in the estimated useful life of our long-lived assets could also adversely impact our projected undiscounted cash flows and result in future impairment charges. If it is determined that the Asset Group is not recoverable, an impairment loss would be calculated based on the excess of the carrying amount of the intangible and long-lived assets over the fair value. Any future impairment charges could have a material adverse effect on our financial position and results of operations.”

We undertake to include similarly detailed disclosure about the assumptions underlying our tests of the recoverability of our long-lived assets in our future filings.

We supplementally advise the Staff that our impairment analysis of long-lived assets and intangible assets as of December 31, 2012, as described in the Form 10-K, reflects different underlying estimates and assumptions than our impairment analysis as of September 30, 2012, due to changes in our business focus and strategy since the earlier impairment analysis. In late December 2012 and early January 2013, we finalized our 2013 annual budget and 2013-2017 strategic business plans, and management determined that the best course of action for the Company was (i) to refocus our business on the pharmaceuticals market, (ii) to enter into enzyme markets adjacent to our pharmaceutical business and (iii) to seek partner(s) to invest in our CodeXol® detergent alcohol and CodeXyme® cellulase enzymes programs, or to identify and effect other strategic options with respect to those programs. The impairment analysis described in the Form 10-K reflected that modified business focus and plan.

4. **We note from your Item 2.02 Form 8-K filed February 27, 2013, that you reported a net loss for the three months and year ended December 31, 2012. Revenues for the fourth quarter of 2012 were \$7.9 million, a 76% decrease from \$33.5 million in the fourth quarter of 2011, mainly due to the termination of Codexis' Collaborative Research Agreement with Shell as of August 31, 2012. Please tell us how you considered the need for disclosure forewarning investors about the possibility of future impairment of long-lived assets based on known factors and trends. Refer to Item 303 of Regulation S-K, and Sections 216, 501.02 and 501.12.b.3, 501.12.b.4, and 501.14 of the Financial Reporting Codification regarding forewarning disclosures. Provide us with an example of any disclosure you anticipate included in future periodic reports.**

Response:

We respectfully inform the Staff that we included disclosures warning investors about the possibility of future impairment of long-lived assets in the “Forward-Looking Statements” section of the press release filed as Exhibit 99.1 to the Current Report on Form 8-K that we filed on February 27, 2013. Specifically, the press release identified a number of factors that could cause our actual future results to differ materially from our forecasted results, including “any impairments Codexis may be required to record in the future with respect to its goodwill, intangible assets or other long-lived assets.”

Additionally, in the Form 10-K, we included the following disclosure in Part I, Item 1A—“Risk Factors,” relating to the possibility of future impairment of long-lived assets, and we will continue to warn investors of this risk as long as appropriate:

“If goodwill or our intangible or other long-lived assets become impaired we may be required to record a significant charge to earnings.

Our total assets reflect substantial goodwill, intangible assets and other long-lived assets. Under accounting principles generally accepted in the United States, or GAAP, we review goodwill for impairment on at least an

annual basis and at any interim date whenever events or changes in circumstances indicate that the carrying value may not be recoverable. We review our long lived and intangible assets with finite lives for impairment whenever events or changes in circumstances indicate that the carrying amount of the assets may not be recoverable. Events or changes in circumstances (i.e., information that indicates an impairment might exist), could include: a significant decrease in the market price of the Company's common stock; current period cash flow losses or operating losses combined with a history of losses or a forecast of continuing losses associated with the use of the assets; slower growth rates in our industry; significant adverse changes in the business climate or legal factors; accumulation of costs significantly in excess of the amount originally expected for the acquisition or construction of the assets; loss of significant customers or partners; or the current expectation that the assets will more likely than not be sold or disposed of significantly before the end of their estimated useful life. We may be required to record a significant charge to earnings in our financial statements during the period in which any impairment of our goodwill, intangible assets or other long-lived assets is determined, resulting in an adverse impact on our financial position and results of operations.”

We also included in the Form 10-K the critical accounting policy disclosure described in our response to Comment Number 3, which also advises investors of the risk of future impairment, and we will continue to include such disclosure in our future periodic reports as long as appropriate.

We supplementally advise the Staff that, in preparing the Form 10-K, we assessed, in accordance with Item 303 of Regulation S-K and guidance in the Financial Reporting Codification, whether there are any trends, uncertainties or other events known to us that are reasonably likely to occur that would be reasonably likely to lead to an impairment of long-lived assets that would have a material effect on our results of operations, and we concluded that that were no such trends, uncertainties or other events known to us.

Please do not hesitate to contact me at (650) 421-8152 with any questions or comments regarding this correspondence.

Sincerely,

/s/ David O'Toole

David O'Toole
Senior Vice President and 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
Nick Prior, Ernst & Young, LLP