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**OXiGENE Announces Restructuring to Focus Resources
on Key Programs and Provides Business Update**

SOUTH SAN FRANCISCO, CA, -- February 11, 2010 -- OXiGENE, Inc. (Nasdaq:OXGN) (Stockholm:OXGN), a clinical-stage, biopharmaceutical company developing novel therapeutics to treat cancer and eye diseases, announced today a restructuring plan designed to focus resources on the company's highest-value clinical assets and reduce its cash utilization. Key aspects of the restructuring and its effects on the Company's current clinical trials are as follows:

- OXiGENE will continue to advance its high-priority Phase 2 ZYBRESTAT trial in non-small cell lung cancer (FALCON study), with updated safety and efficacy results anticipated for presentation at the upcoming American Society of Clinical Oncology (ASCO) meeting in June 2010.
- OXiGENE plans to stop further enrollment in the Phase 2/3 FACT clinical trial in anaplastic thyroid cancer (ATC), but will continue to treat and follow all patients who are currently enrolled. A survival analysis is anticipated in early 2011. The Company expects this plan to optimize its ability to gain useful additional insight into ZYBRESTAT's antitumor activity earlier than the previously anticipated timeline, while also reducing cash utilization in 2010 and subsequent years.
- The OXi4503 Phase 1b trial in patients with hepatic tumors will continue with an interim analysis expected in mid-2010.
- The Phase 2 FAVOR study of ZYBRESTAT in polypoidal choroidal vasculopathy (PCV), a form of macular degeneration, will continue with an interim analysis expected in the first half of 2010.
- Future development decisions concerning the OXi4503 program and the ZYBRESTAT for ophthalmology program will be made following these analyses and additional review by OXiGENE's management and board of directors.
- In addition, the Company is reducing its workforce by 20 employees or approximately 49%.

"OXiGENE's management and board have determined that the optimal course of action is to focus our resources on advancing our Phase 2 ZYBRESTAT non-small cell lung cancer trial (FALCON), which we believe is our most promising clinical program, while reducing the level of investment in other clinical programs," said Peter Langecker, M.D., Ph.D., OXiGENE's Chief Executive Officer. "The focusing of our clinical resources on what we believe are our most promising opportunities as well as the reduction in force is designed to strengthen our ability to achieve our key objectives for 2010 while potentially allowing us to demonstrate the therapeutic value of our clinical programs earlier. A reduction in force is never an easy decision to make, especially as we have such an

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excellent team here at OXiGENE. We want to express our sincere appreciation and gratitude to the employees who are affected by this restructuring, and we wish them well in future endeavors.”

The Company is offering severance benefits to the terminated employees, and anticipates recording a charge of approximately \$600,000, primarily associated with personnel-related termination costs, which will be recognized in the first quarter of 2010.

Substantially all of the charge is expected to represent cash expenditures. Beginning in the second quarter of 2010, the Company expects the reduction to generate annual expense savings of approximately \$2.6 million.

About OXiGENE

OXiGENE is a clinical-stage biopharmaceutical company developing novel therapeutics to treat cancer and eye diseases. The company's major focus is developing vascular disrupting agents (VDAs) that selectively disrupt abnormal blood vessels associated with solid tumor progression and visual impairment. OXiGENE is dedicated to leveraging its intellectual property and therapeutic development expertise to bring life-extending and life-enhancing medicines to patients.

Safe Harbor Statement

This news release contains "forward-looking statements" within the meaning of the Private Securities Litigation Reform Act of 1995. Any or all of the forward-looking statements in this press release may turn out to be wrong. Forward-looking statements can be affected by inaccurate assumptions OXiGENE might make or by known or unknown risks and uncertainties, including, but not limited to, the available options for realizing value in the Company's product candidates. Additional information concerning factors that could cause actual results to materially differ from those in the forward-looking statements is contained in OXiGENE's reports to the Securities and Exchange Commission, including OXiGENE's reports on Form 10-K, 10-Q and 8-K. However, OXiGENE undertakes no obligation to publicly update forward-looking statements, whether because of new information, future events or otherwise. Please refer to our Annual Report on Form 10-K for the fiscal year ended December 31, 2008.

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