Dear Shareholders,

From every perspective, OXiGENE is enjoying the most successful period in its history. Today, researchers in the United States and Europe are studying our lead vascular targeting agent (VTA), Combretastatin A4 Prodrug (CA4P), in six post-Phase I human clinical trials. We are fully engaged in developing VTAs to treat cancer and ophthalmic diseases — two large and growing markets with significant unmet therapeutic needs. To fund our clinical development program, during the past 10 months the Company has significantly strengthened its balance sheet through a private placement and a stock offering that generated combined gross proceeds of more than $39 million. This letter reports on OXiGENE's achievements in 2003 and early 2004 and outlines our objectives for the year ahead.

Solid tumor cancers and many retinal degenerative diseases are marked by the uncontrolled formation of new blood vessels. OXiGENE's VTAs are designed to attack the vascular structure of these proliferating growths, cutting off their blood supply yet sparing the surrounding healthy tissue. OXiGENE compounds have demonstrated the ability not only to halt the growth of these aberrant blood vessels, but also to cause regression.

CA4P Enters New Combination Trials

We have amassed strong pre-clinical data concluding that CA4P has the potential to significantly enhance the anti-tumor effects of conventional cancer therapies. As a result, one of OXiGENE's stated goals for 2003 was to advance the compound into new combination trials to determine the therapeutic interaction between CA4P and standard-of-care treatments such as chemotherapy and radiotherapy. During the year we achieved that goal through the initiation of four Phase I/II studies in six tumor types, including:

- A 60-patient study in combination with the chemotherapy drugs carboplatin and paclitaxel in **advanced ovarian cancer**. This trial is being conducted at Mount Vernon Hospital in the United Kingdom, and we plan to open additional centers in 2004.
- A 35-patient study in combination with the iodine-labeled monoclonal antibody A5B7 in patients with **advanced colorectal cancer**. This trial is being conducted at Mount Vernon and Royal Free Hospitals in the United Kingdom under the sponsorship of Cancer Research UK, the world's largest volunteer-supported cancer research organization.
- A 33-patient, multi-center study in combination with the chemotherapy drugs doxorubicin/cisplatin and radiation in patients with **newly diagnosed anaplastic thyroid cancer** (ATC). This Phase Ib/II trial is important because it involves patients who have not received prior treatment for the disease. As a result, it enables CA4P to be studied as an integral component of a first-line ATC therapy. Patient enrollment is underway at the Ireland Cancer Center in Cleveland, the Josephine Ford Cancer Center at Henry Ford Hospital in Detroit and the Hillman Cancer Center at the University of Pittsburgh Cancer Institute.
- A 30-patient study in combination with radiotherapy in patients with **advanced cancer of the lung, head & neck and prostate**. This trial is being conducted at Mount Vernon Hospital.

These trials, and our ongoing Phase II trial in 32 patients with advanced anaplastic thyroid cancer, build on the database of 100 patients treated with CA4P in our Phase I safety studies, which concluded in 2002.

CA4P Attains Key Regulatory Designations

2003 also saw OXiGENE achieve two important regulatory milestones as we moved CA4P toward market registration. In June, the U.S. Food and Drug Administration (FDA) granted the "fast track" designation to our lead compound for the treatment of anaplastic thyroid cancer. This is the rarest and deadliest form of thyroid cancer. The fast track program is intended to facilitate the development and review of new drugs for the treatment of life-threatening conditions for which there is no approved therapy. This designation is important to OXiGENE because it creates opportunities to meet with the FDA on an expedited basis to review our clinical development plan for CA4P in this indication. We also can receive ongoing input from the FDA into the design of clinical efficacy studies needed to support market registration.

In July, the FDA granted Orphan Drug status for CA4P for the treatment of anaplastic thyroid, medullary Stage IV papillary and Stage IV follicular thyroid cancers. Orphan drug designations are granted to provide economic incentives to stimulate the research, development and approval of promising products that treat rare diseases. Most important to OXiGENE, the first sponsor that obtains market approval for an orphan-designated product receives seven years of U.S. market exclusivity. Earlier this month, we also received the European Union's Orphan Medicinal Product Designation for CA4P as a treatment for anaplastic thyroid cancer. The European Union's designation provides OXiGENE with market exclusivity in Europe for 10 years following CA4P's market authorization.

Ophthalmology Program Expands

Ocular neovascular disease is another emerging area of clinical investigation for CA4P. Pre-clinical research published in 2003 in the peer-reviewed journal *Investigative Ophthalmology and Visual Science* demonstrated that CA4P can suppress development and induce regression of choroidal neovascularization (CNV), the major cause of severe vision loss in patients with age-related macular degeneration (AMD) and other related ocular diseases.

This research, and other pre-clinical ophthalmic data, prompted The Johns Hopkins University's Wilmer Eye Institute in mid-2003 to initiate a Phase I/II trial of CA4P in 15 patients with wet age-related macular degeneration. Between 2 million and 3 million people in the United States have significant vision loss caused by this disease, the leading form of blindness among Americans over age 60. The trial is being funded by the Foundation Fighting Blindness, the nation's leading charitable eye research organization.

In December 2003, we announced plans to expand our R&D program in ophthalmology. This announcement followed the successful CA4P treatment of a patient with myopic macular degeneration. Although he did not qualify for participation in the wet AMD trial, the patient received a special FDA exemption that allowed him to receive treatment from the study's investigators. Pre-treatment, the patient had visual acuity of 20/50 in the study eye, with active blood leakage in both eyes. Visual acuity improved to 20/20 after the patient was treated with CA4P, and leakage in each eye was significantly reduced.

Based on the response of this patient, the positive pre-clinical data we have seen in ophthalmology and our ongoing wet AMD trial, in 2004 we plan to file an IND and initiate a clinical study in myopic macular degeneration. In addition, we are pursuing a non-invasive method of delivering CA4P to the posterior regions of the eye.

To assist in the development of our clinical ophthalmology program, we recently appointed retinal surgeon Eugene de Juan, Jr., M.D. to our Clinical Trial Advisory Board. De Juan, a professor of ophthalmology at the Keck School of Medicine of the University of Southern California, will be an invaluable resource in the design of clinical study protocols and the selection of trial sites.

Improved Cash Position Drives Clinical Programs

To expand the scope of our clinical trial program and improve our financial flexibility, OXiGENE completed a $15 million private placement in June 2003 and a $24.2 million sale of Common Stock in January 2004. Based on our current plans, our cash position provides us with the financial resources to execute our clinical development strategy for CA4P and to move our lead second-generation VTA, OXi4503, into human trials.

In pre-clinical testing, OXi4503 has exhibited even greater anti-tumor effects than CA4P. Earlier this month, the compound was profiled in two OXiGENE-sponsored poster presentations at the American Association for Cancer Research's 95th Annual Meeting. In one study, Professor Klaus Edvardsen, M.D., Ph.D. of Lund University in Sweden evaluated the synergistic effects of OXi4503 with carboplatin and paclitaxel in the MDA-MB-231 human breast adenocarcinoma and the ES-2 ovarian carcinoma models grown in mice. In the other poster, researchers at the University of Florida and the University of South Florida concluded that OXi4503 not only shuts down blood flow to tumors, but also might play a direct role in killing tumor cells, suggesting that the VTA could be used as a single agent therapy. Cancer Research UK is completing pre-clinical toxicology testing on OXi4503 and plans to move the compound into Phase I clinical trials in late 2004.

Company Strengthens Senior Management Team

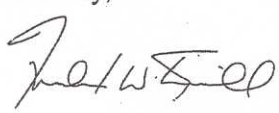
To support our growing clinical programs, the Company recently strengthened its management team by appointing James B. Murphy as chief financial officer and promoting Scott L. Young, vice president of clinical and regulatory affairs, to chief operating officer. Jim is a seasoned industry executive with 26 years of senior financial experience at healthcare companies including Whatman Inc., HemaSure, Inc., and Sepracor, Inc. Scott has played an integral role in moving CA4P from animal studies into the clinic. He will now assume broader responsibilities for readying our VTA pipeline for commercialization.

Goals for 2004

For 2004, OXiGENE has established a series of aggressive and clearly defined goals. First, we plan to build on our clinical success in 2003 by accelerating enrollment in clinical trials with the opening of additional research sites. We also expect to expand certain existing trial protocols to include randomized, dual-arm studies. Furthermore, we anticipate initiating a new clinical trial combining CA4P with chemotherapy in an additional cancer indication. In our ophthalmology program, we plan to initiate a clinical trial of CA4P in myopic macular degeneration. And finally, we plan to make progress with our next-generation VTAs by completing toxicology studies on OXi4503 and initiating a clinical study toward the end of this year.

In closing, I would like to thank all of those who played a part in our success in 2003, including our employees, clinical investigators, academic partners and, of course, our shareholders. We look forward to sharing our success with you as we continue to make progress in 2004.

Sincerely,



Frederick Driscoll
President and Chief Executive Officer

May 7, 2004