

On February 21, 2017, OncoGenex Pharmaceuticals, Inc. issued the following press release:

**OncoGenex Pharmaceuticals, Inc. Announces Phase 2 Apatorsen Data Presented for Two
Clinical Trials at the American Society of Clinical Oncology (ASCO) 2017 Genitourinary Cancers
Symposium**

Data Support Continued Exploration of Hsp27 Inhibition in Bladder and Prostate Cancers

BOTHELL, WA, and VANCOUVER, British Columbia, Feb. 21, 2017— OncoGenex Pharmaceuticals, Inc. (NASDAQ: OGXI) today announced that apatorsen results from two randomized Phase 2 clinical trials were presented at the American Society of Clinical Oncology (ASCO) 2017 Genitourinary Cancers Symposium, held February 16th-18th in Orlando. Clinical data from trials in bladder and prostate cancers demonstrated apatorsen was well-tolerated and improved patient outcomes when administered in combination with standard-of-care treatments.

Bladder Cancer Trial

The Borealis-2TM trial evaluated apatorsen in combination with docetaxel treatment in 200 patients with metastatic bladder cancer whose disease had progressed following first-line platinum-based chemotherapy. The primary endpoint analysis met the superiority test for overall survival, performed at a one-sided 0.10 significance level using a stratified log-rank test.

- Patients who received apatorsen treatment experienced a 20% reduction in risk of death, compared to patients receiving docetaxel alone (overall survival hazard ratio (HR)=0.80; 80% CI: 0.65-0.98; p=0.078).
- Partial or complete responses occurred in 16.2% patients receiving apatorsen plus docetaxel compared to 10.9% patients receiving docetaxel alone with median response durations of 6.2 months versus 4.4 months, respectively.
- Higher baseline serum Hsp27 levels were significantly prognostic for indicating an almost 2-fold higher risk of death (HR= 1.96; p=0.0001). In an exploratory analysis on a subset of patients (20% of total) who completed at least two treatment cycles and had either a decrease in serum Hsp27 levels from baseline or had only a 20.5% increase in serum Hsp27 levels from baseline, the reduction in risk of death with apatorsen treatment was 71% (HR= 0.29; 80% CI: 0.18-0.48; interaction p=0.0727).
- Apatorsen was well tolerated in combination with docetaxel with a median treatment of 2 cycles.
- The Borealis-2 trial was an investigator-sponsored trial conducted by the Hoosier Cancer Research Network at 28 sites across the United States.

Prostate Cancer Trial

The PacificTM trial evaluated the ability of apatorsen, when added to Zytiga[®] (abiraterone acetate), to reverse or delay treatment resistance in 72 men who were experiencing a rising PSA on Zytiga alone.

The primary endpoint evaluated the proportion of patients who were progression free (clinical and radiologic) at study day 60 with apatorsen added to Zytiga, compared to continuing Zytiga alone.

- In men receiving apatorsen, 33% were progression free at study day 60 compared to 17% for those men receiving Zytiga alone.
- For patients with ³⁵ circulating tumor cells (CTCs) at baseline, 22% vs 11% of patients had a CTC reduction to less than 5 CTCs when apatorsen was added to Zytiga vs Zytiga alone, respectively.
- Apatorsen was well tolerated in combination with Zytiga with a median duration of 106 days.
- The Pacific trial was an investigator-sponsored trial conducted by the Hoosier Cancer Research Network at sites in Canada and the United States.

“These data further reinforce our belief that by targeting heat shock protein 27 (Hsp27), apatorsen can improve outcomes of existing cancer therapies across various mechanisms of action, as demonstrated here with cytotoxic and hormonal treatments,” said Scott Cormack, President and CEO of OncoGenex. “Given the biologic rationale for combining apatorsen with checkpoint inhibitors and other immune modulators, we are engaging in partnering discussions to further explore these development opportunities.”

About OncoGenex

OncoGenex is a biopharmaceutical company committed to the development and commercialization of new therapies that address treatment resistance in cancer patients. The company’s product candidate, apatorsen (OGX-427), is designed to inhibit production of Hsp27, disable cancer cells’ defenses and overcome treatment resistance. Hsp27 is an intracellular protein that protects cancer cells by helping them survive, leading to resistance and more aggressive cancer phenotypes. Both the potential single-agent activity and synergistic activity of apatorsen with cancer treatments may increase the overall benefit of existing therapies and augment the durability of treatment outcomes, which could lead to increased patient survival.

In January 2017, OncoGenex, and Achieve Life Science, Inc., a privately held specialty pharmaceutical company, announced that they have entered into a definitive merger agreement under which OncoGenex will acquire Achieve in an all-stock transaction. Upon completion of the proposed merger, Achieve’s stockholders are expected to own 75% of the combined company’s outstanding shares and current equityholders of OncoGenex are expected to own the remaining 25% of the combined company’s outstanding shares. Following completion of the merger, OncoGenex Pharmaceuticals, Inc. will be renamed Achieve Life Sciences, Inc. The proposed merger is expected to close by mid-2017, subject to customary closing conditions.

In addition, prior to the completion of the proposed merger, OncoGenex is expected to distribute to its stockholders contingent value rights (CVRs) for 80% of any net proceeds of certain payments arising from a future sale, transfer, license or similar transaction involving OncoGenex’s apatorsen oncology product candidate.

More information is available at www.OncoGenex.com and at the company’s Twitter account: https://twitter.com/OncoGenex_IR.

OncoGenex' Forward Looking Statements

This press release contains forward-looking statements within the meaning of the "safe harbor" provisions of the Private Securities Litigation Reform Act of 1995, including, but not limited to, statements regarding the terms, conditions to and anticipated completion of the proposed merger with Achieve Life Science; the expected ownership of the combined company; the anticipated distribution to OncoGenex stockholders of contingent value rights (CVRs) immediately prior to the merger and the terms, timing and value of such CVRs; and the safety, efficacy and projected development timeline and commercial potential of apatersen. All statements other than statements of historical fact are statements that could be deemed forward-looking statements. OncoGenex may not actually achieve the proposed merger, or any plans or product development goals in a timely manner, if at all, or otherwise carry out the intentions or meet the expectations or projections disclosed in these forward-looking statements. These statements are based on management's current expectations and beliefs and are subject to a number of risks, uncertainties and assumptions that could cause actual results to differ materially from those described in the forward-looking statements, including, among others, the failure of the OncoGenex or Achieve stockholders to approve the transaction; the failure of either party to meet the closing conditions of the transaction; delays in completing the transaction and the risk that the transaction may not be completed at all; the failure to realize the anticipated benefits from the transaction or delay in realization thereof; the risk that the CVRs may not be distributed prior to the completion of the merger or at all or may not be paid out or result in any value to OncoGenex's stockholders; general business and economic conditions; the need for and ability to obtain additional financing; and the risks associated with the process of developing, obtaining regulatory approval for and commercializing drug candidates that are safe and effective for use as human therapeutics; and the other factors described in our risk factors set forth in OncoGenex's filings with the Securities and Exchange Commission from time to time, including its Annual Report on Form 10-K and Quarterly Reports on Form 10-Q. OncoGenex undertakes no obligation to update the forward-looking statements contained herein or to reflect events or circumstances occurring after the date hereof, other than as may be required by applicable law.

Important Additional Information about the Proposed Merger

This communication is being made in respect of the proposed merger involving OncoGenex Pharmaceuticals, Inc. and Achieve Life Science, Inc. OncoGenex intends to file a registration statement on Form S-4 with the SEC, which will contain a joint proxy statement/prospectus and other relevant materials, and plans to file with the SEC other documents regarding the proposed transaction. The final joint proxy statement/prospectus will be sent to the stockholders of OncoGenex and Achieve. The joint proxy statement/prospectus will contain information about OncoGenex, Achieve, the proposed merger, and related matters. **STOCKHOLDERS ARE URGED TO READ THE JOINT PROXY STATEMENT/PROSPECTUS (INCLUDING ANY AMENDMENTS OR SUPPLEMENTS) AND OTHER DOCUMENTS FILED WITH THE SEC CAREFULLY IN THEIR ENTIRETY WHEN THEY BECOME AVAILABLE, AS THEY WILL CONTAIN IMPORTANT INFORMATION THAT STOCKHOLDERS SHOULD CONSIDER BEFORE MAKING A DECISION ABOUT THE MERGER AND RELATED MATTERS.** In addition to receiving the joint proxy statement/prospectus and proxy card by mail, stockholders will also be able to obtain the joint proxy statement/prospectus, as well as other filings containing information about OncoGenex, without charge, from the SEC's website (<http://www.sec.gov>) or, without charge, by directing a written request to: OncoGenex Pharmaceuticals, Inc., 19820 North Creek Parkway, Suite 201, Bothell, WA 98011, Attention: Investor Relations or to Achieve Life Science, Inc., 30 Sunnyside Avenue, Mill Valley, CA 94941, Attention: Rick Stewart.

This communication shall not constitute an offer to sell or the solicitation of an offer to sell or the solicitation of an offer to buy any securities, nor shall there be any sale of securities in any jurisdiction in which such offer, solicitation or sale would be unlawful prior to registration or qualification under the securities laws of any such jurisdiction. No offering of securities in connection with the proposed merger shall be made except by means of a prospectus meeting the requirements of Section 10 of the Securities Act of 1933, as amended.

Participants in Solicitation

OncoGenex and its executive officers and directors may be deemed to be participants in the solicitation of proxies from OncoGenex's stockholders with respect to the matters relating to the proposed merger. Achieve and its officers and directors may also be deemed a participant in such solicitation. Information regarding OncoGenex's executive officers and directors is available in OncoGenex's proxy statement on Schedule 14A, filed with the SEC on April 21, 2016. Information regarding any interest that OncoGenex, Achieve or any of the executive officers or directors of OncoGenex or Achieve may have in the transaction with Achieve will be set forth in the joint proxy statement/prospectus that OncoGenex intends to file with the SEC in connection with its stockholder vote on matters relating to the proposed merger. Stockholders will be able to obtain this information by reading the joint proxy statement/prospectus when it becomes available.

Zytiga® Zytiga is a registered trademark of the Johnson & Johnson Corporation

Borealis-2™ and Pacific™ are registered trademarks of OncoGenex Pharmaceuticals, Inc.

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