Abivax reports impressive results in clinical phase 2a trial of ABX464 as an oral treatment for ulcerative colitis patients

September 4, 2018

- **Randomized, double-blind, placebo-controlled clinical trial shows statistically significant efficacy based on both clinical and endoscopic endpoints**
- **Rapid onset of efficacy with 3.2-fold improvement in clinical remission rate and 4.5-fold in mucosal healing compared to placebo**
- **ABX464 50mg daily for two months was safe and well tolerated**
- **Convenient once-a-day oral regimen for a severe and chronic disease, globally affecting >2.7 million diagnosed patients with high unmet medical need[1]**
- **First-in-class mechanism of action, triggering up-regulation of the anti-inflammatory microRNA miR-124**
- **Ready to proceed to phase 2b clinical trial**
- **Webcast today at 4pm CEST/10am ET**

PARIS, September 4, 2018, 7:00 a.m. CEST – Abivax (Euronext Paris: FR0012333284 – ABVX), a biotechnology company harnessing the immune system to develop a functional cure for HIV, as well as treatments for inflammatory/autoimmune diseases and cancer, today announced topline results from its Phase 2a clinical trial, ABX464-101. This clinical trial was conducted in 32 patients for induction treatment of moderate-to-severe ulcerative colitis (UC), refractory to anti-TNF monoclonal antibodies or corticosteroids. In summary, the topline data indicate that ABX464 was safe, well-tolerated, and demonstrated statistically significant efficacy based on both clinical and endoscopic endpoints in this study. The mechanism of action of ABX464 is triggered by an increased expression of miR124, which is a potent anti-inflammatory microRNA.

The final 8-week top-line data from this study are as follows:

Study Measures at Week 8	ABX464	Placebo
Clinical remission:	35%	11%
Mucosal healing (central read endoscopy):	50%	11%
Clinical response:	70%	33%

The difference between ABX464 and placebo in colorectal mucosal healing was statistically significant ($p<0.03$). Furthermore, the onset of the therapeutic effect of ABX464 was rapid, with a difference of the reduction of the partial Mayo score[2] between ABX464 and placebo being observed at the first assessment following treatment for two weeks, which became significant ($p<0.02$) at eight weeks (likelihood ratio CHI-square test). Similarly, the difference of the reduction of the total Mayo score[3] after eight weeks was statistically significant ($p<0.03$).

Calprotectin, the best studied biomarker in ulceratice colitis, was markedly reduced (4.4-fold) in patients who received ABX464 in comparison to placebo (1.6-fold) after 4 weeks of treatment.

Prof. Dr. Severine Vermeire, M.D., Head of the IBD center at the University Hospitals Leuven, Belgium, former President of the European Crohn's and Colitis Organization and Principal Investigator of the study, said: *"Even with the introduction of biologic treatments in recent years, there is still a large unmet medical need in ulcerative colitis, as too many patients do not respond or stop responding to treatment. This well-conducted clinical study provides evidence of a robust and consistent efficacy signal of ABX464 across all clinical and endoscopic endpoints as well as on biomarkers evaluated. These results are very promising and we fully endorse the further development of this exciting new oral compound both in ulcerative colitis as well as in other inflammatory diseases including Crohn's disease."*

ABX464-101 was a randomized, double-blind, placebo-controlled Phase 2a study evaluating the safety and efficacy of ABX464 50mg given orally once-daily for two months in subjects with moderate-to-severe active ulcerative colitis who have failed on immunomodulators, anti-TNFα, vedolizumab and/or corticosteroids. This clinical study was conducted in 15 centers in six European countries: Belgium, France, Germany, Austria, Hungary and Poland. Twenty-nine of the 32 recruited patients, randomized 2:1 to receive ABX464 as a once daily oral tablet or placebo, have completed the study per protocol, which employed state-of-the art technologies for monitoring potential treatment effects, including numerical recording of the colonoscopies with centralized reading.

As observed in the other studies with ABX464, the product candidate was considered to be safe and well tolerated in ABX464-101. No severe adverse events attributed to ABX464 were reported in the trial.

The full clinical trial data will be presented at upcoming international scientific conferences, as well as submitted for publication in a leading medical scientific journal.

In four countries, patients who completed the ABX464-101 study had the option to roll over into study ABX464-102, a 12-month open-label follow-up study. 22 patients were enrolled in this maintenance study. Similar to the induction study ABX464-101, ABX464 was safe and well tolerated to date in this ongoing study. A further analysis of interim data from ABX464-102 is scheduled and will be reported in the coming months.

Dr. Jean-Marc Steens, M.D., Chief Medical Officer of Abivax said: *"These results have exceeded our expectations given the statistically significant, strong efficacy already observed in this phase 2a study, in patients refractory to available therapies including anti-TNF monoclonal antibodies. They*

validate our hypothesis that ABX464 novel mechanism of action would result in potent anti-inflammatory properties in patients. Like other chronic inflammatory diseases, ulcerative colitis is a debilitating disease that greatly affects patients' quality of life and warrants expensive innovative therapies. We look forward to developing and potentially market ABX464 as a well-tolerated oral treatment for this large patient population."

Ulcerative colitis is a debilitating inflammatory bowel disease in adults and children, with limited therapeutic management options for many patients. It is estimated that close to 1 million patients with ulcerative colitis live in the United States, 650.000 in the EU and >2.7 million globally. Pharmaceutical sales for this disease in the major global markets[4] are estimated to be around $5.5 billion in 2017. For IBD (inflammatory bowel disease), which includes both ulcerative colitis and Crohn's disease, the sales in the major global markets are estimated to be around $ 15 Billion for the same period. The financial potential of treatments in the anti-inflammatory space are exemplified by anti-TNF monoclonal antibodies (Humira, Remicade, Simponi) with estimated global annual sales of > $30 billion, including at least $2.5 billion for ulcerative colitis[5].

" *These impressive clinical trial data are indicative of the potential for ABX464's unique mechanism of action to safely and effectively bring substantial clinical benefit to patients who are not adequately helped by currently available therapeutics and are struggling from the devastating consequences of this inflammatory disease,"* said **Prof. Dr. Hartmut Ehrlich, M.D., Chief Executive Officer at Abivax**. *"Based on these exciting results, Abivax will initiate, without delay, a phase 2b dose-ranging study in Europe, with potential input from US KOLs and FDA on study design. Furthermore, these data strongly encourage us to pursue phase 2 clinical trials in other inflammatory indications including Crohn's disease."*

A detailed presentation of these top line results will be run by the Management of ABIVAX during a conference call from 4 to 5 p.m. CEST/10 to 11 am ET on Tuesday, September 4th, 2018 (phone number table appended).

About ABX464

Inflammation is a cornerstone of inflammatory bowel disease (IBD), more specifically in ulcerative colitis and Crohn's disease. When evaluated in a mouse model of IBD, ABX464 demonstrated a long-lasting effect in preventing the typical symptoms of inflammatory colitis, including histological improvements[6]. A ten-fold increase of miR124, a micro-RNA with potent anti-inflammatory properties in peripheral blood mononuclear cells (PBMCs) was observed. ABX464 was shown to target the cap binding complex (CBC), which is a novel mechanism of action for anti-inflammatory drugs. By ABX464 binding to the CBC, it reinforces the biological functions of this complex in cellular RNA biogenesis including splicing. Therefore, the molecule acts inside injured immune cells to preserve the integrity of newly synthesized RNA. ABX464 enhanced the expression and splicing of a single long non coding RNA to generate the anti-inflammatory miR-124. This work was conducted by the cooperative laboratory between Abivax and the CNRS (Centre National de Recherche Scientifique) in Montpellier, France, headed by **Prof. Jamal Tazi.**

WEBCAST PRESENTATION

Abivax senior management will host a webcast and teleconference today at 4:00 pm CET (Paris time) / 10am ET (NYC time), to discuss these clinical results and address questions.

Attendees can participate using the following coordinates:

Confirmation code : 1766735

Country	Phone
France	0805 101 278
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