



## Biogen Idec and Sobi Announce Positive Top-Line Results from Phase 3 Study Investigating Long-Lasting Recombinant Factor VIII Fc Fusion Protein in Hemophilia A

October 31, 2012

- Individualized and weekly prophylactic regimens resulted in low single-digit median annualized bleeding rates –
- 98% of bleeding episodes were controlled with one or two injections of rFVIII Fc –
- No patients developed inhibitors to rFVIII Fc –
- The primary efficacy and safety objectives were met and Biogen Idec plans to submit an application to US FDA in first half 2013 –

WESTON, Mass. & STOCKHOLM, Sweden--([BUSINESS WIRE](#))--[Biogen Idec](#) (NASDAQ: BIIB) and [Swedish Orphan Biovitrum](#) (Sobi) (STO: SOBI) today announced positive results from A-LONG, a clinical study that evaluated a new long-lasting clotting factor candidate in people with hemophilia A. Hemophilia A is a rare inherited disorder that impairs blood coagulation.

Top-line results from A-LONG, a global, multi-center, Phase 3 clinical study of the companies' long-lasting recombinant Factor VIII Fc fusion protein (rFVIII Fc), showed that rFVIII Fc was effective in the control and prevention of bleeding, routine prophylaxis and perioperative management. Recombinant FVIII Fc was generally well-tolerated. Additional analyses of the A-LONG study are ongoing, and the companies anticipate presenting detailed results at a future scientific meeting.

Biogen Idec plans to submit a Biologics License Application (BLA) to the U.S. Food and Drug Administration (FDA) in the first half of 2013. Consistent with guidelines published by the European Medicines Agency (EMA) that require a study in children less than 12 years of age prior to filing, Biogen Idec and Sobi expect to file a Marketing Authorization Application with the EMA upon completion of the ongoing Kids A-LONG study.

"These top-line results demonstrated that rFVIII Fc has the potential to enhance the care of people living with hemophilia A by offering protection from bleeding with reduced treatment burden," said Glenn Pierce, M.D., Ph.D., Senior Vice President of Global Medical Affairs and Chief Medical Officer of Biogen Idec's hemophilia therapeutic area. "We share the enthusiasm of the hemophilia community including the study participants and clinical investigators who supported the rapid enrollment of the A-LONG study. We are diligently working to prepare our regulatory submission with the goal of providing rFVIII Fc to people with hemophilia A as soon as possible."

"We are very encouraged by the positive A-LONG study results, which support the application of Fc fusion technology in hemophilia A to prolong factor activity and potentially offer extended protection from bleeding," said Geoffrey McDonough, M.D., Chief Executive Officer of Sobi. "The A-LONG findings, coupled with recently announced results from the B-LONG study of our companies' long-lasting recombinant Factor IX Fc fusion product candidate for hemophilia B, represent a major step forward for the hemophilia community."

### Summary of Key Data from A-LONG

In the A-LONG study, 165 male patients aged 12 years and older were enrolled. The A-LONG study had three treatment arms: individualized prophylaxis, weekly prophylaxis and episodic (on-demand) treatment (Arms 1, 2 and 3, respectively). In a subgroup of patients across treatment arms, rFVIII Fc was evaluated in the perioperative management of patients who required a major surgical procedure during the study.

Overall, 93 percent of patients completed the study. Recombinant FVIII Fc was generally well-tolerated. No inhibitors to rFVIII Fc were detected and no cases of anaphylaxis were reported in any patients, all of whom switched from commercially-available Factor VIII products. No serious adverse events were assessed to be related to drug by the investigator. The most common adverse events (incidence of  $\geq 5$  percent) occurring outside of the perioperative management period were nasopharyngitis, arthralgia, headache and upper respiratory tract infection.

The median annualized bleeding rates (ABR), including spontaneous and traumatic bleeds, were 1.6 in the individualized prophylaxis arm, 3.6 in the weekly prophylaxis arm and 33.6 in the episodic treatment arm. In the individualized prophylaxis arm, the median dosing interval was 3.5 days. During the last three months on study, 30 percent of patients in the individualized prophylaxis arm achieved a mean dosing interval of five days.

Control of bleeding was assessed in all patients who experienced a bleeding episode during the study. Overall, 98 percent of bleeding episodes were controlled by one or two injections of rFVIII Fc.

In addition, rFVIII Fc was assessed in the perioperative management of nine patients undergoing nine major surgical procedures. The treating physicians rated the hemostatic efficacy of rFVIII Fc as excellent or good in 100 percent of these surgeries.

A-LONG included pharmacokinetic (PK) analysis of rFVIII Fc in all patients in the study. In a protocol-defined subset of patients with extensive PK sampling, the approximate terminal half-life of rFVIII Fc was 19.0 hours compared to 12.4 hours for Advate® [antihemophilic factor (recombinant), plasma/albumin-free method], consistent with the results obtained in the Phase 1/2a study of rFVIII Fc.

### Webcast

Biogen Idec and Sobi senior management will host a webcast to discuss the A-LONG study results today, October 31, 2012, at 9:00 a.m. Eastern Time. Previously announced results from the B-LONG Phase 3 study in hemophilia B will also be discussed. Participants may access the webcast through the Investors section of Biogen Idec's homepage, [www.biogenidec.com](http://www.biogenidec.com).

### About the A-LONG Study and the rFVIII Fc Program

A-LONG was a global, open-label, multi-center Phase 3 study that evaluated the efficacy, safety and pharmacokinetics of intravenously-injected rFVIII Fc. The study was designed to evaluate rFVIII Fc in the control and prevention of bleeding, routine prophylaxis and perioperative management in

patients with hemophilia A. A-LONG involved 60 hemophilia treatment centers in 19 countries on six continents.

The A-LONG study had three treatment arms. In Arm 1 (individualized prophylaxis; n=118), patients were treated with 25-65 IU/kg of rFVIIIc, at an interval of every three to five days, which was individualized to maintain factor trough levels sufficient to prevent bleeding. In Arm 2 (weekly prophylaxis; n=24), patients were treated with a weekly dose of 65 IU/kg. In Arm 3 (episodic treatment; n=23), patients received rFVIIIc as needed for bleeding. In a subgroup of patients across treatment arms, rFVIIIc was evaluated in the surgical setting.

The primary efficacy and safety measures were the annualized bleeding rate and the incidence of adverse events including inhibitor development in patients studied for up to approximately 52 weeks. Secondary endpoints included response to treatment of bleeding episodes and the pharmacokinetics of rFVIIIc versus Advate.

Ongoing clinical studies of rFVIIIc include the Kids A-LONG and ASPIRE studies. Kids A-LONG is a Phase 3, open-label study in previously-treated children with hemophilia A under age 12, which is actively recruiting patients. ASPIRE is a long-term open-label study for patients who completed the A-LONG study or who complete the Kids A-LONG study.

#### **About the Fc Fusion Technology Platform**

Recombinant FVIIIc is a clotting factor developed using Biogen Idec's novel and proprietary monomeric Fc fusion technology, which makes use of a natural pathway to recycle rFVIIIc in circulation and enable it to remain in the body longer. With this technology, rFVIIIc is designed to provide long-lasting protection from bleeding and reduce the treatment burden associated with hemophilia A, which currently requires up to 180 injections annually for prophylaxis with commercially-available Factor VIII products. Fc fusion technology is used in seven FDA-approved products for the long-term treatment of chronic diseases including rheumatoid arthritis, psoriasis and platelet disorders.

Using the same Fc fusion technology, Biogen Idec and Sobi are also developing a long-lasting recombinant Factor IX Fc fusion protein (rFIXc) for the control and prevention of bleeding episodes and routine prophylaxis in hemophilia B. On September 26, the companies announced top-line results from B-LONG, a global pivotal Phase 3 clinical study of rFIXc in patients with hemophilia B. For more information on Biogen Idec's hemophilia research programs, visit [www.biogenidechemophilia.com](http://www.biogenidechemophilia.com) or [www.biogenidec.com](http://www.biogenidec.com).

#### **About Hemophilia A**

Hemophilia A is a rare, inherited disorder in which the ability of a person's blood to clot is impaired. Hemophilia A occurs in about one in 5,000 male births annually and is caused by having substantially reduced or no Factor VIII protein, which is needed for normal blood clotting. People with hemophilia A therefore need injections of Factor VIII to restore the coagulation process and prevent frequent bleeds that could otherwise lead to pain, irreversible joint damage and life-threatening hemorrhages. The Medical and Scientific Advisory Council of the National Hemophilia Foundation recommends prophylaxis as the optimal therapy for people with severe hemophilia A. Currently, prophylaxis for hemophilia A typically requires injections three times per week or every other day to maintain a sufficient circulating level of clotting factor.

#### **About the Biogen Idec and Sobi Collaboration**

Biogen Idec and Sobi are partners in the development and commercialization of rFIXc and rFVIIIc. Biogen Idec leads development, has manufacturing rights, and has commercialization rights in North America and all other regions excluding the Sobi territory. Sobi has the right to opt in to assume final development and commercialization in Europe, Russia, the Middle East and Northern Africa.

#### **About Biogen Idec**

Through cutting-edge science and medicine, Biogen Idec discovers, develops and delivers to patients worldwide innovative therapies for the treatment of neurodegenerative diseases, hemophilia and autoimmune disorders. Founded in 1978, Biogen Idec is the world's oldest independent biotechnology company. Patients worldwide benefit from its leading multiple sclerosis therapies, and the company generates more than \$5 billion in annual revenues. For product labeling, press releases and additional information about the company, please visit [www.biogenidec.com](http://www.biogenidec.com).

#### **About Sobi**

Sobi is an international healthcare company dedicated to bringing innovative therapies and services to improve the lives of rare disease patients. The product portfolio is primarily focused on inflammation and genetic diseases, with three late stage biological development projects within hemophilia and neonatology. Sobi also markets more than 40 products for companies in the specialty and rare disease space. In 2011, Sobi had revenues of SEK 1.9 billion and around 500 employees. The share (STO: SOBI) is listed on NASDAQ OMX Stockholm. More information is available at [www.sobi.com](http://www.sobi.com).

#### **Safe Harbor**

This press release contains forward-looking statements, including statements about the development and commercialization of long-lasting hemophilia therapies and regulatory filings. These statements may be identified by words such as "believe," "expect," "may," "plan," "potential," "will" and similar expressions, and are based on the companies' current beliefs and expectations. Drug development and commercialization involve a high degree of risk. Factors which could cause actual results to differ materially from the companies' current expectations include the risk that unexpected concerns may arise from additional data or analysis, regulatory authorities may require additional information or further studies, or may fail to approve or may delay approval of our drug candidates, or the companies may encounter other unexpected hurdles. For more detailed information on the risks and uncertainties associated with Biogen Idec's drug development and commercialization activities, please review the Risk Factors section of Biogen Idec's most recent annual or quarterly report filed with the Securities and Exchange Commission. Any forward-looking statements speak only as of the date of this press release and the companies assume no obligation to update any forward-looking statements, whether as a result of new information, future events or otherwise.

The information above has been published pursuant to the Swedish Securities Market Act and/or the Financial Instruments Trading Act. The information was released for public distribution on October 31, 2012 at 1:00 p.m. CET.

Photos/Multimedia Gallery Available: <http://www.businesswire.com/cgi-bin/mmg.cgi?eid=50460255&lang=en>

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