Alexion Receives CHMP Positive Opinions for Strensiq™ (asfotase alfa) and Kanuma™ (sebelipase alfa) in the European Union

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- CHMP Recommends Marketing Authorization for Strensiq for Patients with Pediatric-Onset HPP -

- CHMP Recommends Marketing Authorization for Kanuma for Patients of all Ages with LAL-d -

CHESHIRE, Conn.--(BUSINESS WIRE)-- Alexion Pharmaceuticals, Inc. (NASDAQ:ALXN) announced today that the Committee for Medicinal Products for Human Use (CHMP) of the European Medicines Agency (EMA) has adopted positive opinions recommending marketing authorization of Strensiq™ (asfotase alfa) and Kanuma™ (sebelipase alfa). The proposed indication for Strensiq is for long-term enzyme replacement therapy in patients with pediatric-onset hypophosphatasia (HPP) to treat the bone manifestations of the disease. The proposed indication for Kanuma is for long-term enzyme replacement therapy in patients of all ages with lysosomal acid lipase deficiency (LAL-d). Based on the CHMP's positive recommendations, final decisions from the European Commission are expected in the third quarter of 2015, after which the Company will begin the country-by-country reimbursement processes. Currently, there are no therapies approved for the treatment of HPP or LAL-d.

"The CHMP positive opinions for Strensiq and Kanuma are significant milestones in bringing these therapies to infants, children, and adults suffering from HPP and LAL-d in Europe," said David Hallal, Chief Executive Officer of Alexion. "Both Strensiq and Kanuma are highly innovative enzyme replacement therapies that, if approved, will be the first treatments available for patients with HPP and LAL-d, two life-threatening and ultra-rare metabolic disorders."

HPP is a genetic, progressive, ultra-rare metabolic disease in which patients experience devastating effects on multiple systems of the body, leading to debilitating or life-threatening complications. It is characterized by defective bone mineralization that can lead to deformity of bones and other skeletal abnormalities, as well as systemic complications such as profound muscle weakness, seizures, pain and respiratory failure leading to premature death in infants.[1-5]

LAL-d is a genetic, progressive, ultra-rare metabolic disease in which patients ranging from infants to adults experience chronic lipid accumulation causing multi-systemic organ damage and premature death. It is caused by genetic mutations that result in decreased LAL enzyme activity in the lysosomes across multiple body tissues, leading to the chronic build-up of fatty material in the liver, blood vessel walls and other tissues.[6]

Strensiq CHMP Opinion

The proposed indication for Strensiq is for long-term enzyme replacement therapy in patients with pediatric-onset HPP to treat the bone manifestations of the disease. HPP is associated with multiple bone manifestations including rickets/osteomalacia, altered calcium and phosphate metabolism, impaired growth and mobility, respiratory compromise that may require ventilation, and vitamin B6-responsive seizures. The natural history of untreated infant hypophosphatasia patients suggests high mortality if ventilation is required. In clinical trials, 71% of infant patients treated with Strensiq who required ventilation support remain alive and continue on treatment.

As noted in the CHMP Summary of Opinion, the benefit of exposure to Strensiq is an improvement in skeletal structure, as demonstrated by x-ray appearance of joints, by histological appearance of bone biopsy material, and by apparent catch-up height-gain. The CHMP based its opinion on clinical data from 68 patients with pediatric-onset HPP (ranging from newborns to 66 years of age) enrolled in three pivotal prospective studies and their extensions.

"The CHMP positive opinion brings Strensiq one step closer to the HPP community, which currently has no approved option to treat the disease," said Professor Zulf Mughal, Royal Manchester Children's Hospital, UK. "In clinical studies, treatment with Strensiq was associated with rapid and sustained improvements in bone mineralization, mobility and growth in patients with pediatric-onset HPP."

The most common adverse reactions observed were injection site reactions and injection-associated adverse reactions. Most of these reactions were non-serious, mild to moderate in intensity. A summary of the CHMP opinion for Strensiq can be accessed at http://www.emea.europa.eu.

Kanuma CHMP Opinion

The proposed indication for Kanuma is for long-term enzyme replacement therapy in patients of all ages with LAL-d. As noted in the CHMP Summary of Opinion, the benefits of Kanuma are its ability to replace the activity of the missing enzyme resulting in reduced liver fat content and reduced levels of blood transaminases, low-density lipoprotein (LDL) cholesterol, non-high-density lipoprotein (HDL) and triglycerides. In addition, there was a significant benefit in terms of survival (67%) in patients with the infant form of LAL-d beyond 12 months.

The CHMP reviewed Kanuma under accelerated assessment. The CHMP based its opinion on clinical data from four clinical studies in which 84 patients with LAL-d (including infants, children, and adults) were treated with Kanuma.

"In clinical studies, treatment with Kanuma significantly improved overall survival in infants and led to normalization of ALT and other markers of liver injury in pediatric and adult patients compared to placebo. Kanuma was also associated with marked improvements in other disease-related parameters of dyslipidemia and liver injury, including decreased liver fat content, in adult and pediatric patients with LAL-d," said Vassili

Valayannopoulos, M.D., Ph.D., Principal Investigator at Hôpital Necker-Enfants Malades and IMAGINE Institute, Paris. "Today's positive CHMP opinion is an extremely important step for patients with LAL-d, who currently are at risk for multi-systemic organ damage and premature death in the absence of an effective therapy."

The most serious adverse reactions experienced by 3% of patients in clinical trials were signs and symptoms consistent with anaphylaxis. Signs and symptoms included chest discomfort, conjunctival injection, dyspnea, generalized and itchy rash, hyperemia, mild eyelid edema, rhinorrhea, severe respiratory distress, tachycardia, tachypnea and urticaria. A summary of the CHMP opinion for Kanuma can be accessed at http://www.emea.europa.eu.

About Hypophosphatasia (HPP)

HPP is a genetic, chronic and progressive ultra-rare metabolic disease characterized by defective bone mineralization that can lead to deformity of bones and other skeletal abnormalities, as well as systemic complications such as profound muscle weakness, seizure, and respiratory failure leading to premature death.[1-5]

HPP results from a mutation in the gene that makes an enzyme known as tissue non-specific alkaline phosphatase (TNSALP).[1,2] The genetic deficiency in HPP can affect people of all ages.[1] HPP is classified by the age of the patient at the onset of symptoms of the disease, with infantile- and juvenile-onset HPP defined as manifestation of the first symptom prior to 18 years of age.

HPP can have devastating consequences for patients at any stage of life.[1] In a natural history study, infants who had their first symptom of HPP within the first 6 months of life had high mortality, with an overall mortality rate of 73% at 5 years.[7] In these patients, mortality is primarily due to respiratory failure.[1,2,8] In patients surviving to adolescence and adulthood, long-term clinical sequelae can include recurrent and non-healing fractures, muscle weakness, pain and the requirement for ambulatory assistive devices such as wheelchairs, wheeled walkers and canes.[1,4]

About Lysosomal Acid Lipase Deficiency (LAL Deficiency or LAL-d)

LAL-d is a serious, life-threatening disease associated with early mortality and significant morbidity. LAL-d is a chronic disease in which genetic mutations result in decreased activity of the LAL enzyme. This leads to marked accumulation of lipids in vital organs, blood vessels, and other tissues, resulting in progressive and multi-systemic organ damage including fibrosis, cirrhosis, liver failure, accelerated atherosclerosis, cardiovascular disease, and other devastating consequences.[6,9]

LAL-d affects patients of all ages with sudden and unpredictable clinical complications manifesting from infancy through adulthood. Infants experience profound growth failure, liver fibrosis, cirrhosis and death at a median age of death 3.7 months.[10] In a natural history study, approximately 50% of children and adults with LAL-d progressed to fibrosis, cirrhosis, liver transplant or death in 3 years.[11] The median age of onset of LAL-d is 5.8 years and the disease can be diagnosed with a simple blood test.[12,13]

About Strensiq™ (asfotase alfa)

Strensiq ™(asfotase alfa) is a first-in-class enzyme replacement therapy designed to address the underlying cause of HPP—deficient alkaline phosphatase (ALP). By replacing deficient ALP, treatment with Strensiq aims to improve the elevated enzyme substrate levels and improve the body's ability to mineralize bone, thereby preventing serious skeletal and systemic patient morbidity and premature death.

The FDA granted Breakthrough Therapy designation for Strensiq and accepted Alexion's Biologics License Application (BLA) for Priority Review. Alexion has also submitted a New Drug Application for Strensiq to Japan's Ministry of Health, Labour and Welfare (MHLW).

About Kanuma™ (sebelipase alfa)

Kanuma™ (sebelipase alfa) is a recombinant form of the human LAL enzyme designed to address the root cause of lysosomal acid lipase deficiency (LAL-d). By replacing deficient LAL, treatment with Kanuma aims to reduce substrate accumulation and improve lipid metabolism, which can prevent chronic lipid accumulation, multi-systemic organ damage and premature death.

The FDA granted Breakthrough Therapy designation for Kanuma for LAL Deficiency presenting in infants and accepted the Kanuma BLA for Priority Review. In addition, a New Drug Application for Kanuma was submitted to Japan's MHLW.

About Alexion

Alexion is a global biopharmaceutical company focused on developing and delivering life-transforming therapies for patients with devastating and rare disorders. Alexion developed and commercializes Soliris® (eculizumab), the first and only approved complement inhibitor to treat patients with paroxysmal nocturnal hemoglobinuria (PNH) and atypical hemolytic uremic syndrome (aHUS), two life-threatening ultra-rare disorders. Alexion is also establishing a premier global metabolic rare disease franchise with the development of two late-stage therapies, Strensiq™ (asfotase alfa) for hypophosphatasia (HPP) and Kanuma™ (sebelipase alfa) for Lysosomal Acid Lipase Deficiency (LAL-d). In addition, Alexion is advancing the most robust rare disease pipeline in the biotech industry, with highly innovative product candidates in multiple therapeutic areas. As the global leader in complement inhibition, the Company is strengthening and broadening its portfolio of complement inhibitors across diverse platforms, including evaluating potential indications for Soliris in additional severe and ultra-rare disorders. This press release and further information about Alexion can be found at: www.alexion.com.

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Forward-Looking Statements

This news release contains forward-looking statements, including statements related to potential medical benefits of Strensiq™ (asfotase alfa) for hypophosphatasia (HPP) and Kanuma™ (sebelipase alfa) for lysosomal acid lipase deficiency (LAL Deficiency). Forward-looking statements are subject to factors that may cause Alexion's results and plans to differ from those expected, including, for example, decisions of regulatory authorities regarding marketing approval or material limitations on the marketing of Strensiq for HPP and Kanuma for LAL Deficiency, delays in arranging

satisfactory manufacturing capabilities and establishing commercial infrastructure for Strensiq for HPP or Kanuma for LAL Deficiency, the possibility that results of clinical trials are not predictive of safety and efficacy results of Strensiq or Kanuma in broader or different patient populations, the risk that third party payors (including governmental agencies) will not reimburse for the use of Strensiq or Kanuma (if approved) at acceptable rates or at all, the risk that estimates regarding the number of patients with Strensiq or Kanuma and observations regarding the natural history of patients with Strensiq or Kanuma are inaccurate, and a variety of other risks set forth from time to time in Alexion's filings with the Securities and Exchange Commission, including but not limited to the risks discussed in Alexion's Quarterly Report on Form 10-Q for the period ended March 31, 2015 filed on April 24, 2015, and in the Quarterly Report on Form 10-Q for the period ended March 31, 2015 filed by Alexion's subsidiary, formerly known as Synageva BioPharma Corp., on April 30, 2015. Alexion does not intend to update any of these forward-looking statements to reflect events or circumstances after the date hereof, except when a duty arises under law.

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Alexion:
Media
Irving Adler, 203-271-8210
Vice President, Corporate Communications
or
Kim Diamond, 203-439-9600
Executive Director, Corporate Communications
or
Investors
Elena Ridloff, CFA, 203-699-7722
Executive Director, Investor Relations

Source: Alexion Pharmaceuticals, Inc.