FDA grants Priority Review to Roche’s emicizumab for haemophilia A with inhibitors

- Application based on positive results of phase III study in adolescents and adults with haemophilia A with inhibitors and interim phase III results in children

Roche (SIX: RO, ROG; OTCQX: RHHBY) today announced that the US Food and Drug Administration (FDA) has accepted the company’s Biologics License Application (BLA) and granted Priority Review for emicizumab prophylaxis (preventative) as a once-weekly subcutaneous treatment for adults, adolescents and children with haemophilia A with factor VIII inhibitors. Nearly one in three people with haemophilia A develop inhibitors to standard factor VIII replacement therapies, which limits treatment options and increases the risk of life-threatening bleeds and repeated bleeds, particularly in joints, that cause long-term damage.1-4

“Roche has a history of developing innovative antibody therapies to address some of the highest unmet medical needs,” said Sandra Horning, MD, Roche’s Chief Medical Officer and Head of Global Product Development. “Results of our phase III study in adults and adolescents as well as early phase III results in children showed that emicizumab has significant potential to help people with haemophilia A with inhibitors, who face major challenges in preventing and treating bleeds. We are working with the FDA to hopefully bring this new prophylactic treatment option to the haemophilia A inhibitor community as soon as possible.”

The BLA for emicizumab is based on results from the phase III HAVEN 1 study in adults and adolescents 12 years of age and older, as well as interim results from the phase III HAVEN 2 study in children younger than 12 years of age. Results from HAVEN 1 were published in The New England Journal of Medicine (NEJM) and results from both studies were presented at the 26th International Society on Thrombosis and Haemostasis (ISTH) Congress in July 2017.
The FDA is expected to make a decision on approval by 23 February, 2018. Priority Review designation is granted to medicines that the FDA has determined to have the potential to provide significant improvements in the safety and effectiveness of the treatment, prevention or diagnosis of a serious disease. The FDA granted Breakthrough Therapy Designation for emicizumab in adults and adolescents with haemophilia A with inhibitors in September 2015. Breakthrough Therapy Designation is designed to expedite the development and review of medicines intended to treat a serious condition with preliminary evidence that indicates they may demonstrate substantial improvement over existing therapies.

Data from both HAVEN 1 and HAVEN 2 have also been submitted for approval consideration to the European Medicines Agency (EMA) and will be reviewed under accelerated assessment. Additional studies evaluating emicizumab in people with haemophilia A both with and without inhibitors and exploring less frequent dosing regimens are ongoing.

**About emicizumab (ACE910)**

Emicizumab is an investigational bispecific monoclonal antibody designed to bring together factors IXa and X, proteins required to activate the natural coagulation cascade and restore the blood clotting process. Emicizumab is administered by an injection of a ready-to-use solution under the skin (subcutaneously) once weekly. Emicizumab is being evaluated in pivotal phase III studies in people 12 years of age and older, both with and without inhibitors to factor VIII, and in children younger than 12 years of age with factor VIII inhibitors. Additional trials are exploring less frequent dosing schedules. The clinical development programme is assessing the safety and efficacy of emicizumab and its potential to help overcome current clinical challenges: the short-lasting effects of existing treatments, the development of factor VIII inhibitors and the need for frequent venous access. Emicizumab was created by Chugai Pharmaceutical Co., Ltd. and is being co-developed by Chugai, Roche and Genentech.

**About haemophilia A**

Haemophilia A is an inherited, serious disorder in which a person’s blood does not clot properly, leading to uncontrolled and often spontaneous bleeding. Haemophilia affects around 320,000 people worldwide,\(^5\) approximately 50-60% of whom have a severe form of the disorder.\(^7\) People with haemophilia A either lack or do not have enough of a clotting protein called factor VIII. In a healthy person, when a bleed occurs, factor VIII brings together the clotting factors IXa and X, which is a critical step in the formation of a blood clot to help stop bleeding. Depending on the severity of their disorder, people with haemophilia A can bleed frequently, especially into their joints or muscles.\(^5\) These bleeds can present a significant health concern as...
they often cause pain and can lead to chronic swelling, deformity, reduced mobility and long-term joint damage. In addition to impacting a person’s quality of life, these bleeds can be life-threatening if they go into vital organs, such as the brain. A serious complication of treatment is the development of inhibitors to factor VIII replacement therapies. Inhibitors are antibodies developed by the body’s immune system that bind to and block the efficacy of replacement factor VIII, making it difficult, if not impossible to obtain a level of factor VIII sufficient to control bleeding. People with haemophilia A who develop inhibitors will typically infuse BPA therapies, either on-demand (episodic) or as prophylaxis, to control bleeding. This approach is known to be less effective and less predictable than factor VIII replacement therapy in people with haemophilia A without inhibitors.

About Roche in haematology
For more than 20 years, Roche has been developing medicines that redefine treatment in haematology. Today, we are investing more than ever in our effort to bring innovative treatment options to people with diseases of the blood. In addition to approved medicines MabThera®/Rituxan® (rituximab), Gazyva®/Gazyvaro® (obinutuzumab), and Venclexta®/Venclyxto® (venetoclax) in collaboration with AbbVie, Roche’s pipeline of investigational haematology medicines includes Tecentriq® (atezolizumab), an anti-CD79b antibody drug conjugate (polatuzumab vedotin/RG7596) and a small molecule antagonist of MDM2 (idasanutlin/RG7388). Roche’s dedication to developing novel molecules in haematology expands beyond malignancy, with the development of the investigational haemophilia A treatment emicizumab (ACE910).

About Roche
Roche is a global pioneer in pharmaceuticals and diagnostics focused on advancing science to improve people’s lives. The combined strengths of pharmaceuticals and diagnostics under one roof have made Roche the leader in personalised healthcare – a strategy that aims to fit the right treatment to each patient in the best way possible.

Roche is the world’s largest biotech company, with truly differentiated medicines in oncology, immunology, infectious diseases, ophthalmology and diseases of the central nervous system. Roche is also the world leader in in vitro diagnostics and tissue-based cancer diagnostics, and a frontrunner in diabetes management. Founded in 1896, Roche continues to search for better ways to prevent, diagnose and treat diseases and make a sustainable contribution to society. The company also aims for improving patient access to medical innovations by working with all relevant stakeholders. Thirty medicines developed by Roche are included in the World Health Organization Model Lists of Essential Medicines, among them life-saving antibiotics,
antimalarials and cancer medicines. Roche has been recognised as the Group Leader in sustainability within the Pharmaceuticals, Biotechnology & Life Sciences Industry eight years in a row by the Dow Jones Sustainability Indices (DJSI).

The Roche Group, headquartered in Basel, Switzerland, is active in over 100 countries and in 2016 employed more than 94,000 people worldwide. In 2016, Roche invested CHF 9.9 billion in R&D and posted sales of CHF 50.6 billion. Genentech, in the United States, is a wholly owned member of the Roche Group. Roche is the majority shareholder in Chugai Pharmaceutical, Japan. For more information, please visit www.roche.com.

All trademarks used or mentioned in this release are protected by law.

Roche Investor Relations

Dr. Karl Mahler
Phone: +41 61 68-78503
e-mail: karl.mahler@roche.com

Dr. Sabine Borngräber
Phone: +41 61 68-88027
e-mail: sabine.borngraeb@roche.com

Dr. Bruno Eschli
Phone: +41 61 68-75284
e-mail: bruno.eschli@roche.com

Dr. Tamer Farhan
Phone: +41 61 68-82552
e-mail: tamer.farhan@roche.com

Dr. Birgit Masjost
Phone: +41 61 68-84814
e-mail: birgit.masjost@roche.com

Dr. Susann Weissmüller
Phone: +41 61-68-75619
e-mail: susann.weissmueller@roche.com

Investor Relations North America

Neera Dahiya Ravindran, MD
Phone: +1 650 491 5281
e-mail: ravindran.neera@gene.com

Loren Kalm
Phone: +1 650 225 3217
e-mail: kalm.loren@gene.com

References

2 Hemophilia Federation of America. Treatment of hemophilia. [Internet; cited 2017 August] Available at: http://www.hemophiliafed.org/bleeding-disorders/hemophilia/treatment
4 Zanon E, Iorio A, Rocino A, et al. Intracranial haemorrhage in the Italian population of haemophilia patients with and without
inhibitors. *Haemophilia* 2012; 18: 39–45


