Roche’s lebrikizumab phase IIb data show reduction of asthma attack rates and improvement of lung function in adult patients with severe uncontrolled asthma

- New data show lebrikizumab appears most effective in a specific sub-population of patients with high levels of periostin, a protein that indicates a certain type of asthma
- The biomarker periostin provides a personalized healthcare approach in asthma and will be further evaluated in ongoing clinical studies

Roche (SIX: RO, ROG; OTCQX: RHHBY) presented new data today from the LUTE / VERSE phase IIb studies investigating lebrikizumab in patients with severe uncontrolled asthma. The data showed that asthma attacks were reduced by 60 percent in lebrikizumab-treated patients with a high level of the biomarker periostin, compared to only 5 percent in patients with a low level of periostin.1 The data also showed that in patients with high periostin levels, lebrikizumab improved lung function as measured by FEV1,2 which reflects an increase in the maximum amount of air that can be forcibly exhaled in one second. Lebrikizumab was generally well-tolerated and the safety profile was consistent with previous study results.1,2 The LUTE / VERSE findings were presented at the annual meeting of the American Academy of Allergy, Asthma and Immunology (AAAAI) in San Diego, California, US.

“We conclude based on these recent results that high levels of periostin, a protein that indicates a certain type of asthma, can predict which patients are most likely to benefit from lebrikizumab,” said Sandra Horning, M.D., Head of Global Product Development and Chief Medical Officer at Roche. “The study results are encouraging because more effective treatment options are needed for patients with severe uncontrolled asthma.”

A quarter of a million people worldwide are estimated to die every year from asthma.3 Many patients live in fear of their next asthma attack, with common symptoms of shortness of breath and tightening in the chest. Current asthma medicines do not work for everyone, and physicians have limited knowledge of how or if a patient will benefit.
The new data released at AAAAI build upon previous positive phase II data, which were based on lebrikizumab treatment in patients who were uncontrolled despite inhaled corticosteroids.² The LUTE / VERSE studies enrolled a more severe asthma population, as these patients were receiving high dose inhaled corticosteroids in addition to a second asthma controller therapy. Based on the results, lebrikizumab is currently being evaluated in adult patients with severe uncontrolled asthma in two phase III studies called LAVOLTA I and LAVOLTA II. Lebrikizumab is currently under investigation in seven ongoing or planned clinical studies, including one for idiopathic pulmonary fibrosis (IPF).

About the LUTE / VERSE studies
LUTE and VERSE were replicate, multicenter, double-blind studies that randomized patients with severe uncontrolled asthma despite treatment with inhaled glucocorticosteroids (ICS) and a second controller to receive lebrikizumab 37.5 mg, 125 mg, 250 mg or placebo subcutaneously every four weeks. The LUTE / VERSE studies, initially phase III, were converted to phase IIb upon identification of a process-related impurity requiring changes to the lebrikizumab manufacturing process.

The primary endpoint was the rate of exacerbations during the placebo-controlled period. The data was evaluated separately in patients with high periostin levels and low periostin levels. Data showed that asthma attacks were reduced by 60 percent in lebrikizumab-treated patients with a high level of the biomarker periostin (≥50 ng/mL; p=.01 all doses combined), compared to only 5 percent in patients with a low level of periostin (≤50 ng/mL; p=.87 all doses combined). Specifically, exacerbation rates were reduced by 22, 77 and 81 percent in periostin-high patients in the lebrikizumab 250 mg, 125 mg and 37.5 mg groups, respectively.

Change from baseline in FEV₁ was a key secondary endpoint. At 12 weeks in the periostin-high group (≥50 ng/mL serum periostin level), there was a 9.1 percent increase in FEV₁ in the pooled lebrikizumab arms over placebo (p=0.02), compared with a 2.6 percent increase over placebo in the periostin-low group (p=.26). Data showed FEV₁ was increased by 6.8, 10.7 and 10.1 percent in the periostin-high patients in the lebrikizumab 37.5 mg, 125 mg and 250 mg groups, respectively, compared with placebo.

The overall frequency of adverse events was 70 percent in the lebrikizumab arm (all dose levels combined) versus 63 percent in the placebo group. The frequencies of serious adverse events (lebrikizumab, 2 percent; placebo 1.7 percent) were similar. There were no deaths reported in the studies. Overall, no clinically important safety signals were identified.
About lebrikizumab
Lebrikizumab is a novel humanized monoclonal antibody designed to specifically block the action of interleukin-13 (IL-13), a cytokine that contributes to airway inflammation and asthma disease process in some patients. Blocking this cytokine may have beneficial effects in patients with IL-13-driven asthma and the biomarker periostin may predict benefit from anti-IL-13 therapy.

About periostin
Periostin is a protein that has been identified as a key biomarker in certain types of asthma, measured with a blood test. In asthma patients who have higher levels of periostin, IL-13 appears to be a major contributor to their airway inflammation. Periostin was a pre-specified biomarker in the primary endpoint and has been shown to be a predictor of airway eosinophilia - a prominent feature of asthma - and has potential value in patient selection for lebrikizumab.4

About asthma
Asthma is a chronic disease of the lungs involving inflammation and narrowing of the airways. Chronic lung inflammation is associated with airway hyperresponsiveness that leads to recurrent episodes of wheezing, breathlessness, chest tightness and coughing, particularly at night or in the early morning. These episodes are usually associated with widespread, but variable, airflow obstruction within the lung that is often reversible either spontaneously or with treatment.

Severe asthma is a chronic lung disease that affects around 15 million people.5 If uncontrolled, it places substantial limitations on daily life and is sometimes fatal. Current treatments may include daily use of an ICS and a second controller medication such as corticosteroid pills or long-acting bronchodilators.

About Roche in immunology
The Roche Group’s immunology medicines include rheumatoid arthritis treatments MabThera/Rituxan (rituximab) and ACTEMRA/RoACTEMRA (tocilizumab), XOLAIR (omalizumab) in asthma and Pulmozyme (dornase alfa) for cystic fibrosis. In addition to its approved portfolio of immunology medicines, Roche late stage pipeline products include etrolizumab being studied in ulcerative colitis and lebrikizumab for severe asthma.
About Roche
Headquartered in Basel, Switzerland, Roche is a leader in research-focused healthcare with combined strengths in pharmaceuticals and diagnostics. Roche is the world’s largest biotech company, with truly differentiated medicines in oncology, immunology, infectious diseases, ophthalmology and neuroscience. Roche is also the world leader in in vitro diagnostics and tissue-based cancer diagnostics, and a frontrunner in diabetes management. Roche’s personalised healthcare strategy aims at providing medicines and diagnostics that enable tangible improvements in the health, quality of life and survival of patients. Founded in 1896, Roche has been making important contributions to global health for more than a century. Twenty-four medicines developed by Roche are included in the World Health Organisation Model Lists of Essential Medicines, among them life-saving antibiotics, antimalarials and chemotherapy.

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Roche Group Media Relations
Phone: +41 -61 688 8888 / e-mail: basel.mediaoffice@roche.com
- Nicolas Dunant (Head)
- Silvia Dobry
- Štěpán Kráčala
- Claudia Schmitt

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