

**MEDIA RELEASE • COMMUNIQUE AUX MEDIAS • MEDIENMITTEILUNG****Novartis ofatumumab demonstrates superiority versus Aubagio® in two head-to-head Phase III multiple sclerosis studies**

- *In ASCLEPIOS I and II, ofatumumab (OMB157) met primary endpoints to reduce the annualized relapse rate over Aubagio®\* (teriflunomide) in patients with relapsing forms of MS (RMS)<sup>1</sup>*
- *Key secondary endpoints of delaying time to confirmed disability progression were also met<sup>1</sup>; additional secondary endpoints will be presented at ECTRIMS*
- *Ofatumumab, a potent, fully-human antibody targeting CD20 positive B-cells, delivered sustained efficacy with a favorable safety profile<sup>1</sup>*
- *Novartis plans to initiate submissions to health authorities by end of 2019. If approved, ofatumumab will potentially become a treatment for a broad RMS population and the first B-cell therapy that can be self-administered at home*

**Basel, August 30, 2019** – Novartis, a global leader in neuroscience, today announced positive results for ofatumumab (OMB157) from the Phase III ASCLEPIOS I and II studies. In both head-to-head studies, ofatumumab demonstrated superiority over Aubagio®\* (teriflunomide) in patients with relapsing forms of multiple sclerosis (RMS)<sup>1</sup>. The ASCLEPIOS studies investigated the efficacy and safety of monthly subcutaneous ofatumumab 20mg versus once daily oral Aubagio® 14mg in adults with RMS<sup>3,4</sup>.

Both studies met the primary endpoints where ofatumumab showed a highly significant and clinically meaningful reduction in the number of confirmed relapses, evaluated as the annualized relapse rate (ARR)<sup>1</sup>. Key secondary endpoints of delaying time to confirmed disability progression were also met<sup>1</sup>. The top line results of the Phase III ASCLEPIOS studies will be presented at the 35<sup>th</sup> Congress of the European Committee for Treatment and Research in Multiple Sclerosis (ECTRIMS), taking place September 11–13, 2019, in Stockholm, Sweden. Overall ofatumumab, a potent, fully-human antibody targeting CD20 positive B-cells, delivered sustained efficacy with a favorable safety profile. The safety profile of ofatumumab as seen in the ASCLEPIOS studies is in line with the observations from Phase II results. Novartis plans to initiate submissions to health authorities by end of 2019.

“It is clear that early initiation of highly effective treatment for MS improves long-term outcomes, and there is a high need for potent, safe, and convenient therapy that can be used to treat MS from the start,” said Professor Stephen L. Hauser, Director of the UCSF Weill Institute for Neurosciences. “The results from ASCLEPIOS are wonderful news for patients who would like to take an effective B-cell therapy with low requirement for monitoring, avoiding visits to an infusion center.”

“Ofatumumab, if approved, could be a highly attractive treatment option for a broad RMS patient population, including early MS,” said John Tsai, Head Global Drug Development and Chief Medical Officer, Novartis. “The powerful study results are a reflection of our commitment to reimagine MS treatment at all stages of the disease.”

### **About ASCLEPIOS**

The ASCLEPIOS I and II studies (NCT02792218 and NCT02792231) are twin, identical design, flexible duration (up to 30 months), double-blind, randomized, multi-center Phase III studies evaluating the safety and efficacy of ofatumumab 20mg monthly subcutaneous injections versus Aubagio® 14mg oral tablets taken once daily in adults with a confirmed diagnosis of RMS<sup>3,4</sup>. The studies enrolled 1,882 patients with MS, between the ages of 18 and 55 years, with an Expanded Disability Status Scale (EDSS) score between 0 and 5.5<sup>3,4</sup>. The studies were conducted in over 350 sites in 37 countries.

The primary endpoint of both studies was to demonstrate that ofatumumab is superior to Aubagio® in reducing the frequency of confirmed relapses as evaluated by the ARR in patients treated up to 30 months<sup>3,4</sup>. Secondary endpoints included time to disability progression confirmed at three and six months respectively, confirmed disability improvement at 6 months, gadolinium enhancing T1 lesions, number of new or enlarging T2 lesions, serum levels of neurofilament light chain (NfL), and rate of brain volume loss<sup>3,4</sup>. Safety and the pharmacokinetic properties of ofatumumab were also measured throughout the treatment period<sup>3,4</sup>.

### **About ofatumumab**

Ofatumumab (OMB157) is a fully human anti-CD20 monoclonal antibody (mAb) self-administered by a once-monthly subcutaneous injection that is in development for MS. Ofatumumab works by binding to the CD20 molecule on the B-cell surface and inducing potent B-cell lysis and depletion. Positive Phase IIb results in MS patients were presented in 2014 and showed a marked significant reduction in the number of new brain lesions in the first 24 weeks after ofatumumab administration<sup>5</sup>. Novartis initiated a Phase III program for ofatumumab in RMS in August 2016. Novartis obtained rights for ofatumumab from Genmab in all indications, including MS, in December 2015.

### **About Multiple Sclerosis**

MS disrupts the normal functioning of the brain, optic nerves and spinal cord through inflammation and tissue loss<sup>6</sup>. MS, which affects approximately 2.3 million people worldwide<sup>7</sup>, is often characterized into three forms: relapsing-remitting MS (RRMS), secondary progressive MS (SPMS – often defined as cognitive and physical changes, and an overall accumulation of disability<sup>8</sup>) and primary progressive MS (PPMS)<sup>9</sup>. Approximately 85% of patients initially present with relapsing forms of MS<sup>7</sup>.

### **About Novartis in MS**

The Novartis multiple sclerosis portfolio includes Gilenya® (fingolimod, an S1P modulator), which is indicated in European Union for the treatment of adult patients and children and adolescents 10 years of age and older with RMS. In the United States, Gilenya is approved for the treatment of adults with relapsing forms of MS, to include clinically isolated syndrome (CIS<sup>†</sup>), relapsing remitting disease and active secondary progressive disease.

In March 2019, the US Food and Drug Administration approved Mayzent® (siponimod) for the treatment of relapsing forms of MS, to include clinically isolated syndrome (CIS<sup>†</sup>), relapsing remitting disease and active secondary progressive disease. The approval is based on the Phase III EXPAND trial, the largest controlled clinical study of SPMS patients, showing Mayzent significantly reduced the risk of disease progression, including impact on physical disability and cognitive decline<sup>10</sup>. Novartis is committed to bringing Mayzent to patients worldwide, and additional regulatory filings are currently underway with other health authorities outside the US for secondary progressive MS.

Extavia® (interferon beta-1b for subcutaneous injection) is approved in the US for relapsing forms of MS, to include clinically isolated syndrome (CIS<sup>†</sup>), relapsing remitting disease and active secondary progressive disease. In Europe, Extavia is approved to treat people with RRMS, SPMS with active disease and people who have had a single clinical event suggestive of MS.

In the US, the Sandoz Division of Novartis markets Glatopa® (glatiramer acetate injection) 20mg/mL and 40mg/mL, generic versions of Teva's glatiramer acetate.

## Disclaimer

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## About Novartis

Novartis is reimagining medicine to improve and extend people’s lives. As a leading global medicines company, we use innovative science and digital technologies to create transformative treatments in areas of great medical need. In our quest to find new medicines, we consistently rank among the world’s top companies investing in research and development. Novartis products reach more than 750 million people globally and we are finding innovative ways to expand access to our latest treatments. About 108,000 people of more than 140 nationalities work at Novartis around the world. Find out more at [www.novartis.com](http://www.novartis.com).

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\*Aubagio® is a registered trade mark of Genzyme, a Sanofi company.

†Clinically isolated syndrome (CIS) is defined as a first episode of neurologic symptoms that lasts at least 24 hours and is caused by inflammation or demyelination in the central nervous system<sup>11</sup>.

## References

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