

MEDIA RELEASE • COMMUNIQUE AUX MEDIAS • MEDIENMITTEILUNG**New Novartis data presented at ECTRIMS show benefit of Gilenya[®] on patient disability progression at 10 years**

- *ACROSS study shows that patients with relapsing remitting multiple sclerosis (RRMS) continuously treated with Gilenya[®] (fingolimod) had significantly lower disability progression compared to those whose treatment was interrupted*
- *Fewer patients who stayed on Gilenya therapy for eight to 10 years had developed secondary progressive MS compared to those who discontinued it*
- *Almost 60% of patients enrolled in ACROSS remained on Gilenya treatment at 10 years, demonstrating long-term persistence¹*

Basel, September 16, 2016 – Novartis today announced new data from the ACROSS study, which assessed 10-year disability outcomes in people with relapsing remitting multiple sclerosis (RRMS) treated with Gilenya[®] (fingolimod). These results provide supportive evidence of the long-term effectiveness of continuous Gilenya treatment on controlling disability progression. Full results are being presented at the 32nd Congress of the European Committee for Treatment and Research in Multiple Sclerosis (ECTRIMS), in London, UK.

ACROSS is a single visit observational study of 175 individuals previously enrolled in the Phase II study of fingolimod in RRMS.¹ The study met its primary endpoint of a significantly lower change from baseline at 10 years in patients' Expanded Disability Status Scale (EDSS) score with continuous versus non-continuous Gilenya treatment (0.55 versus 1.21, respectively; $p=0.0155$).¹ Analyses of key secondary endpoints showed that after 10 years, the risk of progression to secondary progressive MS (SPMS) was reduced by 66.2% in patients who remained on Gilenya treatment for at least eight years, compared to those who did not.¹ There was also a significant four-fold delay in the time to use of a wheelchair.¹ Almost 60% (59.4%) of patients in ACROSS stayed on Gilenya at 10 years, demonstrating persistence of treatment over the long term.¹

"Multiple sclerosis is a debilitating, life-long disease, and greatly impacts how individuals are able to go about their daily lives," said Vasant Narasimhan, Global Head Drug Development and Chief Medical Officer for Novartis. "The ACROSS data add to our understanding of the long-term use of Gilenya as a highly-effective treatment option for people with relapsing remitting MS."

MS is a chronic neurological disease, associated with worsening physical and cognitive (e.g. memory) disability over time that limits sufferers' abilities to go about everyday tasks.² Limiting disability progression as early on in the disease process as possible is an important treatment goal in MS and can help improve the long-term outcomes of people with the condition, as well as delaying progression to SPMS.^{3,4}

About the ACROSS study

The ACROSS study is a multi-center, single visit, 10-year observational study evaluating the long-term efficacy of Gilenya in relapsing remitting MS (RRMS) over a 10-year follow-up period. The study included 175 people with RRMS who were previously enrolled in the Phase

II D2201 study, evaluating the efficacy, safety and tolerability of fingolimod in RRMS. Patients enrolled in ACROSS were divided into the continuous Gilenya treatment group (defined as Gilenya treatment for at least eight years) and the non-continuous Gilenya treatment group (defined as Gilenya treatment for less than eight years).¹

The primary objective was to evaluate whether continuous use of Gilenya over 10 years reduces the progression of disability, as measured by the mean Expanded Disability Status Scale (EDSS) score, compared to shorter treatment duration.¹ Key secondary objectives included the proportion of people with disability progression, the time to first use of a wheelchair, and the proportion of people who developed SPMS with continuous versus non-continuous Gilenya treatment at 10 years.¹

As in any study without parallel control, biases related to the design of the study need to be considered.

About Gilenya (fingolimod)

Gilenya is an oral disease-modifying therapy (DMT) that is highly efficacious at controlling disease activity in relapsing MS (RMS).⁵ Long-term experience has shown Gilenya treatment to be convenient for individuals to incorporate into everyday life, leading to high treatment satisfaction, long-term persistence, and ultimately, improved long-term outcomes for people with RMS.⁵⁻¹⁰

Gilenya impacts four key measures of disease activity: relapses, MRI lesions, brain shrinkage (brain volume loss) and disability progression.^{5,6} Its effectiveness on all of these measures has been consistently shown in multiple controlled clinical studies and in the real-world setting.^{5,11,12,13,14} Studies have shown its safety and high efficacy to be sustained over the long term, demonstrating that switching to Gilenya treatment as early in the disease course as possible can be beneficial in helping to preserve individuals' function.^{13,15}

Gilenya is approved in the US for the first-line treatment of relapsing forms of MS in adults and in the EU for adult patients with highly-active relapsing remitting MS (RRMS) defined as either high disease activity despite treatment with at least one DMT, or rapidly-evolving severe RRMS.¹⁵

Gilenya has been used to treat approximately 155,000 patients in both clinical trials and the post-marketing setting, with approximately 343,000 years of patient experience.¹⁶

About Multiple Sclerosis

Multiple sclerosis (MS) is a chronic disorder of the central nervous system (CNS) that disrupts the normal functioning of the brain, optic nerves and spinal cord through inflammation and tissue loss.¹⁷ There are three types of MS: relapsing remitting MS (RRMS), secondary progressive MS (SPMS) and primary progressive MS (PPMS).¹⁸ The evolution of MS results in an increasing loss of both physical and cognitive (e.g. memory) function. This has a substantial negative impact on the lives of the approximately 2.3 million people worldwide affected by MS.¹⁹

About Novartis in Multiple Sclerosis

The Novartis multiple sclerosis (MS) portfolio includes Gilenya, which is indicated for relapsing forms of MS and also in development for pediatric MS. Extavia[®] (interferon beta-1b for subcutaneous injection) is approved in the US for the treatment of relapsing forms of MS. In Europe, Extavia is approved to treat people with relapsing remitting MS, secondary progressive MS (SPMS) with active disease and people who have had a single clinical event suggestive of MS.

Investigational compounds include BAF312 (siponimod) in development in SPMS, and ofatumumab (OMB157), a fully human monoclonal antibody in development for relapsing MS. Ofatumumab targets CD20, and is currently being investigated in two Phase III pivotal studies. In the US, the Sandoz Division of Novartis markets Glatopa[®] (glatiramer acetate injection) 20mg/mL, the first generic version of Teva's Copaxone^{®*} 20mg.

Disclaimer

The foregoing release contains forward-looking statements that can be identified by words such as “goal,” “can,” “in development,” “investigational,” “being investigated,” or similar terms, or by express or implied discussions regarding potential new indications or labeling for Gilenya or Extavia, potential marketing approvals for BAF312 and OMB157, or regarding potential future revenues from Gilenya, Extavia, Glatopa, BAF312 and OMB157. You should not place undue reliance on these statements. Such forward-looking statements are based on the current beliefs and expectations of management regarding future events, and are subject to significant known and unknown risks and uncertainties. Should one or more of these risks or uncertainties materialize, or should underlying assumptions prove incorrect, actual results may vary materially from those set forth in the forward-looking statements. There can be no guarantee that Gilenya or Extavia will be submitted or approved for any additional indications or labeling in any market, or at any particular time. Neither can there be any guarantee that BAF312 or OMB157 will be approved for sale in any market, or at any particular time. Nor can there be any guarantee that any of Gilenya, Extavia, Glatopa, BAF312 or OMB157 will be commercially successful in the future. In particular, management's expectations regarding such products and investigational compounds could be affected by, among other things, the uncertainties inherent in research and development, including unexpected clinical trial results and additional analysis of existing clinical data; unexpected regulatory actions or delays or government regulation generally; the company's ability to obtain or maintain proprietary intellectual property protection; general economic and industry conditions; global trends toward health care cost containment, including ongoing pricing pressures; unexpected safety, quality or manufacturing issues, and other risks and factors referred to in Novartis AG's current Form 20-F on file with the US Securities and Exchange Commission. Novartis is providing the information in this press release as of this date and does not undertake any obligation to update any forward-looking statements contained in this press release as a result of new information, future events or otherwise.

About Novartis

Novartis provides innovative healthcare solutions that address the evolving needs of patients and societies. Headquartered in Basel, Switzerland, Novartis offers a diversified portfolio to best meet these needs: innovative medicines, eye care and cost-saving generic pharmaceuticals. Novartis is the only global company with leading positions in these areas. In 2015, the Group achieved net sales of USD 49.4 billion, while R&D throughout the Group amounted to approximately USD 8.9 billion (USD 8.7 billion excluding impairment and amortization charges). Novartis Group companies employ approximately 118,000 full-time-equivalent associates. Novartis products are available in more than 180 countries around the world. For more information, please visit <http://www.novartis.com>.

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References

1. Derfuss T et al. The ACROSS Study: Long-term efficacy of fingolimod in patients with RRMS (follow-up at 10 years). Poster presented at: 32nd Congress of the European Committee for Treatment and Research in Multiple Sclerosis; September 14-17, 2016; London, UK. Poster 1215.

2. National MS Society. MS Symptoms. <http://www.nationalmssociety.org/Symptoms-Diagnosis/MS-Symptoms> (link is external). Accessed August 2016.
3. MS Society. Early treatment. <https://www.mssociety.org.uk/earlytreatment> (link is external). Accessed August 2016.
4. National Multiple Sclerosis Society. Frequently asked questions about SPMS. <http://www.nationalmssociety.org/What-is-MS/Types-of-MS/Secondary-progressive-MS/Frequently-Asked-Questions-about-SPMS> (link is external). Accessed August 2016.
5. Cohen JA et al. Fingolimod versus intramuscular interferon in patient subgroups from TRANSFORMS. *J Neurol*. 2013; 260(8):2023-2032.
6. Kappos L et al. Phase 3 FREEDOMS study extension: fingolimod (FTY720) efficacy in patients with relapsing-remitting multiple sclerosis receiving continuous or placebo-fingolimod switched therapy for up to 4 years. Poster presented at: 28th Congress of the European Committee for Treatment and Research in Multiple Sclerosis; October 10-13, 2012; Lyon, France. Poster P979.
7. Montalban et al. Long-term efficacy of fingolimod in patients with relapsing-remitting multiple sclerosis previously treated with interferon beta-1a or disease-modifying therapies: A Post-hoc analysis of the TRANSFORMS 4.5 year extension study. *European Neurological Society*, June 10, 2013 P539.
8. Cohen JA et al. Long-term (up to 4.5 years) treatment with fingolimod in multiple sclerosis: results from the extension of the randomized TRANSFORMS study. *J Neurol Neurosurg Psychiatry*. 2015; 0:1-8.
9. De Stefano N et al. Proportion of patients with BVL comparable to healthy adults in fingolimod phase 3 MS studies. Abstract presented at: 66th AAN Annual Meeting; April 26 - May 3, 2014; Philadelphia, Pennsylvania. Oral session S13:006.
10. Lapierre Y et al. Canadian experience with fingolimod: adherence to treatment and monitoring. *Can J Neurol Sci*. 2016; 43:278-283
11. Fox E et al, on behalf of EPOC study investigators, Outcomes of switching directly to oral fingolimod from injectable therapies: Results of the randomized, open-label, multicenter, Evaluate Patient Out Comes (EPOC) study in relapsing multiple sclerosis. *Mult Scler Relat Disord*. 2014; 3(5): 607-619.
12. Cohen JA et al. Oral fingolimod or intramuscular interferon for relapsing multiple sclerosis. *N Engl J Med*. 2010; 362:402-15.
13. Khatri B et al. Comparison of fingolimod with interferon beta-1-a in relapsing-remitting multiple sclerosis: a randomized extension of the TRANSFORMS study. *The Lancet Neurology*. 2011; 10(6):520-529
14. Cascione M. et al. Randomized, open-label study to evaluate patient-reported outcomes with fingolimod after changing from prior disease-modifying therapy for relapsing multiple sclerosis: EPOC study rationale and design. *Journal of Medical Economics*. 2013; 16(7):859-865.
15. He A. et al. Comparison of switch to fingolimod or interferon beta/ glatiramer acetate in active multiple sclerosis. *JAMA Neurol*. 2015; 72(4):405-413.
16. Data on file. Novartis Pharmaceuticals.
17. PubMed Health. Multiple Sclerosis (MS). <http://www.ncbi.nlm.nih.gov/pubmedhealth/PMH0001747/> (link is external). Accessed August 2016.
18. European Medicines Agency. EMA guidelines for the investigation of MS. http://www.ema.europa.eu/docs/en_GB/document_library/Scientific_guideline/2012/10/WC500133438.pdf (link is external). Accessed April 2016.
19. Multiple sclerosis international federation. Atlas of MS 2013. <https://www.msif.org/wp-content/uploads/2014/09/Atlas-of-MS.pdf> (link is external). Accessed August 2016.

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