The European Commission Grants Marketing Authorization for New Subcutaneous Administration of TYSABRI® (natalizumab) to Treat Relapsing-Remitting Multiple Sclerosis

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- *TYSABRI is a well-established high-efficacy treatment that now provides two routes of administration enabling flexibility to meet patients' individual preferences and needs*
- *The subcutaneous option provides a shorter administration time and expands access to treatment for patients and physicians beyond the infusion setting*
- *The approval adds to Biogen's strong MS portfolio and is part of its leading, innovative work to improve the understanding of optimal clinical outcomes as part of the long-term treatment of patients with MS*

CAMBRIDGE, Mass., April 07, 2021 (GLOBE NEWSWIRE) -- Biogen Inc. (Nasdaq: BIIB) today announced that the European Commission (EC) has granted marketing authorization for a subcutaneous (SC) injection of TYSABRI® (natalizumab) to treat relapsing-remitting multiple sclerosis (MS). The new route of administration offers comparable efficacy and safety to the TYSABRI intravenous (IV) formulation building on the therapy's long-term data, established clinical benefits and well-characterized safety profile. TYSABRI is the only high-efficacy MS therapy to offer two routes of administration options providing patients and physicians the flexibility to choose the one that best fits their individual needs.

The SC and IV formulations of TYSABRI are dosed 300 mg, every four weeks (Q4W) by a healthcare provider. The SC option expands the clinical settings, beyond infusion centers, where patients can be treated. In addition, the SC formulation is administered in a shorter timeframe compared to the IV formulation and allows physicians to reduce or remove the post-dose observation period for some patients after six doses as clinically appropriate. The addition of the SC administration also offers people living with MS another option at a time when they are being encouraged to discuss considerations around COVID-19 vaccination and their MS treatment with their physicians.[1,2]

"The subcutaneous administration of TYSABRI expands choices when it comes to controlling MS disease activity," said Sven G. Meuth, M.D., PhD, professor of Neurology and Director of the Clinic of Neurology at the University Hospital of Düsseldorf. "I believe the SC administration offers an opportunity to receive comparable efficacy and safety to the intravenous formulation with reduced administration time which may be meaningful for patients. For physicians, the SC administration offers the ability to prescribe and administer TYSABRI in their practice, providing more locations where patients can be treated."

The EC's approval of the SC route of administration for TYSABRI is based on data from the DELIVER and REFINE studies, which showed comparability to the Q4W IV administration of 300mg TYSABRI in efficacy, pharmacokinetic and pharmacodynamic profiles. Overall, the safety of TYSABRI SC in both studies was generally consistent with the well-established benefit-risk profile of TYSABRI IV in other clinical studies and the post-marketing setting, with the exception of injection site pain which can occur with SC injections.[3,4]

"TYSABRI is a trusted high-efficacy therapy with a well characterized safety profile for patients living with MS. Nearly 15 years of real-world experience helps reinforce its effectiveness in reducing MS disease activity, showing that early treatment leads to better clinical outcomes," said Maha Radhakrishnan, M.D., Chief Medical Officer at Biogen. "With chronic conditions like MS, we must continue to pursue innovations that can help patients better integrate their treatment preferences into their lives. This approval reflects our commitment to explore new possibilities with TYSABRI and meet the evolving needs of people living with MS."

Approved by the EC in 2006, TYSABRI's efficacy and safety have been shown through clinical trials and extensive real-world evidence gathered over nearly 15 years. During that time, Biogen has initiated research, through efforts such as the MS PATHS network and TYSABRI Observational program (TOP), that have broadened the clinical data for TYSABRI providing physicians and patients with more information on this established high-efficacy MS therapy with a well-characterized safety profile.

About TYSABRI® (natalizumab)
TYSABRI is a well-established treatment indicated for relapsing forms of multiple sclerosis (MS) in adults that has been proven in clinical trials to slow physical disability progression, reduce the formation of new brain lesions and cut relapses. In the European Union, it is indicated as a single disease modifying treatment (DMT) in adults with highly active relapsing-remitting MS (RRMS) for patients with highly active disease activity despite a full and adequate course of treatment with at least one DMT or patients with rapidly evolving severe RRMS. In the U.S., TYSABRI is indicated as monotherapy for the treatment of patients with relapsing forms of MS. TYSABRI is approved in 80 countries, and approximately 213,000 people worldwide have been treated with TYSABRI, with over 835,000 patient-years of experience, based on clinical trials and prescription data.[5]

TYSABRI increases the risk of progressive multifocal leukoencephalopathy (PML), a rare opportunistic viral infection of the brain which has been associated with death or severe disability. Risk factors that increase the risk of PML are the presence of anti-JC virus antibodies, prior immunosuppressant use and longer TYSABRI treatment duration. Patients who have all three risk factors have the highest risk of developing PML. When initiating and continuing treatment with TYSABRI, physicians should consider whether the expected benefit of TYSABRI is sufficient to offset this risk.

TYSABRI also increases the risk of developing encephalitis and meningitis caused by herpes simplex and varicella zoster viruses, and serious, life-threatening and sometimes fatal cases have been reported in the post-marketing setting in MS patients receiving TYSABRI. Clinically significant liver injury, including acute liver failure requiring transplant, has also been reported in the post-marketing setting. Other serious adverse events that have occurred in TYSABRI-treated patients include hypersensitivity reactions (e.g., anaphylaxis), a decrease in lymphocyte counts and infections, including opportunistic and other atypical infections.

For information on TYSABRI prescribing information in the EU, please visit: https://ec.europa.eu/health/documents/community-register/html/h346.htm. Please click here for Important Safety Information, including Boxed Warning, and full Prescribing Information, including Medication Guide for TYSABRI in the U.S., or visit your respective country's product website.

About Biogen
At Biogen, our mission is clear: we are pioneers in neuroscience. Biogen discovers, develops and delivers worldwide innovative therapies for people living with serious neurological and neurodegenerative diseases as well as related therapeutic adjacencies. One of the world's first global biotechnology companies, Biogen was founded in 1978 by Charles Weissmann, Heinz Schaller, Kenneth Murray and Nobel Prize winners Walter Gilbert and Phillip Sharp. Today Biogen has the leading portfolio of medicines to treat multiple sclerosis, has introduced the first approved treatment for spinal muscular atrophy, commercializes biosimilars of advanced biologics and is focused on advancing research programs in multiple sclerosis and neuroimmunology, Alzheimer's disease and dementia, neuromuscular disorders, movement disorders, ophthalmology, neuropsychiatry, immunology, acute neurology and neuropathic pain.

We routinely post information that may be important to investors on our website at www.biogen.com. To learn more, please visit www.biogen.com and follow us on social media Twitter, LinkedIn, Facebook, YouTube.

Biogen Safe Harbor
This news release contains forward-looking statements, including statements made pursuant to the safe harbor provisions of the Private Securities Litigation Reform Act of 1995, relating to the potential benefits, safety and efficacy of TYSABRI; the results of certain real-world data; results from the DELIVER and REFINE studies; the identification and treatment of MS; our research and development program for the treatment of MS; and the potential of Biogen's commercial business, including TYSABRI. These forward-looking statements may be identified by words such as "aim," "anticipate," "believe," "could," "estimate," "expect," "forecast," "goal," "intend," "may," "plan," "possible," "potential," "will," "would" and other words and terms of similar meaning. You should not place undue reliance on these statements or the scientific data presented.

These statements involve risks and uncertainties that could cause actual results to differ materially from those reflected in such statements, including without limitation the occurrence of adverse safety events; risks of unexpected costs or delays; failure to protect and enforce our data, intellectual property and other proprietary rights and uncertainties relating to intellectual property claims and challenges; regulatory authorities may require additional information or further studies, or may fail to approve or may delay approval of our drug candidates or expansion of product labeling; failure to obtain regulatory approvals in other jurisdictions; product liability claims; and the direct and indirect impacts of the ongoing COVID-19 pandemic on our business, results of operations and financial condition. The foregoing sets forth many, but not all, of the factors that could cause actual results to differ from our expectations in any forward-looking statement. Investors should consider this cautionary statement as well as the risk factors identified in our most recent annual or quarterly report and in other reports we have filed with the U.S. Securities and Exchange Commission. These statements are based on our current beliefs and expectations and speak only as of the date of this news release. We do not undertake any obligation to publicly update any forward-looking statements, whether as a result of new information, future developments or otherwise.

References:

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2. Multiple Sclerosis International Federation. MS, the coronavirus and vaccines – updated global advice. Available at: https://www.msif.org/news/2020/02/10/the-coronavirus-and-ms-what-you-need-to-know/. Accessed: January 2021.
3. Plavina T, Fox EJ, Lucas N, et al. A Randomized trial evaluating various administration routes of natalizumab in multiple sclerosis. *J Clin Pharmacol*. 2016;56(10):1254-1262.
4. Trojano M, Ramió-Torrentà L, Grimaldi LM, et al. A randomized study of natalizumab dosing regimens for relapsing–remitting multiple sclerosis. *Alternatives*. April 2021:63-92. doi: 10.1177/03043754020270S105.
5. Combined post-marketing data based on prescriptions and clinical trials exposure to TYSABRI as of July 31, 2020.

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