PRESS RELEASE

RESULTS FROM MASITINIB STUDY AB09004 IN MILD TO MODERATE ALZHEIMER'S DISEASE PRESENTED AT THE ANNUAL ALZHEIMER'S ASSOCIATION INTERNATIONAL CONFERENCE (AAIC) WITH THE FULL ABSTRACT TO BE PUBLISHED IN THE *ALZHEIMER'S AND DEMENTIA* JOURNAL

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AB Science SA (Euronext - FR0010557264 - AB) today announced that results from its Phase 3 AB09004 study on mild to moderate Alzheimer's disease have been presented at the annual Alzheimer's Association International Conference (AAIC) (July 26-30, 2021).

The AAIC is the largest and most influential international meeting dedicated to the latest Alzheimer's and dementia research. Last year's virtual conference event attracted over 31,000 registered attendees. and scientific presentations (more than 3,000). This year the Alzheimer's Association International Conference (AAIC) is taking place both in person (Denver, USA) and online (hybrid model of delivery).

Professor Bruno Dubois, director of the Institute of Memory and Alzheimer's Disease at the Pitié Salpêtrière Hospital in Paris and coordinating investigator of study AB09004, presented key results as part of the meeting's session on human clinical trials.

The full abstract will be published in a supplement of *Alzheimer's & Dementia* (the journal of the Alzheimer's Association).

Professor Bruno Dubois said: *"The results of this study demonstrate, for the first time, that a drug targeting innate immune cells of the neuroimmune system may benefit people with mild-to-moderate probable Alzheimer's disease. Masitinib administered at 4.5 mg/kg/day, significantly slowed cognitive deterioration relative to placebo and also showed reduced loss of functional ability in activities of daily living. Of equal importance, it was shown that the safety of masitinib when administered as an adjunct to cholinesterase inhibitor and/or memantine was in line with its known safety profile and not worsened in this aged population".*

Professor Olivier Hermine, President of the Scientific Committee of AB Science and member of the Académie des Sciences in France, said: *"There is an urgent need for innovative drug development approaches that target non-amyloid pathways in the fight against Alzheimer's disease. Selection of this abstract for an oral presentation at this year's Alzheimer's Association International Conference is an indication of masitinib's potential impact on the treatment landscape for mild to moderate Alzheimer's disease and also of the level of interest being generated by this groundbreaking approach".*

Study AB09004 was the first successful phase 3 randomized trial in mild-to-moderate Alzheimer's disease of a drug targeting innate immune cells of the neuroimmune system. Masitinib at 4.5 mg/kg/day showed significant benefit over placebo according to the primary analysis, with an acceptable safety profile.

Primary efficacy analysis (based on multiple endpoints, each tested at a significance level of 2.5%) was the least-squares mean change from baseline to week-24 in either the 11-item Alzheimer's Disease Assessment Scale - cognitive subscale (ADAS-cog), or the 13-item Alzheimer's Disease Cooperative Study Activities of Daily Living Inventory scale (ADCS-ADL).

Results showed that masitinib can generate a significant treatment effect relative to placebo in the primary endpoint of change from baseline in ADAS-Cog, an instrument that measures the effect on cognition and memory. Specifically, masitinib 4.5 mg/kg/day (n=182) showed significant benefit relative to placebo (n=176), with a respective change in ADAS-cog from baseline of -1.46 (representing an overall improvement in cognition) versus +0.69 (representing increased cognitive deterioration); a corresponding ADAS-cog between-group difference of -2.15 (97.5%CI [-3.48, -0.81]), p=0.0003.

It was also seen that masitinib generated a benefit in Alzheimer's Disease Cooperative Study Activities of Daily Living (ADCS-ADL) score, an instrument that assesses self-care and activities of daily living. Specifically, masitinib 4.5 mg/kg/day showed a change in ADCS-ADL from baseline of +1.01 (representing an overall functional improvement) versus -0.81 for placebo (representing increased functional deterioration); a corresponding ADCS-ADL between-group difference of +1.82 (97.5%CI [(-0.15, 3.79]), p=0.038.

The safety of masitinib as an adjunct to cholinesterase inhibitor and/or memantine was acceptable and consistent with its known tolerability profile. It is noteworthy that this result is in the context of a relative elderly population (average age of about 73 years) with comorbidities. The incidence of patients having at least one treatment-emergent adverse event (AE) after 24 weeks of treatment was 87% for masitinib 4.5 mg/kg/day versus 77.5% for the placebo-control group. This corresponds to an incidence rate ratio (masitinib/placebo) of 1.1. The incidence of severe AE for masitinib 4.5 mg/kg/day was 26.5% versus 19.3% in the placebo-control group, corresponding to an incidence rate ratio of 1.4.

About masitinib's mechanism of action in Alzheimer's disease

Masitinib (AB1010) is an oral tyrosine kinase inhibitor that has demonstrated neuroprotective action in neurodegenerative diseases via inhibition of mast cell and microglia/macrophage activity, possibly by switching the neuroimmune system from a neurotoxic state towards a neuroprotective state through remodeling of the neuronal microenvironment. Mast cells, macrophages and microglia are types of innate immune cells that are present in the central nervous system, and for which there is a growing body of evidence implicating them in the pathophysiology of neurodegenerative diseases such as Alzheimer's disease, progressive forms of multiple sclerosis and amyotrophic lateral sclerosis (ALS).

The rationale to use masitinib in Alzheimer's disease patients is supported by preclinical evidence demonstrating that the pharmacological action of masitinib in mast cells can restore normal spatial learning performance in a mouse model of Alzheimer's disease and promotes recovery of synaptic markers [1].

Despite decades of extensive research, the overwhelming majority of human trials (predominantly testing amyloid-based therapeutics) have failed to demonstrate clinical efficacy. This underscores a need for innovative, non-amyloid based approaches, including therapies that modulate the neuroimmune response in Alzheimer's disease, which has been implicated in the pathophysiology of the disease [2–6].

Reference

[1] Li T, Martin E, Abada YS, et al. Effects of Chronic Masitinib Treatment in APPswe/PSEN1dE9 Transgenic Mice Modeling Alzheimer's Disease. J Alzheimers Dis. 2020;76(4):1339-1345.

[2] Long JM, Holtzman DM. Alzheimer Disease: An Update on Pathobiology and Treatment Strategies. Cell. 2019;179(2):312-339

[3] Sandhu JK, Kulka M. Decoding Mast Cell-Microglia Communication in Neurodegenerative Diseases. Int J Mol Sci. 2021;22(3):1093.

[4] Klegeris A. Microglial targets for effective therapies of Alzheimer's disease. Front. Drug Chem. Clin. Res. 2020;3:1–4

[5] Tchessalova D, Posillico CK, Tronson NC. Neuroimmune Activation Drives Multiple Brain States. Front Syst Neurosci. 2018;12:39.

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About masitinib

Masitinib is an orally administered tyrosine kinase inhibitor that targets mast cells and macrophages, important cells for immunity, through inhibiting a limited number of kinases. Based on its unique mechanism of action, masitinib can be developed in a large number of conditions in oncology, in inflammatory diseases, and in certain diseases of the central nervous system. In oncology due to its immunotherapy effect, masitinib can have an effect on survival, alone or in combination with chemotherapy. Through its activity on mast cells and microglia and consequently the inhibition of the activation of the inflammatory process, masitinib can have an effect on the symptoms associated with some inflammatory and central nervous system diseases and the degeneration of these diseases.

About AB Science

Founded in 2001, AB Science is a pharmaceutical company specializing in the research, development and commercialization of protein kinase inhibitors (PKIs), a class of targeted proteins whose action are key in signaling pathways within cells. Our programs target only diseases with high unmet medical needs, often lethal with short term survival or rare or refractory to previous line of treatment.
AB Science has developed a proprietary portfolio of molecules and the Company's lead compound, masitinib, has already been registered for veterinary medicine and is developed in human medicine in oncology, neurological diseases, inflammatory diseases and viral diseases. The company is headquartered in Paris, France, and listed on Euronext Paris (ticker: AB).

Further information is available on AB Science's website:
www.ab-science.com.

Forward-looking Statements - AB Science

This press release contains forward-looking statements. These statements are not historical facts. These statements include projections and estimates as well as the assumptions on which they are based, statements based on projects, objectives, intentions and expectations regarding financial results, events, operations, future services, product development and their potential or future performance.

These forward-looking statements can often be identified by the words "expect", "anticipate", "believe", "intend", "estimate" or "plan" as well as other similar terms. While AB Science believes these forward-looking statements are reasonable, investors are cautioned that these forward-looking statements are subject to numerous risks and uncertainties that are difficult to predict and generally beyond the control of AB Science and which may imply that results and actual events significantly differ from those expressed, induced or anticipated in the forward-looking information and statements. These risks and uncertainties include the uncertainties related to product development of the Company which may not be successful or to the marketing authorizations granted by competent authorities or, more generally, any factors that may affect marketing capacity of the products developed by AB Science, as well as those developed or identified in the public documents published by AB Science. AB Science disclaims any obligation or undertaking to update the forward-looking information and statements, subject to the applicable regulations, in particular articles 223-1 et seq. of the AMF General Regulations.

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