PRESS RELEASE

LONG-TERM FOLLOW-UP OF 75 MONTHS SHOWED THAT MASITINIB EXTENDED SURVIVAL IN AMYOTROPHIC LATERAL SCLEROSIS BY 25 MONTHS RELATIVE TO PLACEBO, PROVIDED THAT TREATMENT STARTS EARLY IN DISEASE COURSE.

PUBLICATION OF LONG-TERM FOLLOW-UP SURVIVAL DATA IN THE PEER-REVIEWED JOURNAL *THERAPEUTIC ADVANCES IN NEUROLOGICAL DISORDERS*

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AB Science SA (Euronext - FR0010557264 - AB) today announced publication of a paper titled '*Long-term Survival Analysis of Masitinib in Amyotrophic Lateral Sclerosis*' in the peer-reviewed journal *Therapeutic Advances in Neurological Disorders* (TAND) [1]. The publication represents completely new data reporting long-term survival analysis of masitinib as an add-on therapy to riluzole in patients with amyotrophic lateral sclerosis (ALS) from the randomized clinical trial AB10015 [2].

This article and its accompanying online supplemental material are freely accessible online from the journal website: https://journals.sagepub.com/doi/10.1177/17562864211030365

The survival analysis followed all patients originally randomized in study AB10015 for an average duration of 75 months from the date of diagnosis. In ALS patients with mild or moderate disease severity at baseline, it was seen that treatment with 4.5 mg/kg/day masitinib (n=50) as an add-on to standard riluzole prolonged survival by 25 months relative to those treated with riluzole alone (n=63) (median OS of 69 versus 44 months, respectively, P=0.037) with a 44% reduced risk of death. People with mild or moderate ALS comprised patients that had not suffered a complete loss or severe impairment of ALSFRS-related functionality at the time of masitinib treatment initiation (i.e., patients with a score of at least 2 on each ALSFRS-R individual component). This population corresponds closely to the patient cohort enrolled in confirmatory phase 3 study, AB19001.

Dr. Jesús S. Mora M.D., Director of the ALS Unit at Hospital San Rafael, Madrid, and senior author of this article commented: "*This publication represents another significant scientific milestone in the search for a new treatment in ALS. The magnitude of this observed survival signal for masitinib as compared with placebo is very encouraging and data from study AB10015 have now demonstrated a consistently significant treatment effect in terms of overall survival, hazard ratio, slowed rate of functional decline, and slowed deterioration in respiratory function and quality-of-life.*"

Professor Albert Ludolph, Chairman of the Department of Neurology at the University Hospital and Medical Faculty of Ulm and principal investigator of Study AB19001, said: *"These long-term survival data, with an average follow-up of 75 months since diagnosis, suggest that masitinib can offer a substantial survival benefit when treatment is initiated before severe loss of functionality. These findings are consistent with masitinib's therapeutic objective for conservation of neuro-muscular functions. The current confirmatory phase 3 study (AB19001) in ALS patients with mild or moderate impairment of functionality at baseline, is very well-aligned with this population."*

These survival data were corroborated by the effect observed in the endpoints of ΔALSFRS-R at week-48 and progression-free survival (PFS, a time-to-event analysis) for this cohort of patients, further supporting the premise of greater treatment effect when masitinib is initiated at an earlier stage of disease. Consistent with

results previously communicated on study AB10015 [2], no long-term survival advantage was observed for the overall masitinib 4.5 mg/kg/day cohort of study AB10015 (i.e., regardless of baseline disease severity or post-onset ALSFRS-R progression rate) or for the low-dose (3.0 mg/kg/day) masitinib treatment-arm.

These long-term survival results are consistent with masitinib's mechanism of action, which significantly slows microglial-related disease progression, and prevents mast cell-related neuromuscular junctions denervation and Schwann cell meditated neuroinflammation [3-7]. Based on this mechanism of action, it is expected that masitinib would provide better outcomes if administered early in disease progression when the larger motoneurons innervating type IIb fibers are still functioning and capable of sprouting terminal branches to reinnervate previously denervated endplates (improved sprouting capacity would maintain motor function longer and slow the ALSFRS-R decline) [3,4].

About studies AB19001 and AB10015

As a reminder, study AB19001 is an international, multicenter, randomized, double-blind, placebo-controlled, 3-parallel group, Phase 3 study to compare the efficacy and safety of masitinib in combination with riluzole versus placebo in combination with riluzole for the treatment of patients suffering from ALS.

The study is intended to confirm the previously published results from the first Phase 2b/3 study (AB10015) [2], which demonstrated that masitinib at 4.5 mg/kg/day in combination with riluzole significantly slowed Amyotrophic Lateral Sclerosis Functional Rating Scale-revised (ALSFRS-R) decline by 27% compared to riluzole alone at week 48 (p-value < 0.05).

Study recruitment targets people with ALS that have mild or moderate impairment of functionality at baseline. This is closely aligned with the patient population that showed the greatest survival benefit with masitinib in the long-term survival analysis. The primary endpoint of study AB19001 is absolute change from baseline in functional score as assessed by ALSFRS-R after 48 weeks of treatment.

About masitinib's mechanism of action in ALS

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 ALS, progressive forms of multiple sclerosis and Alzheimer's disease.

The rationale to use masitinib in ALS patients is supported by a strong body of evidence demonstrating that the pharmacological action of masitinib in microglia and mast cells can slow microglial-mediated disease progression, reduce neuro-inflammation, and modulate the degenerative neuronal microenvironment in both central and peripheral nervous systems [3–7].

References

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About amyotrophic lateral sclerosis

Amyotrophic lateral sclerosis (ALS) is a fatal motor neuron disorder that is characterized by progressive loss of the upper and lower motor neurons at the spinal or bulbar level. The disease belongs to a group of disorders known as motor neuron diseases, which are characterized by the gradual degeneration and death of motor neurons. In ALS, both the upper motor neurons and the lower motor neurons degenerate or die, and stop sending messages to muscles.
The prevalence of ALS in western countries is fairly uniform at 6 per 100,000 persons, corresponding to around 30,000 cases in Europe and 20,000 in the USA.
The first drug treatment for ALS, riluzole (Rilutek), was approved in 1995. In Europe, there has been no new treatment approved since riluzole.

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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