Paris, 1st February 2016, 5.45pm

AB Science announces that Rapporteurs appointed by the EMA have recommended to file a marketing authorization application for full approval for masitinib in severe systemic mastocytosis

Filing at EMA for marketing authorization is expected by end of Q1 2016

AB Science SA (NYSE Euronext – FR0010557264 – AB), a pharmaceutical company specialized in the research, development and marketing of protein kinase inhibitors (PKIs), announced today that, following a pre-submission meeting with the EMA, the Rapporteurs have accepted to review the future application for marketing authorization of masitinib in the treatment of adult patients with severe systemic mastocytosis.

A pre-submission meeting was held in early January 2016 with the Rapporteur and co-Rapporteur and their teams, as well as members of the Pharmacovigilance Risk Assessment Committee (PRAC), appointed by EMA to assess the application for masitinib in the treatment of adult patients with severe systemic mastocytosis.

This application is based on phase 3 study AB06006, which was successful on its pre-specified primary endpoint.

Based on the review of top-line efficacy and safety data from the phase 3 study and after consulting with medical experts, the Rapporteurs have recommended AB Science to submit its application for marketing authorization for the treatment of adult patients with severe smouldering or indolent systemic mastocytosis unresponsive to optimal symptomatic treatments.

AB Science asked to the rapporteurs whether to file for full approval or conditional approval and the rapporteurs indicated that they recommended filing the application for full approval.

AB Science asked to the rapporteurs whether an accelerated assessment was possible. The rapporteurs indicated that accelerated assessment was unlikely because smouldering or indolent systemic mastocytosis is not a life threatening condition, although the need is recognized.

AB Science is currently preparing the application and expects to file this application for the marketing authorization by the end of Q1 2016.

Phase 3 AB06006: Positive results on pre-specified endpoints

Study design

Masitinib was compared against placebo in patients receiving optimal symptomatic treatment prior to baseline and throughout the study. A total of 222 patients were enrolled, 135 with severe systemic mastocytosis for primary efficacy and safety analysis and 87 other (cutaneous mastocytosis and non-severe systemic mastocytosis) for descriptive safety analysis only. The treatment period was 24 weeks, with possible extension.

The pre-specified primary efficacy endpoint was the response rate on 4 severe symptoms: pruritus, flushes, depression (Hamilton HAMD-17), and fatigue (Fatigue Impact Scale-FIS). The statistical calculation of the p-value was based on the GEE (generalized estimating equation) model, which takes into consideration correlation between responses across symptoms and also over time. As per FDA scientific advice, the p-

value of the statistical test for the primary analysis was obtained with a re-randomization test. This method involves the reshuffling of observed data 10,000 times.

Study results

The phase 3 study was positive on the pre-specified primary endpoint and other secondary endpoints.

The primary analysis was positive. A statistically significant difference was observed between masitinib and placebo treatment-arms in the cumulative response rate on the four main handicaps (p = 0.0076). The response rate was significantly higher for the masitinib treatment-arm than for the placebo arm. The cumulative response rates by patient x 4 handicaps (pruritus, flush, Hamilton and FIS) observed from W8 to W24 for masitinib treated patients and placebo treated patients were 18.7% and 7.4%, respectively.

Of note, as per protocol, the primary efficacy analysis was performed in the modified intent-to-treat population (mITT), yet the study was also successful on the sensitivity analysis performed in the intent-to-treat population (18.7% versus 7.6%, respectively, p=0.0079).

The secondary endpoints were also positive.

- The cumulative response rates by patient x 3 handicaps (pruritus, flush, and Hamilton) observed from W8 to W24 for masitinib treated patients and placebo treated patients were 24.7% and 9.8%, respectively, (p=0.0071).
- The cumulative response rates by patient x 2 handicaps (pruritus and flush) observed from W8 to W24 for masitinib treated patients and placebo treated patients were 27.2% and 10.7%, respectively, (p=0.0380).
- The cumulative response rates by patient x Pruritus observed from W8 to W24 for masitinib treated patients and placebo treated patients were 22.0% and 7.3%, respectively, (p=0.0322).

The study also generated positive results on the pre-specified objective markers of mast cell activation.

- Masitinib induced a reduction in serum tryptase level, which is a marker of mast cell burden and the activation of mast cells. The average relative change from baseline in tryptase level for patients with pathological baseline tryptase (above 20 µg/L) was -18% for masitinib treated patients versus +2.2% for placebo treated patients (p=0.0001).
- Masitinib induced a reduction in the body surface area (BSA) covered by urticaria pigmentosa (UP). The average relative change from baseline in the BSA covered by UP was -12.3% for masitinib treated patients versus +15.9% for placebo treated patients, (p=0.0210).
- Masitinib induced a disappearance of the Darier's sign, which visually flags the presence of activated mast cells in the skin. The disappearance of Darier's sign from those patients having this symptom at baseline was 18.9% for masitinib treated patients versus 2.7% for placebo treated patients, (p=0.0187).

Patients who completed the 24-week protocol period could enter a double blind extension phase with regular assessments and evaluation. This permitted demonstration that the responses were sustainable over a period of 2 years.

- The cumulative response rates by patient x 4 handicaps observed from W8 to W96 for masitinib treated patients and placebo treated patients were 17.2% and 7.1%, respectively, (p=0.0102).
- The cumulative response rates by patient x 3 handicaps observed from W8 to W96 for masitinib treated patients and placebo treated patients were 22.1% and 8.6%, respectively, (p=0.0030).

Tabulated summary

❖ **Successful primary analysis**	**Masitinib**	**Placebo**	**p-value**	**Odd ratio**
4H75%: Cumulative 75% response rate on pruritus or flushes or depression or fatigue	**18.7%**	**7.4%**	**0.0076**	**3.63**

❖ **Successful secondary analyses**	**Masitinib**	**Placebo**	**p-value**	**Odd ratio**
3H75%: Cumulative 75% response rate on pruritus or flushes or depression	24.7%	9.8%	0.0071	3.06
2H75%: Cumulative 75% response rate on pruritus or flushes	27.2%	10.7%	0.038	2.63
Pruritus 75%: Cumulative 75% response rate on the handicaps of pruritus	22.0%	7.3%	0.0322	3.13

❖ **Successful analyses on objective markers of mast cell activation**	**Masitinib**	**Placebo**	**p-value**
Tryptase relative change from baseline (patients with tryptase >=20 µg/L at baseline) Mean±SD	-18 ± 21.4	2.2 ± 26.9	0.0001
Relative change from baseline in the Body Surface Area covered by the Urticaria Pigmentosa corrected with Wallace formula	-12.34 ± 26.41	15.91 ± 59.79	0.0210
Darier's sign disappearance for patients with "Darier's sign" at baseline	18.92%	2.70%	0.0187

❖ **Response sustainable at 2 years**	**Masitinib**	**Placebo**	**p-value**	**Odd ratio**
4H75% over W8 – W96 period	17.2%	7.1%	0.0102	3.37
3H75% over W8 – W96 period	22.1%	8.6%	0.0030	3.10

10,000 targeted adult patients with masitinib in severe systemic mastocytosis

Mastocytosis is an orphan disease characterized by an abnormal proliferation or activation of mast cells either in the skin or in bone marrow or other organs. Mastocytosis comes in two main forms: indolent and aggressive. Indolent forms of mastocytosis can be either cutaneous or systemic. The prevalence of indolent systemic mastocytosis, including smoldering systemic mastocytosis, is estimated to be 1/26,000 in Europe[1]. The symptoms and handicaps are severe in about one third of the patients; hence, an estimated target population for masitinib of approximately 1/78,000 of the general population.

Since the prevalence of indolent forms of systemic mastocytosis is reputed to be comparable across countries, the target population for masitinib could reach 10,000 adult patients in the USA and in Europe.

1: Prevalence of rare diseases: Bibliographic data, Orphanet Report Series, Rare Diseases collection, July 2015, Number 1: Listed in alphabetical order of disease or group of diseases.
http://www.orpha.net/orphacom/cahiers/docs/GB/Prevalence_of_rare_diseases_by_alphabetical_list.pdf

Orphan Drug Status granted by FDA and EMA

Masitinib has been granted orphan drug status in mastocytosis by both FDA and EMA.
There is currently no drug approved for the treatment of indolent mastocytosis.
Masitinib is the first drug to be evaluated in phase 3 in the indolent form of mastocytosis, systemic or not, severe or not.

About masitinib

Masitinib is a new 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 in cancers, inflammatory diseases, and central nervous system diseases, both in humans and animal health.
AB Science has developed a proprietary portfolio of molecules and the Company's lead compound, masitinib, has already been registered for veterinary medicine in Europe and in the USA. The company is currently pursuing thirteen phase 3 studies in human medicine in first-line and second-line GIST, metastatic melanoma expressing JM mutation of c-Kit, multiple myeloma, metastatic colorectal cancer, metastatic prostate cancer, pancreatic cancer, T-cell lymphoma, mastocytosis, severe asthma uncontrolled by oral corticosteroid, Alzheimer's disease, progressive forms of multiple sclerosis, and amyotrophic lateral sclerosis. 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

This document contains prospective information. No guarantee can be given as for the realization of these forecasts, which are subject to those risks described in documents deposited by the Company to the Authority of the financial markets, including trends of the economic conjuncture, the financial markets and the markets on which AB Science is present.

* * *

AB Science - Financial Communication & Media Relations
investors@ab-science.com