

## Publication of Long-Term Survival of Dogs with Mast Cell Tumours Treated with Masitinib

**AB Science SA** (NYSE Euronext - FR0010557264 - AB), a pharmaceutical company specialising in the research, development and commercialisation of protein kinase inhibitors (PKIs), announces publication of increased long-term survival with masitinib in canine mast cell tumour.

In new research published in the peer-reviewed scientific journal **American Journal of Veterinary Research**, Dr Kevin Hahn (DVM, PhD) and colleagues report on the effectiveness of masitinib for the treatment of nonresectable mast cell tumours (MCTs) in dogs at 12 and 24 months after onset of treatment. This was a follow-up study from the successful pivotal 6-month, phase III, placebo-controlled clinical trial of masitinib in the treatment of dogs with nonmetastatic grade 2 or grade 3 cutaneous MCTs. Masitinib, arguably the most specific inhibitor of c-Kit available, was subsequently registered by the European Medicine Agency (EMA) under the trade name Masivet<sup>®</sup>, making it the first approved targeted therapy in veterinary oncology. Masitinib recently received conditional approval from the Food and Drug Administration (FDA) for commercialisation under the trade name Kinavet-CA1.

Two major conclusions are drawn from this publication. First, the long-term follow-up data provides further evidence that masitinib is effective in the treatment of nonresectable MCTs and provided benefits in terms of long-term survival. Moreover, masitinib treatment was shown to improve long-term survival regardless of the subtype of MCT being treated (with respect to c-Kit mutational status). Second, analysis revealed that control of disease at 6 months was highly predictive of long-term survival, whereas short-term response at 6 weeks was not.

Alain Moussy, Chairman and CEO of AB Science declared: « In the field of oncology this survival is critically important to establish a drug as a benchmark. Recent examples have shown that oncology products could reduce tumour size in the short-term at a cost of toxicity but could not increase survival over the long-term or even worse reduce survival. It is relatively difficult to generate these long-term survival data because you need to follow patients in a comparative manner (that is, masitinib versus existing standard of care) for years, which AB Science has done. Significant improved survival has been demonstrated, which is good news for dogs suffering from mast cell tumours ».

Publication is available from the AJVR website: http://avmajournals.avma.org/doi/abs/10.2460/ajvr.71.11.1354.

AB Science is developing masitinib in veterinary medicine in oncology, but also in non oncology diseases, such as atopic dermatitis in dogs or asthma in cats. A list of the publications related to masitinib in veterinary medicine is provided below.

Besides using the animal health segment as a source of revenues to finance its clinical development program in human medicine, AB Science is also using the veterinary medicine as a platform to discover new indications for its lead compound masitinib and translate this use into human medicine. The first application of this strategy was made recently (press release dated 8/10/2010) with the decision to initiate a phase 3 study in metastatic melanoma expressing JM mutation of c-Kit. This decision was facilitated by evidence showing that masitinib could generate tumour response in animal with melanoma.

# List of publications with masitinib in veterinary medicine

Area	Title	Туре	Source
ONCOLOGY SINGLE			
AGENT Pre-clinical Canine Mast Call Tumor	Gain-of-function mutations in the extracellular domain of KIT are common in canine mast cell tumors.	Publication	Mol Cancer Res. (Létard et al., 2008)
ONCOLOGY SINGLE AGENT	Response to treatment with masitinib of chemotherapy resistant, metastasized, canine cutaneous grade 2 and 3 mast cell tumors: a pilot study	Abstract (Poster)	VCS 2009 (de Vos et al)
Clinical Pilot Study Canine Mast Cell Tumor	Assessment of response to the treatment with masitinib (MASIVET®) of chemo-resistant, grade 2 and 3 metastasized canine cutaneous mast cell tumours: report of four cases	Abstract	ESVONC 2009 (de Vos et al)
	A novel c-Kit inhibitor (AB1010) shows therapeutic potential in dog mast cell tumors (DMCT)	Abstract	VCS 2006 (Axiak et al)
ONCOLOGY SINGLE AGENT Clinical Pivotal Study Canine Mast Cell Tumor	Masitinib is safe and effective for the treatment of canine mast cell tumors	Publication	JVIM (Hahn et al., 2008)
	Evaluation of 12- and 24-month survival rates after treatment with masitinib in dogs with nonresectable mast cell tumors.	Publication	AJVR (Hahn et al., 2010)
	Masitinib is safe and effective for the treatment of canine mast cell tumors	Abstract (Poster)	ECVIM 2008 (Rusk et al.)
	Masitinib reduces the onset of metastasis and improves long- term survival in dogs with measurable grade 2 and grade 3 mast cell tumours.	Abstract (Oral)	BSAVA 2009 (Hermine et al.)
	Masitinib is effective in the treatment canine grade 2/3 mast cell tumours that only express WT c-kit	Abstract (Oral)	BSAVA 2009 (Hermine et al.)
	Masitinib : Long-term efficacy follow-up data on a pivotal phase III study in the treatment of dogs with measurable grade II and III mast cell tumors	Abstract (Poster)	VCS 2008 (Hahn et al)
	Short-term tumor response to tyrosine kinase inhibitors is not predictive of long-term survival in canine mast cell tumors: 2- year follow-up data from the masitinib pivotal field study	Abstract (Oral)	VCS 2009 (Hermine et al)
	Masitinib in the treatment canine grade 2/3 mast cell tumors that only express WT c-Kit	Abstract (Oral)	VCS 2009 (Hermine et al)
	Impact of masitinib on metastatic mast cell tumors and on the	Abstract	VCS 2009
	emergence of metastasis from non-metastatic tumors	(Poster)	(Hermine et al)
	tumors: Long-term follow-up efficacy data from a phase III clinical study	Abstract (Oral)	ESVONC 2009 (Hermine et al)
	Fifty months and counting: Case studies exemplifying the long- term survival of masitinib in dogs with non-resectable grade 2 mast cell tumors	Abstract (Poster)	VCS Oct 2010 (Ahn et al)
	First-line and rescue therapy with masitinib integrated protocols for canine cutaneous mast cell tumors	Abstract (Oral)	VCS Oct 2010 (de Vos et al)
ONCOLOGY COMBINATION WITH CHEMOTHERAPY Pre-clinical In vitro Oncology	Masitinib is a chemosensitizer of canine tumor cell lines	Abstract (Poster)	VCS 2008 (Thamm et al.)
	Targeted therapy with masitinib in canine and feline tumours in	Abstract (Oral)	VCS March 2010
ONCOLOGY COMBINATION WITH CHEMOTHERAPY	Evaluation of safety of masitinib in combination with carbonlatin in advanced canine tumors	Abstract (Oral)	VCS March 2010
	Evaluation of safety of masitinib in combination with doxorubicin in advanced canine tumors	Abstract (Oral)	VCS March 2010 (Ogilvie)
	A c-kit inhibitor (Masivet®) shows therapeutic potential in dog neurofibrosarcoma	Abstract (Oral)	ESVONC 2010 (Roos et al)
Clinical Oncology in dogs	Masitinib for maintenance chemotherapy of 2 dogs with T-cell multicentric lymphoma	Abstract (Poster)	ESVONC 2010 (Serres et al)
	Drug-induced minimal change nephropathy in a dog	Publication	J Vet Intern Med (Sum et al. 2010)
	Masitinib – The Efficacy of Targeted Therapy in Veterinary Medicine	Publication	VCS Summer Newsletter (Ogilvie et al. 2010)

INFLAMMATORY DISEASES Pre-clinical mice	A tyrosine kinase inhibitor targeting c-kit for chronic inflammatory diseases involving mast cells	Abstract (Oral)	NAVDF 2009 (Hermine et al)
	Masitinib for the treatment of canine atopic dermatitis: a pilot study	Publication	Vet Research Communications (Daigle et al. 2009)
INFLAMMATORY DISEASES	Efficacy and safety of masitinib in the treatment of atopic dermatitis in dogs	Abstract (Poster)	NAVDF 2008 (Beale et al.)
Clinical Pilot Study Canine Atopic	Masitinib, oral tyrosine kinase inhibitor, in the treatment of canine atopic dermatitis (CAD): results of a double-blinded, multinational, pivotal, phase 3.	Abstract (Oral)	EVCD 2010 (Cadot et al)
Dermatitis	The tyrosine kinase inhibitor masitinib (Masivet®) is effective for treatment of atopic dermatitis in dog	Abstract (Oral)	New Trends in Allergy VII Congress 2010 (Cadot et al)
INFLAMMATORY DISEASES Clinical Pivotal Study Atopic Dermatitis	24th Annual Congress of the ECVD-ESVD, 23-25 September 2010, Firenze, Italy	Abstract (Oral)	Vet Derm (Cadot et al., 2010)
INFLAMMATORY DISEASES	Pharmacokinetics of masitinib in cats	Publication	Vet. Res. Com. (Bellamy et al.,2009)
Cats	Evaluation of the receptor tyrosine kinase inhibitor, masitinib mesylate, in feline vaccine associated sarcoma cell lines and healthy cats	Abstract (Oral)	VCS Oct 2009 (Daly et al)

## **About Canine Mast Cell Tumour**

Mast cell tumour (MCT), also known as a mastocytoma, is the most common cutaneous malignant neoplasm in dogs, accounting for 16 to 21% of all skin tumours. The behaviour and progression of MCTs are highly heterogeneous. They range from slow-growing tumours with a low potential for metastasis (grade I) to undifferentiated, aggressive tumours (grade II and III) with a high potential for metastasising to local lymph nodes, the liver, spleen and bone marrow

### About masitinib

Masitinib is a new orally administered tyrosine kinase inhibitor that targets mast cells, important cells for immunity, as well as a limited number of kinases that play key roles in various cancers. Owing to its novel 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. Through its activity of inhibiting certain kinases that are essential in some oncogenic processes, masitinib may have an effect on tumour regression, alone or in combination with chemotherapy. Through its activity on the mast cell and certain kinases essential to the activation of the inflammatory cells and fibrosing tissue remodelling, masitinib can have an effect on the symptoms associated with some inflammatory and central nervous system diseases.

### **About AB Science**

Founded in 2001, AB Science is a pharmaceutical company specialising in the research, development and commercialisation of protein kinase inhibitors (PKIs), a new class of targeted molecules whose action is to modify signalling pathways within cells. Through these PKIs, the Company targets diseases with high unmet medical needs (cancer, inflammatory diseases and central nervous system diseases), in both human and veterinary medicines. Thanks to its extensive research and development capabilities, AB Science has its own portfolio of molecules. Masitinib, a lead compound, has already been registered in veterinary medicine in Europe and is pursuing nine phase 3 studies in human medicine, including three studies on-going in pancreatic cancer, GIST and mastocytosis.

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 realisation 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 & Press Relations

Citigate Dewe Rogerson

Contacts Citigate Dewe Rogerson : Agnès Villeret - Tel: +33 1 53 32 78 95 - agnes.villeret@citigate.fr