

# Masitinib for the treatment of mild to moderate Alzheimer's disease

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Alzheimer's disease (AD) is a degenerative neurological disorder that is the most common cause of dementia and disability in older patients. Available treatments are symptomatic in nature and are only sufficient to improve the quality of life of AD patients temporarily. A potential strategy, currently under investigation, is to target cell-signaling pathways associated with neurodegeneration, in order to decrease neuroinflammation, excitotoxicity, and to improve cognitive functions. Current review centers on the role of neuroinflammation and the specific contribution of mast cells to AD pathophysiology. The authors look at masitinib therapy and the evidence presented through preclinical and clinical trials. Dual actions of masitinib as an inhibitor of mast cell-glia axis and a Fyn kinase blocker are discussed in the context of AD pathology. Masitinib is in Phase III clinical trials for the treatment of malignant melanoma, mastocytosis, multiple myeloma, gastrointestinal cancer and pancreatic cancer. It is also in Phase II/III clinical trials for the treatment of multiple sclerosis, rheumatoid arthritis and AD. Additional research is warranted to better investigate the potential effects of masitinib in combination with other drugs employed in AD treatment. © 2014 Informa UK, Ltd.

Alzheimer

inflammation

masitinib

neurodegeneration

tau

masitinib

stem cell factor receptor

masitinib

protein kinase inhibitor

stem cell factor receptor

thiazole derivative

Alzheimer disease

cell interaction

drug efficacy

drug mechanism

drug metabolism

glia cell

human

mast cell

nervous system inflammation

nonhuman

pharmacodynamics

phase 1 clinical trial (topic)

phase 2 clinical trial (topic)

phase 3 clinical trial (topic)

Review

Alzheimer disease

animal

chemistry

metabolism

Alzheimer Disease

Animals

Humans

Protein Kinase Inhibitors

Proto-Oncogene Proteins c-kit

Thiazoles