

Certificate of Analysis

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Product Name: Masitinib

Catalog No.: 7705

Batch No.: 1

CAS Number: 790299-79-5

IUPAC Name: 4-[(4-Methyl-1-piperazinyl)methyl]-N-[4-methyl-3-[[4-(3-pyridinyl)-2-thiazolyl]amino]phenyl]benzamide

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: C₂₈H₃₀N₆OS.½H₂O

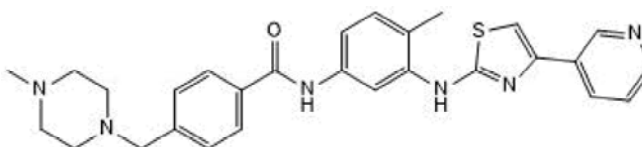
Batch Molecular Weight: 507.65

Physical Appearance: Beige solid

Solubility: DMSO to 100 mM
ethanol to 10 mM

Storage: Store at -20°C

Batch Molecular Structure:



2. ANALYTICAL DATA

HPLC: Shows 99.5% purity

¹H NMR: Consistent with structure

Mass Spectrum: Consistent with structure

Microanalysis:

	Carbon	Hydrogen	Nitrogen
Theoretical	66.25	6.16	16.55
Found	66.04	6.1	16.54

Caution - Not Fully Tested • Research Use Only • Not For Human or Veterinary Use

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Description:

Masitinib is a potent inhibitor of the tyrosine kinase receptor colony-stimulating factor 1R (CSF-1R) (IC₅₀ = 90 nM). It is also an NLRP3 inflammasome activator. Masitinib additionally inhibits the proteolytic activity of SARS-CoV-2 main protease (M^{pro}) and blocks viral replication, as well as acting as a PDGFRα/β inhibitor. In vivo, Masitinib ameliorates cognitive impairment in transgenic mice model of Alzheimer's disease, and slows disease progression in a rat model of amyotrophic lateral sclerosis (ALS). Orally bioavailable.

Physical and Chemical Properties:

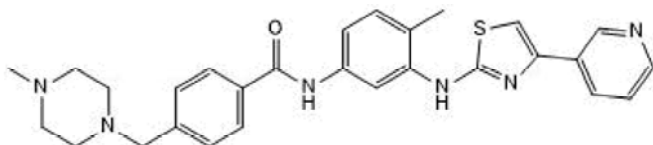
Batch Molecular Formula: C₂₈H₃₀N₆OS.½H₂O

Batch Molecular Weight: 507.65

Physical Appearance: Beige solid

Minimum Purity: ≥98%

Batch Molecular Structure:



References:

Drayman et al (2021) Masitinib is a broad coronavirus 3CL inhibitor that blocks replication of SARS-CoV-2. *Science* **373** 931. PMID: 34285133.

Ettcheto et al (2021) Masitinib for the treatment of Alzheimer's disease. *Neurodegener. Dis. Manag.* **11** 263. PMID: 34412534.

Martínez-Ortega et al (2021) In silico characterization of Masitinib interaction with SARS-CoV-2 main protease. *ChemMedChem.* **16** 2339. PMID: 34142459.

Storage: Store at -20°C

Solubility & Usage Info:

DMSO to 100 mM

ethanol to 10 mM

Stability and Solubility Advice:

Some solutions can be difficult to obtain and can be encouraged by rapid stirring, sonication or gentle warming (in a 45-60°C water bath).

Information concerning product stability, particularly in solution, has rarely been reported and in most cases we can only offer a general guide. Our standard recommendations are:

SOLIDS: Provided storage is as stated on the product label and the vial is kept tightly sealed, the product can be stored for up to 6 months from date of receipt.

SOLUTIONS: We recommend that stock solutions, once prepared, are stored aliquoted in tightly sealed vials at -20°C or below and used within 1 month. Wherever possible solutions should be made up and used on the same day.

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