

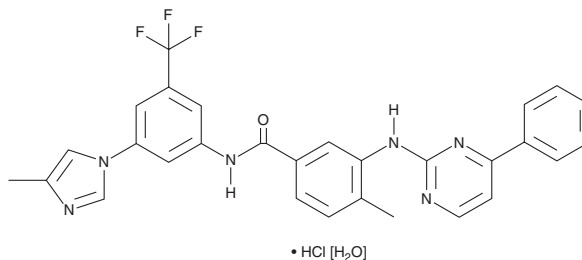
PRODUCT INFORMATION



Nilotinib (hydrochloride hydrate)

Item No. 36628

CAS Registry No.: 923288-90-8
Formal Name: 4-methyl-N-[3-(4-methyl-1H-imidazol-1-yl)-5-(trifluoromethyl)phenyl]-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]-benzamide, monohydrochloride, monohydrate
MF: C₂₈H₂₂F₃N₇O • HCl [H₂O]
FW: 584.0
Purity: ≥98%
UV/Vis.: λ_{max}: 271 nm
Supplied as: A solid
Storage: -20°C
Stability: ≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

Nilotinib (hydrochloride hydrate) is supplied as a solid. A stock solution may be made by dissolving the nilotinib (hydrochloride hydrate) in the solvent of choice, which should be purged with an inert gas. Nilotinib (hydrochloride hydrate) is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of nilotinib (hydrochloride hydrate) in these solvents is approximately 1, 3, and 2 mg/ml, respectively.

Description

Nilotinib is an inhibitor of wild-type and mutant Bcr-Abl (IC₅₀s = 15 and 9-400 nM, respectively).¹ It is selective for wild-type and mutant Bcr-Abl over Src and LYN (IC₅₀s = >5,000 nM for both). Nilotinib inhibits Bcr-Abl autophosphorylation and cell proliferation in Ba/F3 cells expressing wild-type or mutant Bcr-Abl (IC₅₀s = 7-155 and 13-51 nM, respectively). *In vivo*, nilotinib (1 mg/kg) reduces midbrain Bcr-Abl autophosphorylation, amyloid-β levels, and neuronal loss, as well as improves autophagosome clearance and reverses cognitive deficits in the Tg2576 transgenic mouse model of Alzheimer's disease.² It also reduces serum creatine levels, renal profibrotic gene expression, and tubulointerstitial damage, as well as increases survival in a rat model of 5/6 nephrectomy-induced chronic kidney disease.³ Formulations containing nilotinib have been used in the treatment of leukemia.

References

- O'Hare, T., Walters, D.K., Stoffregen, E.P., *et al.* *In vitro* activity of Bcr-Abl inhibitors AMN107 and BMS-354825 against clinically relevant imatinib-resistant Abl kinase domain mutants. *Cancer Res.* **65**(11), 4500-4505 (2005).
- La Barbera, L., Vedele, F., Nobili, A., *et al.* Nilotinib restores memory function by preventing dopaminergic neuron degeneration in a mouse model of Alzheimer's Disease. *Prog. Neurobiol.* **202**, 102031 (2021).
- Iyoda, M., Shibata, T., Hirai, Y., *et al.* Nilotinib attenuates renal injury and prolongs survival in chronic kidney disease. *J. Am. Soc. Nephrol.* **22**(8), 1486-1496 (2011).

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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