

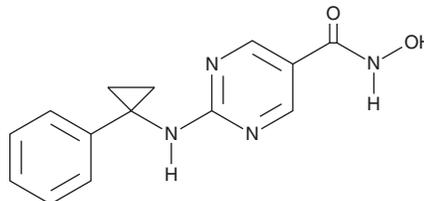
PRODUCT INFORMATION



ACY-738

Item No. 28282

CAS Registry No.: 1375465-91-0
Formal Name: N-hydroxy-2-[(1-phenylcyclopropyl)amino]-5-pyrimidinecarboxamide
MF: C₁₄H₁₄N₄O₂
FW: 270.3
Purity: ≥95%
UV/Vis.: λ_{max}: 267 nm
Supplied as: A crystalline 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

ACY-738 is supplied as a crystalline solid. A stock solution may be made by dissolving the ACY-738 in the solvent of choice, which should be purged with an inert gas. ACY-738 is soluble in organic solvents such as DMSO and dimethyl formamide. The solubility of ACY-738 in these solvents is approximately 15 and 10 mg/ml, respectively.

ACY-738 is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, ACY-738 should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. ACY-738 has a solubility of approximately 0.25 mg/ml in a 1:3 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

ACY-738 is an inhibitor of histone deacetylase 6 (HDAC6; IC₅₀ = 1.7 nM).¹ It is selective for HDAC6 over HDAC1-3 (IC₅₀s = 94, 128, and 218 nM, respectively). ACY-738 (5 mg/kg) increases acetylation of α-tubulin in mouse brain. It increases exploratory activity in a novel open-field test and reduces immobility time in a tail suspension test in wild-type, but not neural cell-selective HDAC6 knockout, mice when administered at a dose of 50 mg/kg, indicating anxiolytic and antidepressant-like activity, respectively. ACY-738 (100 mg/kg in the diet) attenuates decreases in caudal nerve sensory nerve action potential (SNAP) amplitude and increases in hind paw mechanical hypersensitivity in a mouse model of peripheral neuropathy induced by vincristine (Item No. 11764).² It decreases hepatorenal cystogenesis in a rat model of polycystic liver disease when administered at a dose of 30 mg/kg.³

References

1. Jochems, J., Boulden, J., Lee, B.G., *et al.* Antidepressant-like properties of novel HDAC6-selective inhibitors with improved brain bioavailability. *Neuropsychopharmacology* **39**(2), 389-400 (2014).
2. Van Helleputte, L., Kater, M., Cook, D.P., *et al.* Inhibition of histone deacetylase 6 (HDAC6) protects against vincristine-induced peripheral neuropathies and inhibits tumor growth. *Neurobiol. Dis.* **111**, 59-69 (2018).
3. Lorenzo Pisarello, M., Masyuk, T.V., Gradilone, S.A., *et al.* The combination of an HDAC6 inhibitor and a somatostatin receptor agonist synergistically reduces hepato-renal cystogenesis in an animal model of polycystic liver disease. *Am. J. Pathol.* **188**(4), 981-994 (2018).

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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