

PRODUCT INFORMATION



LDN-57444

Item No. 15396

CAS Registry No.: 668467-91-2

Formal Name: 5-chloro-1-[(2,5-dichlorophenyl)methyl]-1H-indole-2,3-dione
3-(O-acetyloxime)

Synonyms: Ubiquitin C-terminal Hydrolase L1 Inhibitor, UCH-L1 Inhibitor

MF: C₁₇H₁₁Cl₃N₂O₃

FW: 397.6

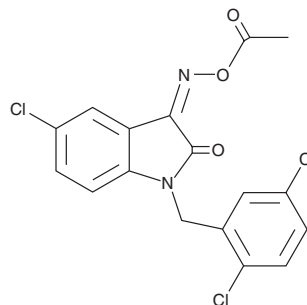
Purity: ≥95%

UV/Vis.: λ_{max}: 226, 254 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

LDN-57444 is supplied as a crystalline solid. A stock solution may be made by dissolving the LDN-57444 in the solvent of choice. LDN-57444 is soluble in organic solvents such as DMSO and dimethyl formamide (DMF), which should be purged with an inert gas. The solubility of LDN-57444 in these solvents is approximately 3 and 16 mg/ml, respectively.

LDN-57444 is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, LDN-57444 should first be dissolved in DMF and then diluted with the aqueous buffer of choice. LDN-57444 has a solubility of approximately 0.3 mg/ml in a 1:2 solution of DMF:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

The ubiquitin C-terminal hydrolase L1 (UCH-L1) is a member of a family of de-ubiquitinating enzymes that can generate free ubiquitin from ubiquitin precursors *via* its ubiquitin ligase activity. By associating with free ubiquitin, it also prevents its degradation. Neuronal UCH-L1 has been linked to Parkinson's disease, the development of tumors, and neuropathic pain.¹ LDN-57444 is an inhibitor of UCH-L1 activity (IC₅₀ = 0.88, K_i = 0.4 μM) that demonstrates selectivity for UCH-L1 compared to UCH-L3 (IC₅₀ = 25 μM).² Loss of UCH-L1 activity causes cell death through the apoptosis pathway due to an impaired ubiquitin-proteasome pathway. LDN-57444-induced reduction of free ubiquitin has been shown to create dramatic alterations in synaptic structure and function, increasing spine size while decreasing spine density in hippocampal neurons.¹

References

1. Cartier, A.E., Djakovic, S.N., Salehi, A., *et al.* Regulation of synaptic structure by the ubiquitin C-terminal hydrolase UCH-L1. *J. Neurosci.* **29**(24), 7857-7868 (2009).
2. Liu, Y., Lashuel, H.A., Choi, S., *et al.* Discovery of inhibitors that elucidate the role of UCH-L1 activity in the H1299 lung cancer cell line. *Chem. Biol.* **10**(9), 837-846 (2003).

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.

WARRANTY AND LIMITATION OF REMEDY

Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

Copyright Cayman Chemical Company, 11/28/2022

CAYMAN CHEMICAL

1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA

PHONE: [800] 364-9897
[734] 971-3335

FAX: [734] 971-3640

CUSTSERV@CAYMANCHEM.COM
WWW.CAYMANCHEM.COM