

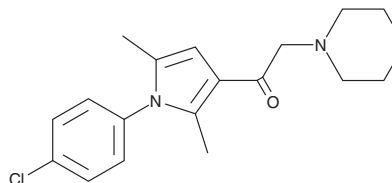
PRODUCT INFORMATION



IU1-47

Item No. 34095

CAS Registry No.: 670270-31-2
Formal Name: 1-[1-(4-chlorophenyl)-2,5-dimethyl-1H-pyrrol-3-yl]-2-(1-piperidinyl)-ethanone
MF: C₁₉H₂₃ClN₂O
FW: 330.9
Purity: ≥98%
UV/Vis.: λ_{max}: 251 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

IU1-47 is supplied as a solid. A stock solution may be made by dissolving the IU1-47 in the solvent of choice, which should be purged with an inert gas. IU1-47 is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of IU1-47 in these solvents is approximately 20, 10, and 30, respectively.

IU1-47 is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, IU1-47 should first be dissolved in DMF and then diluted with the aqueous buffer of choice. IU1-47 has a solubility of approximately 0.25 mg/ml in a 1:3 solution of DMF:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

IU1-47 is an inhibitor of ubiquitin-specific protease 14 (USP14; IC₅₀ = 0.6 μM).¹ It is selective for USP14 over USP5 (IC₅₀ = 20 μM). IU1-47 increases degradation of a ubiquitinated proteasome substrate in a cell-free assay. It reduces tau levels in wild-type mouse embryonic fibroblasts (MEFs) expressing human tau but not *Usp14*-null MEFs expressing human tau. IU1-47 (25 μM) reduces tau levels in primary rat cortical neurons. It also decreases migration of, and increases autophagy in, A549 and H1299 cancer cells.²

References

1. Boselli, M., Lee, B.-H., Robert, J., *et al.* An inhibitor of the proteasomal deubiquitinating enzyme USP14 induces tau elimination in cultured neurons. *J. Biol. Chem.* **292**(47), 19209-19225 (2017).
2. Han, K.H., Kwak, M., Lee, T.H., *et al.* USP14 inhibition regulates tumorigenesis by inducing autophagy in lung cancer in vitro. *Int. J. Mol. Sci.* **20**(21), 5300 (2019).

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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