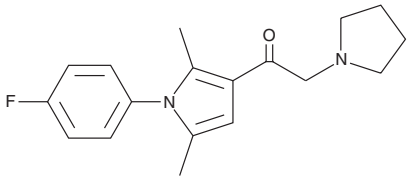
PRODUCT INFORMATION

IU1

Item No. 10617

CAS Registry No.:	314245-33-5
Formal Name:	1-[1-(4-fluorophenyl)-2,5-dimethyl-1H-pyrrol-3-yl]-2-(1-pyrrolidinyl)-ethanone
MF:	$C_{18}H_{21}FN_2O$
FW:	300.4
Purity:	≥98%
UV/Vis.:	λ_{max}: 247, 289 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

IU1 is supplied as a crystalline solid. A stock solution may be made by dissolving the IU1 in the solvent of choice. IU1 is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide, which should be purged with an inert gas. The solubility of IU1 in these solvents is approximately 20 mg/ml.

IU1 is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, IU1 should first be dissolved in DMF and then diluted with the aqueous buffer of choice. IU1 has a solubility of approximately 0.1 mg/ml in a 1:9 solution of DMF:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

Polyubiquitinylation designates proteins for proteasomal degradation. USP14 is one of several deubiquitinating enzymes (DUBs) responsible for shortening proteasome-bound ubiquitin chains, which is known to antagonize the degradation of ubiquitin-protein conjugates.[1] IU1 is a reversible, small molecule inhibitor of deubiquitination by USP14 that demonstrates an IC_{50} value of 4-5 µM. IU1 selectively stimulates ubiquitin-dependent protein degradation *in vitro* at 34 µM and in MEF cells at 50 µM. At 75 µM, IU1 reduces accumulation of oxidized proteins in HEK293 cells, alleviating cytotoxicity induced by oxidative stress.[1]

Reference

1. Lee, B.-H., Lee, M.J., Park, S., *et al.* Enhancement of proteasome activity by a small-molecule inhibitor of USP14. *Nature* **467**, 179-184 (2010).

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