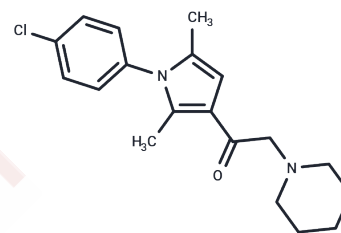


IU1-47

## Chemical Properties

CAS No. : 670270-31-2  
 Formula: C<sub>19</sub>H<sub>23</sub>ClN<sub>2</sub>O  
 Molecular Weight: 330.85  
 Storage: Powder: -20°C for 3 years | In solvent: -80°C for 1 year  
*Actual storage temperature shall be subject to the COA.*



## Biological Description

|                            |  |
|----------------------------|--|
| Description                | IU1-47 is an effective and specific USP14 inhibitor (IC <sub>50</sub> : 0.6 μM). IU1-47 causes tau elimination in cultured neurons. IU1-47 inhibits IsoT/USP5 (IC <sub>50</sub> : 20 μM).  |
| Targets(IC <sub>50</sub> ) | DUB  |
| In vitro                   | IU1-47 stimulates tau degradation principally via the ubiquitin-proteasome system. IU1-47 is essentially inactive on free USP14. IU1-47 (25 μM) antagonizes USP14 deubiquitinating activity and stimulates substrate degradation in vitro. IU1-47 (3 μM, 10, and 30 μM; 48 hours) obviously reduces Tau and phosphatase species Ser-202/Thr-205 levels in murine cortical primary neurons. |

## Solubility Information

|                     |   |
|---------------------|---|
| Solubility          | DMSO: 9 mg/mL (27.2 mM), Sonication is recommended.<br>(< 1 mg/ml refers to the product slightly soluble or insoluble)  |
| In vivo Formulation | 10% DMSO+40% PEG300+5% Tween 80+45% Saline: 1 mg/mL (3.02 mM), Sonication is recommended.<br><i>Please add the solvents sequentially, clarifying the solution as much as possible before adding the next one. Dissolve by heating and/or sonication if necessary. Working solution is recommended to be prepared and used immediately. The formulation provided above is for reference purposes only. In vivo formulations may vary and should be modified based on specific experimental conditions.</i> |

### Preparing Stock Solutions

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|       | 1mg       | 5mg        | 10mg       |
|-------|-----------|------------|------------|
| 1 mM  | 3.0225 mL | 15.1126 mL | 30.2252 mL |
| 5 mM  | 0.6045 mL | 3.0225 mL  | 6.045 mL   |
| 10 mM | 0.3023 mL | 1.5113 mL  | 3.0225 mL  |
| 50 mM | 0.0605 mL | 0.3023 mL  | 0.6045 mL  |

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Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

### Reference

Boselli M, et al. An inhibitor of the proteasomal deubiquitinating enzyme USP14 induces tau elimination in cultured neurons. *J Biol Chem.* 2017 Nov 24;292(47):19209-19225.

**Inhibitor · Natural Compounds · Compound Libraries · Recombinant Proteins**

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