

JHU-083

## Chemical Properties

CAS No. : 1998725-11-3

Formula: C<sub>14</sub>H<sub>24</sub>N<sub>4</sub>O<sub>4</sub>

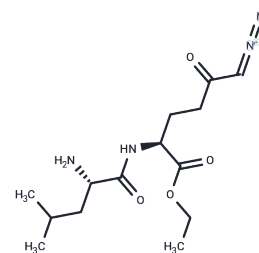
Molecular Weight: 312.37

Storage:

Keep away from moisture, Store at low temperature,  
The compound is unstable in solution. Please use  
soon, Keep away from direct sunlight

Pure form: -20°C for 3 years | In solvent: -80°C for 1  
year

Actual storage temperature shall be subject to the COA.



## Biological Description

|               |   |
|---------------|---|
| Description   | JHU-083 is an orally available, blood-brain barrier-crossing, selective glutaminase antagonist that improves cognitive performance and normalizes abnormal hippocampal glutaminase activity in APOE4 mice.  |
| Targets(IC50) | RAAS, Glutaminase   |
| In vivo       | JHU-083 (1.82 mg/kg; orally; every other day for 12 days) was able to alleviate CSDS-induced social avoidance behaviors as well as behaviors resembling pleasure deprivation.<br>JHU-083 (1.82 mg/kg; orally) reduced the magnitude of CSDS-induced enhancement of glutaminase activity in CD11b+ cells in the prefrontal cortex and hippocampus, but had no significant effect on cerebellar enzyme activity. In addition, JHU-083 treatment down-regulated the CSDS-induced expression levels of IL-1 $\beta$ and TNF- $\alpha$ . [1] |

## Solubility Information

|                     |   |
|---------------------|---|
| Solubility          | <p>PBS (pH 7.2): 20 mg/mL (64.03 mM), Sonication is recommended. The compound is unstable in solution. Please use soon.</p> <p>DMSO: 80 mg/mL (256.11 mM), Sonication is recommended. The compound is unstable in solution. Please use soon.</p> <p>Ethanol: 120 mg/mL (384.16 mM), Sonication is recommended. The compound is unstable in solution. Please use soon.</p> <p>H<sub>2</sub>O: 30 mg/mL (96.04 mM), Sonication is recommended. The compound is unstable in solution. Please use soon.</p> <p>(&lt; 1 mg/ml refers to the product slightly soluble or insoluble)</p> |
| In vivo Formulation | <p>10% DMSO+40% PEG300+5% Tween 80+45% Saline: 3.3 mg/mL (10.56 mM), Sonication is recommended.</p> <p>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.</p>  |

### Preparing Stock Solutions

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|       | 1mg       | 5mg        | 10mg       |
|-------|-----------|------------|------------|
| 1 mM  | 3.2013 mL | 16.0067 mL | 32.0133 mL |
| 5 mM  | 0.6403 mL | 3.2013 mL  | 6.4027 mL  |
| 10 mM | 0.3201 mL | 1.6007 mL  | 3.2013 mL  |
| 50 mM | 0.064 mL  | 0.3201 mL  | 0.6403 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

Zhu X, et al. JHU-083 selectively blocks glutaminase activity in brain CD11b+ cells and prevents depression-associated behaviors induced by chronic social defeat stress. *Neuropsychopharmacology*. 2019 Mar;44(4):683-694.

Riggle BA, et al. MRI demonstrates glutamine antagonist-mediated reversal of cerebral malaria pathology in mice. *Proc Natl Acad Sci U S A*. 2018 Dec 18;115(51):E12024-E12033.

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