

Product Name: KYP 2047

Catalog No.: 6272

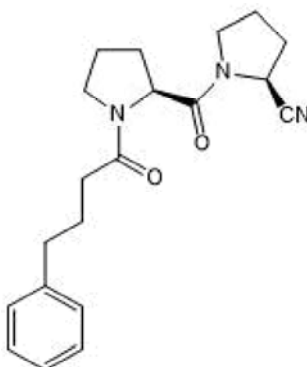
Batch No.: 1

CAS Number: 796874-99-2

IUPAC Name: (2S)-1-[[[(2S)-1-(1-Oxo-4-phenylbutyl)-2-pyrrolidinyl]carbonyl]-2-pyrrolidinecarbonitrile

## 1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula:	C <sub>20</sub> H <sub>25</sub> N <sub>3</sub> O <sub>2</sub>
Batch Molecular Weight:	339.44
Physical Appearance:	Colourless oil
Solubility:	DMSO to 100 mM ethanol to 50 mM
Storage:	Store at -20°C
Batch Molecular Structure:	



## 2. ANALYTICAL DATA

TLC:	R <sub>f</sub> = 0.32 (Ethyl acetate)
HPLC:	Shows 98.8% purity
<sup>1</sup> H NMR:	Consistent with structure
Mass Spectrum:	Consistent with structure

Caution - Not Fully Tested • Research Use Only • Not For Human or Veterinary Use

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**Description:**

KYP 2047 is a high affinity prolyl oligopeptidase (POP) inhibitor ( $K_i = 0.023$  nM). Clears  $\alpha$ -synuclein aggregates induced by oxidative stress in neuronal cells. Inhibits the formation of AcSDKP from its precursor 43-mer thymosin  $\beta$ 4 (T $\beta$ 4). Induces angiogenesis via POP inhibition. It reduces tau aggregation in tau-transfected HEK-293 cells and N2A cells as well as in human iPSC-derived neurons from patients with frontotemporal dementia. In vivo, treatment with KYP 2047 of transgenic mice with tauopathy, reduces tau aggregation in the brain and cerebrospinal fluid and slows cognitive decline. Anti-angiogenic and neuroprotective. Br... Please see product specific page on www.tocris.com for full description.

**Physical and Chemical Properties:**

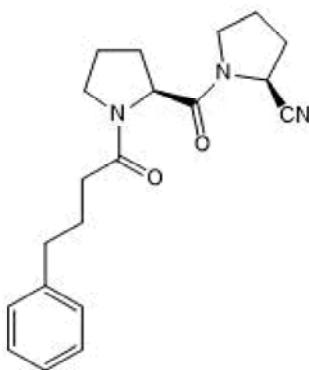
Batch Molecular Formula: C<sub>20</sub>H<sub>25</sub>N<sub>3</sub>O<sub>2</sub>

Batch Molecular Weight: 339.44

Physical Appearance: Colourless oil

**Minimum Purity:**  $\geq 98\%$

**Batch Molecular Structure:**



**References:**

**Eteläinen et al (2023)** A prolyl oligopeptidase inhibitor reduces tau pathology in cellular models and in mice with tauopathy. *Sci.Transl.Med.* **15**. PMID: 37043557.

**Yedlapudi et al (2016)** Inhibition of alpha-synuclein aggregation by multifunctional Da agonists assessed by a novel *in vitro* assay and an *in vivo* Drosophila synucleinopathy model. *Sci Rep.* **69** 38510. PMID: 27917933.

**Myöhänen et al (2012)** A prolyl oligopeptidase inhibitor, KYP-2047, reduces alpha-synuclein protein levels and aggregates in cellular and animal models of Parkinson's disease. *Br.J.Pharmacol.* **166** 1097. PMID: 22233220.

**Storage:** Store at -20°C

**Solubility & Usage Info:**

DMSO to 100 mM

ethanol to 50 mM

**Stability and Solubility Advice:**

Some solutions can be difficult to obtain and can be encouraged by rapid stirring, sonication or gentle warming (in a 45-60°C water bath).

Information concerning product stability, particularly in solution, has rarely been reported and in most cases we can only offer a general guide. Our standard recommendations are:

**SOLIDS:** Provided storage is as stated on the product label and the vial is kept tightly sealed, the product can be stored for up to 6 months from date of receipt.

**SOLUTIONS:** We recommend that stock solutions, once prepared, are stored aliquoted in tightly sealed vials at -20°C or below and used within 1 month. Wherever possible solutions should be made up and used on the same day.

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