Print Date: Mar 12th 2019

Certificate of Analysis

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Product Name: **KYP 2047** **Catalog No.: 6272** **Batch No.: 1**

CAS Number: 796874-99-2

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

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: $C_{20}H_{25}N_3O_2$

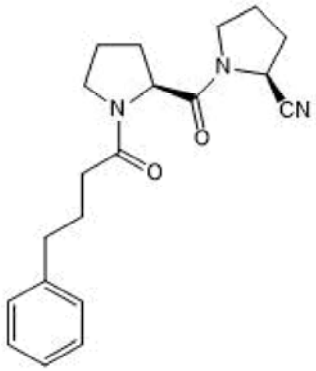
Batch Molecular Weight: 339.44

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_f = 0.32 (Ethyl acetate)

HPLC: Shows 98.8% purity

^{1}H NMR: Consistent with structure

Mass Spectrum: Consistent with structure

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Product Information

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Description:

High affinity prolyl oligopeptidase (POP) inhibitor (K_i = 0.023 nM). Clears α-synuclein aggregates induced by oxidative stress in neuronal cells. Inhibits the formation of AcSDKP from its precursor 43-mer thymosin β4 (Tβ4). Induces angiogenesis via POP inhibition. Anti-angiogenic and neuroprotective. Brain penetrant.

Physical and Chemical Properties:

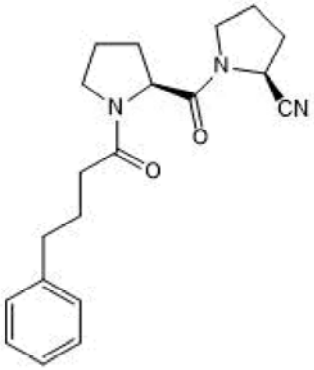
Batch Molecular Formula: $C_{20}H_{25}N_3O_2$

Batch Molecular Weight: 339.44

Physical Appearance: Colourless oil

Minimum Purity: >98%

Batch Molecular Structure:



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.

References:

Yedlapudi *et al* (2016) Inhibition of alpha-synuclein aggregation by multifunctional dopamine 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.

Jalkanen *et al* (2011) Brain pharmacokinetics of two prolyl oligopeptidase inhibitors, JTP-4819 and KYP-2047, in the rat. Basic Clin.Pharmacol.Toxicol. ***109*** 443. PMID: 21707925.

Myöhänen *et al* (2011) Prolyl oligopeptidase induces angiogenesis both *in vitro* and *in vivo* in a novel regulatory manner. Br.J.Pharmacol. ***163*** 1666. PMID: 21133893.

Venäläinen *et al* (2006) Binding kinetics and duration of *in vivo* action of novel prolyl oligopeptidase inhibitors. Biochem.Pharmacol. ***71*** 683. PMID: 16405869.