

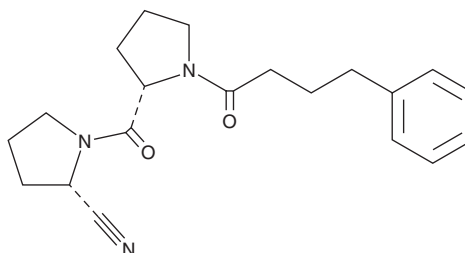
PRODUCT INFORMATION



KYP-2047

Item No. 39180

CAS Registry No.: 796874-99-2
Formal Name: (2S)-1-[[[(2S)-1-(1-oxo-4-phenylbutyl)-2-pyrrolidinyl]carbonyl]-2-pyrrolidinecarbonitrile
MF: C₂₀H₂₅N₃O₂
FW: 339.4
Purity: ≥98%
Supplied as: A solution in ethanol
Storage: -20°C
Stability: ≥2 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

KYP-2047 is supplied as a solution in ethanol. To change the solvent, simply evaporate the ethanol under a gentle stream of nitrogen and immediately add the solvent of choice. Solvents such as acetonitrile, methanol, and DMSO purged with an inert gas can be used.

Description

KYP-2047 is an inhibitor of prolyl endopeptidase ($K_i = 0.02$ nM for the porcine enzyme).¹ It inhibits hydrogen peroxide-induced aggregation of α -synuclein in SH-SY5Y cells expressing wild-type, α -synuclein^{A30P}, or α -synuclein^{A53T} in *in vitro* models of Parkinson's disease when used at a concentration of 1 μ M.² KYP-2047 (10 μ M) decreases lipid peroxidation and the production of reactive oxygen species (ROS) induced by palmitic acid (Item No. 10006627) in HepG2 cells.³ It decreases ileal and pulmonary edema and pulmonary fibrosis in a mouse model of acute lung injury induced by intestinal ischemia-reperfusion when administered at a dose of 2.5 mg/kg.⁴ KYP-2047 (2.5 mg/kg) reduces tumor volume and intratumoral levels of Vegf and Cd34, markers of angiogenesis, in a U87 glioblastoma mouse xenograft model.⁵

References

1. Jarho, E.M., Venäläinen, J.I., Huuskonen, J., *et al.* A cyclopent-2-enecarbonyl group mimics proline at the P2 position of prolyl oligopeptidase inhibitors. *J. Med. Chem.* **47**(23), 5605-5607 (2004).
2. Myöhänen, T.T., Hannula, M.J., Van Elzen, R., *et al.* A prolyl oligopeptidase inhibitor, KYP-2047, reduces α -synuclein protein levels and aggregates in cellular and animal models of Parkinson's disease. *Br. J. Pharmacol.* **166**(3), 1097-1113 (2012).
3. Zhang, J., Jiang, D., Lin, S., *et al.* Prolyl endopeptidase disruption reduces hepatic inflammation and oxidative stress in methionine-choline-deficient diet-induced steatohepatitis. *Life Sci.* **270**, 119131 (2021).
4. Casili, G., Scuderi, S.A., Lanza, M., *et al.* The protective role of prolyl oligopeptidase (POP) inhibition in acute lung injury induced by intestinal ischemia-reperfusion. *Oncotarget* **12**(17), 1663-1676 (2021).
5. Scuderi, S.A., Casili, G., Ardizzone, A., *et al.* KYP-2047, an inhibitor of prolyl-oligopeptidase, reduces glioblastoma proliferation through angiogenesis and apoptosis modulation. *Cancers (Basel)* **13**(14), 3444 (2021).

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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CAYMAN CHEMICAL

1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA

PHONE: [800] 364-9897
[734] 971-3335

FAX: [734] 971-3640

CUSTSERV@CAYMANCHEM.COM
WWW.CAYMANCHEM.COM