

Product Data Sheet

Product Name: KY-226
Cat. No.: GC38919

Chemical Properties

Cas. No. 1621673-53-7

SMILES O=C(NS(=O)(CCCCC)=O)C1=CC=C(CSCC2=CC=C(C3=CC=CC=C3)C=C2)C=C1

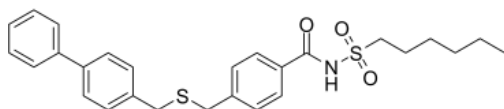
Formula $C_{27}H_{31}NO_3S_2$ M.Wt 481.67

Solubility DMSO: 250 mg/mL (519.03 mM) Storage Store at -20°C

General tips For obtaining a higher solubility, please warm the tube at 37 °C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

Shipping Condition Evaluation sample solution: ship with blue ice All other available size: ship with RT, or blue ice upon request.

Structure



Background

KY-226 is a potent, selective, orally active and allosteric protein tyrosine phosphatase 1B (PTP1B) inhibitor with an IC₅₀ of 0.25 μM, and without PPARγ agonist activity. KY-226 exerts anti-diabetic and anti-obesity effects by enhancing insulin and leptin signaling, respectively. KY-226 also protects neurons from cerebral ischemic injury[1][2].

In human hepatoma-derived cells (HepG2), KY-226 (0.3-10 μM) increases the phosphorylated insulin receptor (pIR) produced by insulin[1]. KY-226 (1 μM; 24 hours; bEnd.3 cells) treatment rescues

Caution: Product has not been fully validated for medical applications. For research use only.

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lipopolysaccharide-induced reduction of mRNA and protein levels of ZO-1. KY-226 treatment restores phosphorylation of pAkt (T308) and its downstream target forkhead box protein O1 (FoxO1) (S256) in bEnd.3 cells[2]. Western Blot Analysis[1] Cell Line: bEnd.3 cells stimulated with LPS

KY-226 (10-30 mg/kg/day; oral administration; daily; for 4 weeks; male db/db mice) treatment significantly reduces plasma glucose and triglyceride levels as well as hemoglobin A1c values without increasing body weight gain[1]. KY-226 attenuates plasma glucose elevations in the oral glucose tolerance test. KY-226 also increases pIR and phosphorylated Akt in the liver and femoral muscle[1]. Animal Model: Male db/db mice (8-11 weeks old)[1]

[1]. Ito Y, et al. Therapeutic effects of the allosteric protein tyrosine phosphatase 1B inhibitor KY-226 on experimental diabetes and obesity via enhancements in insulin and leptin signaling in mice. J Pharmacol Sci. 2018 May;137(1):38-46. [2]. Sun M, et al. KY-226 Protects Blood-brain Barrier Function Through the Akt/FoxO1 Signaling Pathway in Brain Ischemia. Neuroscience. 2019 Feb 10;399:89-102.

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