

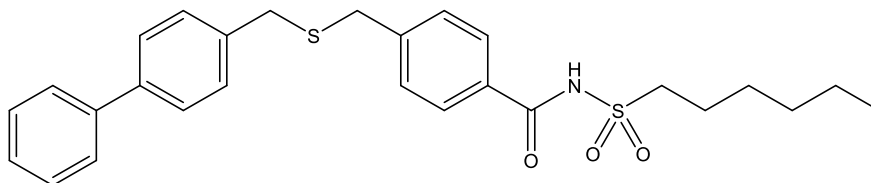
**Catalog # 10-4004**

**KY-226**

CAS# 1621673-53-7

4-(Biphenyl-4-ylmethylsulfanylmethyl)-N-(hexane-1-sulfonyl)benzamide

Lot # FBA6126



KY-226 is a selective allosteric protein tyrosine phosphatase 1B (PTP1B) inhibitor ( $IC_{50} = 250$  nM) with no activity at  $PPAR\gamma$ .<sup>1</sup> It significantly reduced plasma glucose, triglyceride, and A1c levels without weight gain in db/db mice.<sup>2</sup> It has been suggested that KY-226's anti-diabetic effects occur *via* enhancements in insulin signaling and anti-obesity effects *via* leptin signaling enhancements.<sup>2</sup> KY-226 has also been shown to protect neurons from cerebral ischemia.<sup>3</sup> This effect is mediated by restoration of tight junction proteins *via* activation of the Akt/FoxO1 pathway.<sup>4</sup>

- 1) Morishita *et al.*, (2017), *Novel Non-carboxylate Benzoylsulfonamide-Based Protein Tyrosine Phosphatase 1B Inhibitor with Non-competitive Actions*; Chem.Pharm.Bull. **65** 1144
- 2) Ito *et al.*, (2018), *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 **137** 38
- 3) Sun *et al.*, (2018), *Neuroprotective effects of protein tyrosine phosphatase 1B on cerebral ischemia/reperfusion in mice*; Brain Res. **1694** 1
- 4) Sun *et al.*(2019), *KY-226 Protects Blood-brain Barrier Function Through the Akt/FoxO1 Signaling Pathway on Brain Ischemia*; Neuroscience **399** 89

**PHYSICAL DATA**

Molecular Weight:	481.67
Molecular Formula:	$C_{27}H_{31}NO_3S_2$
Purity:	>98% by TLC
	NMR: (Conforms)
Solubility:	DMSO (>25 mg/ml)
Physical Description:	Off-white solid
Storage and Stability:	Store as supplied at room temperature for up to 1 year from the date of purchase. Solutions in DMSO may be stored at -20°C for up to 3 months.

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