Fidarestat

Cat. No.: HY-105185

CAS No.: 136087-85-9

Molecular Formula: $C_{12}H_{10}FN_3O_4$

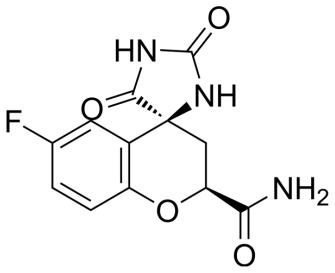
Molecular Weight: 279.22

Target: Aldose Reductase

Pathway: Metabolic Enzyme/Protease

Storage:

Powder	-20°C	3 years
In solvent	-80°C	6 months
	-20°C	1 month



SOLVENT & SOLUBILITY

In Vitro

DMSO : 250 mg/mL (895.35 mM; Need ultrasonic)

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	3.5814 mL	17.9070 mL	35.8141 mL
5 mM	0.7163 mL	3.5814 mL	7.1628 mL
10 mM	0.3581 mL	1.7907 mL	3.5814 mL

Please refer to the solubility information to select the appropriate solvent.

In Vivo

1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 2.08 mg/mL (7.45 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.08 mg/mL (7.45 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.08 mg/mL (7.45 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Fidarestat (SNK 860) is an inhibitor of aldose reductase, with IC_{50}s of 26 nM, 33 μM, and 1.8 μM for aldose reductase, AKR1B10 and V301L AKR1B10, respectively; Fidarestat (SNK 860) has the potential to treat diabetic disease.

IC_{50} & Target

IC50: 26 nM (Aldose reductase), 33 μM (AKR1B10), 1.8 μM (V301L AKR1B10)[1]

In Vitro

Fidarestat is an inhibitor of aldose reductase, with IC_{50}s of 26 nM, 33 μM, and 1.8 μM for aldose reductase, AKR1B10 and V301L AKR1B10, respectively[1].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

In Vivo	Fidarestat (SNK-860; 1 or 4 mg/kg. p.o., daily for 4 weeks) reduces the concentrations of sorbitol and fructose in diabetic rats [2]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

CUSTOMER VALIDATION

- Biochem Biophys Res Commun. 2021 May 1;559:191-196.

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REFERENCES

[1]. Ruiz FX, et al. X-ray structure of the V301L aldo-keto reductase 1B10 complexed with NADP(+) and the potent aldose reductase inhibitor fidarestat: implications for inhibitor binding and selectivity. Chem Biol Interact. 2013 Feb 25;202(1-3):178-85.

[2]. Hotta N, et al. Effect of an aldose reductase inhibitor, SNK-860, on deficits in the electroretinogram of diabetic rats. Exp Physiol. 1995 Nov;80(6):981-9.

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