

Ranirestat

Chemical Properties

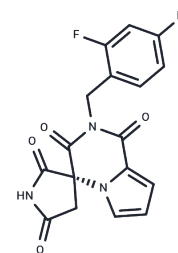
CAS No. : 147254-64-6

Formula: C17H11BrFN3O4

Molecular Weight: 420.19

Storage: Store at low temperature, Keep away from moisture
Powder: -20°C for 3 years | In solvent: -80°C for 1 year

Actual storage temperature shall be subject to the COA.



Biological Description

Description	Ranirestat (AS-3201) is an orally active and potent aldose reductase (AR) inhibitor with neuroprotective properties that ameliorates peripheral nerve dysfunction in rats with advanced diabetic polyneuropathy. Ranirestat inhibits the inflammatory response of high glucose-exposed endothelial cells and may be useful for the study of diabetic sensory-motor polyneuropathy.
Targets(IC50)	Reductase
In vitro	Ranirestat concentration-dependently inhibits sorbitol accumulation in rat erythrocytes and sciatic nerves incubated in a high concentration (500 mg/dl) of glucose[1].
In vivo	In approximately 12-week-old male STD-Wistar rats (260-290 g) injected with Streptozotocin (STZ), Ranirestat (0.03 mg/kg, 0.1 mg/kg, 0.3 mg/kg, 1 mg/kg; oral administration, once daily, for 3 weeks) dose-dependently decreased the elevated sorbitol and fructose levels in the rat sciatic nerves without affecting blood glucose levels[1].

Solubility Information

Solubility	DMSO: 30 mg/mL (71.4 mM), Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+40% PEG300+5% Tween 80+45% Saline: 2 mg/mL (4.76 mM), Sonication is recommended. <i>Please add the solvents sequentially, clarifying the solution as much as possible before adding the next one. Dissolve by heating and/or sonication if necessary. Working solution is recommended to be prepared and used immediately. The formulation provided above is for reference purposes only. In vivo formulations may vary and should be modified based on specific experimental conditions.</i>

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.3799 mL	11.8994 mL	23.7988 mL
5 mM	0.476 mL	2.3799 mL	4.7598 mL
10 mM	0.238 mL	1.1899 mL	2.3799 mL
50 mM	0.0476 mL	0.238 mL	0.476 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

Reference

Matsumoto T, et al. Improvement of motor nerve conduction velocity in diabetic rats requires normalization of the polyol pathway metabolites flux. *J Pharmacol Sci.* 2009 Feb;109(2):203-10.

Toyoda F, et al. Effect of ranirestat, a new aldose reductase inhibitor, on diabetic retinopathy in SDT rats. *J Diabetes Res.* 2014;2014:672590.

Inhibitor · Natural Compounds · Compound Libraries · Recombinant Proteins

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