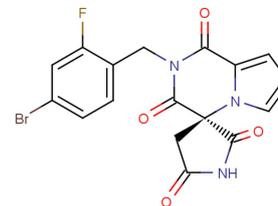


## Ranirestat

### Chemical Properties

CAS No.:	147254-64-6
Formula:	C17H11BrFN3O4
Molecular Weight:	420.19
Appearance:	N/A
Storage:	0-4°C for short term (days to weeks), or -20°C for long term (months).



### Biological Description

Description	Ranirestat effective and orally active aldose reductase inhibitor ( IC50s: 11 nM and 15 nM for rat lens AR and recombinant human AR, respectively and a Ki: 0.38 nM for recombinant human AR). Ranirestat has a neuroprotective effect on diabetic retinas.
Targets(IC50)	Rat lens aldose reductase: 11 nM Recombinant humanaldose reductase: (ki) 0.38 nM
In vitro	The potency of Ranirestat inhibition of sorbitol accumulation is similar between rat erythrocytes and sciatic nerves (IC50: 0.010 μM and 0.041 μM, respectively). Ranirestat concentration-dependently inhibits sorbitol accumulation in rat erythrocytes and sciatic nerves incubated in the high concentration (500 mg/dl) of glucose [1].
In vivo	Ranirestat also improves the STZ-induced decrease in motor nerve conduction velocity (MNCV) in a dose-dependent manner. Ranirestat (0.03-1.0 mg/kg;p.o.; once daily; for 3 weeks; male STD-Wistar rats) treatment dose-dependently reduces the elevated sorbitol and fructose levels in the rat sciatic nerves without affecting blood glucose level [1].

### Solubility Information

Solubility	DMSO: 50 mg/mL (118.99 mM) ( < 1 mg/ml refers to the product slightly soluble or insoluble)
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#### Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.38 mL	11.899 mL	23.799 mL
5 mM	0.476 mL	2.38 mL	4.76 mL
10 mM	0.238 mL	1.19 mL	2.38 mL
50 mM	0.048 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. The storage conditions and period of the stock solution: - 80 °C for 6 months; - 20 °C for 1 month. Please use it as soon as possible.

Reference

1. 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.
2. Toyoda F, et al. Effect of ranirestat, a new aldose reductase inhibitor, on diabetic retinopathy in SDT rats. J Diabetes Res. 2014;2014:672590.

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