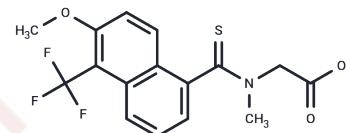


## Tolrestat

## Chemical Properties

CAS No. : 82964-04-3  
 Formula: C<sub>16</sub>H<sub>14</sub>F<sub>3</sub>NO<sub>3</sub>S  
 Molecular Weight: 357.35  
 Storage: 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	Tolrestat (AY-27773) is a potent inhibitor of aldose reductase (IC <sub>50</sub> = 35 nM).
Targets(IC <sub>50</sub> )	Reductase
In vivo	The estimated ID in the sciatic nerve and lenses is 4.8 and about 20 for tolrestat, and 1.7 and 2.2 for (±)sorbitol, respectively in diabetic rats[1]. Tolrestat inhibits tissue AR activity but does not significantly affect plasma lipoprotein levels, or affect the body weight of the mice or their general health. Accumulation of cholesterol-rich foam cells is significantly increased in aortic roots of tolrestat-fed mice[2]. Tolrestat (1.8 mg/kg) causes a reversal of normal RBC sorbitol levels[3].

## Solubility Information

Solubility	DMSO: 100 mg/mL (279.84 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: 4 mg/mL (11.19 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

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	1mg	5mg	10mg
1 mM	2.7984 mL	13.9919 mL	27.9838 mL
5 mM	0.5597 mL	2.7984 mL	5.5968 mL
10 mM	0.2798 mL	1.3992 mL	2.7984 mL
50 mM	0.056 mL	0.2798 mL	0.5597 mL

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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

Simard-Duquesne N, et al. The effects of a new aldose reductase inhibitor (tolrestat) in galactosemic and diabetic rats. *Metabolism*. 1985 Oct;34(10):885-92.

Srivastava S, et al. Aldose reductase protects against early atherosclerotic lesion formation in apolipoprotein E-null mice. *Circ Res*. 2009 Oct 9;105(8):793-802.

Sestanj K, et al. N-[5-(trifluoromethyl)-6-methoxy-1-naphthalenyl]thioxomethyl]- N-methylglycine (Tolrestat), a potent, orally active aldose reductase inhibitor. *J Med Chem*. 1984 Mar;27(3):255-6.

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