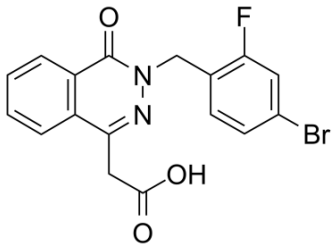
Statil

Cat. No.:	HY-106697
CAS No.:	72702-95-5
Molecular Formula:	$C_{17}H_{12}BrFN_2O_3$
Molecular Weight:	391.19
Target:	Aldose Reductase
Pathway:	Metabolic Enzyme/Protease
Storage:	Powder -20°C 3 years 4°C 2 years In solvent -80°C 6 months -20°C 1 month



SOLVENT & SOLUBILITY

In Vitro

DMSO : 62.5 mg/mL (159.77 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	2.5563 mL	12.7815 mL	25.5630 mL
	5 mM	0.5113 mL	2.5563 mL	5.1126 mL
	10 mM	0.2556 mL	1.2782 mL	2.5563 mL

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

In Vivo

1. Add each solvent one by one: **10% DMSO >> 90% corn oil**
   Solubility: ≥ 2.08 mg/mL (5.32 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Statil (Ponalrestat) is an orally active, selective and noncompetitive **aldose reductase (AKR1B1; ALR)** inhibitor. Statil selectively inhibits ALR2 (K_i=7.7 nM) over ALR1 (K_i=60 μM). Statil inhibits the conversion of glucose to sorbitol[1][2][3].

IC_{50} & Target

Ki: 7.7 nM (ALR2) and 60 μM (ALR1)[1]

In Vitro

Statil (Ponalrestat; 1, 10, 100 μM; 6 hours) reduces PGF2αproduction in response to IL-1 in both cultured endometrial cells and endometrial explants[2].

In Vivo

Statil (Ponalrestat; 10, 50 mg/kg; orally; daily; 8 weeks) reduces sorbitol accumulation indicating efficacy of aldose reductase inhibition[3].

Animal Model:	Adult female Sprague-Dawley rats[3]
Dosage:	10, 50 mg/kg
Administration:	Orally; daily; 8 weeks
Result:	Reduced sorbitol accumulation.

REFERENCES

[1]. Ward WH, et al. Ponalrestat: a potent and specific inhibitor of aldose reductase. Biochem Pharmacol. 1990 Jan 15;39(2):337-46.

[2]. Bresson E, et al. The human aldose reductase AKR1B1 qualifies as the primary prostaglandin F synthase in the endometrium. J Clin Endocrinol Metab. 2011 Jan;96(1):210-9.

[3]. Calcutt NA, et al. Prevention of sensory disorders in diabetic Sprague-Dawley rats by aldose reductase inhibition or treatment with ciliary neurotrophic factor. Diabetologia. 2004 Apr;47(4):718-24.

Caution: Product has not been fully validated for medical applications. For research use only.

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