Product Data Sheet

Product Name: SMP-028
Cat. No.: GC31543

Chemical Properties

Cas. No.	914389-14-3		
SMILES	O=C(NC)NCCN1/C(SC=C1C2=CC=C(N3CCOCC3)C=C2)=N/C4=CC=CC(F)=C4		
Formula	$C_{23}H_{26}FN_5O_2S$	M.Wt	455.55
Solubility	Soluble in DMSO	Storage	Store at -20°C
General tips	For obtaining a higher solubility , please warm the tube at 37 ℃ and shake it in the ultrasonic bath for a while.Stock solution can be stored below -20℃ for several months.		
Shipping Condition	Evaluation sample solution : ship with blue ice All other available size: ship with RT , or blue ice upon request.		
Structure	SMP-028		

Protocol

Cell experiment:

Testicular and ovarian cells from Sprague–Dawley rats are cultured in medium containing SMP-028 dissolved in dimethyl sulfoxide (DMSO) is added to each well of the 96-well cell culture plates. The final concentration of DMSO is 0.1% (v/v) and that of SMP-028 is set between 0.1 μM to 50 μM. The cells with culture medium containing DMSO only (not containing SMP-028) are as a control. The plates are next incubated at 37°C, 5% CO2 in air atmosphere for 24 hours. SMP-028 cytotoxicity is estimated. The luminescence of each plate is measured[2].

Tel: (909) 407-4943 Fax: (626) 353-8530 E-mail: tech@glpbio.com
Address: 10292 Central Ave. #205, Montclair, CA, USA

References:

[1]. Nishizato Y, et al. Translational research into species differences of endocrine toxicity via steroidogenesis inhibition by SMP-028--for human safety in clinical study. Toxicol Appl Pharmacol. 2014 May 1;276(3):213-9.
[2]. Nishizato Y, et al. Effect of SMP-028 on steroidogenesis in rats; mechanism of toxicological events on endocrine organs of rats. Toxicol In Vitro. 2014 Apr;28(3):397-402.

Background

SMP-028 is an inhibitor of neutral cholesterol esterase (CEase), with an IC50 of 1.01 μM.

SMP-028 potently and concentration-dependently inhibits neutral cholesterol esterase (CEase) with an IC50 value of 1.01 μM. On the other hand, inhibition of other steroidogenic enzymes by SMP-028 is weak with IC50 values>10 μM. In particular, SMP-028 does not inhibit acid CEase and only weakly reduces the activity of CYP11A1 (IC50 values>100 μM and 49.8 μM respectively) [1]. SMP-028 at 10 μM or less does not affect the viability of male adrenal cells, female adrenal cells, testicular cells, and ovarian cells. On the other hand, SMP-028 at concentrations higher than 30 μM significantly reduce the viability of male adrenal cells, female adrenal cells [2].

[1]. Nishizato Y, et al. Translational research into species differences of endocrine toxicity via steroidogenesis inhibition by SMP-028--for human safety in clinical study.

Toxicol Appl Pharmacol. 2014 May 1;276(3):213-9. [2]. Nishizato Y, et al. Effect of SMP-028 on steroidogenesis in rats; mechanism of toxicological events on endocrine organs of rats. Toxicol In Vitro. 2014 Apr;28(3):397-402.

Tel: (909) 407-4943 Fax: (626) 353-8530 E-mail: tech@glpbio.com
Address: 10292 Central Ave. #205, Montclair, CA, USA