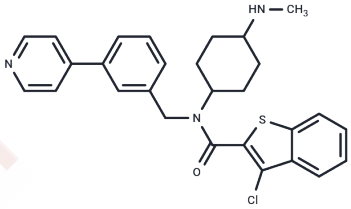
Data Sheet (Cat.No.T85362)

TargetMol

(Rac)-SAG

Chemical Properties



CAS No. : 364590-63-6

Formula: C28H28ClN3OS

Molecular Weight: 490.06

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	(Rac)-SAG, an isoform of SAG, is a potent Smoothened (Smo) receptor agonist (EC_{50} = 3 nM; Kd = 59 nM) that activates the Hedgehog signaling pathway and counteracts Cyclopamine's inhibition of Smo [1] [2] [3].
Targets(IC50)	Smo
In vitro	SAG is a chemical compound that, at concentrations ranging from 0.1 nM to 100 μM over 30 hours, induces firefly luciferase expression in Shh-LIGHT2 cells with an EC50 of 3 nM, and then inhibits expression at higher concentrations [1]. At concentrations between 1 and 1000 nM over 1 hour, SAG competes with BODIPY-cyclopamine for binding to the SAG/Smo complex in Cos-1 cells expressing Smo, resulting in an apparent dissociation constant (Kd) of 59 nM [1]. At 100 nM, SAG suppresses the inhibition of activation in the ShhN-induced Robotnikinin pathway [2]. When applied at 250 nM for 48 hours, SAG significantly increases the expression of SMO mRNA and protein in MDAMB231 cells [3]. Furthermore, at the same concentration of 250 nM over 24 and 48 hours, SAG enhances CAXII mRNA expression in MDAMB231 cells under normoxia and hypoxia conditions over 24 hours [3]. Additionally, SAG at 250 nM for 24 hours promotes MDAMB231 cell migration [3].
In vivo	In CD-1 mice, SAG (1.0 mM) predominantly induces enhanced osteogenesis at the defect boundary, significantly increasing BV/TV at eight weeks [4]. Additionally, SAG (15-20 mg/kg; ip) universally induces preaxial polydactyly in mice in a dose-dependent manner [5].

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.0406 mL	10.2028 mL	20.4057 mL
5 mM	0.4081 mL	2.0406 mL	4.0811 mL
10 mM	0.2041 mL	1.0203 mL	2.0406 mL
50 mM	0.0408 mL	0.2041 mL	0.4081 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.