Product Data Sheet

Product Name: JGB1741
Cat. No.: GC13062

Chemical Properties

Cas. No.	1256375-38-8		
Chemical Name	4,5,6,7-tetrahydro-2-[(E)-[(2-hydroxy-1-naphthalenyl)methylene]amino]-N-(phenylmethyl)-benzo[b]thiophene-3-carboxamide		
SMILES	OC1=C(/C=N/C2=C(C(NCC3=CC=CC=C3)=O)C(CCCC4)=C4S2)C(C=CC=C5)=C5C=C1		
Formula	$C_{27}H_{24}N_2O_2S$	M.Wt	440.6
Solubility	≤0.2mg/ml in DMSO;0.14mg/ml in dimethyl formamide	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	JGB1741		

Background

JGB1741 is a small molecule SIRT1 inhibitor [1].

Sirtuins or Sir2 (silent information regulator 2)-related enzymes have originally been defined as a family of nicotinamide adenine dinucleotide-dependent enzymes which are involved in deacetylating lysine residue on multiple proteins. The sirtuins show highly conservation from archaebacteria to eukaryotes. The mammalian sirtuins SIRT1–SIRT7 have been implicated in a variety of cellular functions, such as gene silencing, over the control of the cell cycle and apoptosis, to energy homeostasis [2].

In vitro: JGB1741 potently inhibited the proliferation of human metastatic breast cancer cells, MDA-MB 231. JGB1741 showed antitumor effects on three different cancer cell lines, K562, HepG2 and MDA-MB 231 with an IC50 of 1, 10 and 0.5 μM, respectively. JGB1741-induced apoptosis has been associated with increase in cytochrome c release, modulation in Bax/Bcl2 ratio and cleavage of PARP [1].

References:
[1] Kalle A M, Mallika A, Badiger J, et al. Inhibition of SIRT1 by a small molecule induces apoptosis in breast cancer cells[J]. Biochemical and biophysical research communications, 2010, 401(1): 13-19.

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

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[2] Yamamoto H, Schoonjans K, Auwerx J. Sirtuin functions in health and disease[J]. Molecular Endocrinology, 2007, 21(8): 1745-1755.

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