Product Data Sheet

Product Name: SBE13
Cat. No.: GC37601

Chemical Properties

Cas. No.	775294-82-1		
SMILES	COC1=CC=C(CCNCC2=CC=C(OCC3=CC=C(Cl)N=C3)C(OC)=C2)C=C1OC		
Formula	$C_{24}H_{27}ClN_2O_4$	M.Wt	442.94
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	SBE13		

Protocol

Kinase experiment:

To assay Plk1 kinase activity, cells are lysed after 13?h release in the presence of SBE13 after double thymidine block and kinase is immunoprecipitated from lysates using antibodies. In brief, for each immunoprecipitation 800?µg of total protein are incubated with Plk1 antibody cocktail (1.5?µg) for 2?h at 4°C on a rotator. Immunoprecipitated protein is collected using Protein A/G Agarose beads. Plk1 immunoprecipitates are incubated with casein (1?µg) and with [γ-32P]ATP (1?µCi) for 30?min at 37°C in kinase buffer. Products from the kinase assays are fractionated on 10?% bis-tris-polyacrylamide gels, and phosphorylated substrate is visualized by autoradiography after an exposure of 12-36?h. Equal amounts of immunoprecipitates are subjected to Western blot analysis to confirm equal loading of Plk1 protein in kinase reactions[1].

References:

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

[1]. Keppner S, et al. Identification and validation of a potent type II inhibitor of inactive polo-like kinase 1. ChemMedChem. 2009 Nov;4(11):1806-9.
[2]. Keppner S, et al. Fate of primary cells at the G /S boundary after polo-like kinase 1 inhibition by SBE13. Cell Cycle. 2011 Feb 15;10(4):708-20. Epub 2011 Feb 15.
[3]. Keppner S, et al. Biological impact of freezing Plk1 in its inactive conformation in cancer cells. Cell Cycle. 2010 Feb 15;9(4):761-73. Epub 2010 Feb

16.

Background

SBE 13 is a potent inhibitor of polo-like kinase 1 (Plk1) (IC_{50} = 0.2 nM) that targets the inactive conformation of the enzyme [1,2]. It exhibits no activity against aurora A kinase and less effectively inhibits Plk2 (IC_{50} > 66 ?M) and Plk3 (IC_{50} = 875 nM). SBE 13 induces cell cycle arrest, reduces cell proliferation (EC_{50} = 5-60 ?M), and induces apoptosis in a broad range of human cancer cell lines.[2,3]

1.Keppner, S., Proschak, E., Schneider, G., et al.Identification and validation of a potent type II inhibitor of inactive polo-like kinase 1Chem. Med. Chem.4(11)1806-1809(2009) 2.Keppner, S., Proschak, E., Kaufmann, M.T., et al.Biological impact of freezing Plk1 in its inactive conformation in cancer cellsCell Cycle9(4)761-773(2010) 3.Keppner, S., Proschak, E., Schneider, A., et al.Fate of primary cells at the G1/S boundary after polo-like kinase 1 inhibition by SBE13Cell Cycle10(4)708-720(2011)

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