Product Name: SP 600125

Revision Date: 6/30/2018

Product Data Sheet

Chemical Properties

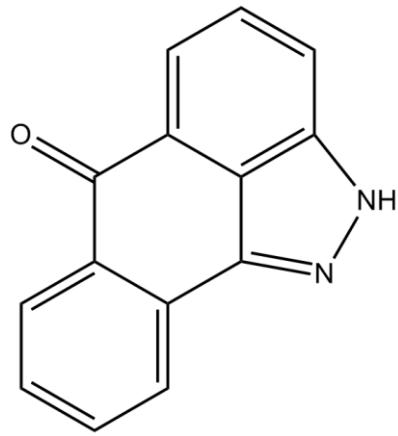
Product Name: SP 600125

Cas No.: 129-56-6

M.Wt: 220.23

Formula: C14H8N2O

Synonyms: N/A



Chemical Name: dibenzo[cd,g]indazol-6(2H)-one

Canonical SMILES: O=C1C2=CC=CC3=C2C(C4=CC=CC=C41)=NN3

Solubility: ≥11mg/mL in DMSO

Storage: Desiccate at -20°C

General tips: For obtaining a higher solubility , please warm the tube at 37° C and shake it in the ultrasonic bath for a while.Stock solution can be stored below -20° C for several months.

Shopping Condition: Evaluation sample solution : ship with blue ice
All other available size: ship with RT , or blue ice upon request

Biological Activity

Targets : MAPK Signaling

Pathways: JNK

Description:

SP600125 is a selective, reversible and ATP-competitive inhibitor of Jun N-terminal kinase (JNK) with IC50 values of 40, 40 and 90 nM for JNK1, 2 and 3, respectively [1].
SP600125 was screened out from a time-resolved f luorescence assay using the GST-c-Jun and recombinant human JNK2. In this assay, SP600125 showed a Ki value of 190 nM. SP600125 was also found to inhibit JNK1, 2 and 3 isoforms in the selectivity tests. The selectivity of SP600125

for JNK is 300-fold greater than that for ERK1 and p38-2. In Jurkat T cells, SP600125 suppressed the phosphorylation of c-Jun with IC50 of 5-10 μM. SP600125 also inhibited the expression of IL-2 and IFN-γ in cells stimulated with PMA and phytohemagglutinin, since JNK had been reported to regulate the transcription of IL-2. Besides that, SP600125 exerted differential inhibition of cytokines in CD4+ cells as well as inflammatory genes in monocytes. Moreover, SP600125 administration significantly inhibited TNF-α expression induced by LPS in a mouse model, suggesting that it had efficacy in endotoxin-induced inf lammation in vivo [1].

***Reference**:*

[1] Bennett B L, Sasaki D T, Murray B W, et al. SP600125, an anthrapyrazolone inhibitor of Jun N-terminal kinase. Proceedings of the National Academy of Sciences, 2001, 98(24): 13681-13686.

Protocol

Cell experiment:

Cell lines	MIN6 cells
Preparation method	The solubility of this compound in DMSO is >10 mM. General tips for obtaining a higher concentration: Please warm the tube at 37 °C for 10 minutes and/or shake it in the ultrasonic bath for a while.Stock solution can be stored below -20°C for several months.
Reacting conditions	40 μM, 36 hours
Applications	When the MIN6 cells were transfected with the Gal4 plasmid and CREB plasmid, SP600125 significantly stimulated CREB-mediated promoter activity in a dose-dependent manner. There was a 2.8-fold increase in this reporter activity after exposure of the transfected MIN6 cells to 20 μM of the inhibitor.

Animal experiment [3]:

Animal models	Female C57BL/6 mice
Dosage form	Subcutaneous injection; 15 mg/kg; administered at 0, 12, 24, and 36 h
Applications	Anti-CD3 (50 μg) i.p. was administered as a single dose immediately after SP600125 at time 0. After 48 h, mice were killed, and the thymus was dissected for thymocyte isolation. Mice receiving SP600125 showed almost complete resistance to CD3 Ab-mediated apoptosis with CD4+CD8+ numbers the same as control animals.
Other notes	Please test the solubility of all compounds indoor, and the actual

solubility may slightly differ with the theoretical value. This is caused by an experimental system error and it is normal.

***Reference**:*

[1] Vaishnav D, Jambal P, Reusch J E B, et al. SP600125, an inhibitor of c-jun N-terminal kinase, activates CREB by a p38 MAPK-mediated pathway. Biochemical and biophysical research communications, 2003, 307(4): 855-860.

[2] Bennett B L, Sasaki D T, Murray B W, et al. SP600125, an anthrapyrazolone inhibitor of Jun N-terminal kinase. Proceedings of the National Academy of Sciences, 2001, 98(24): 13681-13686.

Product Citations

1. Wang Y, Li Y, et al. "The cerebral cavernous malformation disease causing gene KRIT1 participates in intestinal epithelial barrier maintenance and regulation." FASEB J. 2018 Sep 25:fj201800343R. PMID:30252535

2. MXinwei Feng1, Junfeng Lu2, et al. "Mycobacterium smegmatis Induces Neurite Outgrowth and Differentiation in an Autophagy-Independent Manner in PC12 and C17.2 Cells." Front. Cell. Infect. Microbiol., 19 June 2018.

3. Sharma K, Vu TT, et al. "p53-independent Noxa induction by cisplatin is regulated by ATF3/ATF4 in head and neck squamous cell carcinoma cells." Mol Oncol. 2018 Jan 19. PMID:29352505

4. He GR, Lin XK, et al. "Dexmedetomidine impairs Pglycoprotein mediated efflux function in L02 cells via the denosine5'monophosphate activated protein kinase/nuclear factor κB pathway." Mol Med Rep. 2018 Apr;17(4):5049-5056. PMID:29393492

Caution

FOR RESEARCH PURPOSES ONLY.

NOT FOR HUMAN, VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

Specific storage and handling information for each product is indicated on the product datasheet. Most ApexBio products are stable under the recommended conditions. Products are sometimes shipped at a temperature that differs from the recommended storage temperature. Shortterm storage of many products are stable in the short-term at temperatures that differ from that required for long-term storage. We ensure that the product is shipped under conditions that will maintain the quality of the reagents. Upon receipt of the product, follow the storage recommendations on the product data sheet.

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