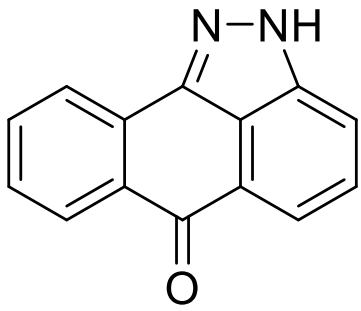
Product data sheet

MedKoo Cat#: 406236 Name: SP-600125 CAS#: 129-56-6 Chemical Formula: $C_{14}H_8N_2O$ Exact Mass: 220.0637 Molecular Weight: 220.23	
Product supplied as:	Powder
Purity (by HPLC):	≥ 98%
Shipping conditions	Ambient temperature
Storage conditions:	Powder: -20°C 3 years; 4°C 2 years.
	In solvent: -80°C 3 months; -20°C 2 weeks.

1. Product description:
SP-600125 is a specific JNK inhibitor. SP-600125 kills p53-deficient cells more efficiently than their p53-proficient counterparts, in vitro. Similar observations were obtained in vivo, in mice carrying p53-deficient and -proficient human xenografts.

2. CoA, QC data, SDS, and handling instruction
SDS and handling instruction, CoA with copies of QC data (NMR, HPLC and MS analytical spectra) can be downloaded from the product web page under "QC And Documents" section. Note: copies of analytical spectra may not be available if the product is being supplied by MedKoo partners. Whether the product was made by MedKoo or provided by its partners, the quality is 100% guaranteed.

3. Solubility data

Solvent	Max Conc. mg/mL	Max Conc. mM
DMSO	12.5	56.76

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	4.54 mL	22.70 mL	45.41 mL
5 mM	0.91 mL	4.54 mL	9.08 mL
10 mM	0.45 mL	2.27 mL	4.54 mL
50 mM	0.09 mL	0.45 mL	0.91 mL

5. Molarity Calculator, Reconstitution Calculator, Dilution Calculator
Please refer the product web page under section of "Calculator"

6. Recommended literature which reported protocols for in vitro and in vivo study
In vitro study

1. Kim JA, Lee J, Margolis RL, Fotedar R. SP600125 suppresses Cdk1 and induces endoreplication directly from G2 phase, independent of JNK inhibition. Oncogene. 2010 Mar 18;29(11):1702-16. doi: 10.1038/onc.2009.464. Epub 2010 Jan 11. PMID: 20062077; PMCID: PMC3145494.
2. Shen J, Hong Y, Zhao Q, Zhang JL. Preclinical evaluation of perifosine as a potential promising anti-rhabdomyosarcoma agent. Tumour Biol. 2016 Jan;37(1):1025-33. doi: 10.1007/s13277-015-3740-4. Epub 2015 Aug 13. PMID: 26269112.

In vivo study

1. Zheng Y, Zhang M, Zhao Y, Chen J, Li B, Cai W. JNK inhibitor SP600125 protects against lipopolysaccharide-induced acute lung injury via upregulation of claudin-4. Exp Ther Med. 2014 Jul;8(1):153-158. doi: 10.3892/etm.2014.1684. Epub 2014 Apr 14. PMID: 24944614; PMCID: PMC4061205.
2. Pérez-Girón JV, Palacios R, Martín A, Hernanz R, Aguado A, Martínez-Revelles S, Barrús MT, Salaices M, Alonso MJ. Pioglitazone reduces angiotensin II-induced COX-2 expression through inhibition of ROS production and ET-1 transcription in vascular cells from spontaneously hypertensive rats. Am J Physiol Heart Circ Physiol. 2014 Jun 1;306(11):H1582-93. doi: 10.1152/ajpheart.00924.2013. Epub 2014 Apr 11. PMID: 24727493.

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7. Bioactivity

Biological target:

SP-600125 is an orally active, reversible, and ATP-competitive JNK inhibitor with IC50s of 40, 40 and 90 nM for JNK1, JNK2 and JNK3, respectively.

In vitro activity

SP-600125 prevents the entry of cells into mitosis and leads to endoreplication of DNA from G2 phase. In the absence of mitosis, cells proceed from G2 phase to replicate their DNA. The inhibitory effect of SP-600125 on mitotic entry predominantly occurs upstream of Aurora A kinase and Polo-like kinase 1, resulting in a failure to remove the inhibitory phosphorylation of Cdk1.

Reference: Oncogene. 2010 Mar 18;29(11):1702-16. https://pubmed.ncbi.nlm.nih.gov/20062077/

In vivo activity

SP-600125 protected against LPS-induced acute lung injury (ALI), possibly by upregulating the expression of claudin-4. After in vivo treatment of SP-600125, pulmonary edema, the expression of inflammatory cytokines and pathological alterations were significantly attenuated in LPS-induced ALI.

Reference: Exp Ther Med. 2014 Jul;8(1):153-158. https://pubmed.ncbi.nlm.nih.gov/24944614/

Note: The information listed here was extracted from literature. MedKoo has not independently retested and confirmed the accuracy of these methods. Customer should use it just for a reference only.