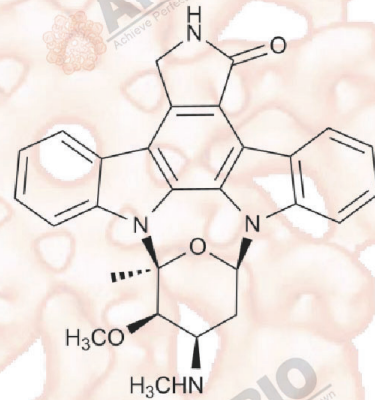


Product Data Sheet

Staurosporine

Cat. No.:	A8192
CAS No.:	62996-74-1
Formula:	C ₂₈ H ₂₆ N ₄ O ₃
M.Wt:	466.53
Synonyms:	
Target:	Tyrosine Kinase
Pathway:	Broad Spectrum Protein Kinase Inhibitor
Storage:	Store at -20°C



Solvent & Solubility

insoluble in H₂O; insoluble in EtOH; ≥11.66 mg/mL in DMSO

In Vitro

Preparing Stock Solutions	Solvent	Mass	1mg	5mg	10mg
			Concentration		
		1 mM	2.1435 mL	10.7174 mL	21.4348 mL
		5 mM	0.4287 mL	2.1435 mL	4.2870 mL
		10 mM	0.2143 mL	1.0717 mL	2.1435 mL

Please refer to the solubility information to select the appropriate solvent.

Biological Activity

Shortsummary	Protein kinase inhibitor, potent and cell permeable	
IC ₅₀ & Target	2 nM (PKCα), 5 nM (PKCγ), 4 nM (PKCη), 20 nM (PKCδ), 73 nM (PKCε), 1086 nM (PKCζ)	
In Vitro	Cell Viability Assay	
	Cell Line:	A31 cell lines, CHO-KDR cell lines, Mo-7e cell lines and A431 cell lines.
	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:	24 h; IC ₅₀ =0.08 mM (A31 cell lines), IC ₅₀ =0.30 mM (Mo-7e cell lines),

	IC50=1.0 mM (CHO-KDR cell lines).	
Applications:	Staurosporine inhibited the ligand-induced autophosphorylation of the receptors for platelet-derived growth factor (PDGF) (IC50=0.08 mM) in A31 cell lines, stem cell factor (c-Kit, IC50=0.30 mM) in Mo-7e cell lines, and for VEGF (KDR, IC50=1.0 mM) in CHO-KDR cell lines, but did not affect the ligand-induced autophosphorylation of the receptors for insulin, IGF-I, or epidermal growth factor (EGF) in A431 cell lines.	
In Vivo	Animal experiment	
	Animal models:	Athymic nude mice
	Dosage form:	75 mg/kg/day; oral taken.
	Applications:	The treatment with Staurosporine (75 mg/kg/day p.o.) completely inhibits the angiogenic response to VEGF, but not to bFGF. Thus, Staurosporine may suppress tumor growth by inhibiting tumor angiogenesis (via its effects on the VEGF-R tyrosine kinases) in addition to directly inhibiting tumor cell proliferation (via its effects on PKCs). This anti-angiogenic action may contribute to the antimetastatic and broad antitumor activity displayed by Staurosporine, as well as the synergy with cytotoxic agents.
	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.

Product Citations

1. Chung HK, Zou X, et al. "A compact synthetic pathway rewires cancer signaling to therapeutic effector release. Science." 2019 May 3;364(6439).PMID:31048459
2. Ashok Kumar, Ramon Edwin Caballero, et al. "Inhibitor of apoptosis, IAP, genes play a critical role in the survival of HIV-infected macrophages." BioRxiv. 2019 February 06.
3. 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
4. Nissen SK, Pedersen JG, et al. "Multiple Homozygous Variants in the STING-Encoding TMEM173 Gene in HIV Long-Term Nonprogressors." J Immunol. 2018 May 15;200(10):3372-3382.PMID:29632140
5. Jarrett Smith, Geraldine Seydoux, et al. "Liquid-like P granules require ATP hydrolysis to avoid solidification." bioRxiv, Jan. 10, 2018.

See more customer validations on www.apexbt.com.

References

- [1] Andrejauskas-Buchdunger E, Regenass U. Differential inhibition of the epidermal growth factor-, platelet-derived growth factor-, and protein kinase C-mediated signal transduction pathways by the staurosporine derivative CGP 41251[J]. Cancer research, 1992, 52(19): 5353-5358.
- [2] Fabbro D, Buchdunger E, Wood J, et al. Inhibitors of protein kinases: CGP 41251, a protein kinase inhibitor with potential as an

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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