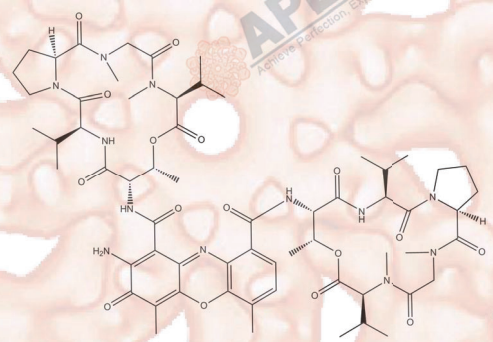
Product Data Sheet

Actinomycin D

Cat. No.:	A4448
CAS No.:	50-76-0
Formula:	C62H86N12O16
M.Wt:	1255.43
Synonyms:	ActD
Target:	Apoptosis
Pathway:	Apoptosis Inducers
Storage:	Desiccate at 4°C in the dark



Solvent & Solubility

In Vitro

≥62.75 mg/mL in DMSO, <6.33 mg/mL in EtOH, <6.28 mg/mL in H2O

Preparing Stock Solutions

Concentration \ Solvent \ Mass	1mg	5mg	10mg
1 mM	0.7965 mL	3.9827 mL	7.9654 mL
5 mM	0.1593 mL	0.7965 mL	1.5931 mL
10 mM	0.0797 mL	0.3983 mL	0.7965 mL

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

Biological Activity

Shortsummary	RNA polymerase inhibitor
IC_{50} & Target	

In Vitro

Cell Viability Assay

Cell Line:	Rat adipocytes
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:	0, 0.1, 1 or 10 μM; 24 hrs
Applications:	Actinomycin D reduced the loss of leptin mRNA accumulation over the 24-hr

		incubation, exhibiting maximal inhibition at the concentration of 0.1 μM.
In Vivo	**Animal experiment**	
	Animal models:	Wistar rats
	Dosage form:	6 μg/μL; intrahippocampally or intracerebroventricularly
	Applications:	Both intrahippocampal and intracerebroventricular injection of Actinomycin D prevented a late stage of LTP in the dentate gyrus in vivo.
	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. Xiao Y, Pan J, et al. "LncRNA MALAT1 increases the stemness of gastric cancer cells via enhancing SOX2 mRNA stability." FEBS Open Bio. 2019 Jul;9(7):1212-1222.PMID:31037832

2. Wu H, He Y, et al. "LncRNA THOR increases osteosarcoma cell stemness and migration by enhancing SOX9 mRNA stability." FEBS Open Bio. 2019 Mar 20;9(4):781-790.PMID:30984551

3. Gong F, Dong D, et al. "Long non-coding RNA FENDRR attenuates the stemness of non-small cell lung cancer cells via decreasing multidrug resistance gene 1 (MDR1) expression through competitively binding with RNA binding protein HuR." Eur J Pharmacol. 2019 Jun 15;853:345-352.PMID:30981768

4. Cao H, Yu D, et al. "Hypoxia destroys the microstructure of microtubules and causes dysfunction of endothelial cells via the PI3K/Stathmin1 pathway." Cell Biosci. 2019 Feb 18;9:20.PMID:30820314

5. Oladimeji PO, Wright WC, et al. "RNA interference screen identifies NAA10 as a regulator of PXR transcription." Biochem Pharmacol. 2018 Dec 16;160:92-109.PMID:30566892

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References

[1]. Fain JN, Bahouth SW. Stimulation of leptin release by actinomycin D in rat adipocytes. Biochem Pharmacol. 1998;55(8):1309-14.

[2]. Frey U, Frey S, Schollmeier F, Krug M. Influence of actinomycin D, a RNA synthesis inhibitor, on long-term potentiation in rat hippocampal neurons in vivo and in vitro. J Physiol. 1996 Feb 1;490 (Pt 3):703-11.

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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