



Actinomycin D

Data Sheet

Catalog Number:	MC11101	Product Type:	Small Molecule
Bio-Activity:	Transcription inhibitor	CAS #:	50-76-0
Research Categories:	Cell death, cancer, infectious disease	Chemical Name:	Antibiotic produced by <i>S. parvulus</i>
Solubility:	Soluble in DMSO (up to 50 mg/ml).	Molecular Formula:	C62H86N12O16
Purity:	> 98%	Molecular Weight:	1255.4
Format:	Powder	Ship Temp:	Ambient
Storage:	-20°C (Protect from Light)		

Application Notes

Description/Data:

Cyclopeptide antibiotic and intercalating transcription inhibitor with anti-neoplastic activity. Potent inhibitor of RNA polymerase [1]. Induces apoptosis in a variety of cancer cell lines [2,3] via the intrinsic pathway [4]. Upregulates proapoptotic PUMA and downregulates Bcl-2 mRNA in peripheral blood lymphocytes [5].

References:

- 1) Wagner et al.(2013) RNA Polymerase II acts as an RNA-dependent RNA polymerase to extend and destabilize a non-coding RNA ; EMBO J. 32 781
- 2) J. Kleeff et al. (2000) Actinomycin D induces apoptosis and inhibits growth of pancreatic cancer cells; Int. J. Cancer, 86 399
- 3) Kasim et al. (2013) Live fluorescence and transmission-through-dye microscopic study of actinomycin D-induced apoptosis and apoptotic volume decrease ; Apoptosis, 18 521
- 4) Liu et al. (2016) Actinomycin D enhances killing of cancer cells by immunotoxin RG7787 through activation of the extrinsic pathway of apoptosis; Proc. Natl. Acad. Sci. USA, 113 10666
- 5) Kalousec et al. (2007) Actinomycin D upregulates proapoptotic protein Puma and downregulates Bcl-2 mRNA in normal peripheral blood lymphocytes; Anticancer Drugs, 18 763

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