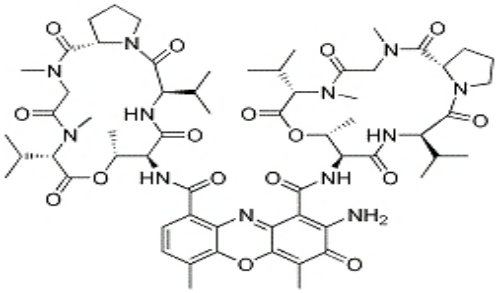
# Actinomycin D (CAS: 50-76-0)

## Catalog #: EBC51004

### Biological Activity

| | |
|---|---|
| **Synonyms** | Dactinomycin, Act D, RASP-101, Oncostatin K |
| **Chemical Name** | 2-amino-4,6-dimethyl-3-oxo-1-N,9-N-bis[7,11,14-trimethyl-2,5,9,12,15-pentaoxo-3,10-di(propan-2-yl)-8-oxa-1,4,11,14-tetrazabicyclo[14.3.0]nonadecan-6-yl]phenoxazine-1,9-dicarboxamide |
| **Application** | Actinomycin D is a metabolite, apoptosis inducer, and potent antibiotic that binds to the GpC steps of DNA |
| **CAS No.** | 50-76-0 |
| **Purity** | ≥98% |
| **Molecular Weight** | 1255.42 |
| **Molecular Formula** | $C_{62}H_{86}N_{12}O_{16}$ |
| **Shipping** | Gel Pack |
| **Storage** | Store at -20° C |
| **Target & $IC_{50}$** | cell cycle: IC50=0.4 nM |
| | DNA repair: IC50=0.42 nM |

### Molecular Structure



### Solubility

DMSO: 100 mg/mL (79.65 mM)

**PS:** < 1 mg/ml refers to the product insoluble

### Description

Actinomycin D is a metabolite isolated from Streptomyces parvulus. Actinomycin D binds to the GpC steps of DNA. Actinomycin D acts as an antibiotic, and is more effective against gram positive bacteria than gram negative bacteria. Actinomycin D can induce apoptosis in several cell lines such as lung and prostate cancer lines, and human blood lymphocytes, among others. In studies, it has been observed that Actinomycin D elevates p53 expression, leading to the increase of PUMAα/β (the p53 upregulated modulator of apoptosis protein; PUMA). Actinomycin D can also induce tumor necrosis factor-related apoptosis-inducing ligand (TRAIL)-induced caspase-dependent and -independent apoptosis.



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