

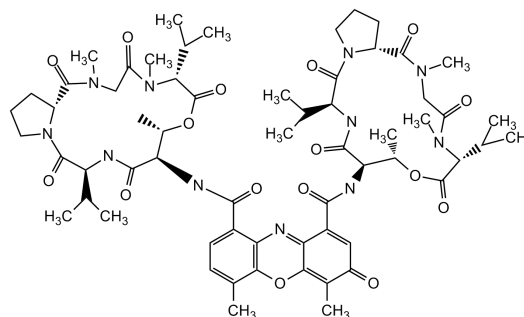
BVT-0089

08-Jun-2011

Actinomycin D

[Actinomycin IV; Actinomycin C₁; Dactinomycin]

| | |
|---------------|---|
| BVT-0089-M005 | 5 mg |
| BVT-0089-M025 | 25 mg |
| BVT-0089-M100 | 100 mg |
| Formula | C ₆₂ H ₈₆ N ₁₂ O ₁₆ |
| MW | 1255.4 |
| CAS | 50-76-0 |
| Merck Index | 14: 2800 |
| RTECS | AU1575000 |



Handling / Storage

| | |
|--------------------|---------|
| Shipping | AMBIENT |
| Short Term Storage | +4°C |
| Long Term Storage | +4°C |

Keep cool and dry. Protect from light when in solution.

Use / Stability

Stable for at least 1 year after receipt when stored at +4°C. After reconstitution protect from light at -20°C.

MSDS available at www.adipogen.com or upon request.

Product Specifications

| | |
|-------------|--|
| Source/Host | Isolated from <i>Streptomyces parvulus</i> . |
| Purity | ≥98% (HPLC) |
| Identity | Determined by ¹ H-NMR. |
| Appearance | Red shiny crystals. |
| Solubility | Soluble in DMSO, 100% ethanol or methanol. |

Other Product Data

Sensitive to strong acids and bases.

WARNING: Intended for research use only. This product is not intended or approved for human, diagnostics, therapeutic or veterinary use. Use of this product for human or animal testing is extremely hazardous and may result in disease, severe injury, or death. **MATERIAL SAFETY DATA:** Review the complete Material Safety Data Sheet before use.

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Product Description

- Antibiotic.
- Antitumor compound [2].
- Cytotoxic [2].
- Apoptosis inducer [1, 2, 6, 7].
- RNA synthesis inhibitor [4].
- DNA intercalating agent [3, 5].
- Mcl-1 expression inhibitor [8]
- p53 pathway activator [9].

Product Specific References

1. Apoptosis induced by Actinomycin D, Camptothecin or Aphidicolin can occur in all phases of the cell cycle: J.M. Glynn, et al.; *Biochem. Soc. Trans.* **20**, 84S (1992)
2. Actinomycin D induces apoptosis and inhibits growth of pancreatic cancer cells: J. Kleeff, et al.; *Int. J. Cancer* **86**, 399 (2000)
3. Influence of DNA base sequence on the binding energetics of actinomycin D: S.A. Bailey, et al.; *Biochemistry* **32**, 5881 (1993)
4. Effect of actinomycin on RNA synthesis and antibody formation in the anamnestic response in vitro: J.D. Smiley, et al.; *J. Exp. Med.* **119**, 881 (1964)
5. NMR Solution Structure of a DNA-Actinomycin D Complex Containing a Non-Hydrogen-Bonding Pair in the Binding Site: S.L. Cravens, et al.; *J. Am. Chem. Soc.* Epub ahead of print (2010)
6. Actinomycin D upregulates proapoptotic protein Puma and downregulates Bcl-2 mRNA in normal peripheral blood lymphocytes: I. Kalousek, et al.; *Anticancer Drugs* **18**, 763 (2007)
7. Actinomycin D enhances TRAIL-induced caspase-dependent and -independent apoptosis in SH-SY5Y neuroblastoma cells: M.J. Wang, et al.; *Neurosci. Res.* **59**, 40 (2007)
8. Actinomycin D synergistically enhances the efficacy of the BH3 mimetic ABT-737 by downregulating Mcl-1 expression: K.E. Olberding, et al.; *Cancer Biol. Ther.* **10**, 930 (2010)
9. Specific activation of the p53 pathway by low dose actinomycin D: M. L. Choong, et al.; *Cell Cycle* **8**, 2810 (2009)

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