

PRODUCT INFORMATION



Dinactin

Item No. 20752

CAS Registry No.: 20261-85-2
Formal Name: (1R,2R,5R,7R,10S,11S,14S,16S,19R,20R,23R,25R,28S,29S,32S,34S)-5,23-diethyl-2,11,14,20,29,32-hexamethyl-4,13,22,31,37,38,39,40-octaoxapentacyclo[32.2.1.1^{7,10}.1^{16,19}.1^{25,28}]tetracontane-3,12,21,30-tetrone

MF: C₄₂H₆₈O₁₂

FW: 765.0

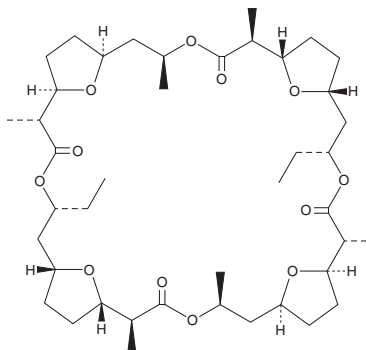
Purity: ≥95%

Supplied as: A film

Storage: -20°C

Stability: ≥2 years

Item Origin: Bacterium/*Streptomyces* sp. MST-AS5448



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

Dinactin is supplied as a film. A stock solution may be made by dissolving the dinactin in the solvent of choice. Dinactin is soluble in the organic solvent DMSO, which should be purged with an inert gas.

Description

Dinactin is a macrotetrolide antibiotic that acts as an ionophore for monovalent cations, such as K⁺, NH₄⁺, and Rb⁺.¹ It is commonly used to study membrane properties.^{1,2} Dinactin is a component of a macrotetralide-rich antifungal mixture produced by *Streptomyces*.³ Dinactin inhibits T cell proliferation and cytokine production *in vitro* and reduces pulmonary eosinophilia in antigen-challenged mice.⁴

References

1. Laprade, R., Grenier, F., Pagé-Dansereau, M., *et al.* Carrier-mediated ion transport in lipid bilayer membranes. *Can. J. Biochem. Cell Biol.* **62(8)**, 738-751 (1984).
2. Lapointe, J.-Y. and Laprade, R. Kinetics of carrier-mediated ion transport in two new types of solvent-free lipid bilayers. *Biophys. J.* **39(2)**, 141-150 (1982).
3. Silva, L.J., Crevelin, E.J., Souza, W.R., *et al.* *Streptomyces araujoniae* Produces a Multiantibiotic Complex with Ionophoric Properties to Control *Botrytis cinerea*. *Phytopathology* **104(12)**, 1298-1305 (2014).
4. Umland, S.P., Shah, H., Jakway, J.P., *et al.* Effects of cyclosporin A and dinactin on T-cell proliferation, interleukin-5 production, and murine pulmonary inflammation. *Am. J. Respir. Cell Mol. Biol.* **20(3)**, 481-492 (1999).

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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CAYMAN CHEMICAL

1180 EAST ELLSWORTH RD

ANN ARBOR, MI 48108 · USA

PHONE: [800] 364-9897

[734] 971-3335

FAX: [734] 971-3640

CUSTSERV@CAYMANCHEM.COM

WWW.CAYMANCHEM.COM