

# PRODUCT INFORMATION

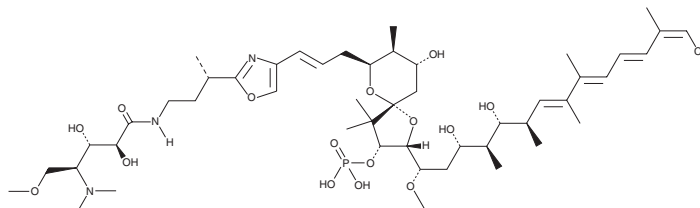


## Calyculin A

Item No. 19246

**CAS Registry No.:** 101932-71-2  
**Formal Name:** N-[(3S)-3-[4-[(1E)-3-[(2R,3R,5R,7S,8S,9R)-2-[(1S,3S,4S,5R,6R,7E,9E,11E,13Z)-14-cyano-3,5-dihydroxy-1-methoxy-4,6,8,9,13-pentamethyl-7,9,11,13-tetradecatetraen-1-yl]-9-hydroxy-4,4,8-trimethyl-3-(phosphonooxy)-1,6-dioxaspiro[4.5]dec-7-yl]-1-propen-1-yl]-2-oxazolyl]butyl]-4-deoxy-4-(dimethylamino)-5-O-methyl-L-ribonamide

**Synonym:** (-)-Calyculin A  
**MF:** C<sub>50</sub>H<sub>81</sub>N<sub>4</sub>O<sub>15</sub>P  
**FW:** 1,009.2  
**Purity:** ≥98%  
**Supplied as:** A solid  
**Storage:** -20°C  
**Stability:** ≥4 years  
**Item Origin:** Animal/*Discodermia calyx*



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

### Laboratory Procedures

Calyculin A is supplied as a solid. A stock solution may be made by dissolving the calyculin A in the solvent of choice, which should be purged with an inert gas. Calyculin A is soluble in organic solvents such as ethanol and DMSO.

### Description

Calyculin A is a natural, cell-permeable inhibitor of the serine-threonine protein phosphatases (PP) PP1 and PP2A (IC<sub>50</sub>s = 0.3-0.7 and 0.5-1 nM, respectively).<sup>1-3</sup> It is without significant effect against PP2B, PP2C, and PP4.<sup>2</sup> Through its effects on PP1 and PP2A, calyculin A has been shown to either promote or inhibit cancer cell growth in tumor cell lines and animal models.<sup>4,5</sup>

### References

1. Ishihara, H., Martin, B.L., Brautigam, D.L., *et al.* Calyculin A and okadaic acid: Inhibitors of protein phosphatase activity. *Biochem. Biophys. Res. Commun.* **159(3)**, 871-877 (1989).
2. McCluskey, A., Sim, A.T.R., and Sakoff, J.A. Serine-threonine protein phosphatase inhibitors: Development of potential therapeutic strategies. *J. Med. Chem.* **45(6)**, 1151-1175 (2002).
3. Lindvall, M.K., Pihko, P.M., and Kosikinen, A.M.P. The binding mode of calyculin A to protein phosphatase-1. A novel spiroketal vector model. *J. Biol. Chem.* **272(37)**, (1997).
4. Fujiki, H., Suganuma, M., Yoshizawa, S., *et al.* Mechanisms of action of okadaic acid class tumor promoters on mouse skin. *Environ. Health Perspect.* **93**, 211-214 (1991).
5. Zheng, Y.G., Wu, J., Chen, Z., *et al.* Chemical regulation of epigenetic modifications: Opportunities for new cancer therapy. *Med. Res. Rev.* **28(5)**, 645-687 (2008).

#### 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.

#### WARRANTY AND LIMITATION OF REMEDY

Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

Copyright Cayman Chemical Company, 10/26/2022

#### 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