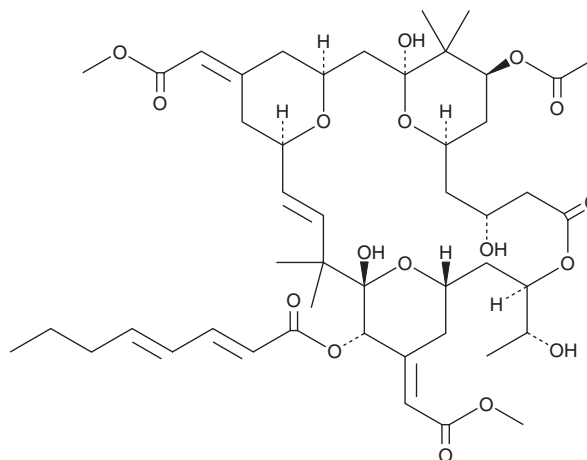


PRODUCT INFORMATION



Bryostatin 1 Item No. 14802

CAS Registry No.: 83314-01-6
Formal Name: (1S,3S,5Z,7R,8E,11S,12S,13E,15S,17R,21R,23R,25S)-25-(acetyloxy)-1,11,21-trihydroxy-17-[(1R)-1-hydroxyethyl]-5,13-bis(2-methoxy-2-oxoethylidene)-10,10,26,26-tetramethyl-19-oxo-18,27,2,8,29-tetraoxatetracyclo[21.3.1.1^{3,7}.1^{11,15}]nonacos-8-en-12-yl-(2E,4E)-2,4-octadienoic acid ester
Synonym: NSC 339555
MF: C₄₇H₆₈O₁₇
FW: 905.0
Purity: ≥98%
Supplied as: A lyophilized powder
Storage: -20°C
Stability: ≥4 years
Item Origin: Animal/*Bugula neritina*



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

Laboratory Procedures

Bryostatin 1 is supplied as a lyophilized powder. A stock solution may be made by dissolving the bryostatin 1 in the solvent of choice, which should be purged with an inert gas. Bryostatin 1 is soluble in organic solvents such as ethanol and DMSO. The solubility of bryostatin 1 in these solvents is approximately 25 µg/ml.

Description

Bryostatin 1 is a marine macrolide that has been found in *B. neritina* and has diverse biological activities.¹⁻⁵ It binds to PKC α , PKC β 1, PKC γ , PKC δ , PKC ϵ , PKC η , and PKC θ (K_is = 0.8-3.0 nM) and induces PKC activation or inhibition in cancer cells in a concentration-dependent manner.^{1,2} Bryostatin 1 (50 nM) reduces the production of IL-2 and increases the production of IL-10 in LPS-stimulated mouse bone marrow-derived dendritic cells (BMDCs).¹ It decreases cell surface levels of CD4 and chemokine (C-C motif) receptor 5 (CCR5) and reduces HIV-1 infectivity in isolated human monocyte-derived macrophages.³ *In vivo*, bryostatin 1 (30 µg/kg) reduces spinal cord and brain T cell infiltration and disease severity in a mouse model of experimental autoimmune encephalomyelitis (EAE).⁴ It also decreases blast-induced increases in blood-brain barrier (BBB) permeability in a rat model of traumatic brain injury (TBI) when administered at a dose of 2.5 mg/kg.⁵

References

1. Abramson, E., Hardman, C., Shimizu, A.J., et al. *Cell. Chem. Biol.* **28(4)**, 537-545 (2021).
2. Kortmansky, J. and Schwartz, G.K. *Cancer Invest.* **21(6)**, 924-936 (2003).
3. Hany, L., Turmel, M.-O., Barat, C., et al. *J. Virol.* **96(4)**, e0195321 (2022)
4. Kornberg, M.D., Smith, M.D., Shirazi, H.A., et al. *Proc. Natl. Acad. Sci. U.S.A.* **115(9)**, 2186-2191 (2018).
5. Lucke-Wold, B.P., Logsdon, A.F., Smith, K.E., et al. *Mol. Neurobiol.* **52(3)**, 1119-1134 (2015).

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

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