

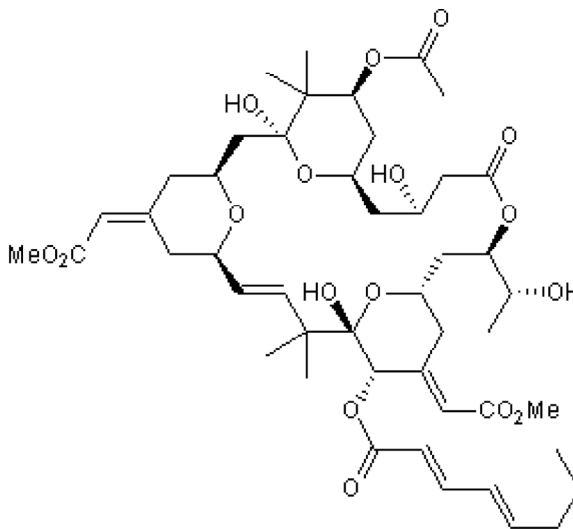
Certificate of Analysis

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| | | | | | |
|----------------------|---|---------------------|-------------|-------------------|-----------|
| Product Name: | Bryostatin 1 | Catalog No.: | 2383 | Batch No.: | 11 |
| CAS Number: | 83314-01-6 | | | | |
| IUPAC 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-18,27,28,29-tetraoxatetracyclo[21.3.1.1 ^{3,7} .1 ^{11,15}]nonacos-8-en-12-yl-(2E, 4E)-2,4-octadienoic acid ester | | | | |

1. PHYSICAL AND CHEMICAL PROPERTIES

| | |
|-----------------------------------|---|
| Batch Molecular Formula: | C ₄₇ H ₆₈ O ₁₇ |
| Batch Molecular Weight: | 905.04 |
| Physical Appearance: | Off White crystalline powder |
| Solubility: | Soluble in DMSO Soluble in ethanol |
| Storage: | Store at -20°C |
| Batch Molecular Structure: | |



2. ANALYTICAL DATA

| | |
|--------------|--------------------|
| HPLC: | Shows 99.7% purity |
|--------------|--------------------|

Caution - Not Fully Tested • Research Use Only • Not For Human or Veterinary Use

bio·techne.com
info@bio·techne.com
techsupport@bio·techne.com

North America
Tel: (800) 343 7475

China
info.cn@bio·techne.com
Tel: +86 (21) 52380373

Europe Middle East Africa
Tel: +44 (0)1235 529449

Rest of World
www.tocris.com/distributors
Tel: +1 612 379 2956

Product Name: Bryostatin 1

Catalog No.: 2383

Batch No.: 11

CAS Number: 83314-01-6

IUPAC 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-18,27,28,29-tetraoxatetracyclo[21.3.1.1^{3,7}.1^{11,15}]nonacos-8-en-12-yl-(2E,4E)-2,4-octadienoic acid ester

Description:

Bryostatin 1 is a protein kinase C (PKC) activator that binds with high affinity ($K_i = 1.35$ nM). Initially activates and subsequently induces downregulation of PKC isozymes. Sensitizes tumor cells to cytotoxic effects of anticancer agents. Restores hippocampal synapses and spatial learning and memory in an in vivo model of fragile X syndrome.

Physical and Chemical Properties:

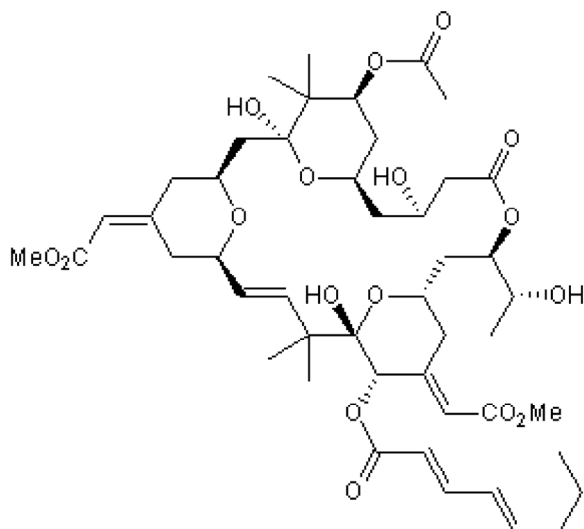
Batch Molecular Formula: $C_{47}H_{68}O_{17}$

Batch Molecular Weight: 905.04

Physical Appearance: Off White crystalline powder

Minimum Purity: ≥98%

Batch Molecular Structure:



Storage: Store at -20°C

CAUTION - This product is light sensitive and we recommend that the solid material and any solutions obtained are protected from exposure to light.

Solubility & Usage Info:

Soluble in DMSO

Soluble in ethanol

This product is supplied in lyophilized form. It may appear as a solid, gel or film and be very hard to visualize. Solutions should be made by adding solvent directly to the vial. The vial should then be vortexed vigorously to ensure the product has completely dissolved.

Stability and Solubility Advice:

Some solutions can be difficult to obtain and can be encouraged by rapid stirring, sonication or gentle warming (in a 45-60°C water bath).

Information concerning product stability, particularly in solution, has rarely been reported and in most cases we can only offer a general guide. *Unless contradicted by product-specific protocols or instructions, our standard recommendations apply:

SOLIDS: Provided storage is as stated on the product label and the vial is kept tightly sealed, the product can be stored for up to 6 months from date of receipt.

SOLUTIONS: We recommend that stock solutions, once prepared, are stored aliquoted in tightly sealed vials at -20°C or below and used within 1 month. Wherever possible solutions should be made up and used on the same day.

References:

Sun et al (2014) Bryostatin-1 restores hippocampal synapses and spatial learning and memory in adult fragile X mice. *J Pharmacol Exp Ther.* **349** 393. PMID: 24659806.

Sun and Alkon (2006) Bryostatin-1: pharmacology and therapeutic potential as a CNS drug. *CNS Drug Rev.* **12** 1. PMID: 16834754.

Wender et al (1998) The design, computer modeling, solution structure, and biological evaluation of synthetic analogs of bryostatin 1. *Proc.Natl.Acad.Sci.USA* **95** 6624. PMID: 9618462.

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bio-techne.com

info@bio-techne.com

techsupport@bio-techne.com

North America

Tel: (800) 343 7475

China

info.cn@bio-techne.com

Tel: +86 (21) 52380373

Europe Middle East Africa

Tel: +44 (0)1235 529449

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www.tocris.com/distributors

Tel:+1 612 379 2956