Certificate of Analysis

Product Name: **Pladienolide B** **Catalog No.: 6070** **Batch No.: 12**

CAS Number: 445493-23-2

IUPAC Name: (4*R*,7*R*,8*S*,9*E*,11*S*,12*S*)-8-(Acetyloxy)-4,7-dihydroxy-12-[(1*E*,3*E*,5*S*)-6-[(2*R*,3*R*)-3-[(1*R*,2*S*)-2-hydroxy-1-methylbutyl]-2-oxiranyl]-1,5-dimethyl-1,3-hexadien-1-yl]-7,11-dimethyloxacyclododec-9-en-2-one

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: $C_{30}H_{48}O_8$

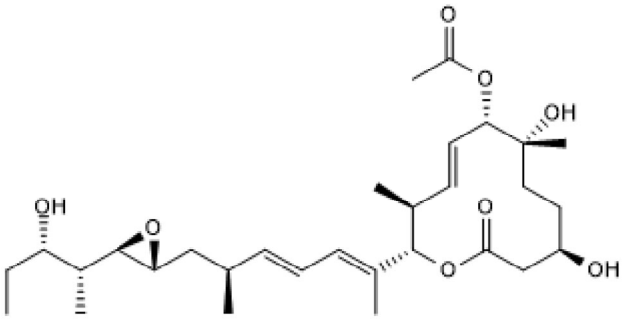
Batch Molecular Weight: 536.7

Physical Appearance: White crystalline solid

Solubility: DMSO to 1 mg/ml

Storage: Store at -20°C

Batch Molecular Structure:



2. ANALYTICAL DATA

HPLC: Shows >99.0 % purity

Mass Spectrum: Consistent with structure

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CAS Number: 445493-23-2

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Description:

Pladienolide B is a mRNA splicing inhibitor that decreases splicing capacity up to 75% in vitro. Pladienolide B directly targets splicesome-associated 130 (SAP130), inhibits splicing factor 3B subunit (SF3B1) and impairs U2 small nuclear ribonucleoprotein (U2 snRNP) interaction with pre-mRNA. Pladienolide B arrests the cell cycle in G_1 and G_2/M phases and displays antitumor activity against gastric cancer cells (IC_{50} values are 1.6-4.9 nM). Transient treatment with pladienolide B can reprogram pluripotent hESCs into a distinct type of zigotic genome activation (ZGA)-like cells (ZLCs). Cell permeable and active in vivo. Please see product specific page on www.tocris.com for full description.

Physical and Chemical Properties:

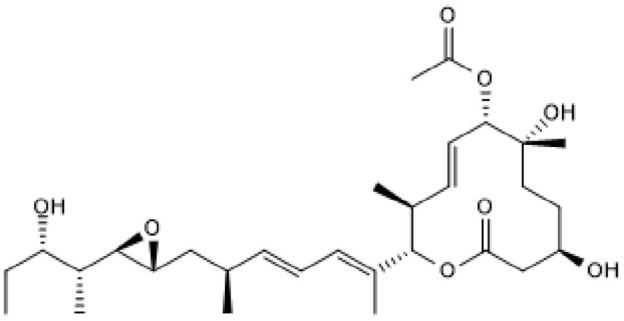
Batch Molecular Formula: $C_{30}H_{48}O_8$

Batch Molecular Weight: 536.7

Physical Appearance: White crystalline solid

Minimum Purity: ≥95%

Batch Molecular Structure:



Storage: Store at -20°C

Solubility & Usage Info:

DMSO to 1 mg/ml

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:

Li *et al* (2024) Capturing totipotency in human cells through spliceosomal repression. Cell ***187*** 3284. PMID: 38843832.

Lee *et al* (2016) Therapeutic targeting of splicing in cancer. Nature Medicine ***22*** 976.

Pederiva *et al* (2016) Splicing controls the ubiquitin response during DNA double-strand break repair. Cell Death Differ. ***23*** 1648. PMID: 27315300.

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