Print Date: Feb 20th 2023

Certificate of Analysis

www.tocris.com

Product Name: **Betulinic acid** **Catalog No.: 3906** **Batch No.: 1**

CAS Number: 472-15-1 EC Number: 207-448-8

IUPAC Name: (+)-(3β)-3-Hydroxylup-20(29)-en-28-oic acid

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: $C_{30}H_{48}O_3.¼H_2O$

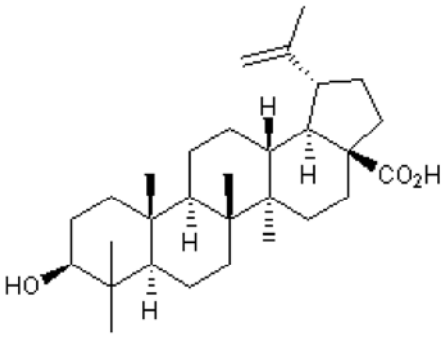
Batch Molecular Weight: 461.2

Physical Appearance: White solid

Solubility: DMSO to 50 mM

Storage: Store at +4°C

Batch Molecular Structure:



2. ANALYTICAL DATA

^{1}H NMR: Consistent with structure

Mass Spectrum: Consistent with structure

Optical Rotation: $[\alpha]_D$ = +9.8 (Concentration = 1, Solvent = pyridine)

Microanalysis:

	Carbon	Hydrogen	Nitrogen
Theoretical	78.13	10.6	
Found	78.24	10.7	

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: **Betulinic acid**

Catalog No.: 3906 **1**

CAS Number: 472-15-1

EC Number: 207-448-8

IUPAC Name: (+)-(3β)-3-Hydroxylup-20(29)-en-28-oic acid

Description:

Betulinic acid is a natural triterpenoid that displays anti-HIV and antitumor activity. Induces the production of reactive oxygen species (ROS) and activates NF-κB. Also a GPBA receptor partial agonist (EC_{50} = 1.04 μM, efficacy 83%). Betulinic acid suppresses areobic glycolysis by regulating the Cav-1/NF-κB/c-Myc pathway in and inhibits growth in breast cancer cells.

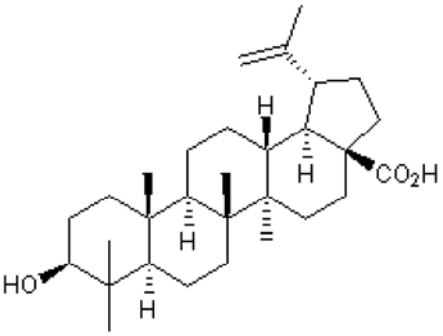
Physical and Chemical Properties:

Batch Molecular Formula: $C_{30}H_{48}O_3.¼H_2O$

Batch Molecular Weight: 461.2

Physical Appearance: White solid

Batch Molecular Structure:



Storage: Store at +4°C

Solubility & Usage Info:

DMSO to 50 mM

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. Our standard recommendations are:

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:

Jiao *et al* (2019) Betulinic acid suppresses breast cancer aerobic glycolysis via caveolin-1/NF-?B/c-Myc pathway. Biochem.Pharmacol. ***161*** 149. PMID: 30684465.

Genet *et al* (2010) Structure-activity relationship study of betulinic acid, a novel and selective TGR5 agonist, and its synthetic derivatives: potential impact in diabetes. J.Med.Chem. ***53*** 178. PMID: 19911773.

Fulda (2008) Betulinic acid for cancer treatment and prevention. Int.J.Mol.Sci. ***9*** 1096. PMID: 19325847.