

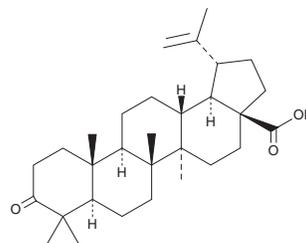
# PRODUCT INFORMATION



## Betulonic Acid

Item No. 29765

**CAS Registry No.:** 4481-62-3  
**Formal Name:** 3-oxo-lup-20(29)-en-28-oic acid  
**Synonyms:** Liquidambaric Acid, MJ347-RS, NSC 152534  
**MF:** C<sub>30</sub>H<sub>46</sub>O<sub>3</sub>  
**FW:** 454.7  
**Purity:** ≥95%  
**Supplied as:** A crystalline solid  
**Storage:** -20°C  
**Stability:** ≥4 years  
**Item Origin:** Plant/*Liquidambar formosana*



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

### Laboratory Procedures

Betulonic acid is supplied as a crystalline solid. A stock solution may be made by dissolving the betulonic acid in the solvent of choice, which should be purged with an inert gas. Betulonic acid is soluble in organic solvents such as DMSO and dimethyl formamide. The solubility of betulonic acid in these solvents is approximately 10 mg/ml.

Betulonic acid is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, betulonic acid should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. Betulonic acid has a solubility of approximately 0.33 mg/ml in a 1:2 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

### Description

Betulonic acid is a triterpenoid that has been found in *B. chinensis* and has diverse biological activities, including antiparasitic, antiviral, and anticancer properties.<sup>1-4</sup> It is active against the chloroquine-resistant *P. falciparum* W2 clone (IC<sub>50</sub> = 10.01 μM), as well as *L. infantum* and *L. donovani* promastigotes when used at a concentration of 50 μM.<sup>2,3</sup> Betulonic acid inhibits replication of herpes simplex virus I (HSV-I), echovirus 6, and the H7N1 strain of influenza A (EC<sub>50</sub>s = 0.9, 73.32, and 5.7 μM, respectively).<sup>4</sup> It inhibits proliferation of MGC803, Bcap-37, MCF-7, PC3, and NIH3T3 cancer cells by 68.1, 44.9, 56.1, 52.4, and 22.1%, respectively, when used at a concentration of 20 μM.<sup>1</sup>

### References

1. Liu, M., Yang, S., Jin, L., *et al.* Chemical constituents of the ethyl acetate extract of *Belamcanda chinensis* (L.) DC roots and their antitumor activities. *Molecules* **17**(5), 6156-6169 (2012).
2. Wert, L., Alakurtti, S., Corral, M.J., *et al.* Toxicity of betulin derivatives and *in vitro* effect on promastigotes and amastigotes of *Leishmania infantum* and *L. donovani*. *J. Antibiot. (Tokyo)*. **64**(7), 475-481 (2011).
3. de Sá, M.S., Costa, J.F., Krettli, A.U., *et al.* Antimalarial activity of betulonic acid and derivatives *in vitro* against *Plasmodium falciparum* and *in vivo* in *P. berghei*-infected mice. *Parasitol. Res.* **105**(1), 275-279 (2009).
4. Pavlova, N.I., Savinova, O.V., Nikolaeva, S.N., *et al.* Antiviral activity of betulin, betulonic and betulonic acids against some enveloped and non-enveloped viruses. *Fitoterapia*. **74**(5), 489-492 (2003).

#### 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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