

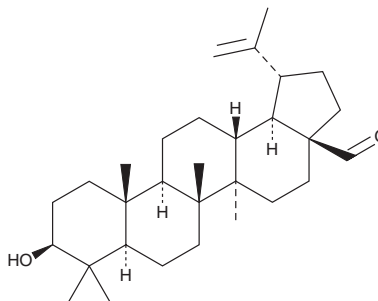
# PRODUCT INFORMATION



## Betulinic Aldehyde

Item No. 27810

**CAS Registry No.:** 13159-28-9  
**Formal Name:** 3 $\beta$ -hydroxy-lup-20(29)-en-28-al  
**Synonyms:** Betulinaldehyde, NSC 250423  
**MF:** C<sub>30</sub>H<sub>48</sub>O<sub>2</sub>  
**FW:** 440.7  
**Purity:**  $\geq$ 98%  
**UV/Vis.:**  $\lambda_{\text{max}}$ : 235 nm  
**Supplied as:** A solid  
**Storage:** -20°C  
**Stability:**  $\geq$ 4 years  
**Item Origin:** Plant/White birch bark



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

### Laboratory Procedures

Betulinic aldehyde is supplied as a solid. A stock solution may be made by dissolving the betulinic aldehyde in the solvent of choice, which should be purged with an inert gas. Betulinic aldehyde is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of betulinic aldehyde in these solvents is approximately 2 mg/ml.

### Description

Betulinic aldehyde is a triterpenoid that has been found in *Z. cambodiana* and has diverse biological activities.<sup>1-4</sup> It is active against *P. falciparum* (IC<sub>50</sub> = 6.5  $\mu$ g/ml) and *M. tuberculosis* (MIC = 25  $\mu$ g/ml) *in vitro*, as well as laboratory and clinical isolates of methicillin-resistant and -sensitive *S. aureus* (MICs = 128-512 and 8-512  $\mu$ g/ml, respectively).<sup>1,2</sup> Betulinic aldehyde inhibits dengue virus non-structural protein 5 (NS5) RNA-dependent RNA polymerase (IC<sub>50</sub> = 6.1  $\mu$ M) and inhibits dengue virus type 2 replication by 20 and 55% when used at concentrations of 5 and 10  $\mu$ g/ml, respectively.<sup>3</sup> It also inhibits growth of leukemia, melanoma, neuroblastoma, and normal fibroblast cell lines (IC<sub>50</sub>s = 1.1-4.9, 9.6-10.6, 7.5-8.8, and 18.5  $\mu$ M, respectively).<sup>4</sup>

### References

1. Suksamrarn, S., Panseeta, P., Kunchanawatta, S., *et al.* Ceanothane- and lupane-type triterpenes with antiplasmodial and antimycobacterial activities from *Ziziphus cambodiana*. *Chem. Pharm. Bull. (Tokyo)* **54(4)**, 535-537 (2006).
2. Chung, P.Y., Chung, L.Y., and Navaratnam, P. Potential targets by pentacyclic triterpenoids from *Callicarpa farinosa* against methicillin-resistant and sensitive *Staphylococcus aureus*. *Fitoterapia* **94**, 48-54 (2014).
3. Peyrat, L.-A., Eparvier, V., Eydoux, C., *et al.* Chemical diversity and antiviral potential in the pantropical *Diospyros* genus. *Fitoterapia* **112**, 9-15 (2016).
4. Hata, K., Hori, K., Ogasawara, H., *et al.* Anti-leukemia activities of Lup-28-al-20(29)-en-3-one, a lupane triterpene. *Toxicol. Lett.* **143(1)**, 1-7 (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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