

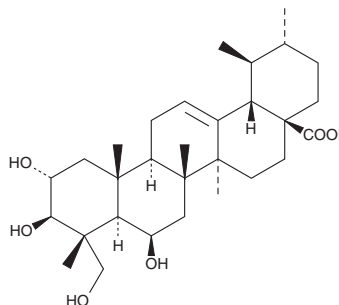
# PRODUCT INFORMATION



## Madecassic Acid

Item No. 11854

**CAS Registry No.:** 18449-41-7  
**Formal Name:** (2 $\alpha$ ,3 $\beta$ ,4 $\alpha$ ,6 $\beta$ )-2,3,6,23-tetrahydroxy-urs-12-en-28-oic acid  
**Synonyms:** Brahmic Acid, NSC 88135  
**MF:** C<sub>30</sub>H<sub>48</sub>O<sub>6</sub>  
**FW:** 504.7  
**Purity:**  $\geq$ 95%  
**Supplied as:** A crystalline solid  
**Storage:** -20°C  
**Stability:**  $\geq$ 4 years



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

### Laboratory Procedures

Madecassic acid is supplied as a crystalline solid. A stock solution may be made by dissolving the madecassic acid in the solvent of choice, which should be purged with an inert gas. Madecassic acid is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of madecassic acid in these solvents is approximately 3, 5, and 20 mg/ml.

Madecassic acid is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, madecassic acid should first be dissolved in DMF and then diluted with the aqueous buffer of choice. Madecassic acid has a solubility of approximately 0.1 mg/ml in a 1:9 solution of DMF:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

### Description

Madecassic acid is a triterpenoid that has been found in *C. asiatica* and has diverse biological activities.<sup>1-3</sup> It inhibits LPS-induced production of nitric oxide (NO), prostaglandin E<sub>2</sub> (PGE<sub>2</sub>; Item No. 14010), TNF- $\alpha$ , IL-1 $\beta$ , and IL-6 in RAW 264.7 macrophages when used at a concentration of 150  $\mu$ g/ml.<sup>1</sup> Madecassic acid (0.05 and 0.1% in the diet) decreases plasma levels of fibrinogen and triglycerides, as well as heart and kidney levels of reactive oxygen species (ROS), in a mouse model of diabetes induced by streptozotocin (STZ; Item No. 13104).<sup>2</sup> It decreases tumor growth in a CT26 murine colon cancer model in a dose-dependent manner.<sup>3</sup>

### References

1. Won, J.H., Shin, J.S., Park, H.J., *et al.* Anti-inflammatory effects of madecassic acid via the suppression of NF- $\kappa$ B pathway in LPS-induced RAW 264.7 macrophage cells. *Planta Med.* **76(3)**, 251-257 (2010).
2. Hsu, Y.-M., Hung, Y., Hu, L., *et al.* Anti-diabetic effects of madecassic acid and rotundic acid. *Nutrients* **7(12)**, 10065-10075 (2015).
3. Zhang, H., Zhang, M., Tao, Y., *et al.* Madecassic acid inhibits the mouse colon cancer growth by inducing apoptosis and immunomodulation. *J. BUON.* **19(2)**, 372-376 (2014).

#### 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.

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#### CAYMAN CHEMICAL

1180 EAST ELLSWORTH RD  
ANN ARBOR, MI 48108 · USA

**PHONE:** [800] 364-9897  
[734] 971-3335

**FAX:** [734] 971-3640

CUSTSERV@CAYMANCHEM.COM  
WWW.CAYMANCHEM.COM