



LKT Laboratories, Inc.

## Asiatic Acid, 95%

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### Product Information

Product ID A7332

CAS No. 464-92-6

**Chemical Name**

Synonym NSC 166063

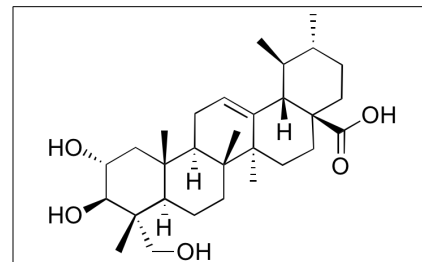
Formula  $C_{30}H_{48}O_5$

Formula Wt. 488.70

Melting Point 325-330°C

Purity ≥95%

Solubility Ethanol 10 mg/mL, DMSO 20  
mg/mL, DMF 20 mg/mL



**Bulk quantities available upon request**

Product ID	Size
A7332	100 mg
A7332	500 mg

Store Temp Ambient

Ship Temp Ambient

**Description** Asiatic acid is a triterpene aglycone originally found in *Centella*; it exhibits cardioprotective, hepatoprotective, anti-inflammatory, antioxidative, antihypertensive, anticancer, anti-fibrotic, and anti-osteoporotic activities. In vitro and in vivo, asiatic acid inhibits TGF- $\beta$ 1-induced and overload-induced cardiac hypertrophy, decreasing production of TGF- $\beta$ 1 and activation of NF- $\kappa$ B, ERK1/2, and p38 MAPK. In high fat diet-fed rats, asiatic acid decreases expression of NF- $\kappa$ B, p38 MAPK, IL-1 $\beta$ , ROS, IL-6, and TNF- $\alpha$  and increases activity of glutathione peroxidase and catalase, preventing hepatic steatosis. Additionally, asiatic acid inhibits L-NAME-induced hypertension, increasing levels of NO and improving vascular function. In multiple myeloma cells, this compound induces G2/M phase cell cycle arrest, decreases expression of FAK, and inhibits cell proliferation. Asiatic acid inhibits adipogenesis, suppresses activation of G3PDH, and modulates differentiation in bone marrow stromal cells. In animal models of fibrosis, this compound decreases tubular injury and fibroblast activation by suppressing activation of Smad2/3, regulating PPAR $\gamma$  activation, and decreasing levels of  $\alpha$ -SMA and TGF- $\beta$ 1. It appears to be the most active ingredient in the extract of *Centella asiatica*.

**References** Si L, Xu J, Yi C, et al. Asiatic acid attenuates cardiac hypertrophy by blocking transforming growth factor- $\beta$ 1-mediated hypertrophic signaling in vitro and in vivo. *Int J Mol Med*. 2014 Aug;34(2):499-506. PMID: 24827470.

Yan SL, Yang HT, Lee YJ, et al. Asiatic acid ameliorates hepatic lipid accumulation and insulin resistance in mice consuming a high-fat diet. *J Agric Food Chem*. 2014 May 21;62(20):4625-31. PMID: 24779966.

Bunbupha S, Pakdeechote P, Kukongviriyapan U, et al. Asiatic Acid Reduces Blood Pressure by Enhancing Nitric Oxide Bioavailability with Modulation of eNOS and p47 phox Expression in L-NAME-induced Hypertensive Rats. *Phytother Res*. 2014 Apr 11. [Epub ahead of print]. PMID: 24723332.

Li ZW, Piao CD, Sun HH, et al. Asiatic acid inhibits adipogenic differentiation of bone marrow stromal cells. *Cell Biochem Biophys*. 2014 Mar;68(2):437-42. PMID: 23934183.

Zhang J, Ai L, Lv T, et al. Asiatic acid, a triterpene, inhibits cell proliferation through regulating the expression of focal adhesion kinase in multiple myeloma cells. *Oncol Lett*. 2013 Dec;6(6):1762-1766. PMID: 24260073.

Bian D, Zhang J, Wu X, et al. Asiatic acid isolated from *Centella asiatica* inhibits TGF- $\beta$ 1-induced collagen expression in human keloid fibroblasts via PPAR- $\gamma$  activation. *Int J Biol Sci*. 2013 Oct 25;9(10):1032-42. PMID: 24250248.

Xu C, Wang W, Xu M, et al. Asiatic acid ameliorates tubulointerstitial fibrosis in mice with ureteral obstruction. *Exp Ther Med*.

**Caution:** This product is intended for laboratory and research use only. It is not for human or drug use.