



LKT Laboratories, Inc.

## Limonin

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### Product Information

**Product ID** L3550

**CAS No.** 1180-71-8

**Chemical Name** 8-(3-furyl)decahydro-2,2,4a,8a-tetramethyl-11H,13H-oxireno-[d]pyrano[4',3':3,3a]isobenzofuro[5,4-f][2]-benzopyran-4,6,13-(2H,5aH)-trione

**Synonym** Evodine, Limonoic acid di- $\delta$ -lactone, limonoic acid 3,19:16,17-dilactone, Citrolimonin

**Formula** C<sub>26</sub>H<sub>30</sub>O<sub>8</sub>

**Formula Wt.** 470.52

**Melting Point** 298-300°C

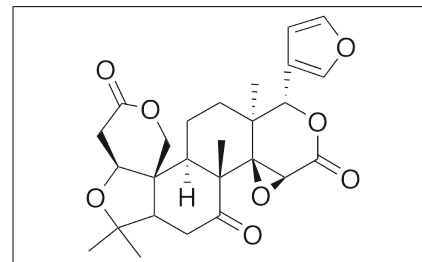
**Purity** ≥98%

**Solubility** Soluble in ethanol, acetic acid, or DMSO. Slightly soluble in water.

**Store Temp** Ambient

**Ship Temp** Ambient

**Description** Limonin is a furanolactone found in fruits in the *Citrus* family. It exhibits antioxidative, anti-inflammatory, hepatoprotective, anticancer, antiviral, anti-parasitic, and immunomodulatory activities. In animal models of hepatic ischemia/reperfusion, limonin upregulates expression of IL-10 and downregulates expression of toll-like receptors 2 and 4 (TLR2, TLR4), MyD88, TRIF, TNF- $\alpha$ , and NF- $\kappa$ B. In colon adenocarcinoma cells, it induces mitochondria-dependent apoptosis and inhibits proliferation. Additionally, it inhibits expression of HIV-1 and HTLV-1 in infected cells. This compound also exhibits larvicidal activity against species of *Aedes* and decreases NF- $\kappa$ B activation and CD4<sup>+</sup> T cell stimulation in vitro.



### Pricing and Availability

**Bulk quantities available upon request**

Product ID	Size	List Price
L3550	50 mg	\$137.70
L3550	100 mg	\$228.90
L3550	500 mg	\$749.00

**References** Mahmoud MF, Gamal S, El-Fayoumi HM. Limonin attenuates hepatocellular injury following liver ischemia and reperfusion in rats via toll-like receptor dependent pathway. *Eur J Pharmacol.* 2014 Oct 5;740:676-82. PMID: 24967531.

Hafeez F, Akram W, Shaalan EA. Mosquito larvicidal activity of citrus limonoids against *Aedes albopictus*. *Parasitol Res.* 2011 Jul;109(1):221-9. PMID: 21212981.

Chidambara Murthy KN, Jayaprakasha GK, et al. Citrus limonin and its glucoside inhibit colon adenocarcinoma cell proliferation through apoptosis. *J Agric Food Chem.* 2011 Mar 23;59(6):2314-23. PMID: 21338095.

Balestrieri E, Pizzimenti F, Ferlazzo A, et al. Antiviral activity of seed extract from *Citrus bergamia* towards human retroviruses. *Bioorg Med Chem.* 2011 Mar 15;19(6):2084-9. PMID: 21334901.

Kim W, Fan YY, Smith R, et al. Dietary curcumin and limonin suppress CD4<sup>+</sup> T-cell proliferation and interleukin-2 production in mice. *J Nutr.* 2009 May;139(5):1042-8. PMID: 19321585.

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