

## Nomilin Datasheet

4<sup>th</sup> Edition (Revised in July, 2016)

### [ Product Information ]

**Name:** Nomilin

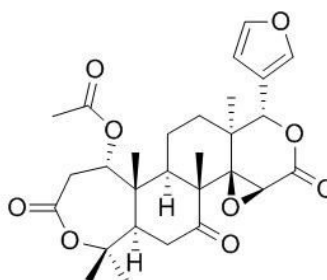
**Catalog No.:** CFN99935

**Cas No.:** 1063-77-0

**Purity:** >=98%

**M.F:** C<sub>28</sub>H<sub>34</sub>O<sub>9</sub>

**M.W:** 514.56



**Physical Description:** Powder

**Synonyms:** 1-(Acetyloxy)-1,2-dihydroobacunoic acid eta-lactone;

(5S,5aR,5bR,7aS,8R,10aS,11aR,11bR,13aR)-8-(furan-3-yl)-1,1,5a,7a,11b-pentamethyl-3,10,12-trioxohexadecahydrooxireno[4,4a]isochromeno[6,5-g][2]benzoxepin-5-yl acetate;  
8-(furan-3-yl)-1,1,5a,7a,11b-pentamethyl-3,10,12-trioxohexadecahydrooxireno[4,4a]isochromeno[6,5-g][2]benzoxepin-5-yl-acetate.

### [ Intended Use ]

1. Reference standards;
2. Pharmacological research;
3. Food research;
4. Synthetic precursor compounds;
5. Intermediates & Fine Chemicals;
6. Others.

## **[ Source ]**

The fruits of *Citrus reticulata* Blanco.

## **[ Biological Activity or Inhibitors ]**

Nomilin, oleanolic acid, ursolic acid are naturally occurring triterpenoids, have immunomodulatory activity. [1]

Nomilin and limonin have anti-human immunodeficiency virus(HIV)activity, have inhibition effects on the growth of HIV-1 in culture of human peripheral blood mononuclear cells (PBMC) and on monocytes/macrophages (M/M).[2]

Nomilin and limonin have high antioxidant capacities (2.9-8.3 times than that of vitamine C).[3]

Nomilin and limonin show bitterness. [4]

Nomilin-treated mice has lower body weight, serum glucose, serum insulin, and enhanced glucose tolerance, suggests a novel biological function of nomilin as an agent having anti-obesity and anti-hyperglycemic effects that are likely to be mediated through the activation of TGR5.[5]

Nomilin inhibits tumor-specific angiogenesis by downregulating VEGF, NO and proinflammatory cytokine profile and also by inhibiting the activation of MMP-2 and MMP-9, it has antiangiogenic potential.[6]

Nomilin inhibits metastasis via induction of apoptosis and regulates the activation of transcription factors and the cytokine profile in B16F-10 cells. [7]

Nomilin and limonin have inhibitory effects on chemical-induced tumorigenesis,they are potential cancer chemopreventive agents.[8]

Nomilin inhibits osteoclastogenesis in vitro by suppression of NFATc1 and MAPK signaling pathways, indicates that nomilin-containing herbal preparations have potential utility for the prevention of bone metabolic diseases.[9]

## **[ Solvent ]**

Chloroform, Dichloromethane, Ethyl Acetate, DMSO, Acetone, etc.

## **[ HPLC Method ]<sup>[10]</sup>**

Mobile phase: Methanol -H<sub>2</sub>O=40:60 ;

Flow rate: 1.0 ml/min;

Column temperature: Room Temperature;

The wave length of determination: 210 nm.

## **[ Storage ]**

2-8°C, Protected from air and light, refrigerate or freeze.

## **[ References ]**

- [1] Raphael T J, Kuttan G. *Phytomedicine*, 2003, 10(6–7):483-9.
- [2] Battinelli L, Mengoni F, Lichtner M, et al. *Planta Med.*, 2003, 69(10):910-3.
- [3] Sun C D, Chen K S, Yang C, et al. *Food Chem.*, 2006, 93(4):599-605.
- [4] Guadagni D G, Maier V P, Turnbaugh J G. *J. Sci. Food Agr.*, 1973, 24(24):1277-88.
- [5] Ono E, Inoue J, Hashidume T, et al. *Biochem. Bioph. Res. Co.*, 2011, 410(3):677-81.
- [6] Pratheeshkumar P, Kuttan G. *Eur. J. Pharmacol.*, 2011, 668(3):450-8.
- [7] Pratheeshkumar P, Raphael T J, Kuttan G. *Integr. Cancer Ther.*, 2012, 11(1):48-60.
- [8] Lam L K T, Hasegawa S, Bergstrom C, et al. *ACS Symposium Series*. 2000:185–200.
- [9] Kimira Y, Taniuchi Y, Nakatani S, et al. *Phytomedicine*, 2015, 22(12):1120-4.
- [10] He ZY, Pei J, Mo S R, et al. *Chinese Traditional Patent Medicine*, 2011, 33(10):1761-4.

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