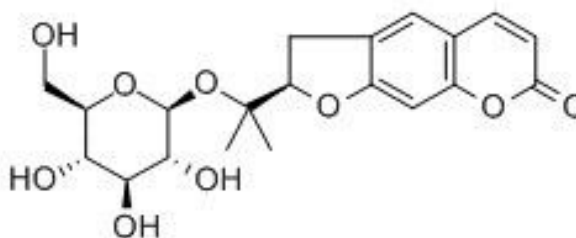


## Nodakenin Datasheet

4<sup>th</sup> Edition (Revised in July, 2016)**[ Product Information ]****Name:** Nodakenin**Catalog No.:** CFN90232**Cas No.:** 495-31-8**Purity:** > 98%**M.F:** C<sub>20</sub>H<sub>24</sub>O<sub>9</sub>**M.W:** 408.40**Physical Description:** Powder

**Synonyms:** (2R)-2-[2-[(2S,3R,4S,5S,6R)-3,4,5-Trihydroxy-6-(hydroxymethyl)oxan-2-yl]oxypropan-2-yl]-2,3-dihydrofuro[3,2-g]chromen-7-one; (R)-2-[1-(β-D-Glucopyranosyloxy)-1-methylethyl]-2,3-dihydro-7H-furo[3,2-g][1]benzopyran-7-one.

**[ Intended Use ]**

1. Reference standards;
2. Pharmacological research;
3. Food and cosmetic research;
4. Synthetic precursor compounds;
5. Intermediates & Fine Chemicals;
6. Ingredient in supplements, beverages;
7. Aromatics;
8. Others.

## **[ Source ]**

The root of *Angelica biserrata* (Shan et Yuan) Yuan et Shan.

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

Nodakenin, a coumarin isolated from the roots of *Angelica biserrata* (Shan et Yuan) Yuan et Shan, possesses neuroprotective, antiaggregatory, antibacterial, and memory-enhancing effects; down-regulates the expression of the proinflammatory iNOS, COX-2, TNF- $\alpha$ , IL-6, and IL-1 $\beta$  genes in macrophages by interfering with the activation of TRAF6, thus preventing NF- $\kappa$ B activation.<sup>[1]</sup>

Nodakenin can inhibit acetylcholinesterase activity in a dose-dependent manner (IC<sub>50</sub>)=84.7 microM), nodakenin may be a useful for the treatment of cognitive impairment, and that its beneficial effects are mediated, in part, via the enhancement of cholinergic signaling.<sup>[2]</sup>

Nodakenin efficiently inhibits antigen-induced airway inflammation in asthmatic mouse, by reducing levels of IL-4, IL-5 and IL-13 in BALF, and IgE in serum, decreasing levels of nuclear P65 and p-P65 protein, increasing cytoplasmic P65 and I $\kappa$ B $\alpha$  protein, and NF- $\kappa$ B DNA binding activity.<sup>[3]</sup>

Nodakenin can inhibit mast cell degranulation through the inhibition of IL-4 and TNF- $\alpha$  mRNA expression, and that nodakenin may potentially serve as an anti-allergic agent.<sup>[4]</sup>

Nodakenin may be a potential therapeutic resource for AD as well as an adjunctive agent to control associated with AD, by suppressing the increase of AD-like skin lesions in ICR.<sup>[5]</sup>

## **[ Solvent ]**

Pyridine, DMSO, Ethanol, Methanol.

## **[ HPLC Method ]<sup>[6]</sup>**

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

Flow rate: 1.0 ml/min;

Column temperature: 30 °C;

The wave length of determination: 330 nm.

## **[ Storage ]**

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

## **[ References ]**

- [1] Rim H K, Cho W, Sung S H, *et al. J. Pharmacol. Exp. Ther.*, 2012, 342(3):654-64.
- [2] Dong H K, Kim D Y, Kim Y C, *et al. Life Sci.*, 2007, 80(21):1944-50.
- [3] Xiong Y Y, Shi W J, Hao Y U, *et al. Basic & Clinical Medicine*, 2014.
- [4] Kim Y J, Park S J, Kim T J. *생명과학회지*, 2011, 21:1721-5.
- [5] Park S J, Cha H S, Lee Y H, *et al. Biosci. Biotech. Bioch.*, 2014, 78(9):1568-71.
- [6] Zhang P, Yang X W. *J. Asian Nat. Prod. Res.*, 2009, 11(4):371-9.

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