

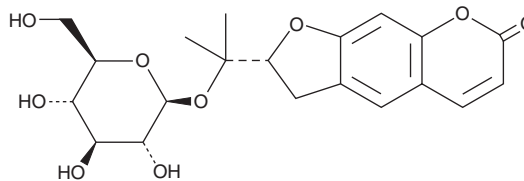
# PRODUCT INFORMATION



## Nodakenin

Item No. 25213

**CAS Registry No.:** 495-31-8  
**Formal Name:** (2R)-2-[1-(β-D-glucopyranosyloxy)-1-methylethyl]-2,3-dihydro-7H-furo[3,2-g][1]benzopyran-7-one  
**MF:** C<sub>20</sub>H<sub>24</sub>O<sub>9</sub>  
**FW:** 408.4  
**Purity:** ≥98%  
**UV/Vis.:** λ<sub>max</sub>: 224, 336 nm  
**Supplied as:** A crystalline solid  
**Storage:** -20°C  
**Stability:** ≥4 years



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

### Laboratory Procedures

Nodakenin is supplied as a crystalline solid. A stock solution may be made by dissolving the nodakenin in the solvent of choice, which should be purged with an inert gas. Nodakenin is soluble in organic solvents such as DMSO and dimethyl formamide. The solubility of nodakenin in these solvents is approximately 50 and 5 mg/ml, respectively.

### Description

Nodakenin is a coumarin glucoside originally isolated from *P. decursivum* that has anti-inflammatory, neuroprotective, and neurogenic activities.<sup>1-5</sup> It dose-dependently reduces LPS-induced increases in TNF-α, IL-6, and IL-1β mRNA expression and protein levels and NK-κB activity and translocation in RAW 264.7 macrophages when used at concentrations ranging from 25 to 100 μM.<sup>2</sup> Nodakenin (5, 10, and 20 mg/kg) prevents airway inflammation, hyper-responsiveness, and remodeling in a mouse model of chronic asthma induced by ovalbumin.<sup>3</sup> It also decreases the levels of IL-4, IL-5, IL-13, as well as matrix metalloproteinase-2 (MMP-2) and MMP-9 in bronchoalveolar lavage fluid (BALF). Nodakenin increases proliferation of neural progenitor cells in the adult mouse hippocampal dentate gyrus, increases hippocampal protein levels of AKT and glycogen synthase kinase-3β (GSK-3β), and improves learning and memory in the passive avoidance test.<sup>5</sup>

### References

1. Junzo, A. The constitution of nodakenin, a new glucoside from *Peucedanum decursivum Maxim.* *Bull. Chem. Soc. Jpn.* **4(1)**, 16-20 (1929).
2. Rim, H.K., Cho, W., Sung, S.H., *et al.* Nodakenin suppresses lipopolysaccharide-induced inflammatory responses in macrophage cells by inhibiting tumor necrosis factor receptor-associated factor 6 and nuclear factor-κB pathways and protects mice from lethal endotoxin shock. *J. Pharmacol. Exp. Ther.* **342(3)**, 654-664 (2012).
3. Xiong, Y., Wang, J., Yu, H., *et al.* The effects of nodakenin on airway inflammation, hyper-responsiveness and remodeling in a murine model of allergic asthma. *Immunopharmacol. Immunotoxicol.* **36(5)**, 341-348 (2014).
4. Kang, S.Y. and Kim, Y.C. Neuroprotective coumarins from the root of *Angelica gigas*: Structure-activity relationships. *Arch. Pharm. Res.* **30(11)**, 1368-1373 (2007).
5. Gao, Q., Jeon, S.J., Jung, H.A., *et al.* Nodakenin enhances cognitive function and adult hippocampal neurogenesis in mice. *Neurochem. Res.* **40(7)**, 1438-1447 (2015).

#### 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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