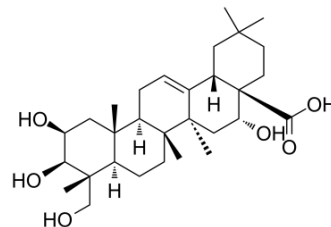


## Polygalacic acid

Cat. No.:	HY-N0801
CAS No.:	22338-71-2
Molecular Formula:	C <sub>30</sub> H <sub>48</sub> O <sub>6</sub>
Molecular Weight:	504.7
Target:	MMP; AChE
Pathway:	Metabolic Enzyme/Protease; Neuronal Signaling
Storage:	Please store the product under the recommended conditions in the COA.



### BIOLOGICAL ACTIVITY

#### Description

Polygalacic acid, is a triterpene, isolated from the root of *Polygala tenuifolia* Willd. Polygalacic acid inhibits MMP expression. Polygalacic acid may have a therapeutic effect in Osteoarthritis (OA) treatment<sup>[1]</sup>. Polygalacic acid exerts a significant neuroprotective effect on cognitive impairment, PA improves cholinergic system reactivity by inhibiting acetylcholinesterase (AChE) activity, increasing choline acetyltransferase (ChAT) activity, and elevating levels of acetylcholine (ACh) in the hippocampus and frontal cortex<sup>[2]</sup>.

#### In Vitro

Polygalacic acid (0-100 μM; 24 hours) significantly decreases the mRNA expressions of MMP-3, MMP-9, MMP-13, and COX-2, which are significantly increased by IL-1β, in a dose-dependent manner<sup>[1]</sup>. Polygalacic acid (0-100 μM; 6 hours) decreases the expression of phosphor-p38, phosphor-Erk, and phosphor-Jnk induced by IL-1β, phosphor-p65 is not reduced by polygalacic acid<sup>[1]</sup>.

#### RT-PCR<sup>[1]</sup>

Cell Line:	Chondrocyte cells
Concentration:	50 μM; 100 μM
Incubation Time:	24 hours
Result:	Suppressed IL-1β-induced COX-2, MMP3, MMP9, and MMP13 mRNA expression.

#### Western Blot Analysis<sup>[1]</sup>

Cell Line:	Chondrocyte cells
Concentration:	50 μM; 100 μM
Incubation Time:	6 hours
Result:	Inhibited the IL-1β-induced activation of the MAPK pathway in chondrocytes.

### REFERENCES

[1]. Xu K, et al. Polygalacic acid inhibits MMPs expression and osteoarthritis via Wnt/β-catenin and MAPK signal pathways suppression. *Int*

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Immunopharmacol. 2018 Oct;63:246-252.

[2]. Guo C, et al. Neuroprotective effects of polygalacic acid on scopolamine-induced memory deficits in mice. Phytomedicine. 2016 Feb 15;23(2):149-55.

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**Caution: Product has not been fully validated for medical applications. For research use only.**

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