

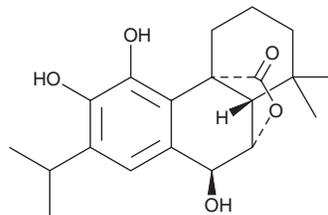
# PRODUCT INFORMATION



## Rosmanol

Item No. 35143

**CAS Registry No.:** 80225-53-2  
**Formal Name:** (4aR,9S,10S,10aS)-1,3,4,9,10,10a-hexahydro-5,6,9-trihydroxy-1,1-dimethyl-7-(1-methylethyl)-2H-10,4a-(epoxymethano)phenanthren-12-one  
**MF:** C<sub>20</sub>H<sub>26</sub>O<sub>5</sub>  
**FW:** 346.4  
**Purity:** ≥98%  
**Supplied as:** A solid  
**Storage:** -20°C  
**Stability:** ≥4 years  
**Item Origin:** Plant/*Salvia officinalis*



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

### Laboratory Procedures

Rosmanol is supplied as a solid. A stock solution may be made by dissolving the rosmanol in the solvent of choice, which should be purged with an inert gas. Rosmanol is soluble in the organic solvent DMSO.

### Description

Rosmanol is a polyphenol that has been found in *R. officinalis* and has diverse biological activities.<sup>1-3</sup> It is an inhibitor of  $\alpha$ -glucosidase and  $\alpha$ -amylase (IC<sub>50</sub>s = 16.4 and 40.9  $\mu$ g/ml, respectively) and has antioxidant activity in a Trolox equivalent absorbance capacity (TEAC) assay.<sup>2</sup> Rosmanol activates the mitochondrial and death receptor apoptosis pathways and induces apoptosis in COLO 205 colorectal cancer cells (IC<sub>50</sub> = ~42  $\mu$ M).<sup>3</sup> It also inhibits LPS-induced production of prostaglandin E<sub>2</sub> (PGE<sub>2</sub>), as well as reduces the activity of NF- $\kappa$ B, inducible nitric oxide synthase (iNOS), and COX-2 induced by LPS, in RAW 264.7 macrophages when used at concentrations of 2.5 and 5  $\mu$ M.<sup>1</sup> Rosmanol (30-100 mg/kg) increases the latency to tail withdrawal in the hot plate test, decreases immobility in the forced swim test, and increases the time spent in the open arms of the elevated plus maze in mice, indicating antinociceptive, antidepressant-like, and anxiolytic-like activities, respectively.<sup>4</sup>

### References

1. Lai, C.-S., Lee, J.H., Ho, C.-T., *et al.* Rosmanol potently inhibits lipopolysaccharide-induced iNOS and COX-2 expression through downregulating MAPK, NF- $\kappa$ B, STAT3 and C/EBP signaling pathways. *J. Agric. Food Chem.* **57(22)**, 10990-10998 (2009).
2. Etsassala, N.G.E.R., Badmus, J.A., Marnewick, J.L., *et al.* Alpha-glucosidase and alpha-amylase inhibitory activities, molecular docking, and antioxidant capacities of *Salvia aurita* constituents. *Antioxidants* **9(11)**, 1149 (2020).
3. Cheng, A.-C., Lee, M.-F., Tsai, M.-L., *et al.* Rosmanol potently induces apoptosis through both the mitochondrial apoptotic pathway and death receptor pathway in human colon adenocarcinoma COLO 205 cells. *Food Chem. Toxicol.* **49(2)**, 485-493 (2011).
4. Abdelhalim, A., Karim, N., Chebib, M., *et al.* Antidepressant, anxiolytic and antinociceptive activities of constituents from *Rosmarinus officinalis*. *J. Pharm. Pharm. Sci.* **18(4)**, 448-459 (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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