# **PRODUCT** INFORMATION



# Tenuigenin

Item No. 28824

CAS Registry No.: Formal Name:	2469-34-3 (2β,3β,4α,12α)-12-(chloromethyl)- 2,3-dihydroxy-27-norolean-13- ene-23.28-dioic acid	OH OH
Synonym:	Senegenin	CI
MF:	$C_{30}H_{45}CIO_6$	х н .   i   <b>▼</b> н !!
FW:	537.1	
Purity:	≥98%	
Supplied as:	A crystalline solid	
Storage:	-20°C	$\sim$
Stability:	≥4 years	H0 0
Item Origin:	Plant/Polygala tenuifolia	

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

### Laboratory Procedures

Tenuigenin is supplied as a crystalline solid. A stock solution may be made by dissolving the tenuigenin in the solvent of choice, which should be purged with an inert gas. Tenuigenin is soluble in organic solvents such as DMSO and dimethyl formamide. The solubility of tenuigenin in these solvents is approximately 30 mg/ml.

Tenuigenin is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, tenuigenin should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. Tenuigenin has a solubility of approximately 0.2 mg/ml in a 1:4 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

#### Description

Tenuigenin is a triterpenoid sapogenin that has been found in P. tenuifolia and has diverse biological activities, including antioxidant, anti-inflammatory, and neuroprotective properties.<sup>1-3</sup> It inhibits IL-1 $\beta$  and reactive oxygen species (ROS) production from LPS-induced mouse BV2 microglia at a concentration of 4  $\mu$ M.<sup>2</sup> Tenuigenin (25 mg/kg per day) decreases NOD-, LRR-, and pyrin domain-containing protein 3 (NLRP3) inflammasome activation and prevents dopaminergic neuronal degeneration in the mouse substantia nigra pars compacta in an MPTP-induced model of Parkinson's disease. Tenuigenin (2 mg/kg) also reduces increases in lung edema and the levels of IL-1 $\beta$  and TNF- $\alpha$  in bronchoalveolar lavage fluid (BALF) in a mouse model of intranasal S. aureus-induced pneumonia.<sup>3</sup>

## References

- 1. Dugan, J.J., De Mayo, P., and Starratt, A.N. Terpenoids: V. Senegenin: Functional groups and part structure. Can. J. Chem. 42(3), 491-501 (1964).
- 2. Fan, Z., Liang, Z., Yang, H., et al. Tenuigenin protects dopaminergic neurons from inflammation via suppressing NLRP3 inflammasome activation in microglia. J. Neuroinflammation 14(1), 256 (2017).
- 3. Yu, B., Qiao, J., Shen, Y., et al. Protective effects of tenuigenin on Staphylococcus aureus-induced pneumonia in mice. Microb. Pathog. 110, 385-389 (2017).

WARNING THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

#### SAFFTY 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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