PRODUCT INFORMATION



Timosaponin AIII

Item No. 22236

CAS Registry No.:	41059-79-4	
Formal Name:	(3β,5β,25S)-spirostan-3-yl	\succ
	2-O-β-D-glucopyranosyl-β-D-	HO
	galactopyranoside	
Synonym:	TAIII	
MF:	C ₃₉ H ₆₄ O ₁₃	
FW:	740.9	
Purity:	≥95%	но.
UV/Vis.:	λ _{max} : 244, 312 nm	→ H
Supplied as:	A crystalline solid	HO
Storage:	-20°C	
Stability:	≥4 years	HO.

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

Laboratory Procedures

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

Description

TAIII is a steroidal saponin isolated from A. asphodeloides that has anticancer, anti-inflammatory, and antithrombotic activities and also improves learning and memory deficits in mice.¹⁻⁵ It inhibits invasive activity and COX-2 gene expression induced by hepatocyte growth factor (HGF) in MDA-MB-231 breast cancer cells and B16-F10 melanoma cells in a concentration-dependent manner.^{4,5} TAIII (25 mg/kg) significantly reduces the number of metastatic nodules in B16-F10 melanoma cell-treated mice.⁴ Oral administration of TAIII reduces 2,3,4-trinitrobenzene sulfonic acid-induced colon shortening, myeloperoxidase activity, NF-kB activation, and IL-1 β , TNF- α , and IL-6 levels in mice.² TAIII reduces mortality and venous thrombus weight in mice with acute thromboembolism.³ It inhibits acetylcholinesterase in vitro (AChE; IC_{50} = 35.4 μ M) and improves scopolamine-induced learning and memory deficits in mice, as measured using the passive avoidance test and Morris water maze.¹

References

- 1. Lee, B., Jung, K., and Kim, D.H. Timosaponin AIII, a saponin isolated from Anemarrhena asphodeloides, ameliorates learning and memory deficits in mice. Pharmacol. Biochem. Behav. 93(2), 121-127 (2009).
- 2. Lim, S.M., Jeong, J.J., Kang, G.D., et al. Timosaponin AIII and its metabolite sarsasapogenin ameliorate colitis in mice by inhibiting NF-κB and MAPK activation and restoring Th17/Treg cell balance. Int. Immunopharmacol. 25(2), 493-503 (2015).
- 3. Cong, Y., Wang, L., Peng, R., et al. Timosaponin AIII induces antiplatelet and antithrombotic activity via Gq-mediated signaling by the thromboxane A₂ receptor. Sci. Rep. 6, 38757 (2016).
- 4. Kim, K.M., Im, A.-R., Kim, S.H., et al. Timosaponin AIII inhibits melanoma cell migration by suppressing COX-2 and in vivo tumor metastasis. Cancer Sci. 107(2), 181-188 (2016).
- Tsai, C.-H., Yang, C.-W., Wang, J.-Y., et al. Timosaponin AllI suppresses hepatocyte growth 5. factor-induced invasive activity through sustained ERK activation in breast cancer MDA-MB-231 cells. Evid. Based Complement. Altnernat. Med. 2013, 421051 (2013).

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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