

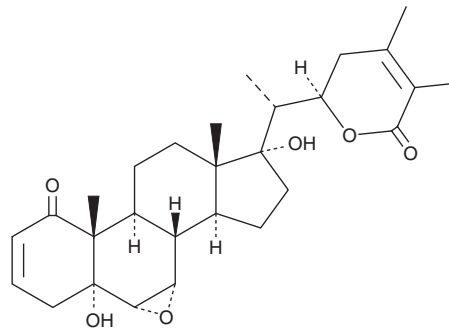
PRODUCT INFORMATION



Withanone

Item No. 11804

CAS Registry No.: 27570-38-3
Formal Name: 6 α ,7 α -epoxy-5 α ,17,22R-trihydroxy-1-oxo-ergosta-2,24-dien-26-oic acid, δ -lactone
Synonym: NSC 179884
MF: C₂₈H₃₈
FW: 470.6
Purity: \geq 90%
Supplied as: A solid
Storage: -20°C
Stability: \geq 4 years
Item Origin: Plant/*Withania* sp.



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

Laboratory Procedures

Withanone is supplied as a solid. A stock solution may be made by dissolving the withanone in the solvent of choice, which should be purged with an inert gas. Withanone is soluble in the organic solvent chloroform. Withanone is also slightly soluble in methanol and ethyl acetate.

Description

Withanone is a phytochemical that has been found in *W. somnifera* and has diverse biological activities.¹⁻³ It inhibits the protein-protein interaction between human angiotensin-converting enzyme 2 (ACE2) and the SARS-CoV-2 spike protein receptor-binding domain (IC₅₀ = 0.33 ng/ml).¹ Withanone (10 μ g/ml) protects against DNA damage, oxidative stress, and premature senescence induced by the industrial contaminant methoxyacetic acid in TIG-1 human fibroblasts.² *In vivo*, withanone (5-20 mg/kg) decreases brain levels of amyloid- β 1-42 (A β 42), malondialdehyde (MDA), TNF- α , IL-1 β , and IL-6, increases brain levels of acetylcholine, and improves cognitive function in a rat model of streptozotocin-induced sporadic Alzheimer's disease.³

References

1. Balkrishna, A., Pokhrel, S., Singh, H., *et al.* Withanone from *Withania somnifera* attenuates SARS-CoV-2 RBD and host ACE2 interactions to rescue spike protein induced pathologies in humanized zebrafish mode. *Drug Des. Devel. Ther.* **15**, 1111-1133 (2021).
2. Priyandoko, D., Ishii, T., Kaul, S.C., *et al.* Ashwagandha leaf derived withanone protects normal human cells against the toxicity of methoxyacetic acid, a major industrial metabolite. *PLoS One* **6(5)**, e19552 (2011).
3. Pandey, A., Bani, S., Dutt, P., *et al.* Multifunctional neuroprotective effect of withanone, a compound from *Withania somnifera* roots in alleviating cognitive dysfunction. *Cytokine* **102**, 211-221 (2018).

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.

WARRANTY AND LIMITATION OF REMEDY

Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

Copyright Cayman Chemical Company, 11/07/2022

CAYMAN CHEMICAL

1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA

PHONE: [800] 364-9897
[734] 971-3335

FAX: [734] 971-3640

CUSTSERV@CAYMANCHEM.COM
WWW.CAYMANCHEM.COM