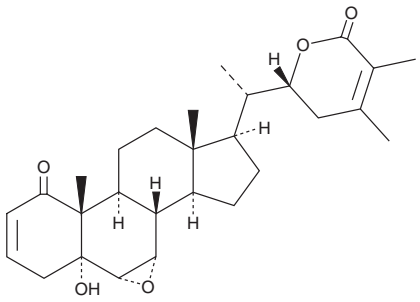
PRODUCT INFORMATION

Withanolide B

Item No. 11798

CAS Registry No.:	56973-41-2
Formal Name:	6α,7α-epoxy-5α,22R-dihydroxy-1-oxo-ergosta-2,24-dien-26-oic acid, δ-lactone
MF:	$C_{28}H_{38}O_5$
FW:	454.6
Purity:	≥95%
UV/Vis.:	λ_{max}: 225 nm
Supplied as:	A crystalline solid
Storage:	-20°C
Stability:	≥4 years
Item Origin:	Plant/*Withania somnifera*



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

Laboratory Procedures

Withanolide B is supplied as a crystalline solid. A stock solution may be made by dissolving the withanolide B in the solvent of choice, which should be purged with an inert gas. Withanolide B is soluble in organic solvents such as acetonitrile and methanol. The solubility of withanolide B in these solvents is approximately 0.1 and 0.5 mg/ml, respectively.

Description

Withanolide B is a withanolide that has been found in *W. somnifera*.[1] Unlike withanolide A, it does not increase glucose uptake in L6 myotubes.[2] In *in silico* docking studies, withanolide B was identified as a neuronal nitric oxide synthase (nNOS) inhibitor (K_i = 5.15 nM), that also inhibited inducible NOS (iNOS) and endothelial NOS (eNOS; K_is = 15.48 and 66.59 nM, respectively), and as a ligand for the PARP1 catalytic domain with an estimated K_i value of 7.54 nM.[3,4]

References

1. Nayak, P.S., Upadhyaya, S.D., and Upadhyaya, A. HPLC analysis of bioactive steroids from the roots of *Withania somnifera* (L.) Dunal (Ashwagandha). *Lat. Am. J. Pharm.* **29(3)**, 468-471 (2010).
2. Gorelick, J., Rivka, R., Avinoam, S., *et al.* Hypoglycemic activity of withanolides and elicitated *Withania somnifera*. *Phytochemistry* **116**, 283-289 (2015).
3. Kumar, G., Paliwal, P., Patnaik, N., *et al. Withania somnifera* phytochemicals confer neuroprotection by selective inhibition of nNos: An *in silico* study to search potent and selective inhibitors for human nNOS. *J. Theor. Comput. Chem.* **16(5)**, 1750042 (2017).
4. Mukherjee, S., Kumar, G., and Patnaik, R. Identification of potential inhibitors of PARP-1, a regulator of caspase-independent cell death pathway, from *Withania somnifera* phytochemicals for combating neurotoxicity: A structure-based *in-silico* study. *J. Theor. Comput. Chem.* **16(7)**, 1750062 (2017).

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