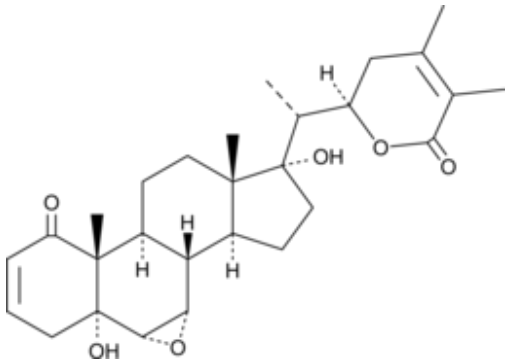
Product Data Sheet

Product Name: Withanone
Cat. No.: GC48969

Chemical Properties

Cas. No.	27570-38-3		
SMILES	O=C(C(C)=C(C)C1)O[C@@]1([H])[C@@H](C)[C@@]2(O)CC[C@@]3([H])[C@]4([H])[C@H]5[C@H](O5)[C@@]([C@@]6(C)[C@@]4([H])CC[C@@]32C)(O)CC=CC6=O		
Formula	C28H38	M.Wt	470.6
Solubility	Chloroform: soluble,Ethyl Acetate: slightly soluble,Methanol: slightly soluble	Storage	-20°C
General tips	For obtaining a higher solubility , please warm the tube at 37 °C and shake it in the ultrasonic bath for a while.Stock solution can be stored below -20°C for several months.		
Shipping Condition	Evaluation sample solution : ship with blue ice All other available size: ship with RT , or blue ice upon request.		
Structure			

Background

Withanone is a phytochemical that has been found in *W. somnifera* and has diverse biological activities.[1,2,3] It inhibits the protein-protein interaction between human angiotensin-converting enzyme 2 (ACE2) and the SARS-CoV-2 spike protein receptor-binding domain (IC_{50} = 0.33 ng/ml).[1] Withanone (10 µg/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 (Aβ42), malondialdehyde (MDA),

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TNF-α, IL-1β, and IL-6, increases brain levels of acetylcholine, and improves cognitive function in a rat model of streptozotocin-induced sporadic Alzheimer's disease.[3]

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 modeDrug Des. Devel. Ther.151111-1133(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 metabolitePLoS One6(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 dysfunctionCytokine102211-221(2018)

Caution: Product has not been fully validated for medical applications. For research use only.
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