

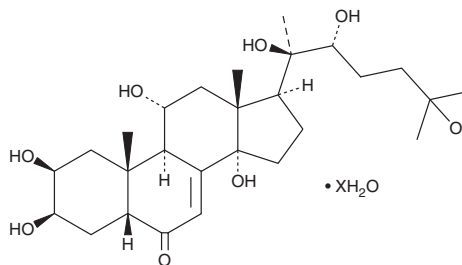
# PRODUCT INFORMATION



## Turkesterone (hydrate)

Item No. 34665

**Formal Name:** (2 $\beta$ ,3 $\beta$ ,5 $\beta$ ,11 $\alpha$ ,22R)-2,3,11,14,20,22,25-heptahydroxy-cholest-7-en-6-one, hydrate  
**MF:** C<sub>27</sub>H<sub>44</sub>O<sub>8</sub> • XH<sub>2</sub>O  
**FW:** 496.6  
**Purity:**  $\geq$ 95%  
**Supplied as:** A solid  
**Storage:** -20°C  
**Stability:**  $\geq$ 4 years  
**Item Origin:** Plant/*Ajuga turkestanica*



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

### Laboratory Procedures

Turkesterone (hydrate) is supplied as a solid. A stock solution may be made by dissolving the turkesterone (hydrate) in the solvent of choice, which should be purged with an inert gas. Turkesterone (hydrate) is slightly soluble in DMSO and methanol.

### Description

Turkesterone is a phytoecdysteroid that has been found in *A. turkestanica* and has diverse biological activities.<sup>1</sup> It binds to the ecdysteroid receptor ( $K_D = 0.491 \mu\text{M}$  for the *C. tentans* receptor) and induces pupariation in *G. mellonella*, *S. bullata*, and *D. vulpinus* last instar larvae ( $ED_{50}$ s = 10, 0.03, and 0.2  $\mu\text{g/larvae}$ , respectively).<sup>2,3</sup> Turkesterone scavenges DPPH (Item No. 14805) radicals in a cell-free assay ( $IC_{50} = 140.92 \mu\text{g/ml}$ ) and is cytotoxic to HeLa cervical, HepG2 hepatic, and MCF-7 breast cancer cells ( $IC_{50}$ s = 75.2, 63.01, and 105.2  $\mu\text{g/ml}$ , respectively).<sup>1</sup> It decreases serum glucose levels and increases serum insulin and C-peptide levels in a rat model of diabetes induced by alloxan (Item No. 9002196) when administered at a dose of 10 mg/kg.<sup>4</sup> Turkesterone prevents immobilization stress-induced stomach ulcers in mice.<sup>5</sup>

### References

1. Mamadalieva, N.Z., El-Readi, M.Z., Ovidi, E., et al. Antiproliferative, antimicrobial and antioxidant activities of the chemical constituents of *Ajuga turkestanica*. *Phytopharmacology* **4**(1), 1-18 (2013).
2. Sláma, K., Abubakirov, N.K., Gorovits, M.B., et al. Hormonal activity of ecdysteroids from certain asiatic plants. *Insect Biochem. Mol. Biol.* **23**(1), 181-185 (1993).
3. Spindler-Barth, M., Quack, S., Rauch, P., et al. Biological effects of muristerone A and turkesterone on the epithelial cell line from *Chironomus tentans* (Diptera: Chironomidae) and correlation with binding affinity to the ecdysteroid receptor. *Eur. J. Entomol.* **94**(2), 161-166 (1997).
4. Kuchkarova, L.S., Rokhimova, S.O., and Syrov, V.N. Effect of turkesterone on the pancreas histology and function in diabetic rats. *Int. J. Curr. Res. Rev.* **12**(21), 1-5 (2020).
5. Shakhmurova, G.A., Syrov, V.N., and Khushbaktova, Z.A. Immunomodulating and antistress activity of ecdysterone and turkesterone under immobilization-induced stress conditions in mice. *Pharm. Chem. J.* **44**(1), 7-9 (2010).

#### 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.

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