

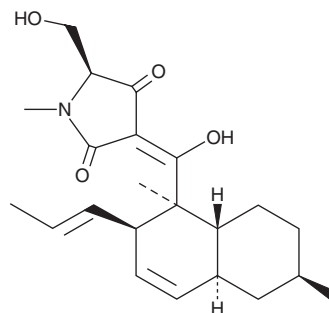
PRODUCT INFORMATION



Equisetin

Item No. 18196

CAS Registry No.: 57749-43-6
Formal Name: (3E,5S)-5-(hydroxymethyl)-3-[hydroxy[(1S,2R,4aS,6R,8aR)-1,2,4a,5,6,7,8,8a-octahydro-1,6-dimethyl-2-(1E)-1-propen-1-yl-1-naphthalenyl]methylene]-1-methyl-2,4-pyrrolidinedione
MF: C₂₂H₃₁NO₄
FW: 373.5
Supplied as: A solid
Purity: ≥99%
Storage: -20°C
Stability: ≥4 years



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

Laboratory Procedures

Equisetin is supplied as a solid. A stock solution may be made by dissolving the equisetin in the solvent of choice. Equisetin is soluble in organic solvents such as DMSO and dimethyl formamide.

Equisetin is sparingly soluble in aqueous solutions. To enhance aqueous solubility, dilute the organic solvent solution into aqueous buffers or isotonic saline. If performing biological experiments, ensure the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. We do not recommend storing the aqueous solution for more than one day.

Description

Equisetin is a fungal metabolite that has been isolated from *Fusarium*.^{1,2} It inhibits HIV-1 integrase 3' end-processing and strand transfer activities.³ Equisetin inhibits the ATPase activity of rat liver mitochondria and mitoplasts stimulated by 2,4-dinitrophenol (Dnp) in a concentration-dependent manner (IC₅₀ = ~8 nM per mg of protein for both).⁴ It also inhibits ADP-stimulated respiration and the mitochondrial transport of ATP, inorganic phosphate, and succinate. Epiequisetin is phytotoxic and inhibits the germination of various seeds and growth of young seedlings.⁵

References

1. Desjardins, A.E. and Proctor, R.H. Molecular biology of *Fusarium* mycotoxins. *Int. J. Food Microbiol.* **119**, 47-50 (2007).
2. Patham, B., Duffy, J., Lane, A., *et al.* Post-translational import of protein into the endoplasmic reticulum of a trypanosome: An *in vitro* system for discovery of anti-trypanosomal chemical entities. *Biochem. J.* **419(2)**, 507-517 (2009).
3. Singh, S.B., Zink, D.L., Goetz, M.A., *et al.* Equisetin and a novel opposite stereochemical homolog phomasetin, two fungal metabolites as inhibitors of HIV-1 integrase. *Tetrahedron Lett.* **39**, 2243-2246 (1998).
4. König, T., Kapus, A., and Sarkadi, B. Effects of equisetin on rat liver mitochondria: Evidence for inhibition of substrate anion carriers of the inner membrane. *J. Bioenerg. Biomembr.* **25(5)**, 537-545 (1993).
5. Wheeler, M.H., Stipanovic, R.D., and Puckhaber, L.S. Phytotoxicity of equisetin and *epi*-equisetin isolated from *Fusarium equiseti* and *F. pallidoroseum*. *Mycol. Res.* **103(8)**, 967-973 (1999).

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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