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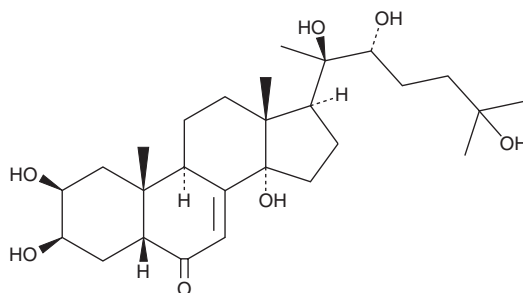
PRODUCT INFORMATION



20-hydroxy Ecdysone

Item No. 16145

CAS Registry No.: 5289-74-7
Formal Name: (5 β)-2 β ,3 β ,14,20,22R,25-hexahydroxy-cholest-7-en-6-one
Synonyms: Ecdysterone, Isoinokosterone
MF: C₂₇H₄₄O₇
FW: 480.6
Purity: \geq 98%
Stability: \geq 2 years at -20°C
Supplied as: A crystalline solid
UV/Vis.: λ_{max} : 243 nm



Laboratory Procedures

For long term storage, we suggest that 20-hydroxy ecdysone be stored as supplied at -20°C. It should be stable for at least two years.

20-hydroxy Ecdysone is supplied as a crystalline solid. A stock solution may be made by dissolving the 20-hydroxy ecdysone in the solvent of choice. 20-Hydroxy Ecdysone is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF), which should be purged with an inert gas. The solubility of 20-hydroxy ecdysone in ethanol is approximately 25 mg/ml and approximately 30 mg/ml in DMSO and DMF.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of 20-hydroxy ecdysone can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of 20-hydroxy ecdysone in PBS, pH 7.2, is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

20-Hydroxy Ecdysone is an ecdysteroid hormone produced in arthropod species that induces developmental changes associated with ecdysis and the completion of metamorphosis.¹ It is also produced in plants as a defensive strategy to disrupt the development of insect pests.² In target tissues, 20-hydroxy ecdysone binds to the nuclear hormone receptor, ecdysone receptor, initiating a signaling cascade that results in cell cycle arrest.^{1,3} Ecdysteroids such as this compound have been employed as tools in inducible gene regulation systems controlled by reporter cells transfected with the ecdysone receptor.^{4,5}

References

1. Fallon, A.M. and Gerenday, A. Ecdysone and the cell cycle: Investigations in a mosquito cell line. *J. Insect Physiol.* **56(10)**, 1396-1401 (2010).
2. Boo, K.H., Lee, D., Jeon, G.L., *et al.* Distribution and biosynthesis of 20-hydroxyecdysone in plants of *Achyranthes japonica* Nakai. *Biosci. Biotechnol. Biochem.* **74(11)**, 2226-2231 (2010).
3. Cai, M.J., Dong, D.J., Wang, Y., *et al.* G-protein-coupled receptor participates in 20-hydroxyecdysone signaling on the plasma membrane. *Cell Commun. Signal.* **12**, 11-16 (2014).
4. Saez, E., Nelson, M.C., Eshelman, B., *et al.* Identification of ligands and coligands for the ecdysone-regulated gene switch. *Proc. Natl. Acad. Sci. USA* **97(26)**, 14512-14517 (2000).
5. Karzenowski, D., Potter, D.W., and Padidam, M. Inducible control of transgene expression with ecdysone receptor: Gene switches with high sensitivity, robust expression, and reduced size. *Biotechniques* **39(2)**, 191-192 (2005).

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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