

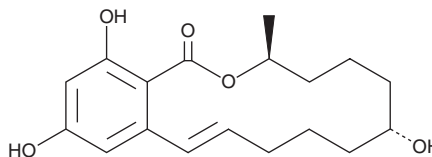
PRODUCT INFORMATION



α -Zearalenol

Item No. 16549

CAS Registry No.: 36455-72-8
Formal Name: (3S,7R,11E)-3,4,5,6,7,8,9,10-octahydro-7,14,16-trihydroxy-3-methyl-1H-2-benzoxacyclotetradecin-1-one
MF: C₁₈H₂₄O₅
FW: 320.4
Purity: \geq 98%
UV/Vis.: λ_{max} : 235, 275, 315 nm
Supplied as: A crystalline solid
Storage: -20°C
Stability: \geq 4 years



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

Laboratory Procedures

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

α -Zearalenol is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, α -zearalenol should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. α -Zearalenol has a solubility of approximately 0.1 mg/ml in a 1:7 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

α -Zearalenol is a mycotoxin, an agonist of estrogen receptor α (ER α), and an active metabolite of zearalenone (Item No. 11353).^{1,2} α -Zearalenol increases the proliferation of MCF-7 cells that endogenously express ER α (EC₅₀ = 0.06 nM).² It is also an androgen receptor antagonist (IC₅₀ = 4,170 nM for the human receptor). α -Zearalenol induces cytotoxicity in isolated phorbol 12-myristate 13-acetate-stimulated pig neutrophils (IC₅₀ = 59.0 μ M). It increases intracellular superoxide levels when used at a concentration of 1 μ M and decreases IL-8 supernatant levels in the same cells at 10 μ M.³ It increases total and progressive motility and the levels of acrosome-reacted sperm, as well as decreases path and straight-line velocity and cell linearity, in isolated stallion sperm when used at a concentration of 100 μ M.⁴ α -Zearalenol (1 mg/kg) increases uterine weight in immature female mice when administered at a dose of 1 mg/kg.¹

References

1. Ueno, Y. and Tashiro, F. α -Zearalenol, a major hepatic metabolite in rats of zearalenone, an estrogenic mycotoxin of *Fusarium* species. *J. Biochem.* **89**(2), 563-571 (1981).
2. Molina-Molina, J.M., Real, M., Jimenez-Diaz, I., *et al.* Assessment of estrogenic and anti-androgenic activities of the mycotoxin zearalenone and its metabolites using *in vitro* receptor-specific bioassays. *Food Chem. Toxicol.* **74**, 233-239 (2014).
3. Marin, D.E., Taranu, I., Burlacu, R., *et al.* Effects of zearalenone and its derivatives on the innate immune response of swine. *Toxicol.* **56**(6), 956-953 (2010).
4. Filannino, A., Stout, T.A.E., Gadella, B.M., *et al.* Dose-response effects of estrogenic mycotoxins (zearalenone, alpha- and beta-zearalenol) on motility, hyperactivation and the acrosome reaction of stallion sperm. *Reprod. Biol. Endocrinol.* **9**, 134 (2011).

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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