

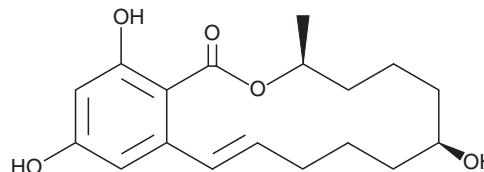
PRODUCT INFORMATION



β-Zearalenol

Item No. 19460

CAS Registry No.: 71030-11-0
Formal Name: (3S,7S,11E)-3,4,5,6,7,8,9,10-octahydro-7,14,16-trihydroxy-3-methyl-1H-2-benzoxacyclotetradecin-1-one
Synonyms: β-trans-Zearalenol, β-Zel, (-)-β-Zearalenol
MF: C₁₈H₂₄O₅
FW: 320.4
Purity: ≥98%
Supplied as: A solid
Storage: -20°C
Stability: ≥4 years
Special Conditions: Light sensitive



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

Laboratory Procedures

β-Zearalenol is supplied as a solid. A stock solution may be made by dissolving the β-zearalenol in the solvent of choice. β-Zearalenol is slightly soluble in organic solvents such as acetone and methanol.

Description

β-Zearalenol is a mycotoxin, an agonist of estrogen receptor α (ERα), and an active metabolite of zearalenone (Item No. 11353).^{1,2} β-Zearalenol increases the proliferation of MCF-7 cells that endogenously express ERα (EC₅₀ = 8.49 nM).² It is also an androgen receptor antagonist (IC₅₀ = 23.10 μM for the human receptor). β-Zearalenol (100 μM) decreases path and straight line velocity and cell linearity, as well as increases curvilinear velocity and the levels of acrosome-reacted sperm, in isolated stallion sperm.³ α-Zearalenol induces cytotoxicity in isolated phorbol 12-myristate 13-acetate-stimulated pig neutrophils (IC₅₀ = 56.8 μM). It increases intracellular superoxide levels when used at a concentration of 1 μM, and decreases IL-8 supernatant levels in the same cells at 10 μM.⁴ β-Zearalenol (50 mg/kg) increases uterine weight in immature female mice.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. 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).
4. 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).

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.

WARRANTY AND LIMITATION OF REMEDY

Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

Copyright Cayman Chemical Company, 09/06/2022

CAYMAN CHEMICAL

1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA

PHONE: [800] 364-9897
[734] 971-3335

FAX: [734] 971-3640

CUSTSERV@CAYMANCHEM.COM
WWW.CAYMANCHEM.COM