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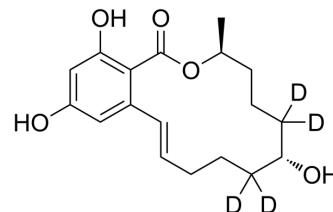
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α -Zearalenol-d₄

Cat. No.:	HY-N6710S
CAS No.:	1778734-73-8
Molecular Formula:	C ₁₈ H ₂₀ D ₄ O ₅
Molecular Weight:	324.4
Target:	Estrogen Receptor/ERR; Isotope-Labeled Compounds
Pathway:	Vitamin D Related/Nuclear Receptor; Others
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description	α -Zearalenol-d ₄ is a deuterated labeled α -Zearalenol ^[1] . α -Zearalenol is a Mycotoxin with high affinity for the estrogen receptors (ER), α -Zearalenol is the derivative of zearalenone (ZEN), causes reproductive disorders in animals, due to its xenoestrogenic effects ^[2] .
In Vitro	<p>Stable heavy isotopes of hydrogen, carbon, and other elements have been incorporated into drug molecules, largely as tracers for quantitation during the drug development process. Deuteration has gained attention because of its potential to affect the pharmacokinetic and metabolic profiles of drugs^[1].</p> <p>α-Zearalenol (α-zol) (0.001-10 μM; 24-72 hours) shows the highest RPE (90.5%) at 9.37 μM α-ZOL exposure in MCF-7 cells with an IC₅₀ of 12.5 μM^[2].</p> <p>α-Zearalenol (α-zol) (0.001-10 μM; 24-72 hours) induces an increase of cell viability on MCF-7 cells mainly after 72 h of treatment whereas it is slightly cytotoxic on MDA-MB231 cells^[3].</p> <p>α-Zearalenol (α-zol) (0.001-10 μM; 24-72 hours) increases MCF7 cell population in the S phase and in the G2/M phase, no visible change in cell cycle phases is observed in MDA-MB231 cells^[3].</p> <p>α-Zearalenol (α-zol) (1-10 μM; 24 hours) reduces the expression of TNF-α, α-ZOL combines with β-ZOL shows an antagonistic effect on inflammation for IL-1β and act synergic for IL-8 at high toxin concentrations^[3].</p> <p>MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p>

REFERENCES

- [1]. Tatay E, et al. Estrogenic activity of zearalenone, α -zearalenol and β -zearalenol assessed using the E-screen assay in MCF-7 cells. Toxicol Mech Methods. 2018 May;28(4):239-242.
- [2]. Marin DE, et al. Cytotoxic and inflammatory effects of individual and combined exposure of HepG2 cells to zearalenone and its metabolites. Naunyn Schmiedebergs Arch Pharmacol. 2019 Aug;392(8):937-947.
- [3]. Nittoli AC, et al. Effects of α -zearalenol on the metabolome of two breast cancer cell lines by 1H-NMR approach. Metabolomics. 2018 Feb 14;14(3):33.
- [4]. Russak EM, et al. Impact of Deuterium Substitution on the Pharmacokinetics of Pharmaceuticals. Ann Pharmacother. 2019 Feb;53(2):211-216.

Caution: Product has not been fully validated for medical applications. For research use only.

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