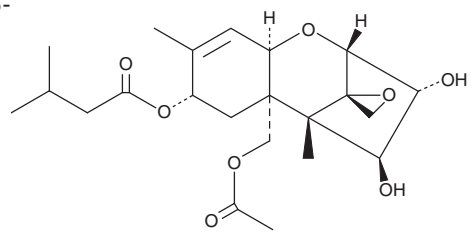
PRODUCT INFORMATION

HT-2 Toxin

Item No. 20431

CAS Registry No.: 26934-87-2
Formal Name: 12,13-epoxy-trichothec-9-ene-3α,4β,8α,15-tetrol, 15-acetate 8-(3-methylbutanoate)
Synonym: NSC 278571
MF: $C_{22}H_{32}O_8$
FW: 424.5
Purity: ≥98%
Supplied as: A powder
Storage: -20°C
Stability: ≥2 years
Special Conditions: Avoid direct light



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

Laboratory Procedures

HT-2 Toxin is supplied as a powder. A stock solution may be made by dissolving the HT-2 Toxin in the solvent of choice, which should be purged with an inert gas. HT-2 Toxin is soluble in ethanol and DMSO. HT-2 Toxin is also soluble in the organic solvent dichloromethane at a concentration of approximately 5 mg/ml.

Description

HT-2 toxin is a type A trichothecene mycotoxin and an active, deacetylated metabolite of the trichothecene mycotoxin T-2 toxin (Item No. 11444).[1,2] Like T-2 toxin, HT-2 toxin inhibits protein synthesis and cell proliferation in plants.[2] HT-2 toxin also reduces viability of HepG2, A549, HEp-2, Caco-2, A-204, U937, Jurkat, and RPMI-8226 cancer cells with IC_{50} values ranging from 3.1 to 23 ng/ml and human umbilical vein endothelial cells (HUVECs) with an IC_{50} value of 56.4 ng/ml.[1] It induces oxidative stress, DNA damage, and autophagy in, as well as halts the development of, cultured mouse embryos when used at a concentration of 10 nM.[3] HT-2 toxin has been found in cereal grains and food products.[4,5]

References

1. Nielsen, C., Casteel, M., Didier, A., *et al*. Trichothecene-induced cytotoxicity on human cell lines. *Mycotoxin Res*. **25(2)**, 77-84 (2009).
2. Nathanail, A.V., Varga, E., Meng-Reiterer, J., *et al*. Metabolism of the fusarium mycotoxins T-2 toxin and HT-2 toxin in wheat. *J. Agric. Food Chem*. **63(35)**, 7862-7872 (2015).
3. Zhang, L., Li, L., Xu, J., *et al*. HT-2 toxin exposure induces mitochondria dysfunction and DNA damage during mouse early embryo development. *Reprod. Toxicol*. **85**, 104-109 (2019).
4. Langseth, W. and Rundberget, T. The occurrence of HT-2 toxin and other trichothecenes in Norwegian cereals. *Mycopathologia* **147(3)**, 157-165 (1999).
5. Al-Taher, F., Cappozzo, J., Zweigenbaum, J., *et al*. Detection and quantitation of mycotoxins in infant cereals in the U.S. market by LC-MS/MS using a stable isotope dilution assay. *Food Control* **72(Part A)**, 27-35 (2017).

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