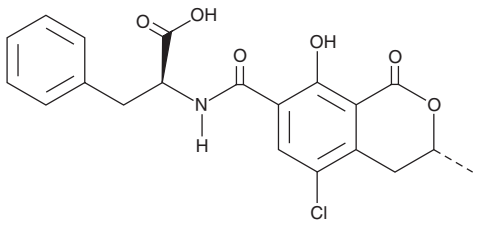
PRODUCT INFORMATION

Ochratoxin A

Item No. 11439

CAS Registry No.: 303-47-9
Formal Name: N-[[(3R)-5-chloro-3,4-dihydro-8-hydroxy-3-methyl-1-oxo-1H-2-benzopyran-7-yl]carbonyl]-L-phenylalanine
Synonyms: NSC 201422, NSC 221991, OTA
MF: $C_{20}H_{18}ClNO_6$
FW: 403.8
Purity: ≥98%
UV/Vis.: λ_{max}: 213, 331 nm
Supplied as: A crystalline solid
Storage: -20°C
Stability: ≥2 years



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

Laboratory Procedures

Ochratoxin A (OTA) is supplied as a crystalline solid. A stock solution may be made by dissolving the OTA in the solvent of choice. OTA is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide, which should be purged with an inert gas. The solubility of OTA in these solvents is approximately 50, 16, and 14 mg/ml, respectively.

OTA is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, OTA should first be dissolved in ethanol and then diluted with the aqueous buffer of choice. OTA has a solubility of approximately 0.5 mg/ml in a 1:1 solution of ethanol:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

Ochratoxin A (OTA) is a mycotoxin that has been found in *Penicillium* and is an active metabolite of OTC (Item No. 20183).[1-3] It is formed from OTC *in vivo*, however, OTC can also be formed from OTA by gut microbiota.[1,4] OTA (120 µg/kg) increases renal lipid peroxide levels and the number of apoptotic cells, as well as reduces renal superoxide dismutase (SOD) activity in rats.[2] Topical application of OTA (80 µg/animal) induces DNA damage, cell cycle arrest at the G_0/G_1 phase, and apoptosis in mouse skin cells.[3] It also initiates tumor formation in a two-stage mouse skin tumorigenesis model. OTA has been found in food products and poultry feed.[5,6]

References

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2. Petrik, J., Zanić-Grubisić, T., Barisić, K., *et al.* Apoptosis and oxidative stress induced by ochratoxin A in rat kidney. *Arch. Toxicol.* **77(12)**, 685-693 (2003).
3. Kumar, R., Ansari, K.M., Chaudhari, B.P., *et al.* Topical application of ochratoxin A causes DNA damage and tumor initiation in mouse skin. *PLoS One* **7(10)**, (2012).
4. Galtier, P. and Alvinerie, M. *In vitro* transformation of ochratoxin A by animal microbioal floras. *Ann. Rech. Vet*. **7(1)**, 91-98 (1976).
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).
6. Ezekiel, C.N., Bandyopadhyay, R., Sulyok, M., *et al*. Fungal and bacterial metabolites in commercial poultry feed from Nigeria. Food Addit. Contam. *Part A Chem. Anal. Control Expo. Risk Assess*. **29(8)**, 1288-1299 (2012).

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