

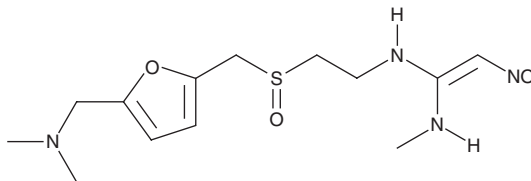
PRODUCT INFORMATION



Ranitidine S-oxide

Item No. 35412

CAS Registry No.: 73851-70-4
Formal Name: N'-[2-[[[5-[(dimethylamino)methyl]-2-furanyl]methyl]sulfinyl]ethyl]-N-methyl-2-nitro-1,1-ethenediamine
MF: C₁₃H₂₂N₄O₄S
FW: 330.4
Purity: ≥90%
UV/Vis.: λ_{max}: 235, 327 nm
Supplied as: A solid
Storage: -20°C
Stability: ≥4 years



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

Laboratory Procedures

Ranitidine S-oxide is supplied as a solid. A stock solution may be made by dissolving the ranitidine S-oxide in the solvent of choice, which should be purged with an inert gas. Ranitidine S-oxide is soluble in DMSO.

Description

Ranitidine S-oxide is a metabolite of the histamine H₂ receptor antagonist ranitidine (Item No. 16939).¹ It is formed *via* S-oxidation of ranitidine by flavin-containing monooxygenase 3 (FMO3) and FMO5.² Ranitidine S-oxide is acutely cytotoxic to the aquatic species *B. calyciflorus* and *C. dubia* (LC₅₀s = 4.51 and 7.85 mg/L, respectively), and it inhibits the reproduction of *B. calyciflorus* and *C. dubia* with chronic exposure (EC₅₀s = 0.83 and 0.51 mg/L, respectively).³ It is mutagenic to *S. typhimurium* and genotoxic to *E. coli* when used at concentrations ranging from 0.312 to 0.625 µg/ml and 0.312 to 5 µg/ml, respectively.

References

1. Smith, M.S., Oxford, J., and Evans, M.B. Improved method for the separation of ranitidine and its metabolites based on supercritical fluid chromatography. *J. Chromatogr. A.* **683(2)**, (1994).
2. Chung, W.-G., Park, C.-S., Roh, H.-K., *et al.* Oxidation of ranitidine by isozymes of flavin-containing monooxygenase and cytochrome P450. *Jpn. J. Pharmacol.* **84(2)**, 213-220 (2000).
3. Isidori, M., Parrella, A., Pistillo, P., *et al.* Effects of ranitidine and its photoderivatives in the aquatic environment. *Environ. Int.* **35(5)**, 821-825 (2009).

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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