

Product Data Sheet

Product Name: Ranitidine S-oxide

Cat. No.: GC52054

Chemical Properties

Cas. No. 73851-70-4

SMILES O=S(CC1=CC=C(CN(C)C)O1)CCN/C(NC)=C/[N+](O-)=O

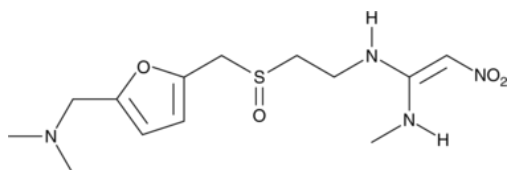
Formula C₁₃H₂₂N₄O₄S M.Wt 330.4

Solubility H₂O : 125 mg/mL (378.33 mM; ultrasonic and warming and heat to 60°C) Storage -20°C

General tips For obtaining a higher solubility, please warm the tube at 37 °C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

Shipping Condition Evaluation sample solution : ship with blue ice All other available size: ship with RT, or blue ice upon request.

Structure



Background

Ranitidine S-oxide is a metabolite of the histamine H₂ receptor antagonist ranitidine.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.

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.-

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

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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)

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