

Product Data Sheet

Product Name: 7-hydroxy Methotrexate

Cat. No.: GC49051

Chemical Properties

Cas. No. 5939-37-7

SMILES NC1=C2C(NC(C(CN(C3=CC=C(C=C3)C(N[C@H](C(O)=O)CCC(O)=O)=O)C)=N2)=O)=NC(N)=N1

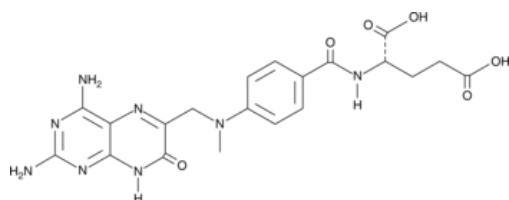
Formula C₂₀H₂₂N₈O₆ M.Wt 470.4

Solubility DMSO: slightly soluble, Ethanol: slightly soluble 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

7-hydroxy Methotrexate (7-hydroxy MTX) is the major metabolite of the folic acid derivative MTX.¹ It is formed by the 7-oxidation of MTX by hepatic aldehyde oxidases. Unlike MTX, 7-hydroxy MTX does not inhibit thymidylate synthase in isolated human acute myeloid and acute lymphoblastic leukemia cells.² 7-hydroxy MTX has a maximum tolerated dose of 0.1 g/kg, which is 30- to 50-fold lower than MTX, in rats.³ Serum levels of 7-hydroxy MTX have been used as a marker of MTX toxicity during chemotherapy.^{4,5}

1. Johns, D.G., Iannotti, A.T., Sartorelli, A.C., et al. The relative toxicities of methotrexate and aminopterin. *Biochem. Pharmacol.* 15(5)555-561 (1966) 2. Lingg, R.M., Hempel, G., Rots, M.G., et al. Effects and interaction of 7-hydroxy methotrexate and methotrexate in leukaemic cells ex vivo measured by the thymidylate synthase inhibition assay. *Cancer Chemother. Pharmacol.* 56(3)322-

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

Tel: (909) 407-4943 Fax: (626) 353-8530 E-mail: tech@glpbio.com

Address: 10292 Central Ave. #205, Montclair, CA, USA

Product Data Sheet

327(2005) 3.FuskevÅg, O.M., Kristiansen, C., Lindal, S., et al.Maximum tolerated doses of methotrexate and 7-hydroxy-methotrexate in a model of acute toxicity in ratsCancer Chemother. Pharmacol.46(1)69-73(2000) 4.Schofield, R.C., Ramanathan, L.V., Murata, K., et al.Development of an assay for methotrexate and its metabolites 7-hydroxy methotrexate and DAMPA in serum by LC-MS/MSMethods in Molecular Biology213-222(2016) 5.Klapkova, E., Kukacka, J., Kotaska, K., et al.The influence of 7-OH methotrexate metabolite on clinical relevance of methotrexate determinationClin. Lab.57(7-8)599-606(2011)

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

Tel: (909) 407-4943 Fax: (626) 353-8530 E-mail: tech@glpbio.com

Address: 10292 Central Ave. #205, Montclair, CA, USA