

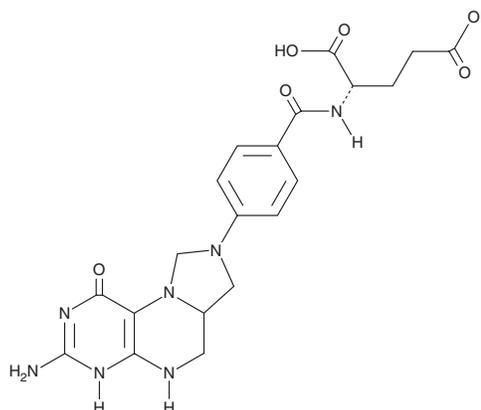
PRODUCT INFORMATION



Folitixorin

Item No. 33967

CAS Registry No.: 3432-99-3
Formal Name: N-[4-(3-amino-1,2,5,6,6a,7-hexahydro-1-oxoimidazo[1,5-f]pteridin-8(9H)-yl)benzoyl]-L-glutamic acid
Synonyms: 5,10-Methylenetetrahydrofolic Acid, 5,10-methyl THF
MF: C₂₀H₂₃N₇O₆
FW: 457.4
Purity: ≥75% (mixture of diastereomers)
Supplied as: A solid
Storage: -80°C
Stability: ≥2 years



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

Laboratory Procedures

Folitixorin is supplied as a solid. A stock solution may be made by dissolving the folitixorin in the solvent of choice, which should be purged with an inert gas. Folitixorin is slightly soluble in DMSO.

Description

Folitixorin is a reduced form of folate and cofactor for thymidylate synthetase, the enzyme that catalyzes the methylation of deoxyuridine monophosphate (dUMP) to deoxythymidine monophosphate (dTMP).^{1,2} It forms a ternary complex with thymidylate synthetase and fluorodeoxyuridylate (FdUMP), the active metabolite of 5-fluorouracil (Item No. 14416), that inhibits thymidylate synthetase activity and DNA synthesis.^{2,3} Folitixorin has synergistic or additive cytotoxic effects against LS 174 or HT-29 human colon cancer cells, respectively, when used in combination with 5-fluorouracil.⁴ *In vivo*, folitixorin (0.6 mg/animal) increases survival and reduces tumor growth in an HT-29 mouse xenograft model when administered in combination with 5-fluorouracil.⁵

References

1. Zarow, C., Pellino, A.M., and Danenberg, P.V. Large-scale and small-scale methods for the preparation of 5,10-methylenetetrahydrofolate. *Prep. Biochem.* **12(5)**, 381-393 (1982).
2. Shirasaka, T., Shimamoto, Y., Ohshimo, H., *et al.* Metabolic basis of the synergistic antitumor activities of 5-fluorouracil and cisplatin in rodent tumor models *in vivo*. *Cancer Chemother. Pharmacol.* **32(3)**, 167-172 (1993).
3. Patel, K., Yerram, S.R., Azad, N.A., *et al.* A thymidylate synthase ternary complex-specific antibody, FTS, permits functional monitoring of fluoropyrimidines dosing. *Oncotarget* **3(7)**, 678-685 (2012).
4. Bjelogrić, S.K., Srdić, T., and Radulović, S. Comparison between cofactor and leucovorin activity applied in combination with 5-fluorouracil against two human colon cancer cell lines. *J. BUON* **12(1)**, 71-76 (2007).
5. Cantwell, M.J., Spears, C.P., and Robbiins, J.M. Antitumor activity of combination 5,10-methylenetetrahydrofolate, 5-fluorouracil, and anti-vascular endothelial growth factor against human colorectal HT-29 tumors in nude mice. *J. Clin. Oncol.* **22(14_suppl)**, 3768 (2004).

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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