

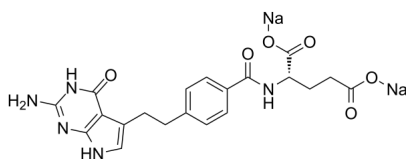
Data Sheet

Product Information

Catalog Number	BP10598
Product Name	Pemetrexed disodium
Description	<p>Pemetrexed is a parenterally administered folate antagonist and antineoplastic agent, used in the treatment of non-small cell lung cancer and malignant mesothelioma. Pemetrexed therapy has been associated with moderate rates of serum enzyme elevations during therapy, but has not been convincingly linked to instances of acute, clinically apparent liver injury.</p>
Targets&IC50	GARFT: 65 nM(Ki), TS: 1.3 nM(Ki), DHFR: 7.2 nM(Ki)

In vitro	<p>Dose-response curves are generated to determine the concentration required for 50% inhibition of growth (IC₅₀). Pemetrexed disodium is dissolved initially in DMSO at a concentration of 4 mg/mL and further diluted with cell culture medium to the desired concentration. CCRF-CEM leukemia cells in complete medium are added to 24-well Cluster plates in a total volume of 2.0 mL. Pemetrexed disodium at various concentrations are added to duplicate wells so that the final volume of DMSO is 0.5%. The plates are incubated for 72 hour at 37 °C in an atmosphere of 5% CO₂ in air. At the end of the incubation, cell numbers are determined on a ZBI Coulter counter. For several studies, IC₅₀s are determined for each compound in the presence of either 300 µM AICA, 5 µM thymidine, 100 µM hypoxanthine, or combination of 5 µM thymidine plus 100 µM hypoxanthine. For adherent tumor cells, a modification of the original MTT colorimetric assay is used to measure cell cytotoxicity. The human tumor cells are seeded in 100 µL assay medium/well in 96-well flat-bottomed tissue culture plates. The assay medium contains folic acid-free RPMI 1640 supplemented with 10% FCS and either 2 nM folinic acid or 2.3 µM folic acid as the sole folate source. Well 1A is left blank. Stock solutions of antifolates are prepared in Dulbecco's PBS at 1 mg/mL, and a series of 2-fold dilutions are subsequently made in PBS. Ten-µL aliquots of each concentration are added to triplicate wells. Plates are incubated for 72 hours at 37 °C in a humidified atmosphere of 5% CO₂-in-air. MTT is dissolved in PBS at 5 mg/mL, 10 µL of stock MTF solution are added to each well of an assay, and the plates are incubated at 37 °C for 2 additional hours. Following incubation, 100 µL of DMSO are added to each well. After thorough formazan solubilization, the plates are read on a Dynatech MR600 reader, using a test wavelength of 570 nm and a reference wavelength of 630 nm. The IC₅₀ is determined as the concentration of drug required to inhibit cell growth by 50% compared to an untreated controls. (Only for Reference)</p>
Synonyms	LY231514 disodium, LY-231514, Pemetrexed
CAS No.	150399-23-8
Chemical Formula	C ₂₀ H ₁₉ N ₅ Na ₂ O ₆
Molecular Weight	471.381
Solubility	DMSO: 10mM
Storage	Powder: -20°C for 2 years In solvent: -80°C for 1 year

Chemical Structure
OR
Tested Image



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