Purdue Bioscience

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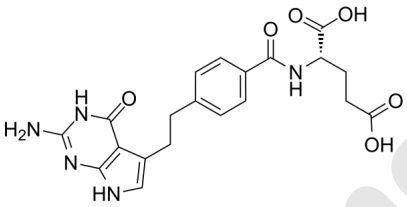
Data Sheet

Product Information

Catalog Number	BP12436
Product Name	Pemetrexed
Description	Pemetrexed, a guanine-derived antineoplastic agent, binds to and inhibits the enzyme thymidylate synthase (TS).
Targets&IC50	thymidylate synthase (TS):1.3 nM(ki), dihydrofolate reductase (DHFR):7.2 nM(ki), glycinamide ribonucleotide formyltransferase (GARFT),:65 nM(ki)
In vitro	Pemetrexed (LY231514) disodium is a novel classical antifolate, the antitumor activity of which may result from simultaneous and multipie inhibition of several key folate-requiring enzymes via its polyglutamated metabolites. Pemetrexed (LY231514) is one of the best substrates that is known for the enzyme FPGS (Km=1.6 μM and Vmax/Km=621). It is likely that polyglutamation and the polyglutamated metabolites of LY231514 play profound roles in determining both the selectivity and the antitumor activity of this novel agent. Whereas LY23l5l4 only moderately inhibits TS (Ki=340 nM, recombinant mouse), the pentaglutamate of LY23l5l4 is 100-fold more potent (Ki=3.4 nM), making LY231514 one of the most potent folate-based TS inhibitors.
In vivo	The group of mice treated with PC61 plus Pemetrexed demonstrates statistically longer survival than other groups. In a survival analysis, significantly better survival is observed in the group of mice treated with PC61 plus Pemetrexed compare with those treated with PC61 alone, rat IgG plus Pemetrexed, or no treatment.
Synonyms	LY231514, Pemetrexed acid, LY-231514 Disodium Hydrate
CAS No.	137281-23-3

Chemical Formula	C20H21N5O6
Molecular Weight	427.41
Solubility	DMSO: 100 mg/mL (233.97 mM)
Storage	Powder: -20°C for 2 years In solvent: -80°C for 1 year
Chemical Structure OR Tested Image	

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