Web: www.taiclone.com
Tel: +886-2-2735-9682
Email: order@taiclone.com

Pemetrexed

Catalog No: tcsc1297

Available Sizes

Size: 50mg

Size: 100mg

Size: 250mg

Size: 500mg

Specifications

CAS No:
137281-23-3

Formula:
$C_{20}H_{21}N_5O_6$

Pathway:
Cell Cycle/DNA Damage;Autophagy

Target:
Antifolate;Autophagy

Form:
White to off-white (Solid)

Purity / Grade:
98.13%

Solubility:
DMSO : ≥ 100 mg/mL (233.97 mM)

Storage Instruction:
Storage temp. 2-8°C

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Alternative Names:
LY231514;L-Glutamic acid, N-[4-[2-(2-amino-4,7-dihydro-4-oxo-3H-pyrrolo[2,3-d]pyrimidin-5- yl)ethyl]benzoyl]-

Observed Molecular Weight:
427.41

Product Description

Pemetrexed is a novel **antifolate**, the **K_i** values of the pentaglutamate of LY231514 are 1.3, 7.2, and 65 nM for inhibits thymidylate synthase (**TS**), dihydrofolate reductase (**DHFR**), and glycinamide ribonucleotide formyltransferase (**GARFT**), respectively.

IC50 & Target: Ki: 1.3 nM (TS), 7.2 nM (DHFR), 65 nM (GARFT)[1]

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 (K_m=1.6 μM and V_{max}/K_m=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 (K_i=340 nM, recombinant mouse), the pentaglutamate of LY23l5l4 is 100-fold more potent (K_i=3.4 nM), making LY231514 one of the most potent folate-based TS inhibitors [1].

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[2].