

ONX 0801 trisodium

Chemical Properties

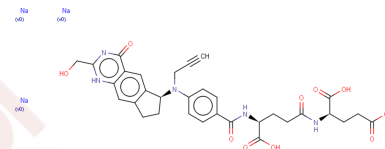
CAS No. : 1097638-00-0

Formula: C32H30N5Na3O10

Molecular Weight: 713.58

Storage: Powder: -20°C for 3 years | In solvent: -80°C for 1 year

Actual storage temperature shall be subject to the COA.



Biological Description

Description	ONX 0801 (BGC 945) trisodium is a targeted thymidylate synthase (TS) inhibitor specifically designed to act against tumors overexpressing the α -folate receptor].
Targets(IC50)	Others,DNA/RNA Synthesis
In vitro	ONX 0801 (BGC 945) is designed to minimize toxicity and enhance specificity for cancer cells overexpressing the α -FR, with IC 50 values of 6.6 μ M in A431, 1.1 nM in A431-FBP, 3.3 nM in KB, 90 nM in IGROV-1, and 0.32 μ M in JEG-3 cells.
In vivo	BGC 945, administered at a dosage of 100 mg/kg either through intraperitoneal (ip) or intravenous (iv) injection, was found to exhibit a prolonged half-life of 28 hours within tumor tissues, indicating enhanced persistence compared to other tissues. Notably, the compound, when administered daily for 16 days at the same dosage, did not result in any observable body weight loss, evident toxicity to major organs, or alterations in renal function. It also significantly increased tumor deoxyuridine (dUrd) levels by 5-20-fold within 4-72 hours post-administration without affecting plasma levels, suggesting effective tumor targeting. In an animal model, mice were placed on a folate-free diet for five days before tumor transplantation and treatment initiation. Pharmacokinetic analysis revealed that after intraperitoneal injection, BGC 945 was efficiently absorbed, yielding a 50% higher area under the curve (AUC) for plasma concentration compared to intravenous routes. The AUC was also increased in the spleen, kidney, and liver via intraperitoneal administration, with tumor AUC remaining consistent across both administration routes.

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	1.4014 mL	7.0069 mL	14.0138 mL
5 mM	0.2803 mL	1.4014 mL	2.8028 mL
10 mM	0.1401 mL	0.7007 mL	1.4014 mL
50 mM	0.028 mL	0.1401 mL	0.2803 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

Reference

Anna Tochowicz, et al. Development and binding mode assessment of N-[4-[2-propyn-1-yl]-(6S)-4,6,7,8-tetrahydro-2-(hydroxymethyl)-4-oxo-3H-cyclopenta[g]quinazolin-6-yl]amino]benzoyl]-L- γ -glutamyl-D-glutamic acid (BGC 945), a novel thymidylate synthase inhibitor that targets tumor cells. *J Med Chem.* 2013 Jul 11;56(13): 5446-55.

David D Gibbs, et al. BGC 945, a novel tumor-selective thymidylate synthase inhibitor targeted to alpha-folate receptor-overexpressing tumors. *Cancer Res.* 2005 Dec 15;65(24):11721-8.

Chau Ng, et al. Efficacy and tolerability of the thymidylate synthase (TS) inhibitor, BGC 945 is mediated through its selective uptake via the α -folate receptor (α -FR) in IGROV-1 human tumor xenografts. AACR Annual Meeting-- Apr 12-16, 2008; San Diego, CA.

Inhibitor · Natural Compounds · Compound Libraries · Recombinant Proteins

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