Product Name: Merimepodib

Cas No.: 198821-22-6

M.Wt: 452.46

Formula: C23H24N4O6

Chemical Name: [(3S)-oxolan-3-yl]N-[[3-[[3-methoxy-4-(1,3-oxazol-5-yl)phenyl]carbamoylamino]phenylmethyl]carbamate

Canonical SMILES: COC1=C(C=CC(=C1)NC(=O)NC2=CC(=C2)CNC(=O)OC3CCOC3)C4=CN=CO4

Solubility: \(\geq 45.2\)mg/mL in DMSO

Storage: Store at -20°C

General tips: For obtaining a higher solubility, please warm the tube at 37°C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

Shopping Condition: Evaluation sample solution : ship with blue ice
All other available size: ship with RT , or blue ice upon request

Biological Activity

Targets: Microbiology & Virology

Pathways: HBV

Description:

Merimepodib(VX-497) is a novel, noncompetitive and orally bioavailable inhibitor of Inosine monophosphate dehydrogenase (IMPDH) [1]. IMPDH is an enzyme that convertsinosine monophosphateto xanthosine monophosphate. IMPDH is associated with cell proliferation, making it a possible target for cancer chemotherapy [2].

In vitro: VX-497 (MW 452.5) inhibited the proliferation of primary human, rat, mouse, and dog lymphocytes at concentrations of approximately 100 nM. The inhibitory effect of VX-497 on
lymphocytes was reversed in the presence of exogenous guanosine, but not in the presence of adenosine or uridine, confirming that the antilymphocytic activity of VX-497 was specifically due to inhibition of IMPDH[1]. VX-497 was most potent against the first group of viruses on virus replication, which included HBV, HCMV, EMCV, and RSV, with IC50 values of 0.38, 0.80, 1.0, and 1.14 μM, respectively [3].

In vivo: Oral administration of VX-497 dose-dependently inhibited the primary IgM antibody response, with an ED50 value of approximately 30-35 mg/kg in mice. Single daily dosing of VX-497 was as effective as twice-daily dosing in this model of immune activation [1]. In the skin transplant study, trunk skin grafts from Balb/c mice were grafted onto C57Bl/6 mice. Administration of VX-497 twice daily until day 10 significantly prolonged graft survival to 13.2 ± 1.2 (p < 0.001, Kaplan Meier Log-Rank test) days in the 50 mg/kg group and 13.9 ± 1.0 (p < 0.001) days in the 85 mg/kg group [4].

Reference:

Caution

FOR RESEARCH PURPOSES ONLY.

NOT FOR HUMAN, VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

Specific storage and handling information for each product is indicated on the product datasheet. Most ApexBio products are stable under the recommended conditions. Products are sometimes shipped at a temperature that differs from the recommended storage temperature. Short-term storage of many products are stable in the short-term at temperatures that differ from that required for long-term storage. We ensure that the product is shipped under conditions that will maintain the quality of the reagents. Upon receipt of the product, follow the storage recommendations on the product data sheet.