Product Data Sheet

Chemical Properties

Product Name: Pentostatin

Cas No.: 53910-25-1

M.Wt: 268.27

Formula: C11H16N4O4

Synonyms: Deoxycoformycin

Chemical Name: (8R)-3-[(2R,4S,5R)-4-hydroxy-5-(hydroxymethyl)oxolan-2-yl]-7,8-dihydro-4H-imidazo[4,5-d][1,3]diazepin-8-ol

Canonical SMILES: C1C(OC1N2C=NC3=C2NC=NC3O)CO

Solubility: >13.4mg/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: Adenosine Receptor

Pathways: GPCR/G protein >> Adenosine Receptor

Description:

Pentostatin is a nucleoside analog and also is a potent inhibitor of adenosine deaminase. It has a broad spectrum of immunomodulatory activities. [1] The capacity of this purine analogue to inhibit proliferation and to induce apoptosis of T-cells in combination with its mild toxicity results in the approach to use pentostatin in steroid-refractory aGvHD. [2] Chronic graft-versus-host disease (GVHD) is the main cause of late morbidity and non-relapse
mortality after hematopoietic stem cell transplantation (HSCT).
Most relevant to GVHD, Pentostatin causes marked reduction of CD4 and CD8 cells. There is also significant B-cell depletion with reduction of IgG levels. This should allow it to affect GVHD at the cellular level and thus has the potential to address the many manifestations of chronic GVHD. Pentostatin is found to be active in a phase 1 study in refractory acute GVHD. A phase 2 study of pentostatin in heavily pretreated patients (median age, 33 years; median of 4 prior regimens) with chronic GVHD showed a 55% objective response rate in 58 patients.
In comparison with other treatment options, pentostatin has some favourable characteristics and its effect is sustainable and the majority of responding patients survived. The costs for pentostatin are relatively low and the toxicity is moderate.

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.