**Product Data Sheet**

**Chemical Properties**

- **Product Name:** Fingolimod (FTY720)
- **Cas No.:** 162359-56-0
- **M.Wt:** 343.94
- **Formula:** C19H34ClNO2
- **Synonyms:** Gilenia; FTY 720; FTY-720
- **Chemical Name:** 2-amino-2-[2-(4-octylphenyl)ethyl]propane-1,3-diol; hydrochloride
- **Canonical SMILES:** CCCCCCCCC1=CC=C(C=C1)CCC(CO)(CO)N.Cl
- **Solubility:** $\geq 17.2$ 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:** GPCR/G protein
- **Pathways:** S1P receptor

**Description:**

Fingolimod is a mechanistically novel, orally bioavailable therapy for multiple sclerosis (MS) [1]. Fingolimod is a FDA approved drug for Multiple sclerosis treatment. It is a folk medicine emerged from Fungi. Fingolimod was firstly found to be a therapeutic agent in organ transplantation. Then Fingolimod was found to have similar structure with natural sphingosine and interact with S1P1, S1P4, S1P5 and S1P3 receptors as high affinity agonist with EC50 values of 0.3-3.1 nM. It plays the role in MS treatment through receptor-mediated actions both on the immune system and in the CNS. Fingolimod can prevent normal lymphocyte egress and reduce the infiltration of
autoaggressive lymphocytes into the CNS [1, 2].

Reference:

protocol

Cell experiment:

Cell lines: MCF-7, MDA-MB-231, Sk-Br-3, HCT-116 and SW620 cells

Preparation method: The solubility of this compound in DMSO is >10 mM. General tips for obtaining a higher concentration: Please warm the tube at 37 °C for 10 minutes and/or shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

Reacting conditions: IC50: 79.1 μM (MCF-7), 59.9 μM (MDA-MB-231), 72.9 μM (Sk-Br-3), > 100 μM (HCT-116) and 40.0 μM (SW620); 48 hours

Applications: The IC50 values of fingolimod were determined by a WST-1 assay. The results demonstrated that treatment of the compound caused cell death in a dose-dependent manner. Fingolimod exhibited comparatively low IC50 values within the concentration range of 5-7μM for all of the cells tested in this study.

Animal experiment [3]:

Animal models: C57BL/6J mice

Dosage form: Intraperitoneal injection, 0.1 mg per kg of body weight

Applications: As early as 30 min after injection of fingolimod (0.1 mg per kg of body weight), the levels of phosphorylated ERK1/2 (pERK1/2) were significantly increased in hippocampal neurons. After an additional 30 min, BDNF mRNA levels were elevated, and protein levels were significantly increased in the hippocampus, the cortex, and the striatum after 48 h.

Other notes: Please test the solubility of all compounds indoor, and the actual solubility may slightly differ with the theoretical value. This is caused by an experimental system error and it is normal.
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.

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