Product Name: Oseltamivir acid
Revision Date: 4/1/2019

Product Data Sheet

Chemical Properties

- **Product Name:** Oseltamivir acid
- **Cas No.:** 187227-45-8
- **M.Wt:** 284.35
- **Formula:** C14H24N2O4
- **Synonyms:** GS 4071; Ro 64-0802
- **Chemical Name:** (3R,4R,5S)-4-acetamido-5-amino-3-pentan-3-yloxyclohexene-1-carboxylic acid
- **Canonical SMILES:** CCC(CC)OC1C=CC(C1NC(=O)C)N)C(=O)O
- **Solubility:** ≥14.2mg/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:** NA
- **Description:**
  Oseltamivir is an inhibitor of influenza neuraminidase [1]. Oseltamivir is a prodrug that is converted by intestinal and/or hepatic esterases to the neuraminidase inhibitor molecule, oseltamivir carboxylate. Neuraminidase cleaves the terminal α-Neu5Ac residues from the newly synthesized virion progeny and let it elute from the infected cell and seek new host cells to infect. Oseltamivir efficiently block sialidase activity and significantly inhibit the releasing mechanism [1].
In the treatment of adults, oseltamivir reduces the time to first alleviation of symptoms and investigator mediated unverified pneumonia. In prophylaxis trials, oseltamivir reduced symptomatic influenza in participants by 55%. Oseltamivir also has some harm. Adults treated with oseltamivir are associated with an increased risk of nausea. And in prophylaxis trials there is an increased risk of headaches on-treatment [2]. As a neuraminidase inhibitor, the substitution of the amino acid histidine to tyrosine at position 275 (H275Y) in the neuraminidase gene of H1N1 can cause the resistance of oseltamivir [3].

Reference:

Protocol

Cell experiment:

Cell lines MDA-MB-231 and MCF-7 cells

Preparation method This compound is soluble in DMSO. 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 500, 600, 700 and 800 μg/mL; 24, 48 and 72 hrs

Applications In MDA-MB-231 and MCF-7 cells as well as their long-term Tamoxifen-resistant clones, Oseltamivir treatment dose-dependently reduced the sialidase activity associated with EGF-stimulated live cells and the cell viability after 72 hrs of incubation. Combination of 1 μM Cisplatin, 5-FU, Paclitaxel, Gemcitabine or Tamoxifen with Oseltamivir (≥ 300 μg/mL) significantly reduced cell viability at 24, 48 and 72 hrs when compared to the chemodrug alone.

Animal experiment [3]:

Animal models RAGxCy double mutant mice bearing heterotopic xenografts of
Applications
Compared with the untreated cohorts, Oseltamivir treatment (30 mg/kg, q.d., i.p.) reduced tumor vascularization and growth rate, as well as significantly reduced tumor weight and spread to the lungs. At the dosage of 50 mg/kg, Oseltamivir completely ablated tumor vascularization, tumor growth and spread to the lungs, with significant long-term survival at day 180 postimplantation, tumor shrinking, and no relapses after 56 days off-drug.

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:

Product Citations

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. Shortterm 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.