Product Data Sheet

Chemical Properties

Product Name: Elacridar

Cas No.: 143664-11-3

M.Wt: 563.64

Formula: C34H33N3O5

Synonyms: GF120918;GW0918;GG918;GF-120918;GF 120918

Chemical Name: N-[4-[2-(6,7-dimethoxy-3,4-dihydro-1H-isoquinolin-2-yl)ethyl]phenyl]-5-methoxy-9-oxo-10H-acridine-4-carboxamide

Canonical SMILES: COC1=CC=CC2=C1NC3=C(C2=O)C=CC=C3C(=O)NC4=CC=C(C=C4)CCN5CCC6=CC(=C(C=C6C5)OC)OC

Solubility: $\geq 56.4\, \text{mg/mL}$ in DMSO

Storage: Store at $-20^\circ\text{C}$

General tips: For obtaining a higher solubility, please warm the tube at $37^\circ\text{C}$ and shake it in the ultrasonic bath for a while. Stock solution can be stored below $-20^\circ\text{C}$ 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: Others

Pathways: Others

Description:

Elacridar is a potent inhibitor of P-glycoprotein with IC50 values of 193 nM. [1] P-glycoprotein (permeability glycoprotein) is an important membrane protein. It pumps many foreign substances out of cells. P-glycoprotein belongs to the MDR/TAP subfamily. P-glycoprotein...
is transmembrane glycoprotein which is about 170 kDa. It is expressed in certain cell types primarily in the pancreas, liver, colon and kidney. It contains 6 transmembrane domains in the N-terminal half of the molecule. It also contains an ATP-binding site in the large cytoplasmic domain. P-glycoprotein binds to the substrate at the cytoplasmic side of the protein. When ATP binds to the cytoplasmic side, the substrate was excreted from the cell. P-glycoprotein can pump toxins or drugs back into the intestinal lumen, pumps them into bile ducts in liver cells. In some cancer cells, P-glycoprotein is overexpressed. It is involved in multidrug resistance of cancer cells. P-glycoprotein binds to the substrate at the cytoplasmic side of the protein. When ATP binds to the cytoplasmic side, the substrate was excreted from the cell. P-glycoprotein can pump toxins or drugs back into the intestinal lumen, pumps them into bile ducts in liver cells. In some cancer cells, P-glycoprotein is overexpressed. It is involved in multidrug resistance of cancer cells.

Elacridar can significantly inhibit the activity of P-glycoprotein at 1μM in MDCKII cells which overexpress P-glycoprotein. In the parental MDCK-II cells, elacridar at 5μM completely inhibit the polarized sunitinib transport. Elacridar did not inhibit the activity of several human cytochromeP450 enzymes in vitro. The absolute bioavailability was about 0.47 and 1.3 respectively, when elacridar was given in the orally and microemulsion, intraperitoneally at 10 mg/kg in mice. Elacridar also can significantly increase sunitinib brain accumulation levels in mice at 10 mg/kg.

Reference:

Protocol

Cell experiment:

Cell lines
Human renal carcinoma cell lines 786-O and human breast cancer cell line MCF-7

Preparation method
The solubility of this compound in DMSO is > 56.4mg/mL. 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

Applications
Elacridar is a P-glycoprotein inhibitor that also block ABC Sub-family B Member 2 (ABCG2). Elacridar significantly enhanced
sunitinib-induced cytotoxicity in 786-O cells. Confirmed by P-glycoprotein function assay, P-glycoprotein activity was inhibited by elacridar.

Animal experiment [3]:

Animal models  10-14-week wild-type, Abcb1a/1b/-, 32Abcg2/-27 and Abcb1a/1b/Abcg2/- mice, all of a >99% FVB genetic background

Dosage form  Oral administration, 100 mg/kg

Applications  Elacridar significantly increased sunitinib brain accumulation in wild-type mice (12-fold), to levels equal to those in Abcb1a/1b/Abcg2/- mice. The sunitinib brain concentrations were not significantly affected by elacridar treatment in Abcb1a/1b/Abcg2/- mice.

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. 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.