Chemical Properties

Product Name: Valspodar

Cas No.: 121584-18-7

M.Wt: 1214.62

Formula: C63H111N11O12

Synonyms: PSC 833;PSC-833;PSC833

Chemical Name: PSC 833;PSC-833;PSC833

Canonical SMILES: CC=CCC(C)(=O)C1C(=O)NC(N(=O)N(CC(=O)NC(N(=O)NCC(=O)NC(N(=O)NCC(=O)NCC(=O)N(CC(=O)N1C)C(C)C(C=C)C)C(C)C(C)C(C)C(C)C(C)C(C)C(C)C(C)C)

Solubility: Limited solubility, soluble 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: Others

Pathways: Others

Description:
Valspodar is a potent inhibitor of P-glycoprotein (P-gp) widely used in preclinical and clinical studies [1].
P-gp is a transmembrane glycoprotein which is located on cell membrane. P-gp distributes extensively and is expressed in certain cell types primarily containing liver, colon, kidney and pancreas. It also is known as multidrug resistance protein 1 (MDR1) which is pumps foreign
substances out of cells. P-gp decreases the net uptake of cytotoxic drugs into the cells and mediates the efflux of these agents out of the cells, which is ATP-dependent. P-gp also overexpress in some cancer cells. P-gp plays an important role in mediating resistance to anticancer drugs and decreasing drug accumulation in multidrug-resistant cancer cells.[1]

Valspodar can reverse the resistance to mitoxantrane which is due to the expression of P-gp. The IC50 of mitoxantrane decreased from 1.6 ± 0.13 μM to 0.4 ± 0.02 μM in MDA-MB-435mdr cells pretreated with 3 mg/ml PSC. Valspodar increase the mitoxantrane intracellular accumulation by decreasing drug efflux and increasing mitoxantrone net uptake in cells.[1] The cytotoxicity was significant greater in T47D/TAMR-6 cells treated with doxorubicin and valspodar than doxorubicin only. Co-encapsulation of doxorubicin and valspodar presents a promising anticancer effect.[2] Valspodar was rapid absorbed and reaches the peak within 2 hnafter an oral dose. Valspodar showed properties of wide distribution, low hepatic extraction and mean bioavailability of 42.8% in rat.[3]

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.

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