Product Datasheet

IHMT-PI3Kδ-372

Catalog No. **BP-02015** · CAS **2429889-61-0** · Form **free base** · Physical state **solid** · Color **white to off-white** · Version **1.0** · Revision **2026-09-11**

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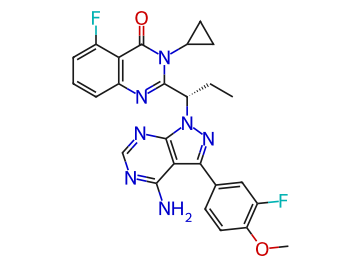
Target	Research area
PI3K; Cytochrome P450	**Inflammation/Immunology**

Molecular formula	$C_{26}H_{23}F_2N_7O_2$
Molecular weight	**503.5033**

STRUCTURE



DESCRIPTION

IHMT-PI3Kδ-372 S-isomer is a potent and selective PI3Kδ inhibitor with an IC50 of 14 nM. IHMT-PI3Kδ-372 S-isomer shows high selectivity over other class I PI3Ks (56~83 fold) and other protein kinases. IHMT-PI3Kδ-372 can be uesd for chronic obstructive pulmonary disease (COPD) research.

BIOLOGICAL ACTIVITY

In Vitro

IHMT-PI3Kδ-372 (Compound (S)-18; 0.03-3 μM; 1 hour; Raji cells) treatment inhibits PI3Kδ-mediated AKT T308 phosphorylation in Raji cells with an EC50 value of 67 nM.

IHMT-PI3Kδ-372 (compound (S)-18) shows moderate inhibition of CYP2C9 (IC50 of 2.7 μM) and no apparent inhibition against CYP1A2, CYP2B6, CYP2C19, and CYP3A4 (IC50s > 10 μM).

In Vivo

IHMT-PI3Kδ-372 (Compound (S)-18; 1-5 mg/kg; inhalation; daily; for 28 days) improves lung function and reduced the inflammatory patterns characteristic of COPD. The lung function parameters such as forced expiratory volume in the first second (FEV1), forced vital capacity (FVC), and peak expiratory flow (PEF) are improved dose-dependently. The abnormally high level of leukocytes including the alveolar macrophages, neutrophils, and lymphocytes are also reduced. IHMT-PI3Kδ-372 decreases the inflammatory cell infiltration in a dose-dependent manner.

In rats, inhalation of 5 mg/kg dose of IHMT-PI3Kδ-372 (compound (S)-18) displays a half-life of 2.3 h, low exposure of 66 ng/mL, and high clearance of 348.5 mL/min/kg in plasma but high exposure of 5599 ng/g (6 h after inhalation) in lung tissue.

IHMT-PI3Kδ-372 is stable in human, rat, and mouse liver microsomes, while it has moderate stability in monkey and dog liver microsomes.

SOLUBILITY

Soluble in DMSO : 50 mg/mL

REFERENCES

[1]. Li F, Liang X, Jiang Z, et al. Discovery of (S)-2-(1-(4-Amino-3-(3-fluoro-4-methoxyphenyl)-1H-pyrazolo[3,4-d]pyrimidin-1-yl)propyl)-3-cyclopropyl-5-fluoroquinazolin-4(3H)-one (IHMT-PI3Kδ-372) as a Potent and Selective PI3Kδ Inhibitor for the Treatment of Chronic Obstructive Pulmonary Disease. J Med Chem. 2020;63(22):13973-13993. doi:10.1021/acs.jmedchem.0c01544