

Product Data Sheet

Product Name: Ki16425
Cat. No.: GC11374

Chemical Properties

Cas. No. 355025-24-0

Chemical Name 3-[[4-[4-[1-(2-chlorophenyl)ethoxycarbonylamino]-3-methyl-1,2-oxazol-5-yl]phenyl]methylsulfanyl]propanoic acid

SMILES CC1=NOC(=C1NC(=O)OC(C)C2=CC=CC=C2Cl)C3=CC=C(C=C3)CSCCC(=O)O

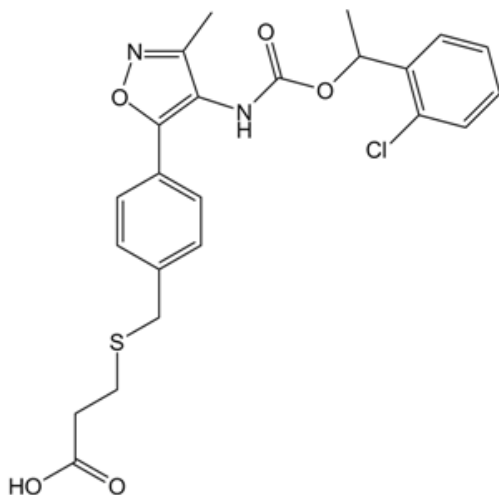
Formula $C_{23}H_{23}ClN_2O_5S$ M.Wt 474.96

Solubility $\geq 23.75\text{mg/mL}$ 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.

Shipping Condition Evaluation sample solution: ship with blue ice. All other available size: ship with RT, or blue ice upon request.

Structure



Protocol

Cell experiment [1]:

Cell lines HaCaT cells

Caution: Product has not been fully validated for medical applications. For research use only.

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Preparation Method	HaCaT cells were treated with or without 10μM LPA and ki16425 (10μM) concentration for 24 h, and cell viability was examined by CCK8 assay.
Reaction Conditions	Ki16425:10μM; 24h
Applications	Ki16425 (10μM; 24h) decreases lysophosphatidic acid (LPA)-induced HaCaT cell proliferation.

Animal experiment [2]:

Animal models	Colon epithelial barrier disruption model
Preparation Method	Ki16425 was injected into mice before E. coli BW25113 or blcE84 infection. Control groups received the same volume of DMSO.
Dosage form	Ki16425:20mg/kg; ip; 24h
Applications	Ki16425 blocked the damage to the intestinal barrier of mice caused by Escherichia coli after LPA 1 signaling in the host.

References:

- [1]. Kim D, Kim HJ, Baek JO, Roh JY, Jun HS. Lysophosphatidic Acid Mediates Imiquimod-Induced Psoriasis-like Symptoms by Promoting Keratinocyte Proliferation through LPAR1/ROCK2/PI3K/AKT Signaling Pathway. Int J Mol Sci. 2021 Oct 5;22(19):10777. EBioMedicine. 2020 Feb;52:102652.
- [2]. Zou D, Pei J, Lan J, Sang H, Chen H, Yuan H, Wu D, Zhang Y, Wang Y, Wang D, Zou Y, Chen D, Ren J, Gao X, Lin Z. A SNP of bacterial blc disturbs gut lysophospholipid homeostasis and induces inflammation through epithelial barrier disruption.

Background

Ki16425 is an antagonist of the lysophosphatidic acid receptors LPA1 and LPA3 and Ki values are

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0.25 and 0.36 μ M respectively. Ki16425 reduces the LPA-induced activation of p42/p44 MAPK. Blocks LPA-induced dephosphorylation of Yes-associated protein (YAP) and WW domain-containing transcription regulator protein 1 (TAZ), inhibiting the Hippo signaling pathway [1].

Ki1642 (10 μ M; 24h) decreases lysophosphatidic acid (LPA)-induced HaCaT cell proliferation [2]. LPA increased IL-17 mRNA expression in a dose-dependent manner, while the LPA inhibitor Ki16425 (10 μ M; 24h) suppressed this response [2]. Ki16425 (10 μ M; 120min) treatment suppressed LPA-induced ROCK2 and p38 MAPK expression [3].

Ki16425 (15mg/kg; ip; 7days) decreases the Epidermal Expression of ROCK2 and p-AKT in Imiquimod-Induced Psoriasis-like Mice [2]. Ki16425 (15mg/kg; ip; 4weeks) treatment reduced serum IL-17 levels and IL-17 expression in exocrine glands in an adoptive transfer model [3]. Ki16425 blocked the damage to the intestinal barrier of mice caused by Escherichia coli after LPA 1 signaling in the host [4].

References:

- [1]. Ohta H, Sato K, Murata N, Damirin A, Malchinkhuu E, Kon J, Kimura T, Tobo M, Yamazaki Y, Watanabe T, Yagi M, Sato M, Suzuki R, Murooka H, Sakai T, Nishitoba T, Im DS, Nochi H, Tamoto K, Tomura H, Okajima F. Ki16425, a subtype-selective antagonist for EDG-family lysophosphatidic acid receptors. *Mol Pharmacol*. 2003 Oct;64(4):994-1005.
- [2]. Kim D, Kim HJ, Baek JO, Roh JY, Jun HS. Lysophosphatidic Acid Mediates Imiquimod-Induced Psoriasis-like Symptoms by Promoting Keratinocyte Proliferation through LPAR1/ROCK2/PI3K/AKT Signaling Pathway. *Int J Mol Sci*. 2021 Oct 5;22(19):10777.
- [3]. Park E, Kim D, Lee SM, Jun HS. Inhibition of lysophosphatidic acid receptor ameliorates Sjögren's syndrome in NOD mice. *Oncotarget*. 2017 Apr 18;8(16):27240-27251.
- [4]. Zou D, Pei J, Lan J, Sang H, Chen H, Yuan H, Wu D, Zhang Y, Wang Y, Wang D, Zou Y, Chen D, Ren J, Gao X, Lin Z. A SNP of bacterial blc disturbs gut lysophospholipid homeostasis and induces inflammation through epithelial barrier disruption.

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