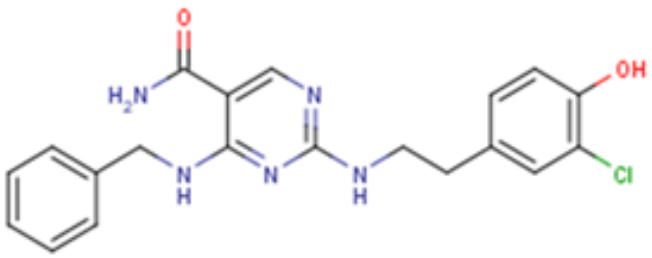
AS-1517499

Cat# C30852B–25、50、100 mg

Storage -20°C for 3 years powder | -80°C for 2 years in solvent

INTFORMATION

Product Name	AS-1517499
Cat NO.	C30852B
Size	25、50、100 mg
Description	AS1517499 is a potent STAT6 inhibitor with IC50 of 21 nM
Cas No.	919486-40-1
Molecular Formulation	$C_{20}H_{20}ClN_5O_2$
Molecular Weight	397.86
In vitro	AS1517499 shows potent STAT6 inhibition with an IC50 value of 21 nM, and also inhibits IL-4-induced Th2 differentiation of mouse spleen T cells with an IC50 value of 2.3 nM and without influencing T-helper cell 1 (Th1) differentiation induced by IL-12. AS1517499 selectively inhibits Th2 differentiation without affecting Th1 differentiation[1]. In cultured human BSM cells, IL-13 (100 ng/mL) causes a phosphorylation of STAT6 and an upregulation of RhoA, a monomeric GTPase responsible for Ca2+ sensitization of smooth muscle contraction: both events are inhibited by co-incubation with AS1517499 (100 nM)[2] .
In vivo	In BALB/c mice that are actively sensitized and repeatedly challenged with ovalbumin antigen, an increased IL-13 level in bronchoalveolar lavage fluids and a phosphorylation of STAT6 in bronchial tissues are observed after the last antigen challenge. These mice have an augmented BSM contractility to acetylcholine together with an up-regulation of RhoA in bronchial tissues. Intraperitoneal injections of AS1517499 (10 mg/kg) 1 hour before each ovalbumin exposure inhibits both the antigen-induced up-regulation of RhoA and BSM hyperresponsiveness, almost completely[2].
Solubility	DMSO : ≥35 mg/mL (< 1 mg/ml refers to the product slightly soluble or insoluble)
IC_{50}	STAT6 21 nM
Image	

PROTOCOL (Only for Reference)

Cell Assay:

Normal human BSM cells (hBSMCs) are maintained in SmBM medium supplemented with 5% fetal bovine serum, 0.5 ng/mL human epidermal growth factor (hEGF), 5 µg/mL insulin, 2 ng/mL human fibroblast growth factor-basic (hFGFb), 50 µg/mL gentamicin, and 50 ng/mL amphotericin B. Cells are maintained at 37°C in a humidified atmosphere (5% CO2), fed every 48 to 72 hours, and passaged when cells reached 90 to 95% confluence. Then the hBSMCs (passages 7-9) are seeded in 6-well plates and 8-well chamber slides at a density of 3,500 cells/cm2 and, when 80 to 85% confluence observed, cells are cultured without serum for 24 hours before addition of recombin is ant human IL-13. AS1517499 (100 nM) or its vehicle (0.3% DMSO) is treated 30 minutes before the addition of IL-13 (100 ng/mL). In some experiments, AS1517499 is treated 0 (co-incubation), 3, or 12 hours after the addition of IL-13. In another series of experiments, a selective Rho-kinase inhibitor Y-27632 (1 µM) or its vehicle (0.3% DMSO) is also applied 15 minutes before the IL-13 application. At the indicated time after the IL-13 treatment, cells are washed with PBS, immediately collected, and disrupted with 1× SDS sample buffer (250 µL/well), and used for Western blot analyses[2] .

Reference

[1] Nagashima S, et al. Synthesis and evaluation of 2-{[2-(4-hydroxyphenyl)-ethyl]amino}pyrimidine-5-carboxamide derivatives as novel STAT6 inhibitors. Bioorg Med Chem. 2007 Jan 15; 15(2):1044-55

[2] Am J Respir Cell Mol Biol. 2009 Nov; 41(5):516-24.

PRODUCT USE LIMITATION

These products are intended for research use only.