Product Data Sheet

Chemical Properties

Product Name: SB-505124 hydrochloride

Cas No.: 356559-13-2

M.Wt: 371.86

Formula: C20H22ClN3O2

Synonyms: SB 505124 hydrochloride; SB505124 hydrochloride

Chemical Name: 2-[4-(1,3-benzodioxol-5-yl)-2-tert-butyl-1H-imidazol-5-yl]-6-methylpyridine

Canonical SMILES: CC1=CC(CC(=N1)C2=C(N=C(N2)C(C)(C)C)C3=CC4=C(C=C3)OCO4.Cl

Solubility: ≥9.3mg/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.

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

Biological Activity

Targets: TGF-β / Smad Signaling

Pathways: TGF-βR1(ALK5)

Description:
SB505124 is a selective inhibitor of TGFβR for ALK4, ALK5 with IC50 value of 129 nM and 47 nM [1].
Anaplastic lymphoma kinase (ALK) gets involved in the development of the brain and influence specific neurons in the nervous system.
SB505124 is a reversible ATP competitive inhibitor of ALK4 and ALK5. Incubation of the ALK5 with high concentrations of SB505124, followed by dilution to a sub-IC50 concentration resulted in no effect of downstream Smad3 phosphorylation [2]. SB505124 was shown to have no toxicity to renal epithelial A498 cells at concentrations up to 100 μM for 48 h. Evidence showed that 100% drug will release within 12 h, and the gel showed no cytotoxicity to the cultured rabbit subconjunctival cells[2]. It was observed that ALK4 downstream effectors including pSmad2, CTGF, and α-SMA was inhibited by SB505124 in cultured fibroblasts [3].

In rabbit in glaucoma filtration surgery (GFS) model, the period of filtering blebs were reduced by TGFβ induced fibroblast. The filtering blebs in the GFS with SB505124 group were maintained for more than 10 days, and the period of bleb survival was significantly longer than that in controls, which suggested the significant inhibition of ALK4 and 5 by SB505124 [2]. It was observed that ALK4 downstream effectors CTGF and α-SMA were suppressed by SB-505124 in vivo[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.