

Product Name : WHI-P97 HCl 211555-05-4(free base)

Synonyms : —

Cat No. : M22900

CAS Number :

Molecular Formula : C₁₆H₁₄Br₂ClN₃O₃

Formula Weight : 491.56

Chemical Name : —

Description : WHI-P97 HCl is a potent and selective JAK-3 inhibitor. WHI-P97 had an estimated K_i value of 0.09 μM from modeling studies and a measured IC₅₀ value of 2.5 μM in EGFR kinase inhibition assays. WHI-P97 effectively inhibited the in vitro invasiveness of EGFR-positive human cancer cells in a concentration-dependent manner. WHI-P97 is a potent inhibitor of Janus kinase (JAK)-3. Treatment of mast cells with WHI-P97 inhibited the translocation of 5-lipoxygenase (5-LO) from the nucleoplasm to the nuclear membrane and consequently 5-LO-dependent leukotriene (LT) synthesis after IgE receptor/FcεRI crosslinking by >90% at low micromolar concentrations. WHI-P97 did not directly inhibit the enzymatic activity of 5-LO, but prevented its translocation to the nuclear membrane without affecting the requisite calcium signal. Therapeutic WHI-P97 concentrations, which inhibit mast cell leukotriene synthesis in vitro, could easily be achieved in vivo after the i.v. or i.p. administration of a single nontoxic 40 mg/kg bolus dose of WHI-P97. WHI-P97 was very well tolerated in mice, with no signs of toxicity at dose levels ranging from 5 μg/kg to 50 mg/kg, and LD₅₀ was not reached at a 50 mg/kg dose level when administered as a single i. p. or i.v. bolus dose. WHI-P97 showed promising biological activity in a mouse model of allergic asthma at nontoxic dose levels. Treatment of ovalbumin-sensitized mice with WHI-P97 prevented the development of airway hyper-responsiveness to methacholine in a dose-dependent fashion. Furthermore, WHI-P97 inhibited the eosinophil recruitment to the airway lumen after the ovalbumin challenge in a dose-dependent fashion.

Pathway : Angiogenesis

Target : JAK

Receptor : JAK3

Solubility : —

SMILES : COC1=C(C(=C2C(=C1)C(=NC(=N2)NC3=CC(=C(C(=C3)Br)O)Br)OC)Cl

Storage : (-20°C)

Stability : ≥ 2 years

Reference :

I.R. Malaviya, et al. Treatment of allergic asthma by targeting janus kinase 3-dependent leukotriene synthesis in mast cells with 4-(3', 5'-dibromo-4'-hydroxyphenyl)amino-6,7-dimethoxyquinazoline (WHI-P97). J Pharmacol Exp Ther. 2000 Dec;295(3):912-26.

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