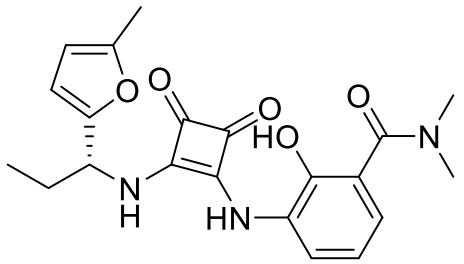
Product data sheet

MedKoo Cat#: 206586 Name: Navarixin CAS#: 473727-83-2 Chemical Formula: $C_{21}H_{23}N_3O_5$ Exact Mass: 397.1638 Molecular Weight: 397.43	
Product supplied as:	Powder
Purity (by HPLC):	≥ 98%
Shipping conditions	Ambient temperature
Storage conditions:	Powder: -20°C 3 years; 4°C 2 years.
	In solvent: -80°C 3 months; -20°C 2 weeks.

1. Product description:

Navarixin, also known as SCH527123, PS291822 and MK-7123, is a potent CXCR2 antagonist. SCH-527123 shows antitumor activity and sensitizes cells to oxaliplatin in preclinical colon cancer models. SCH-527123 showed concentration-dependent antiproliferative effects in HCT116, Caco2, and their respective IL-8-overexpressing variants colorectal cancer cell lines. CH-527123 was able to suppress CXCR2-mediated signal transduction as shown through decreased phosphorylation of the NF-κB/mitogen-activated protein kinase (MAPK)/AKT pathway. SCH-527123 treatment decreased tumor growth and microvessel density when compared with vehicle-treated tumors.

2. CoA, QC data, SDS, and handling instruction

SDS and handling instruction, CoA with copies of QC data (NMR, HPLC and MS analytical spectra) can be downloaded from the product web page under "QC And Documents" section. Note: copies of analytical spectra may not be available if the product is being supplied by MedKoo partners. Whether the product was made by MedKoo or provided by its partners, the quality is 100% guaranteed.

3. Solubility data

Solvent	Max Conc. mg/mL	Max Conc. mM
DMSO	50.0	125.8

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	2.52 mL	12.58 mL	25.16 mL
5 mM	0.50 mL	2.52 mL	5.03 mL
10 mM	0.25 mL	1.26 mL	2.52 mL
50 mM	0.05 mL	0.25 mL	0.50 mL

5. Molarity Calculator, Reconstitution Calculator, Dilution Calculator

Please refer the product web page under section of "Calculator"

6. Recommended literature which reported protocols for in vitro and in vivo study

In vitro study

1. Gonsiorek W, Fan X, Hesk D, Fossetta J, Qiu H, Jakway J, Billah M, Dwyer M, Chao J, Deno G, Taveras A, Lundell DJ, Hipkin RW. Pharmacological characterization of Sch527123, a potent allosteric CXCR1/CXCR2 antagonist. J Pharmacol Exp Ther. 2007 Aug;322(2):477-85. doi: 10.1124/jpet.106.118927. Epub 2007 May 11. PMID: 17496166.

2. Ning Y, Labonte MJ, Zhang W, Bohanes PO, Gerger A, Yang D, Benhaim L, Paez D, Rosenberg DO, Nagulapalli Venkata KC, Louie SG, Petasis NA, Ladner RD, Lenz HJ. The CXCR2 antagonist, SCH-527123, shows antitumor activity and sensitizes cells to oxaliplatin in preclinical colon cancer models. Mol Cancer Ther. 2012 Jun;11(6):1353-64. doi: 10.1158/1535-7163.MCT-11-0915. Epub 2012 Mar 5. PMID: 22391039.

In vivo study

1. Chapman RW, Minnicozzi M, Celly CS, Phillips JE, Kung TT, Hipkin RW, Fan X, Rindgen D, Deno G, Bond R, Gonsiorek W, Billah MM, Fine JS, Hey JA. A novel, orally active CXCR1/2 receptor antagonist, Sch527123, inhibits neutrophil recruitment, mucus

production, and goblet cell hyperplasia in animal models of pulmonary inflammation. J Pharmacol Exp Ther. 2007 Aug;322(2):486-93. doi: 10.1124/jpet.106.119040. Epub 2007 May 11. PMID: 17496165.

2. Ning Y, Labonte MJ, Zhang W, Bohanes PO, Gerger A, Yang D, Benhaim L, Paez D, Rosenberg DO, Nagulapalli Venkata KC, Louie SG, Petasis NA, Ladner RD, Lenz HJ. The CXCR2 antagonist, SCH-527123, shows antitumor activity and sensitizes cells to oxaliplatin in preclinical colon cancer models. Mol Cancer Ther. 2012 Jun;11(6):1353-64. doi: 10.1158/1535-7163.MCT-11-0915. Epub 2012 Mar 5. PMID: 22391039.

7. Bioactivity

Biological target:

Navarixin (SCH 527123) is a potent, allosteric and orally active antagonist of both CXCR1 and CXCR2, with Kd values of 41 nM for cynomolgus CXCR1 and 0.20 nM, 0.20 nM, 0.08 nM for mouse, rat and cynomolgus monkey CXCR2, respectively.

In vitro activity

Sch527123 inhibited chemokine binding to (and activation of) CXCR1 and CXCR2 in an insurmountable manner and, as such, is categorized as an allosteric antagonist. Sch527123 inhibited neutrophil chemotaxis and myeloperoxidase release in response to CXCL1 and CXCL8 but had no effect on the response of these cells to C5a or formyl-methionyl-leucyl-phenylalanine. The pharmacological specificity of Sch527123 was confirmed by testing in a diversity profile against a panel of enzymes, channels, and receptors. To measure compound affinity, Sch527123 was characterized in both equilibrium and nonequilibrium binding analyses. Sch527123 binding to CXCR1 and CXCR2 was both saturable and reversible. Although Sch527123 bound to CXCR1 with good affinity (K(d) = 3.9 +/- 0.3 nM), the compound is CXCR2-selective (K(d) = 0.049 +/- 0.004 nM). Taken together, these data show that Sch527123 represents a novel, potent, and specific CXCR2 antagonist with potential therapeutic utility in a variety of inflammatory conditions.

Reference: J Pharmacol Exp Ther. 2007 Aug;322(2):477-85. https://jpet.aspetjournals.org/content/322/2/477.long

In vivo activity

Oral treatment with Sch527123 blocked pulmonary neutrophilia (ED(50) = 1.2 mg/kg) and goblet cell hyperplasia (32-38% inhibition at 1-3 mg/kg) in mice following the intranasal lipopolysaccharide (LPS) administration. In rats, Sch527123 suppressed the pulmonary neutrophilia (ED(50) = 1.8 mg/kg) and increase in bronchoalveolar lavage (BAL) mucin content (ED(50) =<0.1 mg/kg) induced by intratracheal (i.t.) LPS. Sch527123 also suppressed the pulmonary neutrophilia (ED(50) = 1.3 mg/kg), goblet cell hyperplasia (ED(50) = 0.7 mg/kg), and increase in BAL mucin content (ED(50) = <1 mg/kg) in rats after i.t. administration of vanadium pentoxide. In cynomolgus monkeys, Sch527123 reduced the pulmonary neutrophilia induced by repeat bronchoscopy and lavage (ED(50) = 0.3 mg/kg). Therefore, Sch527123 may offer benefit for the treatment of inflammatory lung disorders in which pulmonary neutrophilia and mucus hypersecretion are important components of the underlying disease pathology.

Reference: J Pharmacol Exp Ther. 2007 Aug;322(2):486-93. https://jpet.aspetjournals.org/content/322/2/486.long

Note: The information listed here was extracted from literature. MedKoo has not independently retested and confirmed the accuracy of these methods. Customer should use it just for a reference only.