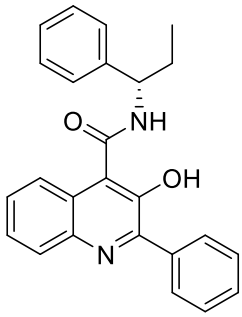
Product data sheet

MedKoo Cat#: 526414 Name: Talnetant CAS: 174636-32-9 Chemical Formula: $C_{25}H_{22}N_2O_2$ Exact Mass: 382.1681 Molecular Weight: 382.463	
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:
Talnetant is a novel NK3 receptor antagonist.

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	62.5	163.41

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	2.61 mL	13.07 mL	26.15 mL
5 mM	0.52 mL	2.61 mL	5.23 mL
10 mM	0.26 mL	1.31 mL	2.61 mL
50 mM	0.05 mL	0.26 mL	0.52 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. Sarau HM, Griswold DE, Potts W, Foley JJ, Schmidt DB, Webb EF, Martin LD, Brawner ME, Elshourbagy NA, Medhurst AD, Giardina GA, Hay DW. Nonpeptide tachykinin receptor antagonists: I. Pharmacological and pharmacokinetic characterization of SB 223412, a novel, potent and selective neurokinin-3 receptor antagonist. J Pharmacol Exp Ther. 1997 Jun;281(3):1303-11. PMID: 9190866.

In vivo study

1. Sasaki T, Sonoda T, Tatebayashi R, Kitagawa Y, Oishi S, Yamamoto K, Fujii N, Inoue N, Uenoyama Y, Tsukamura H, Maeda KI, Matsuda F, Morita Y, Matsuyama S, Ohkura S. Peripheral administration of SB223412, a selective neurokinin-3 receptor antagonist, suppresses pulsatile luteinizing hormone secretion by acting on the gonadotropin-releasing hormone pulse generator in estrogen-treated ovariectomized female goats. J Reprod Dev. 2020 Aug 20;66(4):351-357. doi: 10.1262/jrd.2019-145. Epub 2020 Apr 12. PMID: 32281549; PMCID: PMC7470901.

7. Bioactivity
Biological target:

Talnetant (SB 223412) is a selective, competitive, brain-permeable NK3 receptor antagonist with a Ki of 1.4 nM in hNK-3-CHO cells.

In vitro activity

Product data sheet

SB 223412 demonstrated enantioselective affinity for inhibition of [125I][MePhe7]neurokinin B (NKB) binding to membranes of CHO cells expressing the hNK-3 receptor (CHO hNK-3). SB 223412, the (S)-isomer, (Ki = 1.0 nM), has similar affinity as the natural ligand, NKB (Ki = 0.8 nM) and another nonpeptide NK-3 receptor antagonist, SR 142801 (Ki = 1.2 nM). SB 223412 was selective for hNK-3 receptors compared with hNK-1 (>10,000-fold selective) and hNK-2 receptors (>140-fold selective), and selectivity was further demonstrated by its lack of effect, in concentrations up to 1 or 10 microM, in >60 receptor, enzyme and ion channel assays. SB 223412 enantioselectively inhibited the NKB-induced Ca++ mobilization in HEK 293 cells stably expressing the hNK-3 receptor.

Reference: J Pharmacol Exp Ther. 1997 Jun;281(3):1303-11. https://pubmed.ncbi.nlm.nih.gov/9190866/

In vivo activity

Intravenous infusion or oral administration of SB223412, a selective NK3R antagonist, exerts a suppressive effect on GnRH pulse generator activity in E2-treated OVX goats. Intravenous infusion of the NK3R antagonist led to an increase in intervals of MUA volley, an electrophysiological manifestation of GnRH pulse generator activity, as well as interpulse intervals of LH pulses. The results suggest that peripheral administration of the NK3R antagonist suppressed pulsatile LH secretion by acting on the GnRH pulse generator.

Reference: J Reprod Dev. 2020 Aug 20;66(4):351-357. https://pubmed.ncbi.nlm.nih.gov/32281549/