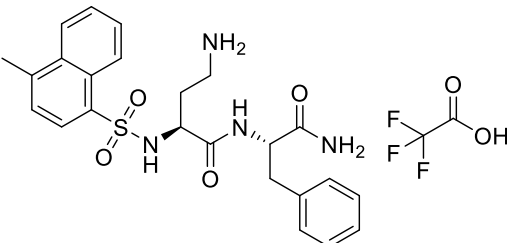# Product data sheet

MedKoo Cat#: 574069
Name: J-2156
CAS: 2387505-73-7
Chemical Formula: $C_{26}H_{29}F_3N_4O_6S$
Exact Mass: 582.176
Molecular Weight: 582.5952

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:

J-2156 is a high affinity human somatostatin receptor 4 (sst4) agonist that reduces inflammatory airway hyperresponsiveness in acute and chronic airway inflammation. J-2156 also exhibits anxiolytic effects.

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	79.13	135.82
Water	79.13	135.82

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	1.72 mL	8.58 mL	17.16 mL
5 mM	0.34 mL	1.72 mL	3.43 mL
10 mM	0.17 mL	0.86 mL	1.72 mL
50 mM	0.03 mL	0.17 mL	0.34 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. Helyes Z, Pintér E, Németh J, Sándor K, Elekes K, Szabó A, Pozsgai G, Keszthelyi D, Kereskai L, Engström M, Wurster S, Szolcsányi J. Effects of the somatostatin receptor subtype 4 selective agonist J-2156 on sensory neuropeptide release and inflammatory reactions in rodents. Br J Pharmacol. 2006 Oct;149(4):405-15. doi: 10.1038/sj.bjp.0706876. Epub 2006 Sep 4. PMID: 16953190; PMCID: PMC1978437.

In vivo study

1. Park TSW, Khan N, Kuo A, Nicholson JR, Corradini L, Smith MT. J-2156, a somatostatin receptor type 4 agonist, alleviates mechanical hyperalgesia in a rat model of chronic low back pain. Biomed Pharmacother. 2019 Sep;117:109056. doi: 10.1016/j.biopha.2019.109056. Epub 2019 Jun 7. PMID: 31181441.

2. Shenoy PA, Kuo A, Khan N, Gorham L, Nicholson JR, Corradini L, Vetter I, Smith MT. The Somatostatin Receptor-4 Agonist J-2156 Alleviates Mechanical Hypersensitivity in a Rat Model of Breast Cancer Induced Bone Pain. Front Pharmacol. 2018 May 15;9:495. doi: 10.3389/fphar.2018.00495. PMID: 29867498; PMCID: PMC5962878.

7. Bioactivity

Biological target:

Product data sheet

J-2156 TFA is a high potent, selective somatostatin receptor type 4 (SST$_4$ receptor) agonist with IC$_{50}$s of 0.05 nM and 0.07 nM for human and rat SST$_4$ receptors, respectively.

In vitro activity

J-2156 (10–2000 nm) significantly inhibited the stimulation-evoked release of all the three measured sensory neuropeptides in a concentration-dependent manner, although it did not influence basal, nonstimulated peptide release.

Reference: Br J Pharmacol. 2006 Oct;149(4):405-15. https://pubmed.ncbi.nlm.nih.gov/16953190/

In vivo activity

In LBP-rats, single intraperitoneal (i.p.) injection of J-2156 (3, 10, 30 mg kg^{-1}) alleviated primary and secondary hyperalgesia in the lumbar axial deep tissues at L4/L5 and L1, respectively. This was accompanied by a reduction in the otherwise augmented lumbar (L4-L6) dorsal root ganglia expression levels of the pro-nociceptive mediators: phosphorylated p38 (pp38) mitogen-activated protein kinase (MAPK) and phosphorylated p44/p42 MAPK and a reduction in pp38 MAPK in the lumbar enlargement of the spinal cord.

Reference: Biomed Pharmacother. 2019 Sep;117:109056. https://pubmed.ncbi.nlm.nih.gov/31181441/

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.