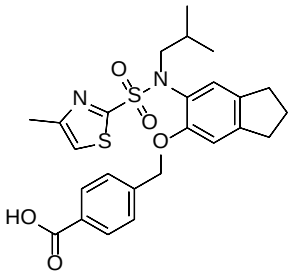
Product data sheet

MedKoo Cat#: 527859 Name: ONO-8130 CAS: 459841-96-4 Chemical Formula: $C_{25}H_{28}N_2O_5S_2$ Exact Mass: 500.144 Molecular Weight: 500.628	
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:
ONO-8130 is an orally available EP1 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
DMF	1.0	2.00
DMSO	26.53	52.99
DMSO:PBS (pH 7.2) (1:1)	0.5	1.00
Ethanol	6.01	11.99

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	**1 mg**	**5 mg**	**10 mg**
1 mM	2.00 mL	9.99 mL	19.97 mL
5 mM	0.40 mL	2.00 mL	3.99 mL
10 mM	0.20 mL	1.00 mL	2.00 mL
50 mM	0.04 mL	0.20 mL	0.40 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. Säfholm J, Dahlén SE, Delin I, Maxey K, Stark K, Cardell LO, Adner M. PGE2 maintains the tone of the guinea pig trachea through a balance between activation of contractile EP1 receptors and relaxant EP2 receptors. Br J Pharmacol. 2013 Feb;168(4):794-806. doi: 10.1111/j.1476-5381.2012.02189.x. PMID: 22934927; PMCID: PMC3631371.

In vivo study

1. Miki T, Matsunami M, Nakamura S, Okada H, Matsuya H, Kawabata A. ONO-8130, a selective prostanoid EP1 receptor antagonist, relieves bladder pain in mice with cyclophosphamide-induced cystitis. Pain. 2011 Jun;152(6):1373-1381. doi: 10.1016/j.pain.2011.02.019. Epub 2011 Mar 10. PMID: 21396778.

7. Bioactivity
Biological target:

ONO-8130 is an orally active and selective prostanoid EP1 receptor antagonist.

In vitro activity

Product data sheet

Expression of mRNA for EP receptors and key enzymes in the PGE(2) pathway were assessed by real-time PCR using species-specific primers. Functional studies of GPT were performed in tissue organ baths. Expression of mRNA for the four EP receptors was found in airway smooth muscle. PGE(2) displayed a bell-shaped concentration-response curve, where the initial contraction was inhibited by the EP(1) receptor antagonist ONO-8130 and the subsequent relaxation by the EP(2) receptor antagonist PF-04418948.

Reference: Br J Pharmacol. 2013 Feb;168(4):794-806. https://pubmed.ncbi.nlm.nih.gov/22934927/

In vivo activity

Given the previous evidence for involvement of prostanoid EP1 receptors in facilitation of the bladder afferent nerve activity and micturition reflex, the present study investigated the effect of ONO-8130, a selective EP1 receptor antagonist, on cystitis-related bladder pain in mice. Oral preadministration of ONO-8130 at 0.3-30 mg/kg strongly prevented both the bladder pain-like behavior and referred hyperalgesia in a dose-dependent manner, but had slight effect on the increased bladder weight and vascular permeability. Oral ONO-8130 at 30 mg/kg also reversed the established cystitis-related bladder pain. Intravesical administration of prostaglandin E2 caused prompt phosphorylation of ERK in the L6 spinal cord, an effect blocked by ONO-8130.

Reference: Pain. 2011 Jun;152(6):1373-1381. https://pubmed.ncbi.nlm.nih.gov/21396778/