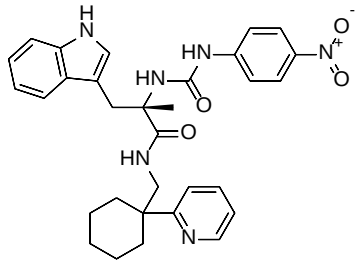
Product data sheet

MedKoo Cat#: 532455 Name: PD 168368 CAS: 204066-82-0 Chemical Formula: $C_{31}H_{34}N_6O_4$ Exact Mass: 554.2642 Molecular Weight: 554.651	
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:
PD 168368 is a competitive antagonist of neuromedin B (NMB) receptors (Kis = 15-45 nM for rat and human receptors expressed in various cell lines). It blocks the elevation of intracellular calcium and release of inositol phosphate induced by NMB in cells expressing NMB receptors.

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	10.0	18.03
DMSO	30.0	54.09
DMSO:PBS (pH 7.2) (1:2)	0.3	0.54

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	1.80 mL	9.01 mL	18.03 mL
5 mM	0.36 mL	1.80 mL	3.61 mL
10 mM	0.18 mL	0.90 mL	1.80 mL
50 mM	0.04 mL	0.18 mL	0.36 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. Zeng R, Xiong X. Effect of NMB-regulated ERK1/2 and p65 signaling pathway on proliferation and apoptosis of cervical cancer. Pathol Res Pract. 2022 Sep 6;238:154104. doi: 10.1016/j.prp.2022.154104. Epub ahead of print. PMID: 36095918.

2. Park HJ, Kim MK, Choi KS, Jeong JW, Bae SK, Kim HJ, Bae MK. Neuromedin B receptor antagonism inhibits migration, invasion, and epithelial-mesenchymal transition of breast cancer cells. Int J Oncol. 2016 Sep;49(3):934-42. doi: 10.3892/ijo.2016.3590. Epub 2016 Jun 30. PMID: 27571778.

In vivo study

1. Park HJ, Kim MK, Kim Y, Kim HJ, Bae SK, Bae MK. Neuromedin B modulates phosphate-induced vascular calcification. BMB Rep. 2021 Nov;54(11):569-574. doi: 10.5483/BMBRep.2021.54.11.089. PMID: 34674793; PMCID: PMC8633520.

2. Moody TW, Jensen RT, Garcia L, Leyton J. Nonpeptide neuromedin B receptor antagonists inhibit the proliferation of C6 cells. Eur J Pharmacol. 2000 Dec 8;409(2):133-42. doi: 10.1016/s0014-2999(00)00828-1. PMID: 11104826.

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7. Bioactivity

Biological target:

PD 168368 is a potent, competitive, and selective neuromedin B receptor (NMB-R) antagonist with the Ki of 15–45 nM.

In vitro activity

The present study found that NMB and its receptor NMBR are aberrantly expressed in cervical cancer. NMB activates ERK1/2 and NF-κB signaling pathways, which promote the proliferation of cervical cancer cells and increase the expression of tumor necrosis factor α (TNF-α). The downregulation of NMBR by the specific inhibitor, PD168368, abrogates proliferation and promotes apoptosis of cervical cancer cells.

Reference: Pathol Res Pract. 2022 Sep 6;238:154104. https://pubmed.ncbi.nlm.nih.gov/36095918/

In vivo activity

As shown in Fig. 4D, the aortas of CKD rats had extensive calcification as compared with those from the sham rats. This was significantly alleviated in the aortas of the animals from PD168368-treated CKD group, resulting in reduced deposition of calcium as well as a small ratio of calcified area. The serum level of NMB was also increased in CKD rats compared with sham rats, which was restored to normal levels by PD 168368 treatment (Fig. 4E). Finally, western blotting demonstrated that PD168368 treatment blocked the osteogenic conversion and apoptosis in the aorta of CKD rats (Fig. 4F).

Reference: BMB Rep. 2021 Nov;54(11):569-574. https://pubmed.ncbi.nlm.nih.gov/34674793/

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.