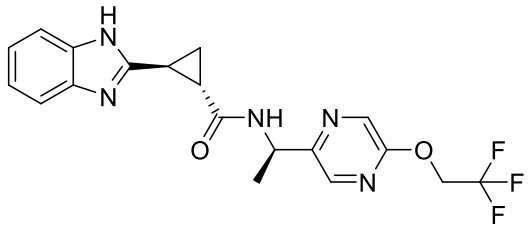
Product data sheet

MedKoo Cat#: 555164 Name: RQ-00311651 CAS#: 1257116-00-9 Chemical Formula: $C_{19}H_{18}F_3N_5O_2$ Exact Mass: 405.1413 Molecular Weight: 405.38	
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:
RQ-00311651 is a novel T-type Ca2+ channel blocker, in distinct rodent models for neuropathic and visceral pain.

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
To be determined	To be determined	To be determined

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	2.47 mL	12.33 mL	24.67 mL
5 mM	0.49 mL	2.47 mL	4.93 mL
10 mM	0.25 mL	1.23 mL	2.47 mL
50 mM	0.05 mL	0.25 mL	0.49 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. Sekiguchi F, Kawara Y, Tsubota M, Kawakami E, Ozaki T, Kawaishi Y, Tomita S, Kanaoka D, Yoshida S, Ohkubo T, Kawabata A. Therapeutic potential of RQ-00311651, a novel T-type Ca2+ channel blocker, in distinct rodent models for neuropathic and visceral pain. Pain. 2016 Aug;157(8):1655-1665. doi: 10.1097/j.pain.0000000000000565. PMID: 27023424.

In vivo study

1. Sekiguchi F, Kawara Y, Tsubota M, Kawakami E, Ozaki T, Kawaishi Y, Tomita S, Kanaoka D, Yoshida S, Ohkubo T, Kawabata A. Therapeutic potential of RQ-00311651, a novel T-type Ca2+ channel blocker, in distinct rodent models for neuropathic and visceral pain. Pain. 2016 Aug;157(8):1655-1665. doi: 10.1097/j.pain.0000000000000565. PMID: 27023424.

7. Bioactivity
Biological target:

In HEK293 cells transfected with human Cav3.1 or Cav3.2, RQ-00311651 strongly suppressed T currents when tested at holding potentials of -65 ~ -60 mV, but not -80 mV, in the Cav3.1- or Cav3.2-expressing cells. RQ-00311651 also inhibited high K-induced Ca signaling in those cells.

In vitro activity

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Reference: Pain. 2016 Aug;157(8):1655-1665. https://pubmed.ncbi.nlm.nih.gov/27023424/

In vivo activity

RQ-00311651 may serve as an orally available analgesic for treatment of neuropathic and inflammatory pain with minimum central side effects. In mice, RQ-00311651significantly suppressed the somatic hyperalgesia and visceral pain-like nociceptive behavior/referred hyperalgesia caused by intraplantar and intracolonic administration of NaHS or Na2S, which involve the enhanced activity of Cav3.2 channels. RQ-00311651 exhibited antiallodynic or antihyperalgesic activity in rats with spinal nerve injury-induced neuropathy or in rats and mice with paclitaxel-induced neuropathy.

Reference: Pain. 2016 Aug;157(8):1655-1665. https://pubmed.ncbi.nlm.nih.gov/27023424/