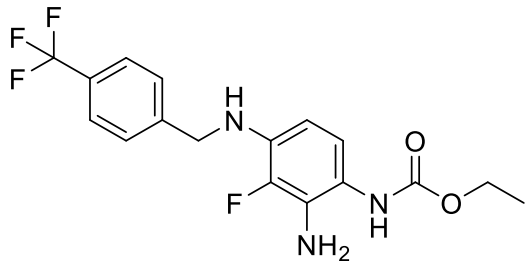
Product data sheet

MedKoo Cat#: 525434 Name: RL648_81 CAS#: 1919050-87-5 Chemical Formula: $C_{17}H_{17}F_4N_3O_2$ Exact Mass: 371.1257 Molecular Weight: 371.34	
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:
RL648_81 is a novel potent and selective activator of KCNQ2/3 channels.

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
Ethanol	100	269.30

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	2.69 mL	13.47 mL	26.93 mL
5 mM	0.54 mL	2.69 mL	5.39 mL
10 mM	0.27 mL	1.35 mL	2.69 mL
50 mM	0.05 mL	0.27 mL	0.54 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. Shi S, Li J, Sun F, Chen Y, Pang C, Geng Y, Qi J, Guo S, Wang X, Zhang H, Zhan Y, An H. Molecular Mechanisms and Structural Basis of Retigabine Analogues in Regulating KCNQ2 Channel. J Membr Biol. 2020 Apr;253(2):167-181. doi: 10.1007/s00232-020-00113-6. Epub 2020 Mar 13. PMID: 32170353.
2. Kumar M, Reed N, Liu R, Aizenman E, Wipf P, Tzounopoulos T. Synthesis and Evaluation of Potent KCNQ2/3-Specific Channel Activators. Mol Pharmacol. 2016 Jun;89(6):667-77. doi: 10.1124/mol.115.103200. Epub 2016 Mar 22. PMID: 27005699.

In vivo study

To be determined

7. Bioactivity
Biological target:

RL648_81 is a specific KQT-like subfamily 2/3 (KCNQ2/3) activator with an EC50 of 190 nM. RL648_81 shifts the V1/2 of KCNQ2/3 channels towards hyperpolarized potentials. RL648_81 does not shift the V1/2 of either KCNQ4 or KCNQ5.RL648_81 has the potential for neurologic disorders associated with neuronal hyperexcitability research.

In vitro activity

Product data sheet

RL648_81 is >15 times more potent and also more selective than retigabine. This study suggests that RL648_81 is a promising clinical candidate for treating or preventing neurologic disorders associated with neuronal hyperexcitability.

Reference: Mol Pharmacol. 2016 Jun;89(6):667-77. https://pubmed.ncbi.nlm.nih.gov/27005699/

In vivo activity

To be determined

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.