

# Product data sheet



MedKoo Cat#: 510234 Name: RWJ-67657 CAS: 215303-72-3 Chemical Formula: C <sub>27</sub> H <sub>24</sub> FN <sub>3</sub> O Exact Mass: 425.1903 Molecular Weight: 425.50	
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:

RWJ-67657 is a potent p38 MAPK inhibitor. RWJ-67657 displays cardioprotective and anti-inflammatory activity in vivo.

## 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	42.55	100
Ethanol	42.55	100

## 4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	2.35 mL	11.75 mL	23.5 mL
5 mM	0.47 mL	2.35 mL	4.7 mL
10 mM	0.24 mL	1.18 mL	2.35 mL
50 mM	0.05 mL	0.24 mL	0.47 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

- Huang KW, Wang IH, Fu P, Krum H, Bach LA, Wang BH. Insulin-like growth factor-1 directly affects cardiac cellular remodelling via distinct pathways. *Int J Cardiol Heart Vasc.* 2021 Aug 2;36:100852. doi: 10.1016/j.ijcha.2021.100852. PMID: 34401470; PMCID: PMC8349770.
- Muthumani K, Wadsworth SA, Dayes NS, Hwang DS, Choo AY, Abeyasinghe HR, Siekierka JJ, Weiner DB. Suppression of HIV-1 viral replication and cellular pathogenesis by a novel p38/JNK kinase inhibitor. *AIDS.* 2004 Mar 26;18(5):739-48. doi: 10.1097/00002030-200403260-00004. PMID: 15075508.

### In vivo study

- Antoon JW, Nitzchke AM, Martin EC, Rhodes LV, Nam S, Wadsworth S, Salvo VA, Elliott S, Collins-Burow B, Nephew KP, Burow ME. Inhibition of p38 mitogen-activated protein kinase alters microRNA expression and reverses epithelial-to-mesenchymal transition. *Int J Oncol.* 2013 Apr;42(4):1139-50. doi: 10.3892/ijo.2013.1814. Epub 2013 Feb 8. PMID: 23403951; PMCID: PMC3622654.
- Kompa AR, See F, Lewis DA, Adrahtas A, Cantwell DM, Wang BH, Krum H. Long-term but not short-term p38 mitogen-activated protein kinase inhibition improves cardiac function and reduces cardiac remodeling post-myocardial infarction. *J Pharmacol Exp Ther.* 2008 Jun;325(3):741-50. doi: 10.1124/jpet.107.133546. Epub 2008 Mar 11. PMID: 18334667.

## 7. Bioactivity

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## Biological target:

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RWJ-67657 is a selective p38 $\alpha$  and p38 $\beta$  inhibitor (IC50s = 1 and 11  $\mu$ M respectively) that displays no activity at p38 $\gamma$ , p38 $\delta$  and a range of other kinases. RWJ-67657 potently inhibits TNF- $\alpha$  and IL-1 $\beta$  release (IC50s = 3 and 11 nM respectively) and suppresses HIV-1 replication in T cells in vitro.

## In vitro activity

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RWJ-67657 effectively inhibited HIV-1 replication in both T-cell and monocyte cell lines, irrespective of the coreceptor used by the virus for entry into the cell. RWJ-67657 effectively suppressed both reverse transcriptase and protease resistant escape mutant viruses.

Reference: AIDS. 2004 Mar 26;18(5):739-48. <https://pubmed.ncbi.nlm.nih.gov/15075508/>

## In vivo activity

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The pharmacological inhibition of p38 with RWJ-67657 led to a decrease in chemoresistant cancer tumor growth in xenograft animal models. This suggests that RWJ-67657 has potential therapeutic relevance in reversing epithelial-to-mesenchymal transition in advanced tumor phenotypes and overcoming drug resistance in breast cancer.

Reference: Int J Oncol. 2013 Apr;42(4):1139-50. <https://pubmed.ncbi.nlm.nih.gov/23403951/>

*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.*