

# Product data sheet



MedKoo Cat#: 561805 Name: AC1903 CAS#: 831234-13-0 Chemical Formula: C <sub>19</sub> H <sub>17</sub> N <sub>3</sub> O Exact Mass: 303.1372 Molecular Weight: 303.36	
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:

AC1903 is a specific blocker of TRPC5 channel activity. It has been shown to suppress severe proteinuria and prevent podocyte loss.

## 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	51.29	169.07
DMSO:PBS (pH 7.2) (1:4)	0.2	0.66
DMF	30.0	98.89
Ethanol	30.5	100.54

## 4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	3.30 mL	16.48 mL	32.96 mL
5 mM	0.66 mL	3.30 mL	6.59 mL
10 mM	0.33 mL	1.65 mL	3.30 mL
50 mM	0.07 mL	0.33 mL	0.66 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

TBD

In vivo study

1. Sharma SH, Pablo JL, Montesinos MS, Greka A, Hopkins CR. Design, synthesis and characterization of novel N-heterocyclic-1-benzyl-1H-benzo[d]imidazole-2-amines as selective TRPC5 inhibitors leading to the identification of the selective compound, AC1903. *Bioorg Med Chem Lett*. 2019 Jan 15;29(2):155-159. doi: 10.1016/j.bmcl.2018.12.007. Epub 2018 Dec 4. PMID: 30538066; PMCID: PMC6349029.

2. Zhou Y, Castonguay P, Sidhom EH, Clark AR, Dvela-Levitt M, Kim S, Sieber J, Wieder N, Jung JY, Andreeva S, Reichardt J, Dubois F, Hoffmann SC, Basgen JM, Montesinos MS, Weins A, Johnson AC, Lander ES, Garrett MR, Hopkins CR, Greka A. A small-molecule inhibitor of TRPC5 ion channels suppresses progressive kidney disease in animal models. *Science*. 2017 Dec 8;358(6368):1332-1336. doi: 10.1126/science.aal4178. PMID: 29217578; PMCID: PMC6014699.

## 7. Bioactivity

Biological target:

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AC1903 is a specific and selective inhibitor of TRPC5 and has podocyte-protective properties.

## In vitro activity

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TBD

## In vivo activity

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Twice-daily intraperitoneal injections of AC1903 (50 mg/kg) for 7 days suppressed severe proteinuria in AT1R Tg rats (Advanced) (Fig. 3A), without evidence of toxicity (fig. S7, A to C). Inside-out electrophysiology measurements in isolated glomeruli from AT1R Tg rats confirmed that AC1903 blocks TRPC5 channel activity during proteinuric disease progression (Fig. 3, B and C). Morphometric analysis demonstrated that treatment with AC1903 led to a significant reduction in pseudocyst formation and in podocyte loss in AT1R Tg rats with advanced disease (Fig. 3, D to F). Thus, AC1903 inhibits the progression of proteinuric kidney disease by preserving podocytes.

Reference: Science. 2017 Dec 8; 358(6368): 1332–1336. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6014699/>

*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.*