# MK-8153

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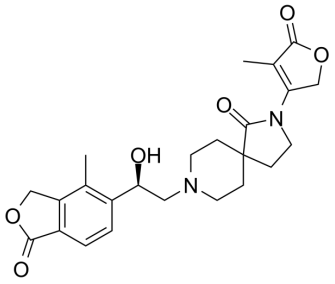
| **Cat. No.:** | HY-132201 |
| **CAS No.:** | 1548286-45-8 |
| **Molecular Formula:** | $C_{24}H_{28}N_2O_6$ |
| **Molecular Weight:** | 440.49 |
| **Target:** | Potassium Channel |
| **Pathway:** | Membrane Transporter/Ion Channel |
| **Storage:** | Please store the product under the recommended conditions in the Certificate of Analysis. |



## BIOLOGICAL ACTIVITY

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| **Description** | MK-8153 is a potent, selective and orally active inhibitor of renal outer medullary potassium channel (ROMK), with $IC_{50}$s of 5 nM, 34 μM for ROMK electrophysiology (EP) and hERG EP, respectively. MK-8153 can be used as the diuretic/atriuretic[1]. |
| **$IC_{50}$ & Target** | IC50: 5 nM (ROMK EP), 34 μM (hERG EP)[1] |
| **In Vitro** | MK-8153 inhibits current through rat ROMK, rKir1.1/HEK293 cells in electrophysiological recordings with an $IC_{50}$ of 2.5 nM[1].<br>MCE has not independently confirmed the accuracy of these methods. They are for reference only. |
| **In Vivo** | MK-8153 (0.1-10 mg/kg/d, p.o. once daily for 3 days) causes a dose-dependent decrease in systolic blood pressure of aged SHRs. MK-8153 shows diuretic effects in SHRs[1].<br>MK-8153 (2 mg/kg; p.o.) exhibits terminal elimination half-lives (rat 3.6, dog 9.1, Rhesus 3.3 h), bioavailability (rat 53%, dog ~100%, Rhesus 3.4%), and plasma clearance (rat 29.4, dog 8.7, Rhesus 58.3 mL/min/kg)[1].<br>MCE has not independently confirmed the accuracy of these methods. They are for reference only. |

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| Animal Model: | Aged spontaneously hypertensive rats (SHRs)[1] |
| Dosage: | 0.1, 0.3, 1, 3, 10 mg/kg |
| Administration: | P.o. once daily for 3 days |
| Result: | Observed the maximal lowering of systolic blood pressure (⊠24 mm Hg) by day 3 at the 3 mg/kg.<br>Dose-dependently increased the sodium excretion. |

## REFERENCES

[1]. Jiang J, et, al. Discovery of MK-8153, a Potent and Selective ROMK Inhibitor and Novel Diuretic/Natriuretic. J Med Chem. 2021 May 26.

**Caution: Product has not been fully validated for medical applications. For research use only.**

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