

# Product data sheet



MedKoo Cat#: 556203 Name: MCFU-651 CAS: 2747162-85-0 Chemical Formula: C <sub>17</sub> H <sub>22</sub> F <sub>2</sub> N <sub>4</sub> OS Exact Mass: 368.1482 Molecular Weight: 368.4468	
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:

MCFU-651 is a small molecule guanylyl cyclase A receptor positive allosteric modulator (GC-A PAM). MCFU-651 enhanced ANP-mediated cGMP generation in human cardiac, renal, and fat cells and inhibited cardiomyocyte hypertrophy in vitro. Further, binding analysis confirmed MCFU-651 binds to GC-A and selectively enhances the binding of ANP to GC-A. Moreover, MCFU-651 is orally bioavailable in mice and enhances the ability of endogenous ANP and BNP, found in the plasma of normal subjects and patients with hypertension or heart failure, to generate GC-A-mediated cGMP *ex 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
TBD	TBD	TBD

## 4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	2.71 mL	13.57 mL	27.14 mL
5 mM	0.54 mL	2.71 mL	5.43 mL
10 mM	0.27 mL	1.36 mL	2.71 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

Sangaralingham SJ, Whig K, Peddibhotla S, Kirby RJ, Sessions HE, Maloney PR, Hershberger PM, Mose-Yates H, Hood BL, Vasile S, Pan S, Zheng Y, Malany S, Burnett JC Jr. Discovery of small molecule guanylyl cyclase A receptor positive allosteric modulators. Proc Natl Acad Sci U S A. 2021 Dec 28;118(52):e2109386118. doi: 10.1073/pnas.2109386118. PMID: 34930837; PMCID: PMC8719854.

In vivo study

TBD

## 7. Bioactivity

Biological target:

MCFU-651 is a small molecule guanylyl cyclase A receptor positive allosteric modulator (GC-A PAM).

In vitro activity

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From the aforementioned hit to lead efforts, this study identified MCUF-651 as the lead selective GC-A PAM, as it was able to potentiate ANP-mediated cGMP (Fig. 3 A and B) and with a potency of  $EC_{50} = 0.45 \mu\text{M}$  in HEK293 GC-A cells. Thus, MCUF-651 was specific for GC-A and stimulated cGMP generation in a dose-dependent fashion only in PAM mode. Increasing concentrations of MCUF-651 shifted the ANP-mediated cGMP dose-response curve to the left (or greater potencies), with no effect on maximal ANP concentration, indicating a PAM without agonist activity.

Reference: Proc Natl Acad Sci U S A. 2021 Dec 28;118(52):e2109386118. <https://pubmed.ncbi.nlm.nih.gov/34930837/>

In vivo activity

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TBD

*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.*