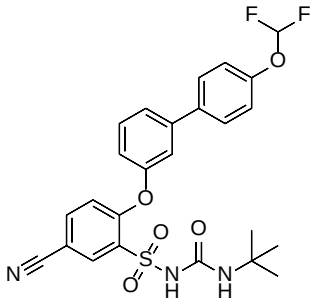
Product data sheet

MedKoo Cat#: 555765 Name: NTP42 CAS: 2055599-51-2 Chemical Formula: $C_{25}H_{23}F_2N_3O_5S$ Exact Mass: 515.1326 Molecular Weight: 515.5318	
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:
NTP42 is a novel antagonist of the thromboxane prostanoid receptor (TP), currently in development for the treatment of pulmonary arterial hypertension (PAH). PAH is a devastating disease with multiple pathophysiological hallmarks including excessive pulmonary vasoconstriction, vascular remodelling, inflammation, fibrosis, in situ thrombosis and right ventricular hypertrophy.

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	31.25	60.62

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	1.94 mL	9.70 mL	19.40 mL
5 mM	0.39 mL	1.94 mL	3.88 mL
10 mM	0.19 mL	0.97 mL	1.94 mL
50 mM	0.04 mL	0.19 mL	0.39 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. Mulvaney EP, Renzo F, Adão R, Dupre E, Bialesova L, Salvatore V, Reid HM, Conceição G, Grynblat J, Llucià-Valldeperas A, Michel JB, Brás-Silva C, Laurent CE, Howard LS, Montani D, Humbert M, Vonk Noordegraaf A, Perros F, Mendes-Ferreira P, Kinsella BT. The thromboxane receptor antagonist NTP42 promotes beneficial adaptation and preserves cardiac function in experimental models of right heart overload. Front Cardiovasc Med. 2022 Dec 14;9:1063967. doi: 10.3389/fcvm.2022.1063967. PMID: 36588576; PMCID: PMC9794752.
2. Mulvaney EP, Reid HM, Bialesova L, Mendes-Ferreira P, Adão R, Brás-Silva C, Kinsella BT. Efficacy of the thromboxane receptor antagonist NTP42 alone, or in combination with sildenafil, in the sugen/hypoxia-induced model of pulmonary arterial hypertension. Eur J Pharmacol. 2020 Dec 15;889:173658. doi: 10.1016/j.ejphar.2020.173658. Epub 2020 Oct 27. PMID: 33121950.

7. Bioactivity
Biological target:

NTP42 is a thromboxane A2 (TXA2) receptor antagonist with an IC_{50} of 3.278 nM.

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In vitro activity

TBD

In vivo activity

In the MCT-PAH rat model, NTP42:KVA4 alleviated disease-induced changes in cardiopulmonary hemodynamics, pulmonary vascular remodeling, inflammation, and fibrosis, to a similar or greater extent than the PAH SOCs tested. In the PAB model, NTP42:KVA4 improved RV geometries and contractility, normalized RV stiffness, and significantly increased RV ejection fraction. In both models, NTP42:KVA4 promoted beneficial RV adaptation, decreasing cellular hypertrophy, and increasing vascularization. Notably, elevated expression of the TP target was observed both in RV tissue from these and related disease models, and in clinical RV specimens of PAH and DCM.

Reference: Front Cardiovasc Med. 2022 Dec 14;9:1063967. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9794752/

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.