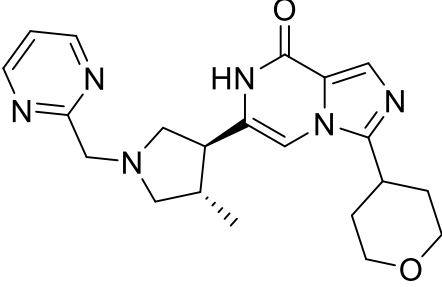


Product data sheet



| | |
|---|---|
| MedKoo Cat#: 585441 Name: Tovinsontrine CAS#: 2062661-53-2 Chemical Formula: C ₂₁ H ₂₆ N ₆ O ₂ Exact Mass: 394.2117 Molecular Weight: 394.48 |  |
| 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:

Tovinsontrine, also known as IMR-687, is a phosphodiesterase 9 (PDE9) inhibitor. IMR-687 increased cGMP and HbF in erythroid K562 and UT-7 cells and increased the percentage of HbF positive erythroid cells generated in vitro using a two-phase liquid culture of CD34+ progenitors from sickle cell blood or bone marrow. Oral daily dosing of IMR-687 in the Townes transgenic mouse SCD model, increased HbF and reduced red blood cell sickling, immune cell activation and microvascular stasis.

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 | 100 | 253.50 |

4. Stock solution preparation table:

| Concentration / Solvent Volume / Mass | 1 mg | 5 mg | 10 mg |
|---------------------------------------|---------|----------|----------|
| 1 mM | 2.54 mL | 12.68 mL | 25.35 mL |
| 5 mM | 0.51 mL | 2.54 mL | 5.07 mL |
| 10 mM | 0.25 mL | 1.27 mL | 2.54 mL |
| 50 mM | 0.05 mL | 0.25 mL | 0.51 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

To be determined

In vivo study

- McArthur JG, Svenstrup N, Chen C, Fricot A, Carvalho C, Nguyen J, Nguyen P, Parachikova A, Abdulla F, Vercellotti GM, Hermine O, Edwards D, Ribeil JA, Belcher JD, Maciel TT. A novel, highly potent and selective phosphodiesterase-9 inhibitor for the treatment of sickle cell disease. *Haematologica*. 2020 Mar;105(3):623-631. doi: 10.3324/haematol.2018.213462. Epub 2019 May 30. PMID: 31147439; PMCID: PMC7049346.

7. Bioactivity

Biological target:

Tovinsontrine is a PDE9 inhibitor; IC₅₀s are 8.19 nM and 9.99 nM for PDE9A1 and PDE9A2, respectively.

In vitro activity

To be determined

Product data sheet



In vivo activity

Tovinontrine specifically targets phosphodiesterase-9, leading to increased cellular cGMP levels and HbF production. In preclinical studies, tovinontrine demonstrated its efficacy in reducing red blood cell sickling, immune cell activation, and microvascular stasis in a mouse SCD model. Tovinontrine showed no central nervous system accumulation, genotoxicity, myelotoxicity, or adverse effects on fertility and fetal development.

Reference: Haematologica. 2020 Mar;105(3):623-631. <https://pubmed.ncbi.nlm.nih.gov/31147439/>

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.