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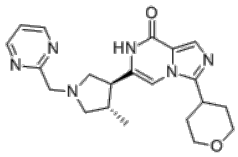
Data Sheet

Global Supplier of Chemical Probes, Inhibitors & Agonists.

Product Name	:	IMR-687
Cat. No.	:	PC-72172
CAS No.	:	2062661-53-2
Molecular Formula	:	$C_{21}H_{26}N_6O_2$
Molecular Weight	:	394.479
Target	:	Phosphodiesterase (PDE)
Solubility	:	10 mM in DMSO



Biological Activity

IMR-687 (IMR687, Tovinontrine) is a novel, potent and selective phosphodiesterase-9 (**PDE-9**) inhibitor with IC50 of 8.19 nM and 9.99 nM against PDE9A1 and PDE9A2, respectively.
IMR-687 (Tovinontrine) displays>800-fold greater potency than PDE1A3, PDE1B, PDE1C, PDE5A2 (IC50 values >8 uM).
IMR-687 (Tovinontrine) recapitulates the cGMP and fetal hemoglobin (HbF) induction mechanism of hydroxyurea (HU) in erythroid cells.
Treatment of phosphodiesterase 9A inhibitor (IMR-687, Tovinontrine) in sickle mice for 30 days results in fetal hemoglobin (HbF) induction, reduced hemolysis and reticulocytosis, as well as immune cell activity.
IMR-687 (Tovinontrine) increases F-cells in patient-derived sickle cell disease (SCD) CD36+ cells, reduces vessel-occlusion in the Townes-HbSS sickle cell disease model.

References

McArthur JG, et al. ***Haematologica.*** 2020 Mar;105(3):623-631.

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