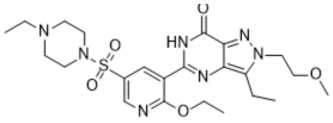
Gisadenafil

Cat. No.:	HY-14841
CAS No.:	334826-98-1
Molecular Formula:	$C_{23}H_{33}N_7O_5S$
Molecular Weight:	519.62
Target:	Phosphodiesterase (PDE)
Pathway:	Metabolic Enzyme/Protease
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description	Gisadenafil (UK-369003) is a specific, orally active phosphodiesterase 5 (PDE5) inhibitor with an IC_{50} of 3.6 nM and prevents degradation of cyclic guanosine monophosphate (cGMP)[1].

IC_{50} & Target	PDE5A	PDE1A
	3.6 nM (IC_{50})	9.1 μM (IC_{50})

In Vitro

Since some PDE5 inhibitors can also interact with PDE1 isotypes found within the cerebral vasculature, the specificity of Gisadenafil for PDE5 is confirmed. This is directly tested with recombinant PDE5A and PDE1A overexpressed in COS-7 cells. The IC_{50} of Gisadenafil for PDE5A is 3.6 nM. In contrast, the IC_{50} of Gisadenafil for PDE1A is 9.1 μM, an approximately 2500-fold difference in specificity[1].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

In Vivo

Gisadenafil (2 mg/kg; intraperitoneal injection; for 2 hours; male Tat-transgenic mice) treatment largely restores the normal increase in cortical flow following hypercapnia in Tat-tg mice (17.5% above baseline). Gisadenafil also restores the dilation of small (<25 μm) arterioles following hypercapnia, although it fails to restore full dilation of larger (>25 μm) vessels[1].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	Male Tat-transgenic (Tat-tg) mice (8 weeks old) exposed to hypercapnia[1]
Dosage:	2 mg/kg
Administration:	Intraperitoneal injection; for 2 hours
Result:	Largely restored the normal increase in cortical flow following hypercapnia in Tat-tg mice (17.5% above baseline). Also restored the dilation of small (<25 μm) arterioles following hypercapnia.

REFERENCES

[1]. Silva J, et al. Transient hypercapnia reveals an underlying cerebrovascular pathology in a murine model for HIV-1 associated neuroinflammation: role of NO-cGMP signaling and normalization by inhibition of cyclic nucleotide phosphodiesterase-5. J Neuroinflammation. 2012 Nov 20;9:253.

[2]. Rawson DJ, et al. The discovery of UK-369003, a novel PDE5 inhibitor with the potential for oral bioavailability and dose-proportional pharmacokinetics. Bioorg Med Chem. 2012 Jan 1;20(1):498-509.

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

Tel: 609-228-6898 Fax: 609-228-5909 E-mail: tech@MedChemExpress.com
Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA