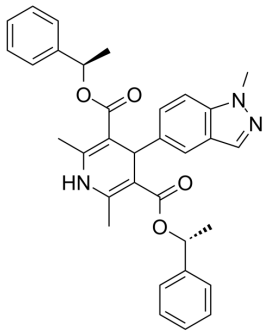
PDE1-IN-4

Cat. No.:	HY-147946
Molecular Formula:	$C_{33}H_{33}N_3O_4$
Molecular Weight:	535.63
Target:	Phosphodiesterase (PDE); Calcium Channel
Pathway:	Metabolic Enzyme/Protease; Membrane Transporter/Ion Channel; Neuronal Signaling
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description

PDE1-IN-4 (compound 2g) is a potent and selective PDE1 (phosphodiesterase-1) inhibitor, with IC_{50} values of 10, 145, and 354 nM for PDE1C, PDE1A, and PDE1B, respectively. PDE1-IN-4 inhibits myofibroblast differentiation of human lung fibroblasts induced by TGF-β1. PDE1-IN-4 shows anti-fibrosis effects through the regulation of cAMP (3′,5′-cyclic adenosine monophosphate) and cGMP (3′,5′-cyclic guanosine monophosphate). PDE1-IN-4 can be used for idiopathic pulmonary fibrosis (IPF) research[1].

IC_{50} & Target

PDE1C 10 ± 3 nM (IC_{50})	PDE1A 145 nM (IC_{50})	PDE1B 354 nM (IC_{50})	PDE4B2 619 nM (IC_{50})
PDE4D2 948 nM (IC_{50})	PDE10A 1310 nM (IC_{50})	PDE5A1 1810 nM (IC_{50})	PDE2A 5130 nM (IC_{50})
PDE3A >10000 nM (IC_{50})	PDE9A2 >10000 nM (IC_{50})		

In Vitro

PDE1-IN-4 (compound 2g) shows weak inhibition against the hERG channel with an IC_{50} above 40 μM, indicating that it will not cause cardiotoxicity[1].

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

REFERENCES

[1]. Huang MX, et al. Structural Modifications of Nimodipine Lead to Novel PDE1 Inhibitors with Anti-pulmonary Fibrosis Effects. J Med Chem. 2022 Jun 23;65(12):8444-8455.

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

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