LFHP-1c

Cat. No.: HY-139598

CAS No.: 2102347-47-5

Molecular Formula: $C_{55}H_{64}N_6O_4$

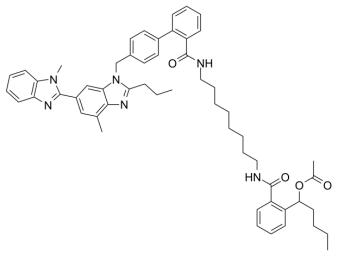
Molecular Weight: 873.13

Target: Phospholipase

Pathway: Metabolic Enzyme/Protease

Storage:

Powder	-20°C	3 years
	4°C	2 years
In solvent	-80°C	6 months
	-20°C	1 month



SOLVENT & SOLUBILITY

In Vitro

DMSO : 100 mg/mL (114.53 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	1.1453 mL	5.7265 mL	11.4530 mL
	5 mM	0.2291 mL	1.1453 mL	2.2906 mL
	10 mM	0.1145 mL	0.5727 mL	1.1453 mL

Please refer to the solubility information to select the appropriate solvent.

In Vivo

1. Add each solvent one by one: 10% DMSO >> 20% HS-15 >> 70% saline
   Solubility: 2.5 mg/mL (2.86 mM); Suspended solution; Need ultrasonic
2. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 2.5 mg/mL (2.86 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

LFHP-1c is an PGAM5 inhibitor with neuroprotective activity in brain ischemic stroke. LFHP-1c protects blood-brain barrier integrity from ischemia-induced injury. LFHP-1c binds to endothelial PGAM5 to inhibit the activity of PGAM5 phosphatase and the interaction of PGAM5 with NRF2. LFHP-1c exhibits in vitro and in vivo protection[1].

In Vitro

LFHP-1c (1, 2, or 5 μmol/L; 9 h) treatment, and followed by hypoxic treatment, increases NRF2 protein expression and facilitates nuclear translocation of NRF2 in primary rat brain microvascular endothelial cells (rBMECs)[1].

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

Immunofluorescence[1]

Cell Line:	Primary rat brain microvascular endothelial cells (rBMECs)
Concentration:	2 μmol/L
Incubation Time:	1 h
Result:	Bound to PGAM5, to facilitate nuclear translocation of NRF2.

In Vivo

LFHP-1c (5 mg/kg; iv; 2 doses) prevents BBB disruption after transient middle cerebral artery occlusion (tMCAO) in rats[1].
LFHP-1c (3 mg/kg, 1 mL/kg; iv; 8 doses) ameliorates brain ischemic injury in tMCAO model of M. fascicularis through PGAM5–NRF2 axis[1].

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Animal Model:	Nonhuman primate Macaca fascicularis model with tMCAO[1]
Dosage:	3 mg/kg, 1 mL/kg
Administration:	IV; at 4 h, 1, 2, 3, 4, 5, 6 and 7 days after tMCAO onset.
Result:	Reduced infarct volume, brain edema and neurological deficits in Transient MCAO model in M. fascicularis.

Animal Model:	SD rats (230-250 g)[1]
Dosage:	1 mg/kg, 5 mg/kg in 0.5 mL volume
Administration:	IV; injected at 4 or 12 h after ischemia onset, and then injected another time at 24 h post-ischemia
Result:	Dose-dependently protected rat brains against ischemia/reperfusion injury at 72 h after ischemia onset with a moderate therapeutic window. Prevented BBB disruption and attenuated endothelial inflammation in rat cerebral microvessels at 72 h after ischemia onset.

REFERENCES

[1]. Gao C, et al. A novel PGAM5 inhibitor LFHP-1c protects blood-brain barrier integrity in ischemic stroke. Acta Pharm Sin B. 2021 Jul;11(7):1867-1884.

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