GLP-1(28-36)amide

Cat. No.: HY-P3101

CAS No.: 1225021-13-5

Molecular Formula: $C_{54}H_{85}N_{15}O_9$

Molecular Weight: 1088.35

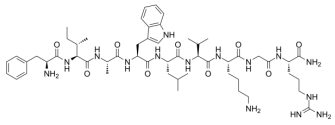
Sequence: Phe-Ile-Ala-Trp-Leu-Val-Lys-Gly-Arg-NH2

Sequence Shortening: FIAWLVKGR-NH2

Target: GCGR

Pathway: GPCR/G Protein

Storage: Sealed storage, away from moisture and light
Powder -80°C 2 years
-20°C 1 year
* In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture and light)



SOLVENT & SOLUBILITY

In Vitro

DMSO : 100 mg/mL (91.88 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	0.9188 mL	4.5941 mL	9.1882 mL
	5 mM	0.1838 mL	0.9188 mL	1.8376 mL
	10 mM	0.0919 mL	0.4594 mL	0.9188 mL

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

In Vivo

1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 2.5 mg/mL (2.30 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (2.30 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

GLP-1(28-36)amide, a C-terminal nonapeptide of GLP-1, is a major product derived from the cleavage of GLP-1 by the neutral endopeptidase (NEP). GLP-1(28-36)amide is an antioxidant and targets to mitochondrion, inhibits mitochondrial permeability transition (MPT). GLP-1(28-36)amide has anti-diabetic and cardioprotection effects[1].

In Vitro

Different from DPP-IV, NEP, which cleaves GLP-1(7-36)amide or GLP-1(9-36)amide to generate GLP-1(28-36)amide, is widely distributed in endothelial cells, vascular smooth muscle cells, cardiac cells and renal epithelial cells[1].

	GLP-1(28-36)amide (100 nM) treatment on hepatocytes for 24 hours directly modulates mitochondrial oxidative metabolism, such as gluconeogenesis in mitochondria of hepatocytes[1]. The plasma half-life of GLP-1(28-36)amide is longer in human hepatocytes ($t_{1/2}$ = 24 min) than that in mouse hepatocytes ($t_{1/2}$ = 13 min)[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.
In Vivo	The administration of GLP-1(28-36)amide at a rate of 18.5 nmol/kg BW/day for 9 weeks to diet-induced obese mice diminishes the development of hepatic steatosis[1]. The intraperitoneal injection of 18 nmol/kg GLP-1(28-36)amide once daily for 9 weeks show cytoprotective effect on pancreatic β cells by increasing mass and promoting proliferation in a β-cell injury diabetic mouse model[1]. An in vivo study in high-fat diet-fed mice indicates that a six-week administration of 18.5 nmol/kg GLP-1(28-36)amide improved hepatic glucose disposal, which is associated with increased cAMP levels and phosphorylation of PKA target[1]. Administered GLP-1(28-36)amide for 20 min to male C57BL6/J mice (10-12 week old), then isolated hearts underwent 30 min of global ischemia and 40 min of reperfusion, the recovery of left ventricular developed pressure (LVDP) is significantly greater in GLP-1(28-36)amide group compared to vehicle-treated hearts[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

[1]. Bilan Zhou, et al. GLP-1(28-36)amide, a Long Ignored Peptide Revisited. Open Biochem J. 2014 Dec 31;8:107-11.

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