Terlipressin diacetate

Cat. No.: HY-12554A

CAS No.: 1884420-36-3

Molecular Formula: $C_{56}H_{82}N_{16}O_{19}S_2$

Molecular Weight: 1347.48

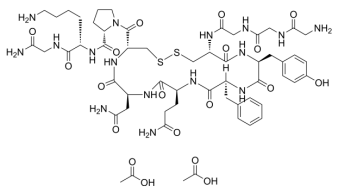
Sequence: Gly-Gly-Gly-Cys-Tyr-Phe-Gln-Asn-Cys-Pro-Lys-Gly-NH2 (Disulfide bridge: Cys4-Cys9)

Sequence Shortening: GGGCYFQNCPKG-NH2 (Disulfide bridge: Cys4-Cys9)

Target: Vasopressin Receptor

Pathway: GPCR/G Protein

Storage: Stored under nitrogen, away from moisture
Powder -80°C 2 years
-20°C 1 year
* In solvent : -80°C, 6 months; -20°C, 1 month (stored under nitrogen, away from moisture)



SOLVENT & SOLUBILITY

In Vitro

H_2O : 100 mg/mL (74.21 mM; Need ultrasonic)
DMSO : 50 mg/mL (37.11 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	0.7421 mL	3.7106 mL	7.4213 mL
	5 mM	0.1484 mL	0.7421 mL	1.4843 mL
	10 mM	0.0742 mL	0.3711 mL	0.7421 mL

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

In Vivo

1. Add each solvent one by one: PBS
   Solubility: 100 mg/mL (74.21 mM); Clear solution; Need ultrasonic
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.5 mg/mL (1.86 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (1.86 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Terlipressin diacetate is a vasopressin analogue with potent vasoactive properties. Terlipressin diacetate is a highly selective vasopressin V1 receptor agonist that reduces the splanchnic blood flow and portal pressure and controls acute variceal bleeding. Terlipressin diacetate exerts anti-inflammatory and anti-oxidative effects. Terlipressin diacetate has the

	potential for hepatorenal syndrome and norepinephrine-resistant septic shock research[1][2][3][4][5].
IC_{50} & Target	Vasopressin V1 receptor[1]
In Vitro	Terlipressin diacetate (25 nM; 24-72 hours; IEC-6 cells) treatment significantly improves cell viability, proliferation and apoptosis in IEC-6 cells[1]. Terlipressin diacetate inhibits the secretion of TNF-α and 15-F2t-isoprostane from IEC-6 cells following oxygen and glucose deprivation/re-oxygenation (OGD/R). Terlipressin diacetate administration following OGD attenuates OGD/R-induced cell damage via the PI3K signaling pathway[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.
In Vivo	Using a mouse nonlethal hepatic ischemia-reperfusion (IR) model, Terlipressin diacetate administration significantly ameliorates IR-induced liver apoptosis, necrosis and inflammation[3]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Cell Proliferation Assay[1]

Cell Line:	IEC-6 cells induced by oxygen and glucose deprivation/re-oxygenation (OGD/R)
Concentration:	25 nM
Incubation Time:	24 hours, 48 hours, 72 hours
Result:	Significantly increased the proliferation of IEC-6 cells.

CUSTOMER VALIDATION

- Sci Rep. 2020 Dec 3;10(1):21037.

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REFERENCES

[1]. Zi-Meng Liu, et al. Terlipressin Protects Intestinal Epithelial Cells Against Oxygen-Glucose Deprivation/Re-Oxygenation Injury via the Phosphatidylinositol 3-kinase Pathway. Exp Ther Med. 2017 Jul;14(1):260-266.

[2]. Yeun Tarl Fresner Ng Jao, et al. Refractory Torsade De Pointes Induced by Terlipressin (Glypressin). Int J Cardiol. 2016 Nov 1;222:135-140.

[3]. Xiqiang Liu, et al. Signaling Through Hepatocyte Vasopressin Receptor 1 Protects Mouse Liver From Ischemia-Reperfusion Injury. Oncotarget. 2016 Oct 25;7(43):69276-69290.

[4]. Xinmiao Zhou, et al. Terlipressin for the Treatment of Acute Variceal Bleeding: A Systematic Review and Meta-Analysis of Randomized Controlled Trials. Medicine (Baltimore). 2018 Nov;97(48):e13437.

[5]. Alastair O'Brien, et al. Terlipressin for Norepinephrine-Resistant Septic Shock. Lancet. 2002 Apr 6;359(9313):1209-10.

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