C-Type Natriuretic Peptide (CNP) (1-22), human TFA

Cat. No.:	HY-P1237A
CAS No.:	1966153-17-2
Molecular Formula:	$C_{95}H_{158}F_3N_{27}O_{30}S_3$
Molecular Weight:	2311.62
Sequence Shortening:	GLSKGCFGLKLDRIGSMSGLGC (Disulfide bridge: Cys6-Cys22)
Target:	Others
Pathway:	Others
Storage:	Sealed storage, away from moisture Powder -80°C 2 years -20°C 1 year * In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture)

GLSKGCFGLKLDRIGSMSGLGC (Disulfide bridge: Cys_6-Cys_{22}) (TFA salt)

SOLVENT & SOLUBILITY

In Vitro	H_2O : 2 mg/mL (0.87 mM; Need ultrasonic)

BIOLOGICAL ACTIVITY

Description	C-Type Natriuretic Peptide (CNP) (1-22), human (TFA),a 1-22 fragment of CNP, is a natriuretic peptide receptor B (NPR-B) agonist. C-Type Natriuretic Peptide (CNP) (1-22), human (TFA) inhibits cAMP synthesis stimulated by the physiological agonists histamine and 5-HT or directly by Forskolin. CNP is a potent, endothelial-derived relaxant and growthinhibitory factor[1][2][3].
IC_{50} & Target	NPR-B
In Vitro	C-Type Natriuretic Peptide (CNP) (1-22), human (TFA) (0.01, 0.1, 1, 10, 100, 1000 nM) increases cGMP production in CHO cells expressing human NPR-B in a concentration-dependent manner[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.
In Vivo	PK parameters of CNP immunoreactivity after a single intravenous administration of C-Type Natriuretic Peptide (CNP) (1-22), human[1]:

Dose (nM/kg)	$AUC_{0-\infty}$ (pM·min/mL)	$MRT_{0-\infty}$ (min)	$T_{1/2}$ (min)	CL_{tot} (mL/min/kg)
20	320±54	1.02±0.18	1.42±0.45	63.9±11.9

PK parameters of CNP immunoreactivity after a single subcutaneous administration of C-Type Natriuretic Peptide (CNP) (1-22), human[1]:

Dose (nM/kg)	Cmax (pM/mL)	Tmax (min)	$AUC_{0-\infty}$ (pM·min/mL)	$MRT_{0-\infty}$ (min)	$T_{1/2}$ (min)
50	9.02±3.74	5.0±0.0	152±73	13.9±3.4	10.0±5.0

Each value represents the mean±SD of 3 rats. MRT=mean residence time, CL_{tot}=total clearance, $T_{1/2}$=half-life period, BA=bioavailability.

i.c.v. administration of C-Type Natriuretic Peptide (CNP) (1-22) in a dose of 2 nM induces an increase in the severity of picrotoxin-kindled convulsions 24 and 48 hrs after application of the peptide[3].

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

CUSTOMER VALIDATION

- Acta Biomater. 2022 Aug 21;S1742-7061(22)00506-2.

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REFERENCES

[1]. Buckley MG, et al. Circulating C-type natriuretic peptide is increased in orthotopic cardiac transplant recipients and associated with cardiac allograft vasculopathy. Clin Sci (Lond). 2000 Nov;99(5):467-72.

[2]. Mazarati AM, et al. ANP(1-28), BNP(1-32) and CNP(1-22) increase the severity of picrotoxin-kindled seizure syndrome in rats. Life Sci. 1993;52(3):PL19-24.

[3]. Morozumi N, et al. ASB20123: A novel C-type natriuretic peptide derivative for treatment of growth failure and dwarfism. PLoS One. 2019 Feb 22;14(2):e0212680.

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