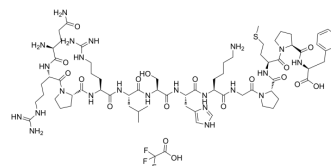


Apelin-13 TFA

| | |
|----------------------|---|
| Cat. No.: | HY-P1944A |
| Molecular Formula: | C ₇₁ H ₁₁₂ F ₃ N ₂₃ O ₁₈ S |
| Molecular Weight: | 1664.85 |
| Sequence: | Gln-Arg-Pro-Arg-Leu-Ser-His-Lys-Gly-Pro-Met-Pro-Phe |
| Sequence Shortening: | QRPRLSHKGPMFP |
| Target: | Apelin Receptor (APJ) |
| Pathway: | GPCR/G Protein |
| 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)



SOLVENT & SOLUBILITY

| | | | | | | |
|---|--|---|-------|-----------|-----------|-----------|
| In Vitro | H ₂ O : 50 mg/mL (30.03 mM; Need ultrasonic) | | | | | |
| | Preparing Stock Solutions | <div><div>Solvent</div><div>Concentration</div></div> | Mass | 1 mg | 5 mg | 10 mg |
| | | | 1 mM | 0.6007 mL | 3.0033 mL | 6.0065 mL |
| | | | 5 mM | 0.1201 mL | 0.6007 mL | 1.2013 mL |
| | | | 10 mM | 0.0601 mL | 0.3003 mL | 0.6007 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 (60.07 mM); Clear solution; Need ultrasonic | | | | | |

BIOLOGICAL ACTIVITY

| | |
|---------------------------|--|
| Description | Apelin-13 TFA is an endogenous ligand for the G-protein coupled receptor angiotensin II protein J (APJ), activating this G protein-coupled receptor with an EC ₅₀ value of 0.37 nM. Apelin-13 TFA has vasodilatory and antihypertensive effects. Apelin-13 TFA also can be used for researching type 2 diabetes and metabolic syndrome ^{[1][2][3]} . |
| IC ₅₀ & Target | IC ₅₀ : 0.37 nM (APJ) ^[1] |
| In Vivo | <p>Apelin-13 (200 µg/kg; IP, daily for 4 weeks) improves cardiac function, improves insulin resistance, improves lipid metabolism, significantly decreases TNF-α and leptin on serum,? induces the expression of Apelin-12 in serum and markedly elevates GLUT4 and p-AMPA2 levels^[2].</p> <p>?Apelin-13 (10 and 100 µM; ICV, single dosage) increases the spontaneous discharges in the majority of pallidal neurons^[4].</p> <p>MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p> |

| | |
|-----------------|--|
| Animal Model: | Goto-Kakizaki (GK) rats (12 weeks old; 240-280 g; fed with a high-fat diet: 66.5% standard chow, 10% lard, 20% sucrose, 2.5% cholesterol and 1% pig bile salt) ^[2] |
| Dosage: | 200 µg/kg |
| Administration: | IP, daily for 4 weeks |
| Result: | Significantly decreased heart rate; lowered the levels of fasting plasma glucose (FPG), fasting insulin (FINS) and homeostasis model assessment for insulin resistance (HOMA-IR); decreased serum levels of total cholesterol (TC), triglyceride (TG) and low density lipoprotein-cholesterol (LDL-C) and increased high density lipoprotein-cholesterol (HDL-C); decreased NO level, cNOS activity, TNF-α and leptin in serum; induced the expression of Apelin-12. |

| | |
|-----------------|---|
| Animal Model: | Adult Wistar rats (SPF, 8-10 weeks, 240-280 g) ^[4] |
| Dosage: | 10 and 100 µM |
| Administration: | ICV, single dosage |
| Result: | Increased the spontaneous discharges in the majority of pallidal neurons. |

CUSTOMER VALIDATION

- Signal Transduct Target Ther. 2021 Dec 16;6(1):427.
- Biochim Biophys Acta Mol Basis Dis. 2024 Mar 19;1870(4):167125.
- Stem Cells Int. 2022 Mar 21;2022:3742678.
- Microsc Res Tech. 2024 Feb 21.
- Ann Transl Med. 2021 Apr;9(8):627.

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REFERENCES

- [1]. Yamaleyeva LM, et al. Apelin-13 in blood pressure regulation and cardiovascular disease. Curr Opin Nephrol Hypertens. 2016 Sep;25(5):396-403.
- [2]. Wang Y, et al. Apelin-13 regulates electrical activity in the globus pallidus and induces postural changes in rats. Neural Regen Res. 2021 Nov;16(11):2264-2268.
- [3]. Tatemoto, K., et al. Isolation and characterization of a novel endogenous peptide ligand for the human APJ receptor. Biochemical and Biophysical Research Communications 251, 471-476 (1998).
- [4]. Li M, et al. Apelin 13 ameliorates metabolic and cardiovascular disorders in a rat model of type 2 diabetes with a high fat diet. Mol Med Rep. 2018 Dec;18(6):5784-5790.

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

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