Neurotensin(8-13)

Cat. No.: HY-P0251

CAS No.: 60482-95-3

Molecular Formula: $C_{38}H_{64}N_{12}O_8$

Molecular Weight: 816.99

Sequence: Arg-Arg-Pro-Tyr-Ile-Leu

Sequence Shortening: RRPYIL

Target: Neurotensin Receptor

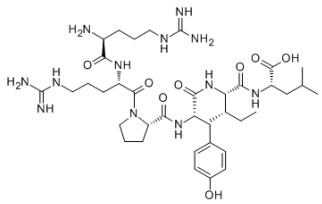
Pathway: GPCR/G Protein; Neuronal Signaling

Storage: Protect from light

Powder -80°C 2 years

-20°C 1 year

* In solvent : -80°C, 6 months; -20°C, 1 month (protect from light)



SOLVENT & SOLUBILITY

In Vitro

H_2O : 50 mg/mL (61.20 mM; Need ultrasonic)

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	1.2240 mL	6.1200 mL	12.2401 mL
5 mM	0.2448 mL	1.2240 mL	2.4480 mL
10 mM	0.1224 mL	0.6120 mL	1.2240 mL

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

BIOLOGICAL ACTIVITY

Description

Neurotensin (8-13) is an active fragment of Neurotensin. Neurotensin(8-13) results in a decrease in cell-surface NT1 receptors (NTR1) density.

IC_{50} & Target

NTR1[1]

In Vitro

Receptor internalization induced by Neurotensin(8-13) results in a decrease in cell-surface NT1 receptors (NTR1) density. The receptor downregulation in response to high extracellular concentrations of the peptide has been described for Neurotensin (NT) in HT-29 cells and in rat primary cultured neurons. Reappearance of the receptors on the cell surface is also different[1].

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

PROTOCOL

Kinase Assay [1]

Binding assays are performed on whole HT-29 cells at confluence. A day before the assay, cells (10^6 cells/0.4 mL, equivalent to 0.3 mg protein) are placed in 48-well plates. A special binding buffer that includes protease inhibitors (50 mM HEPES, 125 mM NaCl, 7.5 mM KCl, 5.5 mM $MgCl_2$, 1 mM EGTA, 5 g/L bovine serum albumin, 2 mg/L chymostatin, 100 mg/L soybean trypsin inhibitor, 50 mg/L bacitracin, pH 7.4) is used for the experiments. In inhibition studies, cells are incubated for 1 h at 37°C in triplicate with 25,000 cpm of ^{125}I-NT and variable concentrations (0.001-3,000 nM) of unlabeled NT(8-13), unlabeled NT-VIII, or NT-VIII labeled with ^{nat}Re (final volume of 0.2 mL per well). The cells are then washed twice with cold binding buffer and afterward are solubilized with 1N NaOH at 37°C (0.4 mL per well). The activity is determined in a γ-counter. In saturation studies, cells are incubated in triplicate with increasing concentrations (0.1-10 nM) of ^{99m}Tc(CO)3NT-VIII for 1 h at 37°C (final volume, 0.2 mL per well). The concentrations of total technetium ($^{99+99m}$Tc) are equivalent to 0.2-20 MBq ^{99m}Tc activity per well. After 2 washings with the same binding buffer as before, the cells are then solubilized with 1N NaOH at 37°C (0.4 mL per well). The bound radioactivity is measured in the γ-counter. Nonspecific binding is determined with 1 μM unlabeled NT(8-13)[1].

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

REFERENCES

[1]. García-Garayoa E, et al. Preclinical evaluation of a new, stabilized neurotensin(8--13) pseudopeptide radiolabeled with (99m)tc. J Nucl Med. 2002 Mar;43(3):374-83.

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