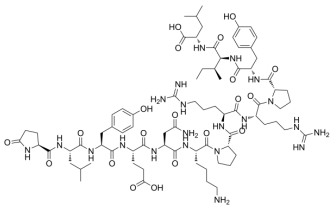
Neurotensin

Cat. No.:	HY-P0234
CAS No.:	39379-15-2
Molecular Formula:	$C_{78}H_{121}N_{21}O_{20}$
Molecular Weight:	1672.92
Sequence:	{Pyr}-Leu-Tyr-Glu-Asn-Lys-Pro-Arg-Arg-Pro-Tyr-Ile-Leu
Sequence Shortening:	{Pyr}-LYENKPRRPYIL
Target:	Neurotensin Receptor
Pathway:	GPCR/G Protein; Neuronal Signaling
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

DMSO : 50 mg/mL (29.89 mM; Need ultrasonic)
H_2O : 33.33 mg/mL (19.92 mM; Need ultrasonic)

Preparing Stock Solutions	Mass / Solvent / Concentration	1 mg	5 mg	10 mg
	1 mM	0.5978 mL	2.9888 mL	5.9776 mL
	5 mM	0.1196 mL	0.5978 mL	1.1955 mL
	10 mM	0.0598 mL	0.2989 mL	0.5978 mL

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

In Vivo

1. Add each solvent one by one: PBS
Solubility: 20 mg/mL (11.96 mM); Clear solution; Need ultrasonic

BIOLOGICAL ACTIVITY

Description

Neurotensin, a gut tridecapeptide, acts as a potent cellular mitogen for various colorectal and pancreatic cancers which possess high-affinity neurotensin receptors (NTR).

IC_{50} & Target

Neurotensin receptors (NTR)[1]

In Vitro

Neurotensin induces the expression of MIP-2, MCP-1, IL-1β and TNFα in murine microglial cells and stimulates IL-8 secretion in a non-transformed colon epithelial cell line stably transfected with the NTR. The high-affinity NTR, a member of the G-protein coupled receptor (GPCR) family, is present in a majority of human pancreatic and colorectal cancers, suggesting that Neurotensin (NT) may act in an endocrine fashion to affect tumor growth. Acting through the NTR1, Neurotensin is known to

stimulate various signal transduction pathways, including intracellular calcium ($[Ca^{2+}]_i$), the mitogen-activated protein kinases (MAPKs), ERK and JNK, and various PKC isoforms. Treatment of HCT116 cells with Neurotensin (100 nM) significantly increases HCT116 cell migration (~3-fold) compared with vehicle treatment; pretreatment with Curcumin (10 μM) blocksthe stimulatory effect of NT on HCT116 cell migration. ctivation of MEK/ERK by NT and downstream induction of AP-1 transcription factors contributes to the proliferative effects of Neurotensin[1].

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

CUSTOMER VALIDATION

- Talanta. 2024 Oct 14:282:127045.
- Exp Dermatol. 2024 Jan;33(1):e14990.
- J Am Soc Mass Spectrom. 2020 Jul 5.

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REFERENCES

[1]. Wang X, et al. Curcumin inhibits neurotensin-mediated interleukin-8 production and migration of HCT116 human colon cancer cells. Clin Cancer Res. 2006 Sep 15;12(18):5346-55.

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