

Cat# SP-101335-1

Description: TIP 39 (39 mer) (AA: Ser-Leu-Ala-Leu-Ala-Asp-Asp-Ala-Ala-Phe-Arg-Glu-Arg-Ala-Arg-Leu-Leu-Ala-Ala-Leu-Glu-Arg-Arg-His-Trp-Leu-Asn-Ser-Tyr-Met-His-Lys-Leu-Leu-Val-Leu-Asp-Ala-Pro)(MW: 4504.28)

Size: 1 mg

Purity: >95%

Store: Desiccated at -20oC.

Tuberoinfundibular peptide of 39 residues is a protein that in humans is encoded by the PTH2 gene. TIP39 is related to parathyroid hormone (PTH; MIM 168450) and PTH-related protein (PTHrP; MIM 168470) and is a ligand for PTH receptor-2. It is identified as a potent and selective ligand for PTH2 receptor. The latter has a wide distribution including the external zone of the median eminence of the hypothalamus, suggesting a role in neuroendocrine function.

The structural features of TIP39 consist of two α -helices, Ala5–Arg21 and Leu26–Val35. Plays a role as a potent and selective agonist of PTH2R resulting in adenylyl cyclase activation. Results have revealed that: (1) the mature peptide is processed from a precursor; (2) TIP39 peptide is highly conserved among species; and (3) TIP39 from all species activates adenylyl cyclase and elevates intracellular calcium levels through PTH2R.

Tuberoinfundibular peptide is expressed in testis and, less abundantly, in liver and kidney. It is also expressed in seminiferous tubuli and several brain regions, including nucleus ruber, caudal paralemnisal nucleus, nucleus centralis pontis, and nucleus subparafascicularis thalami, neurons of cerebral cortex and subcortical areas.

TIP39-containing neuronal cell bodies have been identified in the subparafascicular area and the medial paralemnisal nucleus, two brainstem regions that project widely through the entire neuraxis. Treatment of hypothalamic explants with TIP39 suggests that it might stimulate hypothalamic-releasing factor secretion. Injection of TIP39, and sequestration of endogenous TIP39 by intrathecal injection of an antibody to TIP39, have provided evidence that it is involved in some aspects of pain sensitivity. TIP39 might be the physiologically relevant PTH₂ receptor ligand and be involved in the modulation of processes that range from pituitary hormone release to nociception and regulation of blood pressure.

Reference: Usdin, TB. et al. *Nat. Am.* 2, 941 (1999); Piserchio, A. et al (2000). *J. Biol. Chem.* 275, 27284; Della PK (2003) *Neuropharmacology* 44(1):141-53. Ward HL (2001) 142(8):3451-6.

*This product is for In vitro research use only.

Related items:

SP-100253-1	Gastric Inhibitory Polypeptide (6-30) amide (human) (MW: 3010.49)
SP-101812-1	[Tyr0] Gastric Inhibitory Peptide (23-42), human; [Tyr22] Gastric Inhibitory Peptide (22-42), human MW 2584.9]
SP-101816-1	Gastric Inhibitory Polypeptide (1-30) (porcine) (MW: 3552.1)
SP-55416-1	Gastric Inhibitory Peptide (GIP), Human MW: 4983.64]
SP-101378-1	Tyrosine Kinase Peptide 3 [RRLLIEDAE-pY-AARG], Acetylated, Amide, Phosphorylated (AA: Ac-Arg-Arg-Leu-Ile-Glu-Asp-Ala-Glu-pTyr-Ala-Ala-Arg-Gly-NH ₂) (MW: 1640.75)
SP-101379-5	Kinase Domain of Insulin Receptor (1) (AA: Tyr-Glu-Thr-Asp-pTyr-Tyr-Arg-Lys-Gly-Gly-Lys-Gly-Leu) (MW: 1629.72)
SP-101380-5	Kinase Domain of Insulin Receptor (2) (AA: Thr-Arg-Asp-Ile-pTyr-Glu-Thr-Asp-Tyr-Tyr-Arg-Lys) (MW: 1702.77)
SP-101381-5	Biotin-Kinase Domain of Insulin Receptor (2) (AA: Biotin-Thr-Arg-Asp-Ile-pTyr-Glu-Thr-Asp-Tyr-Tyr-Arg-Lys) (MW: 1929.07)
SP-101382-1	Kinase Domain of Insulin Receptor (3) (AA: Thr-Arg-Asp-Ile-Tyr-Glu-Thr-Asp-pTyr-Tyr-Arg-Lys) (MW: 1702.77)
SP-101383-1	Insulin Receptor (1142 - 1153), pTyr1150, Biotinylated (AA: Biotin-Thr-Arg-Asp-Ile-Tyr-Glu-Thr-Asp-pTyr-Tyr-Arg-Lys) (MW: 1848.08)
SP-101335-1	140915P



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