Product Specification Sheet

□ Cat. # SP-55332-1 Neuro peptide factor (NPF) Peptide SIZE: 1 mg

Receptor tyrosine kinase mediates the pleiotropic actions of insulin. Binding of insulin leads to phosphorylation of several intracellular substrates, including, insulin receptor substrates.

Neuropeptide F (NPF) is an abundantly expressed neuropeptide in platyhelminth nervous systems, and exhibits a moderate, myogenic effect on muscle preparations of parasitic flatworms. NPF displays structural similarities to peptides from molluscs and vertebrate members of the neuropeptide Y (NPY)-superfamily of peptides. NPY is one of the most abundant and highly conserved neuropeptides within vertebrates and similarities between the gene organization of NPY, pancreatic polypeptide (PP) and peptide tyrosine tyrosine (PYY), suggest a common evolutionary origin of this peptide family. Dual localization analyses coupled with confocal scanning laser microscopy revealed a close spatial relationship between NPF-containing nerves and muscle fibres in M. expansa. Molecular cloning techniques identified the M. expansa NPF (mxNPF) precursor and characterized the isolated transcript which encodes an open reading frame of 57 amino acids. The transcript possesses a 17 amino acid signal peptide and the mature NPF sequence (39 amino acids) followed by a carboxyterminal glycyl extension. Sequence analysis of genomic DNA identified a product which possessed a 54 base pair intron with consensus sequences for 5' and 3' splice sites. The M. expansa npf gene possesses a phase 2 intron within the penultimate arginyl residue, a characteristic feature of NPY superfamily peptide-genes. The intron-exon organization of the npf gene, coupled with the abundant expression of NPF within the nervous systems of flatworms, suggests an early evolutionary origin for this peptide transmitter family within the nervous systems of basal bilaterian metazoans

NPF receptor binds insulin and has a tyrosine-protein kinase activity.

Sources of Peptide

Cat # SP-55332-1
Sequence:
H-Lys-Arg-Ser-Tyr(PO3H2)-Glu-Glu-His-Ile-Pro-OH;
Mol Wt: 768.79
Form: Powder
Purity >95%
Storage: Store powder at -20oC for up to 6 months.

After reconstitution in water, store solution in small aliquots at -20oC for 3-6 months. Do not freeze and thaw or store diluted solutions.

Stability: 6-12 months at –20°C or below.

Shipping: 4°C for solutions and room temp for powder

General References: Biochemistry, 2000, 39 (28), pp 8171–8179. PNAS 2005,102 (6) 2141-2146 Nat. Neurosci. 2005. Parasitology. 2000 120 (Pt 1):71-7.

*This product is for In vitro research use only.

Related material available from ADI

Catalog#	ProdDescription
SP-52282-5	Neuropeptide F-8-F-NH2 [Phe-Leu-Phe-Gln-Pro-Gln-Arg-Phe-NH2; MW 181.3]
SP-101856-1	Neuropeptide F (AA: Pro-Asp-Lys-Asp-Phe-Ile-Val-Asn-Pro-Ser-Asp-Leu-Val-Leu-Asp-Asn-Lys-Ala-Ala-Leu-Arg-Asp-Tyr-Leu-Arg-Gln-Ile-Asn-Glu-Tyr-Phe-Ala-Ile-Ile-Gly-Arg-Pro-Arg-Phe-NH2) (MW: 4593.27)
SP-55322-1	130811P