



Recombinant Human Persephin (PSP)

20150227BB



FOR RESEARCH ONLY! NOT FOR HUMAN USE!

Cat.-no.:	100-120S
Size:	5 µg
Lot. No.:	According to product label

Scientific Background

Gene-ID (NCBI):	5623
Synonyms:	PSPN; PSP

Persephin is a disulfide-linked homodimer neurotrophic factor structurally related to GDNF, Artemin, and Neurturin. These proteins belong to the cysteine-knot family of growth factors that assume stable dimeric structures. Persephin signals through a multicomponent receptor system, composed of RET and one of four GFR α ($\alpha 1$ - $\alpha 4$) receptors. The GFR $\alpha 4$ was first identified in chicken and was later shown to be the preferential binding subunit for Persephin. Persephin promotes the survival of ventral midbrain dopaminergic neurons and motor neurons after sciatic nerve axotomy, and like GDNF, promotes ureteric bud branching. However, in contrast to GDNF and Neurturin, Persephin does not support survival of peripheral neurons. Recombinant human Persephin is a disulfide-linked homodimer, composed of two 10.3 kDa polypeptide chains (192 total amino acid residues). Each chain contains seven conserved cysteine residues, one of which (Cys 63) is used for inter-chain disulfide bridging and the others are involved in intramolecular ring formation known as the cysteine knot configuration.

Sequence

RALSGPCQLW SLTLSVAELG LGYASEEKVI FRYCAGSCPR
GARTQHGLAL ARLQGQGRAH GGPCCRPTRY TDVAFLLDRH
RWQRLPQLSA AACGCGG

Database References

Protein RefSeq:	NP_004149.1
Uniprot ID:	O60542
mRNA RefSeq:	NM_004158

Product Specifications

Expressed in	E. coli
Purity	> 90% by SDS-PAGE & HPLC analyses
Structural Information	disulphide-linked homodimer
Endotoxin level	< 0.1 ng /µg of protein (<1EU/µg).
Formulation	lyophilized
Length (aa):	194
MW:	10.4 kDa

Biological Activity: Human Persephin induces RET phosphorylation using a concentration range of 0.1-1.0 ng/ml. Human Persephin binds to mammalian GFR $\alpha 4$ with the Kd of 100pM. Other members of the GDNF family (Artemin, GDNF and Neurturin) do not bind to mammalian GFR $\alpha 4$.



AVOID REPEATED FREEZE AND THAW CYCLES!