



## Persephin Recombinant Protein

CATALOG NUMBER: 40-501

### Specifications

<b>SPECIES:</b>	Human
<b>SOURCE SPECIES:</b>	E. coli
<b>SEQUENCE:</b>	ALSGPCQLWS LTLVAELGL GYASEEKVIF RYCAGSCPRG ARTQHGLALA RLQGQGRAHG GPCCRPTRYT DVAFLDDRHR WQRLPQLSAA ACGCGG
<b>TESTED APPLICATIONS:</b>	
<b>BIOLOGICAL ACTIVITY:</b>	Human Persephin induces RET phosphorylation using a concentration range of 0.1 - 1.0 ng/mL. Human Persephin binds to mammalian GFRa4 with the Kd of 100pM. Other members of the GDNF family (Artemin, GDNF and Neurturin) do not bind to mammalian GFRa4.

### Properties

<b>PURITY:</b>	Greater than 98% by SDS-PAGE gel and HPLC analyses.  Endotoxin level is less than 0.1 ng per ug (1EU/ug).
<b>PHYSICAL STATE:</b>	Lyophilized
<b>STORAGE CONDITIONS:</b>	The lyophilized Persephin recombinant protein is stable for at least 2 years from date of receipt at -20°C. Reconstituted Persephin is stable for at least 3 months when stored in working aliquots with a carrier protein at -20°C. As with any protein, exposing Persephin recombinant protein to repeated freeze / thaw cycles is not recommended. When working with proteins care should be taken to keep recombinant protein at a cool and stable temperature.

### Additional Info

<b>ALTERNATE NAMES:</b>	PSP, Persephin, PSP
<b>ACCESSION NO.:</b>	NP_004149.1
<b>PROTEIN GI NO.:</b>	4758974

### Background

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 alpha (alpha1-alpha4) receptors. The GFRalpha4 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 oxotomy, 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. Manufactured under license from the University of Washington patent# US 6,716,600; US 6,692,943; US 6,645,937; US 6,403,335; US 6,232,449; US 6,222,022.

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