Cytokines

Human Recombinant Persephin, ACF

Persephin, animal component-free

Catalog #	78201	20 µg
	78201.1	100 µg
	78201.2	1000 µg

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Product Description

Persephin is a neurotrophic factor that belongs to the glial cell line-derived neurotrophic factor (GDNF) family. Persephin shares a large degree of structural similarity to GDNF, artemin, and neurturin, and has overall neuroprotective activity. Persephin signals through GRFα4 (glycosylphosphatidylinositol (GPI)-linked GDNF receptor family member) which signals through the receptor tyrosine kinase RET. Unlike GDNF and neurturin, persephin only promotes the growth and survival of central dopaminergic and motor neurons, but not peripheral neurons (Milbrandt et al.). In vitro persephin only promotes survival of neurons that co-express GPI-linked GRFα4 and RET (Enokido et al.; Lindahl et al.). Mice lacking persephin showed increased cell death after cerebral ischemia, however administration of persephin before ischemia dramatically reduced neuronal cell death (Tomac et al.). This product is animal component-free.

Product Information

Alternative Names:	PSP, PSPN
Accession Number:	O60542
Amino Acid Sequence:	MALSGPCQLW SLTLSVAELG LGYASEEKVI FRYCAGSCPR GARTQHGLAL ARLQGQGRAH GGPCCRPTRY TDVAFLDDRH RWQRLPQLSA AACGCGG
Predicted Molecular Mass:	10.4 kDa monomer; 20.8 kDa dimer
Species:	Human
Cross Reactivity:	Reported to be species-specific
Formulation:	Lyophilized from a sterile-filtered solution containing sodium phosphate, pH 7.5.
Source:	E. coli

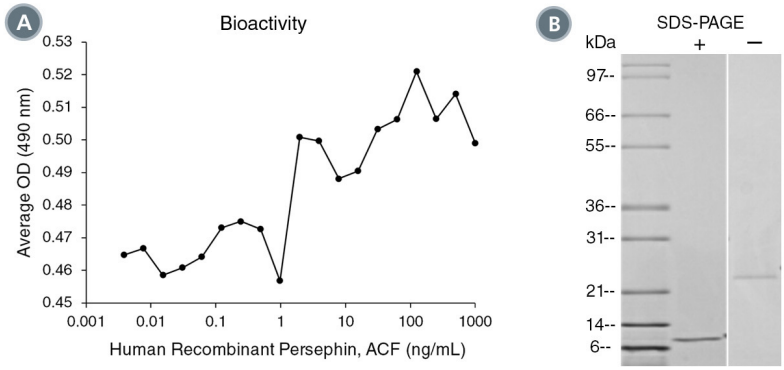
Specifications

Activity:	The specific activity is ≥ 5.0 x 10^4 units/mg (EC50 ≤ 20 ng/mL) as determined by a cell proliferation assay using TT cells.
Purity:	≥ 95%
Endotoxin Level:	Measured by kinetic Limulus amebocyte lysate (LAL) analysis and is ≤ 1 EU/µg protein.

Preparation and Storage

Storage:	Store at -20°C to -80°C.
Stability:	Stable as supplied for 12 months from date of receipt.
Preparation:	Centrifuge vial before opening. Reconstitute the product in sterile water to at least 0.1 mg/mL by pipetting the solution down the sides of the vial. Do not vortex. OPTIONAL: After reconstitution, if product will not be used immediately, dilute with concentrated bovine serum albumin (BSA) to a final BSA concentration of 0.1%. The effect of storage of stock solution on product performance should be tested for each application. As a general guide, do not store at 2 - 8°C for more than 1 month or at -80°C for more than 3 months. Avoid repeated freeze-thaw cycles.

Data



(A) The biological activity of Human Recombinant Persephin, ACF was tested by its ability to promote the proliferation of TT cells. Cell proliferation was measured using a fluorometric assay method. The EC50 is defined as the effective concentration of the neurotrophic factor at which cell proliferation is at 50% of maximum. The EC50 in the example above is 2.27 ng/mL.
(B) 1 µg of Human Recombinant Persephin, ACF was resolved with SDS-PAGE under reducing (+) and non-reducing (-) conditions and visualized by Coomassie Blue staining. Human Recombinant Persephin, ACF has a predicted molecular mass of 20.8 kDa (10.4 kDa per monomer).

Related Products

For a complete list of cytokines, as well as related products available from STEMCELL Technologies, visit www.stemcell.com/cytokines or contact us at techsupport@stemcell.com.

References

Enokido Y et al. (1998) GFR alpha-4 and the tyrosine kinase Ret form a functional receptor complex for persephin. Curr Biol 8(18): 1019–22.
Lindahl M et al. (2001) Human glial cell line-derived neurotrophic factor receptor alpha 4 is the receptor for persephin and is predominantly expressed in normal and malignant thyroid medullary cells. J Biol Chem 276(12): 9344–51.
Milbrandt J et al. (1998) Persephin, a novel neurotrophic factor related to GDNF and neurturin. Neuron 20(2): 245–53.
Tomac AC et al. (2002) Effects of cerebral ischemia in mice deficient in Persephin. Proc Natl Acad Sci USA 99(14): 9521–6.