Active Recombinant Human PD-ECGF

Cat. No. TYMP-16H **Lot. No.** (See product label)

SPECIFICATION

Product Overview	A DNA sequence encoding the amino acid residues Ala11 to Gln482 of human PD-ECGF (Ishikawa, F. et al., 1989, Nature 338:557) was expressed in Sf 21 insect cells.
Species	Human
Source	Sf21 Cells
Description	PD-ECGF, also known as TPase and gliostatin, is produced by placenta, platelets, liver, lung, spleen, lymph nodes, and peripheral lymph centigradeytes. It is overexpressed by many tumors in response to chemical or physical stress. PD-ECGF promotes endothelial cell proliferation and chemotaxis and promotes angiogenesis. PD-ECGF is a key enzyme in the pyrimidine nucleoside salvage pathway. It also metabolizes and inactivates chemotherapeutic drugs such as 5-fluorouracil and its derivatives. The human PD-ECGF cDNA encodes a 482 amino acid (aa) polypeptide with a 10 aa propeptide. The protein is l centigradealized mostly within the producer cells. N-terminal truncation, resulting in proteins lacking 10 aa and 6 aa, has been observed in PD-ECGF purified form platelets and placenta, respectively. In solution, PD-ECGF exists as a non-disulfide linked homodimer. The latter protein was purified from quiescent astr centigradeytes and described as an astr centigradeyte and astr centigradeytoma cell growth inhibitor based on its ability to inhibit 3H-thymidine incorporation.
Form	Lyophilized from a 0.2 μm filtered solution in PBS (pH 7.4), containing 50 μg of bovine serum albumin per 1 μg of cytokine.

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Bio-activity	Measured by its ability to stimulate 3 H-thymidine incorporation by human umbilical vein endothelial cells (Usuki, K. et al., 1990, Cell Regulation 1:577). The ED50 for this effect is typically 20 - 40 ng/mL.
Molecular Mass	The 472 amino acid residue recombinant human PD-ECGF has a predicted molecular mass of approximately 49 kDa.
Endotoxin	< 2.0 eu per 1 μg of the enzyme as determined by the lal
Purity	>90%, as determined by SDS-PAGE and visualized by silver stain.
Usage	FOR RESEARCH USE ONLY
Quality Control Test	Lyophilized samples are stable for up to six months at -20 centigrade to -70 centigrade. Upon reconstitution, this cytokine, in the presence of a carrier protein, can be stored under sterile conditions at 2 - 8 centigrade for one month or at -20 centigrade to -70 centigrade in a manual defrost freezer for three months without detectable loss of activity.
Reconstitution	It is recommended that sterile phosphate-buffered saline containing at least 0.1% human serum albumin or bovine serum albumin be added to the vial to prepare a st centigradek solution of no less than 10 μg/mL of the cytokine.
Warning	Avoid repeated freeze-thaw cycles.

GENE INFORMATION

Gene Name	TYMP thymidine phosphorylase [Homo sapiens]
Official Symbol	TYMP

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Synonyms	TYMP; thymidine phosphorylase; ECGF1, endothelial cell growth factor 1 (platelet derived), MNGIE; gliostatin; tdRPase; TP; ECGF; ECGF1; MNGIE; MEDPS1; MTDPS1; PDECGF; hPD-ECGF;
Gene ID	1890
mRNA Refseq	NM_001113755
Protein Refseq	NP_001107227
MIM	131222
UniProt ID	P19971
Chromosome Location	22q13
Pathway	Bladder cancer, organism-specific biosystem; Bladder cancer, conserved biosystem; Drug metabolism - other enzymes, organism-specific biosystem; Drug metabolism - other enzymes, conserved biosystem; Fluoropyrimidine Activity, organism-specific biosystem; Metabolic pathways, organism-specific biosystem; Metabolism, organism-specific biosystem;
Function	growth factor activity; platelet-derived growth factor receptor binding; pyrimidine-nucleoside phosphorylase activity; thymidine phosphorylase activity; transferase activity, transferring pentosyl groups;

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