

# Recombinant Human Pigment Epithelium-derived Factor (rHuPEDF)

## PrimeGene Technical DataSheet

<b>Catalog Number:</b>	102-08
<b>Source:</b>	<i>Escherichia coli</i>
<b>Molecular Weight:</b>	Approximately 44.4 KDa, a single non-glycosylated polypeptide chain containing 399 amino acids.
<b>Size:</b>	10µg/ 100µg/ 500µg/ 1mg
<b>AA Sequence:</b>	QNPASPPEEG SPDPDSTGAL VEEEDPFFKV PVNKLAAVS NFGYDLRVR SSTSPPTNVL LSPLSVATAL SALS LGAEQR TESIHRALY YDLISSPDH GTYKELDTV TAPQKNLKSA SRIVFEKKLR IKSSFVAPLE KSYGTRPRVL TGNPRLDLQE INN WVQAQMK GKLARSTKEI PDEISILLG VAHFKGQWVT KFDSRKSLE DFYLDEERTV RVPMMSDPKA VLR YGLSDSL SCKIAQLPLT GSMSIIFLP LKVTQNLTL EESLTSEFIH DIDRELKTVQ AVLTVPKLKL SYEGEVTKSL QEMKLQSLFD SPDFSKITGK PIKLTQVEHR AGFEWNEDGA GTTPSPGLQP AHLTFPLDYH LNQPFI FVLR DTD TGALLFI GKILDPRGP
<b>Purity:</b>	> 97 % by SDS-PAGE and HPLC analyses.
<b>Biological Activity:</b>	Fully biologically active when compared to standard. The ED <sub>50</sub> as determined by its ability to enhance the adhesion of human Saos2 cells to bovine Collagen I coated plate is less than 2 ng/ml, corresponding to a specific activity of $> 5.0 \times 10^5$ IU/mg.
<b>Physical Appearance:</b>	Sterile Filtered White lyophilized (freeze-dried) powder.
<b>Formulation:</b>	Lyophilized from a 0.2 µm filtered concentrated solution in 1×PBS, pH7.0, 5%Trehalose, 0.02%Tween-20.
<b>Endotoxin:</b>	Less than 1 EU/µg of rHuPEDF as determined by LAL method.
<b>Reconstitution:</b>	We recommend that this vial be briefly centrifuged prior to opening to bring the contents to the bottom. Reconstitute in sterile distilled water or aqueous buffer containing 0.1 % BSA to a concentration of 0.1-1.0 mg/mL. Stock solutions should be apportioned into working aliquots and stored at $\leq -20$ °C. Further dilutions should be made in appropriate buffered solutions.
<b>Shipping:</b>	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.
<b>Stability &amp; Storage:</b>	<b>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</b> <ul style="list-style-type: none"><li>● 12 months from date of receipt, -20 to -70 °C as supplied.</li><li>● 1 month, 2 to 8 °C under sterile conditions after reconstitution.</li><li>● 3 months, -20 to -70 °C under sterile conditions after reconstitution.</li></ul>
<b>Usage:</b>	This material is offered by Shanghai PrimeGene Bio-Tech for research, laboratory or further evaluation purposes. <b>NOT FOR HUMAN USE.</b>

### ***Human Pigment Epithelium-derived Factor***

Pigment epithelium-derived factor (PEDF) is encoded by the SERPINF1 gene in humans and found in vertebrates. It is a secreted phosphoglycoprotein that belongs to the clade F subfamily, serpin superfamily of proteinase inhibitors. The PEDF is a noninhibitory serpin with neurotrophic, anti-angiogenic, and anti-tumorigenic properties. It is synthesized as a 418 a.a. about 50 kDa precursor that contains a 19 a.a. signal sequence and a 399 a.a. mature region that shows a pyroglutamate at Gln20. Like other serpins, it contains three  $\beta$ -sheets, 810  $\alpha$ -helices, and a C-terminal RCL (reactive center loop). Unlike other serpins with Ser protease inhibiting activity. PEDF has functions of inducing extensive neuronal differentiation in retinoblastoma cells, inhibiting of angiogenesis. As it does not undergo the S (stressed) to R (relaxed) conformational transition characteristic of active serpins, it exhibits no serine protease inhibitory activity. PEDF is researched as a therapeutic candidate for treatment of such conditions as choroidal neovascularization, heart disease, and cancer.