Overview

Description	PEDF is a noninhibitory serpin with neurotrophic, anti-angiogenic, and anti-tumorigenic properties. It is a 50 kDa glycoprotein produced and secreted in many tissues throughout the body. A major component of the anti-angiogenic action of PEDF is the induction of apoptosis in proliferating endothelial cells. In addition, PEDF is able to inhibit the activity of angiogenic factors such as VEGF and FGF-2. The neuroprotective effects of PEDF are achieved through suppression of neuronal apoptosis induced by peroxide, glutamate, or other neurotoxins. The recent identification of a lipase-linked cell membrane receptor for PEDF (PEDF-R) that binds to PEDF with high affinity should facilitate further elucidation of the underlying mechanisms of this pluripotent serpin. To date, PEDF-R is the only signaling receptor known to be used by a serpin family member. The unique range of PEDF activities implicate it as a potential therapeutic agent for the treatment of vasculature related neurodegenerative diseases such as age-related macular degeneration (AMD) and proliferative diabetic retinopathy (PDR). PEDF also has the potential to be useful in the treatment of various angiogenesis-related diseases including a number of cancers.
Species	Human
Source	*E. coli*
Biological Activity	Fully biologically active when compared to standard. The ED_{50} 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 > 5.0×10^5 IU/mg.
Sequence	QNPASPPEEG SPDPDSTGAL VEEEDPFFKV PVNKLAAAVS NFGYDLYRVR SSTSPTTNVL LSPLSVATAL SALSLGAEQR TESIIHRALY YDLISSPDIH GTYKELLDTV TAPQKNLKSA SRIVFEKKLR IKSSFVAPLE KSYGTRPRVL TGNPRLDLQE INNWVQAQMK GKLARSTKEI PDEISILLLG VAHFKGQWVT KFDSRKTSLE DFYLDEERTV RVPMMSDPKA VLRYGLDSDL SCKIAQLPLT GSMSIIFFLP LKVTQNLTLI EESLTSEFIH DIDRELKTVQ AVLTVPKLKL SYEGEVTKSL QEMKLQSLFD SPDFSKITGK PIKLTQVEHR AGFEWNEDGA GTTPSPGLQP AHLTFPLDYH LNQPFIFVLR DTDTGALLFI GKILDPRGP

Properties

Measured Molecular Weight	Approximately 44.4 KDa, a single non-glycosylated polypeptide chain containing 399 amino acids.
Purity	> 97 % by SDS-PAGE and HPLC analyses.
Formulation	Lyophilized from a 0.2 µm filtered concentrated solution in 20 mM PB, pH 7.4, 150 mM NaCl.
Reconstitution	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 d -20 °C. Further dilutions should be made in appropriate buffered solutions.
Endotoxin Level	Less than 1 EU/µg of rHuPEDF as determined by LAL method.
Physical Appearance	Sterile Filtered White lyophilized (freeze-dried) powder.
Usage	This material is for research, laboratory or further evaluation purposes. NOT FOR HUMAN USE.
Storage	This lyophilized preparation is stable at 2-8 °C, but should be kept at -20 °C for long term storage, preferably desiccated. Upon reconstitution, the preparation is stable for up to one week at 2-8 °C. For maximal stability, apportion the reconstituted preparation into working aliquots and store at -20 °C to -70 °C. **Avoid repeated freeze/thaw cycles.**

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