DATASHEET
Version 20181206

PEDF, Human

Cat. No.: Z02722-1

Size: 1.0 mg

Synonyms: Pigment Epithelium-derived Factor (PEDF), Human

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.

Amino Acid Sequence:

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00001 QNPASPPEEG SPDPDSTGAL VEEEDPFFKV PVNKLAAAVS
00041 NFGYDLYRVR SSTSPTTNVL LSPLSVATAL SALSLGAEQR
00081 TESIIHRALY YDLISSPDIH GTYKELLDTV TAPQKNLKSA
00121 SRIVFEKKLR IKSSFVAPLE KSYGTRPRVL TGNPRLDLQE
00161 INNWVQAQMK GKLARSTKEI PDEISILLLG VAHFKGQWVT
00201 KFDSRKTSLE DFYLDEERTV RVPMMSDPKA VLRYGLDSDL
00241 SCKIAQLPLT GSMSIIFFLP LKVTQNLTLI EESLTSEFIH
00281 DIDRELKTVQ AVLTVPKLKL SYEGEVTKSL QEMKLQSLFD
00321 SPDFSKITGK PIKLTQVEHR AGFEWNEDGA GTTPSPGLQP
00361 AHLTFPLDYH LNQPFIFVLR DTDTGALLFI GKILDPRGP
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Source: *E. coli*

Species: Human

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.

Molecular Weight: Approximately 44.4 KDa, a single non-glycosylated polypeptide chain containing 399 amino acids.

Formulation: Lyophilized from a 0.2 μm filtered concentrated solution in 20 mM PB, pH 7.4, 150 mM NaCl.

Appearance: Sterile Filtered White lyophilized (freeze-dried) powder.

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 ≤ -20 °C. Further dilutions should be made in appropriate buffered solutions.

Purity: > 97 % by SDS-PAGE and HPLC analyses.

Endotoxin Level: Less than 1 EU/μg of rHuPEDF as determined by LAL method.

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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