



User Manual

Pigment Epithelium-derived Factor (PEDF) (Human)

Cat. No. HEOPP-16042

Description:

Pigment Epithelium-derived Factor (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.

Source:

Escherichia coli

Unit:

20 µg

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.

Formulation:

Lyophilized from a 0.2 µm filtered concentrated solution in 20 mM PB, pH7.4, 150 mM NaCl.

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.

Molecular Weight:

Approximately 44.3 kDa, a single non-glycosylated polypeptide chain containing 399 amino acids.

Endotoxin:

Less than 1 EU/μg of PEDF as determined by LAL method.

Usage:

This material is offered by Cyagen Biosciences for research, laboratory or further evaluation purposes. FOR RESEARCH USE ONLY. NOT INTENDED FOR ANY ANIMAL OR HUMAN THERAP EUTIC OR DIAGNOSTIC USE.

Biological Activity:

The ED50 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.

Physical Appearance:

Sterile filtered white lyophilized (freeze-dried) powder.

AA Sequence:

QNPASPPEEG SPDPDSTGAL VEEEDPFFKV PVNKLAAVS NFGYDLYRVR
SSTSPTTNVL LSPLSVATAL SALSLGAEQR TESIIHRALY YDLISSPDIH GTYKELLDTV
TAPQKNLKSA SRIVFEKKLR IKSSFVAPLE KSYGTRPRVL TGNPRLDLQE
INNWWQAQMK GKLARSTKEI PDEISILLG VAHFKGQWVT KFDSRKTSLE
DFYLDEERTV RVPMMSDPKA VLRYGLDSDL SCKIAQLPLT GSMSIIFFLP LKVTQNLTLI

EESLTSEFIH DIDRELKTVQ AVLTVPKLKL SYEGEVTKSL QEMKLQSLFD SPDFSKITGK
PIKLTQVEHR AGFEWNEDGA GTTPSPGLQP AHLTFPLDYH LNQPFIIVLR
DTDTGALLFI GKILDPRGP

Purity:

> 97% by SDS-PAGE and HPLC analyses.

Material Safety Data Sheets (MSDSs) are available upon request.

The Certificate of Analysis (COA), which provides detailed quality control information for each product, is also available at the Cyagen website.

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