



Pigment Epithelium-Derived Factor Human, Rabbit Polyclonal Antibody

Product Data Sheet

Source of Antigen: *E. coli*

Host: Rabbit

Cat. No.:

RD181114100 (0.1 mg)

Other names: PEDF, Serpin F1, EPC-1, Cell proliferation-inducing gene 35 protein, PIG35

Research topic

Energy metabolism and body weight regulation, Others

Preparation

The antibody was raised in rabbits by immunization with the recombinant Human PEDF.

Amino Acid Sequence

The immunization antigen (46.1 kDa) is a protein containing 413 AA of recombinant Human PEDF. N-Terminal His-tag 14 AA The (highlighted).

MRGSHHHHHH **GMAS**QNPASP PEEGSPDPDS TGALVEEEDP FFKVPVNKLA AAVSNFGYDL YVRSSMSPT TNVLLSPLSV
ATALSALSLG AEQRTESI IH RALYYDLISS PDIHGTYKEL LDTVTARQKN LKSASRIVFE KKLRIKSSFV APLEKSYGTR
PRVLTGNPRL DLQEINN WVQ AQMKGKLARS TKEIPDEISI LLLGVAHF KG QWVTKFDSRK TSLEDFYLDE ERTVRVPMMS
DPKAVLRYGL DSDLCKIAQ LPLTGSM SII FFLPLKVTQN LTLIEESLTS EFIHDIDREL KTVQAVLTVP KLKLSYEGEV
TKSLQEMKLQ SLFDSPDFSK ITGKPIKLTQ VEHRAGFEWN EDGAGTTPSP GLQPAHLTFP LDYHLNQPF I FVLRD TDTGA
LLFIGKILDP RGP

Species Reactivity

Human

Not yet tested in other species.

Purification Method

Immunoaffinity chromatography on a column with immobilized recombinant Human PEDF.

Antibody Content

0.1 mg (determined by BCA method)

Formulation

The antibody is lyophilized in 0.05 M phosphate buffer, 0.1 M NaCl, pH 7.2, **AZIDE FREE**.

Reconstitution

Add 0.1 ml of deionized water and let the lyophilized pellet dissolve completely. Slight turbidity may occur after reconstitution, which does not affect activity of the antibody. In this case clarify the solution by centrifugation.

Shipping

At ambient temperature. Upon receipt, store the product at the temperature recommended below.

Storage/Stability

The lyophilized antibody remains stable and fully active until the expiry date when stored at -20°C. Aliquot the product after reconstitution to avoid repeated freezing/thawing cycles and store frozen at -80°C. Reconstituted antibody can be stored at 4°C for a limited period of time; it does not show decline in activity after one week at 4°C.

Expiration

See vial label.

Lot Number

See vial label.

Quality Control Test

Indirect ELISA - to determine titer of the antibody

SDS PAGE - to determine purity of the antibody

Applications

ELISA, Western blotting

Introduction to the Molecule

PEDF is synthesized and released by human fetal retinal pigment epithelial cells (RPE) into the interphotoreceptor matrix and is localized to human chromosome 17p. It is a 50 kDa multifunctional glycoprotein belonging to the serpin protease inhibitor supergene (serpin) family, acting like substrates rather than inhibitors of serine proteases, being also described as serine peptidase inhibitor, clade F (alpha-2 antiplasmin, pigment epithelium derived factor), member 1. This gene encodes a 418 amino-acid protein with an asparagine glycosylation site at position 285-287 (Asn-Leu-Thr) and N-terminal signal peptide associated with secreted proteins. PEDF has an asymmetrical charge distribution, with a high density of basic residues concentrated on one side (positive) of the molecule and of acidic residues on the opposite side. Interactions of PEDF with three different types of molecules have been discovered: glycosaminoglycans of extracellular matrixes, collagens and receptors on the surface of neuronal cells. Negatively charged, acidic PEDF binds to collagen, lacks neurotrophic activity, and may confer antiangiogenic properties. PEDF has gliastatic, neuronotrophic, neuroprotective and antitumorigenic properties. PEDF acts in neuronal differentiation and survival in cells derived from retina and the central nervous system (CNS). Two functional epitopes have been identified on PEDF, a 34-mer peptide (residues 24-57) and a 44-mer peptide (residues 58-101). 44-mer peptide interacts with a putative 80 kDa receptor (PEDFRN), identified on Y-79 cells (retinoblastoma cells), cerebellar and motor neurons, and in neural retina and replicates the neurotrophic function and the ability to block vascular leakage. The 34-mer peptide, possibly via a distinct receptor (PEDF-RA) identified on endothelial cells, induces apoptosis, blocks endothelial cell migration and corneal angiogenesis, but fails to induce Y-79 differentiation. Recently, PEDF was shown also to have potent anti-angiogenic activity as it specifically inhibited the migration of endothelial cells, an essential step in angiogenesis. Its activity equals or supersedes that of other anti-angiogenic factors, including angiostatin, endostatin and thrombospondin-1. In cell culture and in animal models, PEDF inhibited endothelial cell (EC) growth and migration and suppressed ischemia-induced neovascularization, whereas in porcine liver, the expression of PEDF has been associated with body muscularity and obesity. Analyses revealed that Human PEDF is correlated with BMI, CRP, diastolic blood pressure, insulin, Quicki. Individuals with metabolic syndrome (NCEP criterion) have significantly higher PEDF values than healthy subjects, suggesting that PEDF is an independent marker of MS with sufficient diagnostic efficacy.

Note

This product is for research use only.