

Human PDGF-BB ELISA Kit | PDGF-BB elisa kit

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CATALOG #
AAA281545

REACTIVITY
Human

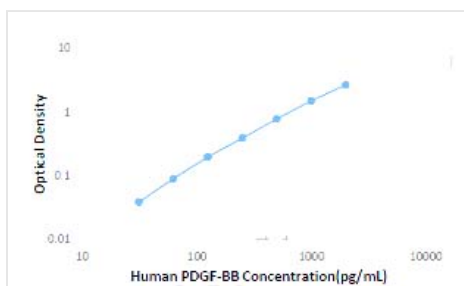
PRODUCT SYNONYMS

PDGF-BB; Human PDGF-BB ELISA Kit; PDGF-BB elisa kit

PRODUCT SPECIFICATIONS

Reactivity	Human
Specificity	This assay recognizes both recombinant and natural human PDGF-BB. The factors listed below were prepared at 50ng/ml and assayed for cross-reactivity.
Samples	Cell culture supernates, serum and plasma
Assay Type	Quantitative Sandwich
Sensitivity	< 12.3 pg/mL
Intra-assay Precision	Three samples of known concentration were tested 20 times on one plate to evaluate the Intra-plate precision.
Inter-assay Precision	Three samples of known concentration were tested 20 times separate assays to evaluate the Inter-plate precision. Assay were using two lots of components.

IMAGES



Standard Curve (Sample)

ADDITIONAL INFORMATION

Related Product Information for PDGF-BB elisa kit

Principle of the Assay: This assay employs the quantitative sandwich enzyme immunoassay technique. A monoclonal antibody specific for PDGF-BB has been pre-coated onto a microplate. Standards and samples are pipetted into the wells and any PDGF-BB present is bound by the immobilized antibody. Following incubation unbound samples are removed during a wash step, and then a detection antibody specific for PDGF-BB is added to the wells and binds to the combination of capture antibody PDGF-BB in sample. Following a wash to remove any unbound combination, and enzyme conjugate is added to the wells. Following incubation and wash steps, a substrate is added. A colored product TMB is formed in proportion to the amount of PDGF-BB present in the sample. The reaction is terminated by addition of acid and absorbance is measured. A standard curve is prepared from seven PDGF-BB standard dilutions and PDGF-BB sample concentration determined.

Background/Introduction: Human PDGF (Platelet-Derived Growth Factor) is a general term for a small group of structurally-related and secreted growth factors. These growth factors are widely expressed, disulfide-linked, and represent the products of four distinct genes. There are currently five named PDGFs, all of which belong to the PDGF/VEGF family, cysteine-knot superfamily of proteins. Within the PDGF family, there are two subfamilies that are characterized by either the presence, or absence, of a CUB (C1r/C1s, Urchin EGF-like, and BMP1-1) domain (1-4). Two genes (PDGF-C and -D) contain the CUB domain, while the remaining two genes (PDGF-A and -B) do not. Although all four PDGF gene products form homodimers, a PDGF-AB covalent heterodimer is also formed. Heterodimer formation appears to be a random process (5). All PDGFs are synthesized as inactive proforms that undergo intracellular or extracellular proteolytic processing to become active (3), and all PDGFs contain at least one isoform that binds heparin (2). Human PDGF-BB is synthesized as a 35 kDa, 241 amino acid (aa) preproprecursor. It contains a 20 aa signal sequence, a 61 aa N-terminal prodomain, a 109 aa mature region (aa 82-190), and a 51 aa C-terminal prodomain (6-9). The proprecursor is initially dimerized and then intracellularly processed twice. The N-terminal domain (aa 21-81) is cleaved first, followed by cleavage of the C-terminal domain (aa 191-241). The resulting mature region is 16-17 kDa in size (or 29-32 kDa as a homodimer) (9). N-terminal glycosylation is necessary for proper folding, but is removed prior to secretion. Notably, the N-terminal prodomain remains noncovalently associated with the mature molecule after secretion, blocking any potential interactions with same-cell PDGF receptors (10). In the event the C-terminal prodomain is retained, a 40 kDa isoform may be secreted that binds to cell-surface proteoglycans (9). There is one isoform variant that contains a three aa substitution for aa 1-21. This is not secreted and assumed to be either cytoplasmic or nuclear (11). Mature human PDGF-B shares 96% and 89% aa sequence identity with canine and mouse mature PDGF-B, respectively. PDGF-BB is expressed by hepatocytes and nonresorbing osteoclasts, generating osteoblasts and bone formation (9, 12). It is also produced by platelets, macrophages, and mast cells, and at sites of injury, promotes neutrophil and macrophage infiltration for debridement, fibroblast secretion of new ECM, and IFG-I mediated re-epithelialization (13, 14). There are a number of molecules that either directly or indirectly participate in PDGF binding. The traditional receptor(s) for PDGF is considered to be either a homodimer or heterodimer created from two 170-180 kDa type I transmembrane RTKs termed PDGF Ralpha and PDGF Rbeta (2, 5). In vitro studies have established that the alphaalpha homodimer will bind PDGF-AA, -AB, -BB, and -CC, the alphabeta heterodimer will bind -AB, -BB and -CC, and that the betabeta homodimer will bind -BB and -DD (4). In vivo studies have confirmed PDGF-AA and -CC acting through alphaalpha, and -BB and -DD acting through betabeta (2). Other molecules that participate in PDGF binding include LRP1 which forms a complex with PDGF Rbeta (15, 16), FGF R1 that complexes with both PDGF Rbeta and PDGF Ralpha (17, 18), and neuropilin-1, which complexes with PDGF Ralpha (19). PDGF-BB will also bind to SorLA/LR11 and to circulating SPARC (20, 21). PDGF-A and -B gene products also bind to circulating alpha2-macroglobulin (22).

For Research Use Only. Not for use in diagnostic or therapeutic procedures. Small volumes of product may become entrapped in the seal of the vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the cap.

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Online datasheet: <https://www.aaabiotech.com/human-elisa-kits/pdgf-bb/281545>