Datasheet for ABIN1672896

FAP ELISA Kit

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Overview

Quantity:	96 tests
Target:	FAP
Binding Specificity:	AA 26-760
Reactivity:	Human
Method Type:	Sandwich ELISA
Detection Range:	62.5-4000 pg/mL
Minimum Detection Limit:	62.5 pg/mL
Application:	ELISA

Product Details

Purpose:	Sandwich High Sensitivity ELISA kit for Quantitative Detection of Human Seprase/FAP
Brand:	PicoKine™
Sample Type:	Cell Culture Supernatant, Serum, Plasma (heparin), Plasma (EDTA)
Analytical Method:	Quantitative
Detection Method:	Colorimetric
Immunogen:	Expression system for standard: NSO Immunogen sequence: L26-D760
Specificity:	Expression system for standard: NSO Immunogen sequence: L26-D760
Cross-Reactivity (Details):	There is no detectable cross-reactivity with other relevant proteins.

Product Details

Sensitivity:	<10pg/mL
Material not included:	Microplate reader in standard size. Automated plate washer. Adjustable pipettes and pipette tips. Multichannel pipettes are recommended in the condition of large amount of samples in the detection. Clean tubes and Eppendorf tubes. Washing buffer (neutral PBS or TBS). Preparation of 0.01M TBS: Add 1.2g Tris, 8.5g Nacl

Target Details

Target:	FAP
Alternative Name:	FAP (FAP Products)
Background:	Protein Function: Cell surface glycoprotein serine protease that participates in extracellular matrix degradation and involved in many cellular processes including tissue remodeling, fibrosis, wound healing, inflammation and tumor growth. Both plasma membrane and soluble forms exhibit post-proline cleaving endopeptidase activity, with a marked preference for Ala/Ser-Gly-Pro-Ser/Asn/Ala consensus sequences, on substrate such as alpha-2-antiplasmin SERPINF2 and SPRY2 (PubMed:14751930, PubMed:16223769, PubMed:16480718, PubMed:16410248, PubMed:17381073, PubMed:18095711, PubMed:21288888, PubMed:24371721). Degrade also gelatin, heat-denatured type I collagen, but not native collagen type I and IV, vibronectin, tenascin, laminin, fibronectin, fibrin or casein (PubMed:9065413, PubMed:2172980, PubMed:7923219, PubMed:10347120, PubMed:10455171, PubMed:12376466, PubMed:16223769, PubMed:16651416, PubMed:18095711). Have also dipeptidyl peptidase activity, exhibiting the ability to hydrolyze the prolyl bond two residues from the N-terminus of synthetic dipeptide substrates provided that the penultimate residue is proline, with a preference for Ala-Pro, Ile-Pro, Gly-Pro, Arg-Pro and Pro-Pro (PubMed:10347120, PubMed:10593948, PubMed:16175601, PubMed:16223769, PubMed:16651416, PubMed:16410248, PubMed:17381073, PubMed:21314817, PubMed:24371721, PubMed:24717288). Natural neuropeptide hormones for dipeptidyl peptidase are the neuropeptide Y (NPY), peptide YY (PYY), substance P (TAC1) and brain natriuretic peptide 32 (NPPB) (PubMed:21314817). The plasma membrane form, in association with either DPP4, PLAUR or integrins, is involved in the pericellular proteolysis of the extracellular matrix (ECM), and hence promotes cell adhesion, migration and invasion through the ECM. Plays a role in tissue remodeling during development and wound healing. Participates in the cell invasiveness towards the ECM in malignant melanoma cancers. Enhances tumor growth progression by increasing angiogenesis, collagen fiber degradation and apoptosis and by reducing antitumor response of the immune system. Promotes glioma cell invasion through

the brain parenchyma by degrading the proteoglycan brevican. Acts as a tumor suppressor in melanocytic cells through regulation of cell proliferation and survival in a serine protease activity-independent manner. .

Background: FAP(Fibroblast Activation Protein, Alpha) also known as FAPA or SEPRASE, is an inducible cell surface glycoprotein that was originally identified in cultured fibroblasts using monoclonal antibody F19. The protein encoded by this gene is a homodimeric integral membrane gelatinase belonging to the serine protease family. The FAP gene is mapped on 2q24.2. FAP is most closely related to DPPIV and they share about 50 % of their amino acids. FAP is catalytically active as a 170kD dimer and has dipeptidase and gelatinase activity. Its gelatinase activity requires a glycine in P2 position.FAP-alpha shows 48 % amino acid identity with dipeptidyl peptidase IV and 30 % identity with DPP4-related protein. Northern blot analysis detected a 2.8-kb FAP-alpha mRNA in fibroblasts. Depletion of FAP-expressing cells, which made up only 2 % of all tumor cells in established Lewis lung carcinomas, caused rapid hypoxic necrosis of both cancer and stromal cells in immunogenic tumors by a process involving interferon-gamma and tumor necrosis factor-alpha.

Synonyms: Prolyl endopeptidase FAP ,3.4.21.26 ,170 kDa melanoma membrane-bound gelatinase ,Dipeptidyl peptidase FAP ,3.4.14.5 ,Fibroblast activation protein alpha ,FAPalpha ,Gelatine degradation protease FAP ,3.4.21.- ,Integral membrane serine protease ,Post-proline cleaving enzyme ,Serine integral membrane protease ,SIMP ,Surface-expressed protease ,Seprase ,Antiplasmin-cleaving enzyme FAP, soluble form ,APCE ,3.4.14.5 ,3.4.21.- ,3.4.21.26 ,FAP ,

Full Gene Name: Prolyl endopeptidase FAP

Cellular Localisation: Prolyl endopeptidase FAP: Cell surface . Cell membrane, Single- pass type II membrane protein . Cell projection, lamellipodium membrane, Single-pass type II membrane protein . Cell projection, invadopodium membrane, Single-pass type II membrane protein . Cell projection, ruffle membrane, Single-pass type II membrane protein . Membrane, Single-pass type II membrane protein . Localized on cell surface with lamellipodia and invadopodia membranes and on shed vesicles. Colocalized with DPP4 at invadopodia and lamellipodia membranes of migratory activated endothelial cells in collagenous matrix. Colocalized with DPP4 on endothelial cells of capillary-like microvessels but not large vessels within invasive breast ductal carcinoma. Anchored and enriched preferentially by integrin alpha-3/beta-1 at invadopodia, plasma membrane protrusions that correspond to sites of cell invasion, in a collagen-dependent manner. Localized at plasma and ruffle membranes in a collagen-independent manner. Colocalized with PLAUR preferentially at the cell surface of invadopodia membranes in a cytoskeleton-, integrin- and vitronectin-dependent manner. Concentrated at invadopodia membranes, specialized protrusions of the ventral plasma membrane in a

Target Details

	fibrobectin-dependent manner. Colocalizes with extracellular components (ECM), such as collagen fibers and fibronectin..
Gene ID:	2191
UniProt:	Q12884
Pathways:	Tube Formation

Application Details

Application Notes:	Before using Kit, spin tubes and bring down all components to bottom of tube. Duplicate well assay was recommended for both standard and sample testing.
Comment:	Tissue Specificity: Expressed in adipose tissue. Expressed in the dermal fibroblasts in the fetal skin. Expressed in the granulation tissue of healing wounds and on reactive stromal fibroblast in epithelial cancers. Expressed in activated fibroblast-like synoviocytes from inflamed synovial tissues. Expressed in activated hepatic stellate cells (HSC) and myofibroblasts from cirrhotic liver, but not detected in normal liver. Expressed in glioma cells (at protein level). Expressed in glioblastomas and glioma cells. Isoform 1 and isoform 2 are expressed in melanoma, carcinoma and fibroblast cell lines. .
Plate:	Pre-coated
Protocol:	human Seprase ELISA Kit was based on standard sandwich enzyme-linked immune-sorbent assay technology. A monoclonal antibody from mouse specific for Seprase has been precoated onto 96-well plates. Standards(NSO, L26-D760) and test samples are added to the wells, a biotinylated detection polyclonal antibody from goat specific for Seprase is added subsequently and then followed by washing with PBS or TBS buffer. Avidin-Biotin-Peroxidase Complex was added and unbound conjugates were washed away with PBS or TBS buffer. HRP substrate TMB was used to visualize HRP enzymatic reaction. TMB was catalyzed by HRP to produce a blue color product that changed into yellow after adding acidic stop solution. The density of yellow is proportional to the human Seprase amount of sample captured in plate.
Assay Procedure:	Aliquot 0.1 mL per well of the 4000pg/mL, 2000pg/mL,1000pg/mL, 500pg/mL, 250pg/mL, 125pg/mL, 62.5pg/mL human Seprase standard solutions into the precoated 96-well plate. Add 0.1 mL of the sample diluent buffer into the control well (Zero well). Add 0.1 mL of each properly diluted sample of human cell culture supernates, serum or plasma(heparin, EDTA) to each empty well. See "Sample Dilution Guideline" above for details. It is recommended that each human Seprase standard solution and each sample be measured in duplicate.

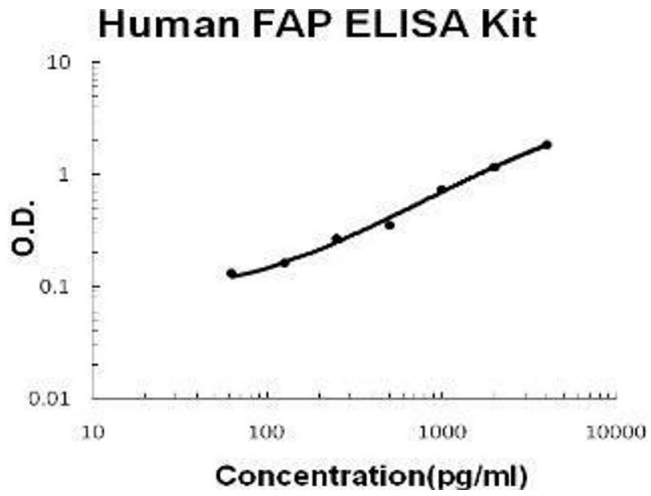
Application Details

Assay Precision:	• Sample 1: n=16, Mean(pg/ml): 522, Standard deviation: 18.27, CV(%): 3.5 • Sample 2: n=16, Mean(pg/ml): 1007, Standard deviation: 43.3, CV(%): 4.3 • Sample 3: n=16, Mean(pg/ml): 2116, Standard deviation: 105.8, CV(%): 5, • Sample 1: n=24, Mean(pg/ml): 558, Standard deviation: 26.23, CV(%): 4.7 • Sample 2: n=24, Mean(pg/ml): 1143, Standard deviation: 67.44, CV(%): 5.9 • Sample 3: n=24, Mean(pg/ml): 2236, Standard deviation: 141, CV(%): 6.3
Restrictions:	For Research Use only

Handling

Handling Advice:	Avoid multiple freeze-thaw cycles.
Storage:	-20 °C,4 °C
Storage Comment:	Store at 4°C for 6 months, at -20°C for 12 months. Avoid multiple freeze-thaw cycles
Expiry Date:	12 months

Images



ELISA

Image 1. Human Seprase/FAP PicoKine ELISA Kit standard curve