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Anti-FAP Picoband Antibody

Catalog # ABO12836

Product Information

Application	WB, E
Primary Accession	Q12884
Host	Rabbit
Reactivity	Mouse, Rat
Clonality	Polyclonal
Format	Lyophilized
Description	Rabbit IgG polyclonal antibody for FAP detection. Tested with WB, Direct ELISA in Human;Mouse;Rat.
Reconstitution	Add 0.2ml of distilled water will yield a concentration of 500ug/ml.

Additional Information

Gene ID	2191
Other Names	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, 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 (HGNC:3590)
Calculated MW	87713
Application Details	Western blot, 0.1-0.5 □g/ml Direct ELISA, 0.1-0.5 □g/ml
Subcellular Localization	Prolyl endopeptidase FAP: Cell surface.
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.
Source	Eukaryota
Contents	Each vial contains 4mg Trehalose, 0.9mg NaCl, 0.2mg Na_2HPO_4, 0.05mg NaN_3.
Immunogen	E. coli-derived human FAP recombinant protein (Position: R550-A619).

Cross Reactivity	No cross reactivity with other proteins.
Storage	At -20˚C; for one year. After r˚Constitution, at 4˚C; for one month. It˚Can also be aliquotted and stored frozen at -20˚C; for a longer time. Avoid repeated freezing and thawing.

Protein Information

Name	FAP (HGNC:3590)
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:16410248, PubMed:16480718, PubMed:17381073, PubMed:18095711, PubMed:21288888, PubMed:24371721). Degrade also gelatin, heat-denatured type I collagen, but not native collagen type I and IV, vitronectin, tenascin, laminin, fibronectin, fibrin or casein (PubMed:10347120, PubMed:10455171, PubMed:12376466, PubMed:16223769, PubMed:16651416, PubMed:18095711, PubMed:2172980, PubMed:7923219, PubMed:9065413). Also has 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:16410248, PubMed:16651416, 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.
Cellular Location	[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. Note=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 fibrobectin-dependent manner. Colocalizes with extracellular components (ECM), such as collagen fibers and fibronectin. [Isoform 2]: Cytoplasm
Tissue Location	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

Background

Fibroblast activation protein alpha is a 170 kDa melanoma membrane-bound gelatinase, protein that in humans is encoded by the FAP gene. The protein encoded by this gene is a homodimeric integral membrane gelatinase belonging to the serine protease family. It is selectively expressed in reactive stromal fibroblasts of epithelial cancers, granulation tissue of healing wounds, and malignant cells of bone and soft tissue sarcomas. This protein is thought to be involved in the control of fibroblast growth or epithelial-mesenchymal interactions during development, tissue repair, and epithelial carcinogenesis. Alternatively spliced transcript variants encoding different isoforms have been found for this gene.

Images

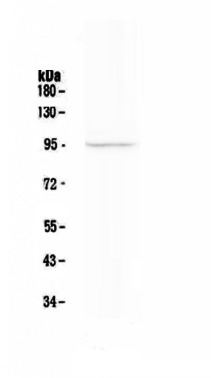


Figure 1. Western blot analysis of FAP using anti-FAP antibody (ABO12836).

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