SANTA CRUZ BIOTECHNOLOGY, INC.

FAPα (Y-16): sc-54538

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The Power to Question

BACKGROUND

FAPα, or Seprase, is a 760 amino acid protein encoded by the human gene FAP and belongs to the peptidase S9B family. FAPα may have a role in tissue remodeling during development and wound healing so it is possible FAPα may contribute to invasiveness of malignant cancers. It degrades gelatin and heat-denatured type I and type IV collagen, but not native type I or type IV collagen. It also does not cleave Laminin, Fibronectin, fibrin or casein. FAPα is a single-pass type II membrane protein found on cell surface lamellipodia, invadopodia and on shed vesicles. FAPα is usually found as a glycosylated homodimer, or heterodimer with DPP4. The FAPα monomer is an inactive form.

REFERENCES

1. Aertgeerts, K., et al. 2005. Structural and kinetic analysis of the substrate specificity of human fibroblast activation protein alpha. J. Biol. Chem. 280: 19441-19444.
2. Kelly, T. 2005. Fibroblast activation protein alpha and dipeptidyl peptidase IV (CD26): cell-surface proteases that activate cell signaling and are potential targets for cancer therapy. Drug Resist. Updat. 8: 51-58.
3. Dolznig, H., et al. 2005. Characterization of cancer stroma markers: in silico analysis of an mRNA expression database for fibroblast activation protein and endosialin. Cancer Immun. 5: 10.
4. Iwasa, S., et al. 2005. Increased expression of seprase, a membrane-type serine protease, is associated with lymph node metastasis in human colorectal cancer. Cancer Lett. 227: 229-236.
5. Milner, J.M., et al. 2006. Fibroblast activation protein alpha is expressed by chondrocytes following a pro-inflammatory stimulus and is elevated in osteoarthritis. Arthritis Res. Ther. 8: R23.
6. Gilmore, B.F., et al. 2006. Dipeptide proline diphenyl phosphonates are potent, irreversible inhibitors of seprase (FAPα). Biochem. Biophys. Res. Commun. 346: 436-446.
7. Terret, M.E., et al. 2006. Meiosis: separase strikes twice. Nat. Cell Biol. 8: 910-911.
8. Zhang, M.Z., et al. 2007. Expression of seprase in effusions from patients with epithelial ovarian carcinoma. Chin. Med. J. 120: 663-668.

CHROMOSOMAL LOCATION

Genetic locus: FAP (human) mapping to 2q24.2; Fap (mouse) mapping to 2 C1.3.

SOURCE

FAPα (Y-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of FAPα of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-54538 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

FAPα (Y-16) is recommended for detection of FAPα of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

FAPα (Y-16) is also recommended for detection of FAPα in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for FAPα siRNA (h): sc-62292, FAPα siRNA (m): sc-62293, FAPα shRNA Plasmid (h): sc-62292-SH, FAPα shRNA Plasmid (m): sc-62293-SH, FAPα shRNA (h) Lentiviral Particles: sc-62292-V and FAPα shRNA (m) Lentiviral Particles: sc-62293-V.

Molecular Weight of FAPα: 88 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

SELECT PRODUCT CITATIONS

1. Marzi, I., et al. 2013. The involvement of a Nanog, Klf4 and c-Myc transcriptional circuitry in the intertwining between neoplastic progression and reprogramming. Cell Cycle 12: 353-364.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.