SANTA CRUZ BIOTECHNOLOGY, INC.

p-FAS (Tyr 291): sc-130189

BACKGROUND

Cytotoxic T lymphocyte (CTL)-mediated cytotoxicity constitutes an important component of specific effector mechanisms in immuno-surveillance against virus-infected or transformed cells. Two mechanisms appear to account for this activity, one of which is the perforin-based process. Independently, a FAS-based mechanism involves the transducing molecule FAS (also designated APO-1) and its ligand (FAS-L). The human FAS protein is a cell surface glycoprotein that belongs to a family of receptors that includes CD40, nerve growth factor receptors and tumor necrosis factor receptors. The FAS antigen is expressed on a broad range of lymphoid cell lines, certain of which undergo apoptosis in response to treatment with antibody to FAS. These findings strongly imply that targeted cell death is potentially mediated by the intercellular interactions of FAS with its ligand or effectors, and that FAS may be critically involved in CTL-mediated cytotoxicity. Human FAS may be phosphorylated at Tyr 291.

REFERENCES

1. Henkart, P.A. 1985. Mechanism of lymphocyte-mediated cytotoxicity. Ann. Rev. Immunol. 3: 31-58.
2. Young, J.D., et al. 1988. Perforin-dependent and independent pathways of cytotoxicity mediated by lymphocytes. Immunol. Rev. 103: 161-202.
3. Podack, E.R., et al. 1991. A central role of perforin in cytolysis? Ann. Rev. Immunol. 9: 129-157.
4. Yagita, H., et al. 1992. Role of perforin in lymphocyte-mediated cytolysis. Adv. Immunol. 51: 215-242.
5. Drappa, J., et al. 1993. The FAS protein is expressed at high levels on $CD4^+CD8^+$ thymocytes and activated mature lymphocytes in normal mice but not in the lupus-prone strain, MRL lpr/lpr. Proc. Natl. Acad. Sci. USA 90: 10340-10344.
6. Suda, T., et al. 1993. Molecular cloning and expression of the FAS ligand, a novel member of the tumor necrosis factor family. Cell 75: 1169-1178.
7. Hanabuchi, S., et al. 1994. FAS and its ligand in a general mechanism of T cell-mediated cytotoxicity. Proc. Natl. Acad. Sci. USA 91: 4930-4934.
8. Fülöp, P., et al. 2006. Lack of UCP2 reduces FAS-mediated liver injury in ob/ob mice and reveals importance of cell-specific UCP2 expression. Hepatology 44: 592-601.
9. Maedler, K., et al. 2006. Aging correlates with decreased b cell proliferative capacity and enhanced sensitivity to apoptosis: a potential role for FAS and pancreatic duodenal homeobox-1. Diabetes 55: 2455-2462.

STORAGE

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

PROTOCOLS

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

CHROMOSOMAL LOCATION

Genetic locus: FAS (human) mapping to 10q23.31.

SOURCE

p-FAS (Tyr 291) is a rabbit polyclonal antibody raised against a short amino acid sequence containing phosphorylated Tyr 291 of FAS of human origin.

PRODUCT

Each vial contains 100 µg IgG in 1.0 ml PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

p-FAS (Tyr 291) is recommended for detection of Tyr 291 phosphorylated FAS of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for FAS siRNA (h): sc-29311, FAS siRNA (h2): sc-44260, FAS shRNA Plasmid (h): sc-29311-SH, FAS shRNA Plasmid (h2): sc-44260-SH, FAS shRNA (h) Lentiviral Particles: sc-29311-V and FAS shRNA (h2) Lentiviral Particles: sc-44260-V.

Molecular Weight of p-FAS: 48 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto B Blocking Reagent: sc-2335 (use 50 mM NaF, sc-24988, as diluent) and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

RESEARCH USE

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