SANTA CRUZ BIOTECHNOLOGY, INC.

FAS (5F7): sc-52393

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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 (APO-1) and its ligand (FAS-L). The human FAS protein is a 48 kDa 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 may be critically involved in CTL-mediated cytotoxicity.

REFERENCES

1. Henkart, P.A. 1985. Mechanism of lymphocyte-mediated cytotoxicity. Annu. Rev. Immunol. 3: 31-58.
2. Young, J., et al. 1988. Perforin-dependent and -independent pathways of cytotoxicity mediated by lymphocytes. Immunol. Rev. 103: 161-202.
3. Yagita, H., et al. 1992. Role of perforin in lymphocyte-mediated cytolysis. Adv. Immunol. 51: 215-242.
4. 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.
5. 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.
6. Kägi, D., et al. 1994. FAS and perforin pathways as major mechanisms of T cell-mediated cytotoxicity. Science 265: 528-530.
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.

CHROMOSOMAL LOCATION

Genetic locus: FAS (human) mapping to 10q24.1; Fas (mouse) mapping to 19 C1.

SOURCE

FAS (5F7) is a mouse monoclonal antibody raised against full length recombinant FAS of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

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

APPLICATIONS

FAS (5F7) is recommended for detection of FAS of mouse, rat and 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 and FAS siRNA (m): sc-29312.

Molecular Weight of FAS: 48 kDa.

Positive Controls: human live tumor, human breast tumor or Jurkat whole cell lysate: sc-2204.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-mouse IgG-HRP: sc-2005 (dilution range: 1:2000-1:32,000) or Cruz Marker™ compatible goat anti-mouse IgG-HRP: sc-2031 (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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

SELECT PRODUCT CITATIONS

1. Gondi, C.S., et al. 2010. Human umbilical cord blood stem cells show PDGF-D-dependent glioma cell tropism *in vitro* and *in vivo*. Neuro-oncology 12: 453-465.

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.