SANTA CRUZ BIOTECHNOLOGY, INC.

FAS-L (hBA-175): sc-4855

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 (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 may be critically involved in CTL-mediated cytotoxicity.

REFERENCES

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2. Young, J.D.E., Liu, C.C., Persechini, P.M. and Cohn, Z.A. 1988. Perforin-dependent and independent pathways of cytotoxicity mediated by lymphocytes. Immunol. Rev. 103: 161-202.
3. Podack, E.R., Hengartner, H. and Lichtenheld, M.G. 1991. A central role of perforin in cytolysis? Annu. Rev. Immunol. 9: 129-157.
4. Yagita, H., Nakata, M., Kawasaki, A., Shinkai, Y. and Okumura, K. 1992. Role of perforin in lymphocyte-mediated cytolysis. Adv. Immunol. 51: 215-242.
5. Drappa, J., Brot, N. and Elkon, K. 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., Takahashi, T., Golstein, P. and Nagata, S. 1993. Molecular cloning and expression of the FAS ligand, a novel member of the tumor necrosis factor family. Cell 75: 1169-1178.
7. Kägi, D., Vignaux, F., Ledermann, B., Bürki, K., Depraetere, V., Nagata, S., Hengartner, H. and Golstein, P. 1994. FAS and perforin pathways as major mechanisms of T cell-mediated cytotoxicity. Science 265: 528-530.
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SOURCE

FAS-L (hBA-175) is produced in *E. coli* as 47 kDa biologically active, tagged fusion protein corresponding to 175 amino acids of FAS-L of human origin.

PRODUCT

FAS-L (hBA-175) is purified from bacterial lysates (> 98%); supplied as 50 µg purified protein.

BIOLOGICAL ACTIVITY

FAS-L (hBA-175) is biologically active as determined by its ability to induce cytotoxicity in Jurkat cells in the absence of any cross-linking.

Expected ED_{50}: < 10 ng/ml, corresponding to a specific activity of > 1 x 10^5 units/mg.

RECONSTITUTION

In order to avoid freeze/thaw damaging of the active protein, dilute protein when first used to desired working concentration. Either a sterile filtered standard buffer (such as 50mM TRIS or 1X PBS) or water can be used for the dilution. Store any thawed aliquot in refrigeration at 2° C to 8° C for up to four weeks, and any frozen aliquot at -20° C to -80° C for up to one year. It is recommended that frozen aliquots be given an amount of standard cryo-preservative (such as Ethylene Glycol or Glycerol 5-20% v/v), and refrigerated samples be given an amount of carrier protein (such as heat inactivated FBS or BSA to 0.1% v/v) or non-ionic detergent (such as Triton X-100 or Tween 20 to 0.005% v/v), to aid stability during storage.

SELECT PRODUCT CITATIONS

1. Singh, S.V., Ajay, A.K., Mohammad, N., Malvi, P., Chaube, B., Meena, A.S. and Bhat, M.K. 2015. Proteasomal inhibition sensitizes cervical cancer cells to mitomycin C-induced bystander effect: the role of tumor microenvironment. Cell Death Dis. 6: e1934.

STORAGE

Store desiccated at -20° C; stable for one year from the date of shipment.

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.