SANTA CRUZ BIOTECHNOLOGY, INC.

FAST (B-9): sc-365125

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Fas, also referred to as CD95 or APO-1, is a type I transmembrane protein that plays a central role mediating viral immunity. TIA-1 and TIAR are two closely related proteins that possess three RRMs (RNA recognition motifs), designated RRM 1, 2 and 3, respectively. Although both TIA-1 and TIAR are thought to function as mediators of apoptotic cell death, their specific roles in such pathways are unknown. Unlike TIA-1, which is found in the granules of cytotoxic lymphocytes, TIAR expression is limited to the nucleus and found in a much broader range of cells including, but not limited to, cells of hematopoietic origin. TIAR is translocated to the cytoplasm shortly after Fas ligation and this event immediately proceeds the onset of DNA fragmentation. A novel serine/threonine kinase that is activated as a result of Fas ligation, designated FAST (Fas-activated serine/threonine), shows kinase specificity towards both TIA-1 and TIAR. In unstimulated Jurkat cells, FAST resides in the cytoplasm as a highly phosphorylated protein and is quickly dephosphorylated and activated in response to stimulated Fas.

REFERENCES

1. 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.
2. Taupin, J.L., et al. 1995. The RNA-binding protein TIAR is translocated from the nucleus to the cytoplasm during Fas-mediated apoptotic cell death. Proc. Natl. Acad. Sci. USA 92: 1629-1633.

CHROMOSOMAL LOCATION

Genetic locus: FASTK (human) mapping to 7q36.1; Fastk (mouse) mapping to 5 A3.

SOURCE

FAST (B-9) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 413-441 near the C-terminus of FAST of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

FAST (B-9) is available conjugated to agarose (sc-365125 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-365125 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-365125 PE), fluorescein (sc-365125 FITC), Alexa Fluor® 488 (sc-365125 AF488), Alexa Fluor® 546 (sc-365125 AF546), Alexa Fluor® 594 (sc-365125 AF594) or Alexa Fluor® 647 (sc-365125 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-365125 AF680) or Alexa Fluor® 790 (sc-365125 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-365125 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

RESEARCH USE

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

APPLICATIONS

FAST (B-9) is recommended for detection of FAST kinase of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], 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).

FAST (B-9) is also recommended for detection of FAST kinase in additional species, including canine and porcine.

Suitable for use as control antibody for FAST siRNA (h): sc-35361, FAST siRNA (m): sc-35362, FAST shRNA Plasmid (h): sc-35361-SH, FAST shRNA Plasmid (m): sc-35362-SH, FAST shRNA (h) Lentiviral Particles: sc-35361-V and FAST shRNA (m) Lentiviral Particles: sc-35362-V.

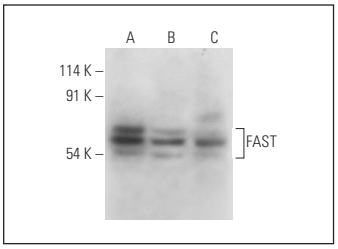
Molecular Weight of FAST: 56 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227, Jurkat whole cell lysate: sc-2204 or K-562 whole cell lysate: sc-2203.

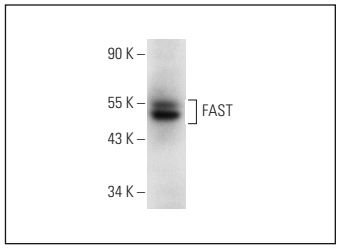
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



FAST (B-9): sc-365125. Western blot analysis of FAST expression in Jurkat (**A**), Raji (**B**) and Hep G2 (**C**) whole cell lysates.



FAST (B-9): sc-365125. Western blot analysis of FAST expression in K-562 whole cell lysate.

SELECT PRODUCT CITATIONS

1. Zhang, F., et al. 2021. Genetic ablation of Fas-activated serine/threonine kinase ameliorates alcoholic liver disease through modulating HuR-SIRT1 mRNA complex stability. Free Radic. Biol. Med. 166: 201-211.

STORAGE

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