# SANTA CRUZ BIOTECHNOLOGY, INC.

# FAST (B-9): sc-365125



## 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 hemato-poietic 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.
- 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  $\mu g$  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<sup>®</sup> 488 (sc-365125 AF488), Alexa Fluor<sup>®</sup> 546 (sc-365125 AF546), Alexa Fluor<sup>®</sup> 594 (sc-365125 AF594) or Alexa Fluor<sup>®</sup> 647 (sc-365125 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor<sup>®</sup> 680 (sc-365125 AF680) or Alexa Fluor<sup>®</sup> 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  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

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#### **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  $\mu$ g per 100-500  $\mu$ g 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<sup>™</sup> Molecular Weight Standards: sc-2035, UltraCruz<sup>®</sup> 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<sup>®</sup> Mounting Medium: sc-24941 or UltraCruz<sup>®</sup> 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

 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.