SANTA CRUZ BIOTECHNOLOGY, INC.

FAST-1/2 (H-7): sc-376888

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Xenopus winged-helix factor, xFAST-1 (forkhead activin signal transducer-1) is a transcription factor that forms a complex with the receptor-regulated Smad protein, Smad2, and directly binds to activin response elements on DNA. The human homolog FAST-1 and the corresponding mouse homolog, designated FAST-2, share significant sequence homology with xFAST-1, including a conserved N-terminal forkhead domain that consists of 110 amino acid residues and is essential for binding DNA and regulating transcription in embryogenesis, in tumorigenesis and in the maintenance of differentiated cell states. FAST-1 and FAST-2 also contain a distinct C-terminal Smad interaction domain that is required for the association with various Smad proteins, including Smad2, Smad3 and Smad4. Expression of FAST-1 and FAST-2 is predominantly observed during early development, with lower levels detected in adult tissues. FAST-1 and FAST-2 mediated DNA binding is attenuated by both TFGβ and activin, indicating that these FAST proteins mediate TFGβ induced signal transduction.

REFERENCES

1. Chen, X., et al. 1997. Smad4 and FAST-1 in the assembly of activin-responsive factor. Nature 389: 85-89.
2. Labbe, E., et al. 1998. Smad2 and Smad3 positively and negatively regulate TGF β-dependent transcription through the forkhead DNA-binding protein FAST2. Mol. Cell 2: 109-120.
3. Zhou, S., et al. 1998. Characterization of human FAST-1, a TGF β and activin signal transducer. Mol. Cell 2: 121-127.
4. Weisberg, E., et al. 1998. A mouse homologue of FAST-1 transduces TGF β superfamily signals and is expressed during early embryogenesis. Mech. Dev. 79: 17-27.
5. Yeo, C.Y., et al. 1999. The role of FAST-1 and Smads in transcriptional regulation by activin during early *Xenopus* embryogenesis. J. Biol. Chem. 274: 26584-26590.
6. Liu, B., et al. 1999. FAST-2 is a mammalian winged-helix protein which mediates transforming growth factor β signals. Mol. Cell. Biol. 19: 424-430.

CHROMOSOMAL LOCATION

Genetic locus: Foxh1 (mouse) mapping to 15 D3.

SOURCE

FAST-1/2 (H-7) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 2-29 at the N-terminus of FAST-2 of mouse origin.

PRODUCT

Each vial contains 200 µg IgM kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin. Also available as TransCruz reagent for Gel Supershift and ChIP applications, sc-376888 X, 200 µg/0.1 ml.

Blocking peptide available for competition studies, sc-376888 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

FAST-1/2 (H-7) is recommended for detection of FAST-1 and FAST-2 of mouse and rat 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).

Suitable for use as control antibody for FAST-1/2 siRNA (m): sc-35363, FAST-1/2 shRNA Plasmid (m): sc-35363-SH and FAST-1/2 shRNA (m) Lentiviral Particles: sc-35363-V.

FAST-1/2 (H-7) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

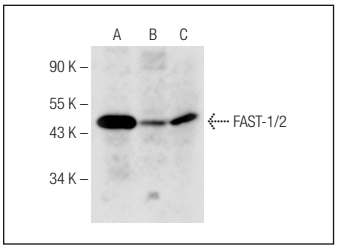
Molecular Weight of FAST-1/2: 50 kDa.

Positive Controls: KNRK whole cell lysate: sc-2214, 3611-RF whole cell lysate: sc-2215 or NIH/3T3 whole cell lysate: sc-2210.

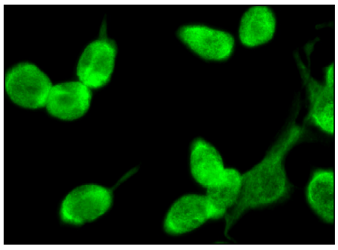
RECOMMENDED SUPPORT REAGENTS

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 L-Agarose: sc-2336 (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-1/2 (H-7): sc-376888. Western blot analysis of FAST-1/2 expression in NIH/3T3 (**A**), KNRK (**B**) and 3611-RF (**C**) whole cell lysates.



FAST-1/2 (H-7): sc-376888. Immunofluorescence staining of methanol-fixed NIH/3T3 cells showing nuclear localization.

STORAGE

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

RESEARCH USE

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

PROTOCOLS

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