SANTA CRUZ BIOTECHNOLOGY, INC.

ITF-2 (C-8): sc-393407

BACKGROUND

Immunoglobulin transcription factor 2 (ITF-2), also designated transcription factor and SL3-3 enhancer factor 2 (SEF-2) is a basic helix-turn-helix transcription factor. ITF-2 binds to the immunoglobulin enhancer Mu-E5/KE5-motif and to the Ephrussi-box (E-box) element present in SSTR2-INR and serves as an activator of transcription in muscle-specific genes. ITF-2 preferentially binds to either 5'-ACANNTGT-3' or 5'-CCANNTGG-3'. ITF-2 belongs to the class of simple bHLH transcription factors identified as ubiquitous E-box binding factors, which also includes the E2A gene products (E12 and E47) and HEB. The protein is expressed in adult heart, brain, placenta, skeletal muscle and embryonic brain. ITF-2 forms homo- or hetero-oligomers with myogenin and MyoD; alternatively spliced isoforms of ITF-2 function to activate or repress their transcription.

REFERENCES

1. Henthorn, P., et al. 1990. Sequence of the cDNA encoding ITF-2, a positive-acting transcription factor. Nucleic Acids Res. 18: 678.
2. Henthorn, P., et al. 1990. Two distinct transcription factors that bind the immunoglobulin enhancer microE5/κ 2 motif. Science 247: 467-470.
3. French, B.A., et al. 1991. Heterodimers of myogenic helix-loop-helix regulatory factors and E12 bind a complex element governing myogenic induction of the avian cardiac α-Actin promoter. Mol. Cell. Biol. 11: 2439-2450.

CHROMOSOMAL LOCATION

Genetic locus: TCF4 (human) mapping to 18q21.2; Tcf4 (mouse) mapping to 18 E2.

SOURCE

ITF-2 (C-8) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 251-278 within an internal region of ITF-2 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. Also available as TransCruz reagent for Gel Supershift and ChIP applications, sc-393407 X, 200 µg/0.1 ml.

ITF-2 (C-8) is available conjugated to agarose (sc-393407 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-393407 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-393407 PE), fluorescein (sc-393407 FITC), Alexa Fluor® 488 (sc-393407 AF488), Alexa Fluor® 546 (sc-393407 AF546), Alexa Fluor® 594 (sc-393407 AF594) or Alexa Fluor® 647 (sc-393407 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-393407 AF680) or Alexa Fluor® 790 (sc-393407 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-393407 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

ITF-2 (C-8) is recommended for detection of ITF-2 isoforms SEF2-1A and SEF2-1D 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).

Suitable for use as control antibody for ITF-2 siRNA (h): sc-61657, ITF-2 siRNA (m): sc-61658, ITF-2 shRNA Plasmid (h): sc-61657-SH, ITF-2 shRNA Plasmid (m): sc-61658-SH, ITF-2 shRNA (h) Lentiviral Particles: sc-61657-V and ITF-2 shRNA (m) Lentiviral Particles: sc-61658-V.

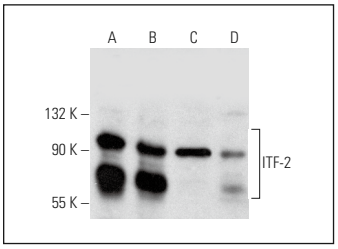
ITF-2 (C-8) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight (predicted) of ITF-2: 71 kDa.

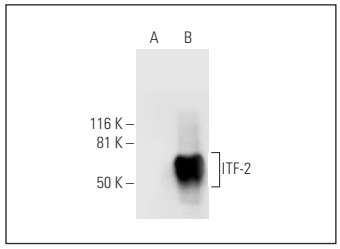
Molecular Weight (observed) of ITF-2: 85 kDa.

Positive Controls: ITF-2 (m): 293T Lysate: sc-121127, IMR-32 cell lysate: sc-2409 or SH-SY5Y cell lysate: sc-3812.

DATA



ITF-2 (C-8): sc-393407. Western blot analysis of ITF-2 expression in SH-SY5Y (**A**), IMR-32 (**B**), Hep G2 (**C**) and EOC 20 (**D**) whole cell lysates.



ITF-2 (C-8): sc-393407. Western blot analysis of ITF-2 expression in non-transfected: sc-117752 (**A**) and mouse ITF-2 transfected: sc-121127 (**B**) 293T whole cell lysates.

SELECT PRODUCT CITATIONS

1. Wittmann, M.T., et al. 2021. scRNA-sequencing uncovers a TCF4-dependent transcription factor network regulating commissure development. Development 148: dev196022.
2. Kim, H., et al. 2022. Rescue of behavioral and electrophysiological phenotypes in a Pitt-Hopkins syndrome mouse model by genetic restoration of Tcf4 expression. Elife 11: e72290.
3. Wu, J., et al. 2022. A p38α-BLIMP1 signalling pathway is essential for plasma cell differentiation. Nat. Commun. 13: 7321.

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.