

ITF-2 (367.2): sc-101095

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 SSTR2-1NR 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

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- Henthorn, P., et al. 1990. Two distinct transcription factors that bind the immunoglobulin enhancer microE5/ κ 2 motif. *Science* 247: 467-470.
- 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.
- Corneliusson, B., et al. 1991. Helix-loop-helix transcriptional activators bind to a sequence in glucocorticoid response elements of retrovirus enhancers. *J. Virol.* 65: 6084-6093.
- Skerjanc, I.S., et al. 1996. A splice variant of the ITF-2 transcript encodes a transcription factor that inhibits Myo D activity. *J. Biol. Chem.* 271: 3555-3561.
- Chen, B. and Lim, R.W. 1997. Physical and functional interactions between the transcriptional inhibitors Id3 and ITF-2 β . Evidence toward a novel mechanism regulating muscle-specific gene expression. *J. Biol. Chem.* 272: 2459-2463.
- Parrinello, S., et al. 2001. Id, ITF-2, and Id2 comprise a network of helix-loop-helix proteins that regulate mammary epithelial cell proliferation, differentiation, and apoptosis. *J. Biol. Chem.* 276: 39213-39219.

CHROMOSOMAL LOCATION

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

SOURCE

ITF-2 (367.2) is a mouse monoclonal antibody raised against recombinant ITF-2 of human origin.

PRODUCT

Each vial contains 100 μ g IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

ITF-2 (367.2) is recommended for detection of ITF-2 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)] 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.

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

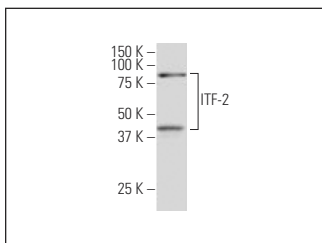
Molecular Weight (observed) of ITF-2: 85 kDa.

Positive Controls: A549 cell lysate: sc-2413 or human placenta extract: sc-363772.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ 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).

DATA



ITF-2 (367.2): sc-101095. Western blot analysis of ITF-2 expression in A549 whole cell lysate.

SELECT PRODUCT CITATIONS

- Shin, H.W., et al. 2014. ITF2 prevents activation of the β -catenin-TCF4 complex in colon cancer cells and levels decrease with tumor progression. *Gastroenterology* 147: 430-442.e8.
- Hennig, K.M., et al. 2017. WNT/ β -catenin pathway and epigenetic mechanisms regulate the Pitt-Hopkins syndrome and schizophrenia risk gene TCF4. *Mol. Neuropsychiatry* 3: 53-71.

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.