

IF2 (H-5): sc-365477

BACKGROUND

The initiation of protein synthesis in eukaryotic cells is regulated by interactions between protein initiation factors and RNA molecules. IF2, also known as MTIF2 (mitochondrial translational initiation factor 2), is a 727 amino acid protein that localizes to mitochondria and is expressed ubiquitously, with highest expression in skeletal muscle. Functioning as a monomer, IF2 exists as an essential component of protein synthesis, specifically promoting the GTP-dependent binding of initiator tRNA to the ribosome and possibly playing a role in the formation of the 70S ribosomal complex. The gene encoding IF2 maps to human chromosome 2, which houses over 1,400 genes and comprises nearly 8% of the human genome. Harlequin ichthyosis, a rare and morbid skin deformity, is associated with mutations in the ABCA12 gene, while the lipid metabolic disorder sitosterolemia is associated with defects in the ABCG5 and ABCG8 genes. Additionally, an extremely rare recessive genetic disorder, Alström syndrome, is caused by mutations in the ALMS1 gene, which maps to chromosome 2.

REFERENCES

1. Ma, L. and Spremulli, L.L. 1995. Cloning and sequence analysis of the human mitochondrial translational initiation factor 2 cDNA. *J. Biol. Chem.* 270: 1859-1865.
2. Bonner, D.S., et al. 1998. Assignment of the mitochondrial translational initiation factor 2 gene (MTIF2) to human chromosome 2 bands p16→p14 by *in situ* hybridization and with somatic cell hybrids. *Cytogenet. Cell Genet.* 83: 80-81.
3. Online Mendelian Inheritance in Man, OMIM[™]. 1999. Johns Hopkins University, Baltimore, MD. MIM Number: 603766. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>

CHROMOSOMAL LOCATION

Genetic locus: MTIF2 (human) mapping to 2p16.1; Mtif2 (human) mapping to 11 A3.3.

SOURCE

IF2 (H-5) is a mouse monoclonal antibody raised against amino acids 428-727 mapping at the C-terminus of IF2 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.

IF2 (H-5) is available conjugated to agarose (sc-365477 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-365477 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-365477 PE), fluorescein (sc-365477 FITC), Alexa Fluor[®] 488 (sc-365477 AF488), Alexa Fluor[®] 546 (sc-365477 AF546), Alexa Fluor[®] 594 (sc-365477 AF594) or Alexa Fluor[®] 647 (sc-365477 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-365477 AF680) or Alexa Fluor[®] 790 (sc-365477 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

IF2 (H-5) is recommended for detection of IF2 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 IF2 siRNA (h): sc-94300, IF2 siRNA (m): sc-146149, IF2 shRNA Plasmid (h): sc-94300-SH, IF2 shRNA Plasmid (m): sc-146149-SH, IF2 shRNA (h) Lentiviral Particles: sc-94300-V and IF2 shRNA (m) Lentiviral Particles: sc-146149-V.

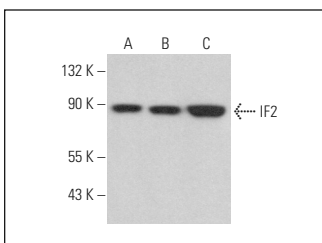
Molecular Weight of IF2: 81 kDa.

Positive Controls: IF2 (m): 293T Lysate: sc-125483, K-562 whole cell lysate: sc-2203 or SK-BR-3 cell lysate: sc-2218.

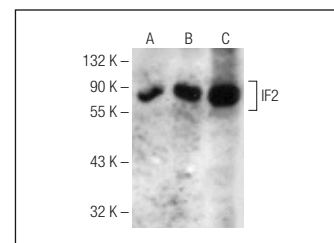
RECOMMENDED SUPPORT REAGENTS

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



IF2 (H-5): sc-365477. Western blot analysis of IF2 expression in SK-BR-3 (A), K-562 (B) and HEL 92.1.7 (C) whole cell lysates.



IF2 (H-5): sc-365477. Western blot analysis of IF2 expression in non-transfected 293T: sc-117752 (A), mouse IF2 transfected 293T: sc-125483 (B) and SK-BR-3 (C) whole cell lysates.

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.