

# ETFB (F-1): sc-514807

## BACKGROUND

ETFB (electron transfer flavoprotein subunit  $\beta$ ), also known as FP585, MADD or  $\beta$ -ETF, is a 255 amino acid protein that belongs to the ETF  $\beta$ -subunit/fixA family. Localizing to the mitochondrion matrix, ETFB is abundantly expressed in liver, heart and skeletal muscle, with weaker levels of expression found in brain, placenta, lung, kidney and pancreas. ETFB exists as a heterodimer of an  $\alpha$  and  $\beta$  subunit; this dimer utilizes FAD as a cofactor and binds one AMP per subunit. The gene encoding ETFB maps to human chromosome 19q13.41 and mouse chromosome 7 B4. Defects to this gene have been linked to glutaric aciduria type 2B (GA2B), an autosomal recessive disorder of fatty acid, amino acid and choline metabolism. ETFB acts as a shuttle for electrons, transferring them between primary flavoprotein dehydrogenases and the membrane-bound electron transfer flavoprotein ubiquinone oxidoreductase.

## REFERENCES

- Royal, V., et al. 1991. RsaI RFLP for electron transport flavoprotein- $\beta$  (ETFB). *Nucleic Acids Res.* 19: 4021.
- Finocchiaro, G., et al. 1993. cDNA cloning and mitochondrial import of the  $\beta$ -subunit of the human electron-transfer flavoprotein. *Eur. J. Biochem.* 213: 1003-1008.
- Antonacci, R., et al. 1994. Assignment of the gene encoding the  $\beta$ -subunit of the electron-transfer flavoprotein (ETFB) to human chromosome 19q13.3. *Genomics* 19: 177-179.
- Colombo, I., et al. 1994. Mutations and polymorphisms of the gene encoding the  $\beta$ -subunit of the electron transfer flavoprotein in three patients with glutaric acidemia type II. *Hum. Mol. Genet.* 3: 429-435.
- White, R.A., et al. 1996. Assignment of *Etfhd*, *Etfb*, and *Etf* to chromosomes 3, 7, and 13: the mouse homologs of genes responsible for glutaric acidemia type II in human. *Genomics* 33: 131-134.
- Roberts, D.L., et al. 1996. Three-dimensional structure of human electron transfer flavoprotein to 2.1-Å resolution. *Proc. Natl. Acad. Sci. USA* 93: 14355-14360.

## CHROMOSOMAL LOCATION

Genetic locus: ETFB (human) mapping to 19q13.41; *Etfb* (mouse) mapping to 7 B4.

## SOURCE

ETFB (F-1) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 180-201 within an internal region of ETFB of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG<sub>3</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-514807 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

## APPLICATIONS

ETFB (F-1) is recommended for detection of ETFB 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).

Suitable for use as control antibody for ETFB siRNA (h): sc-97745, ETFB siRNA (m): sc-144954, ETFB shRNA Plasmid (h): sc-97745-SH, ETFB shRNA Plasmid (m): sc-144954-SH, ETFB shRNA (h) Lentiviral Particles: sc-97745-V and ETFB shRNA (m) Lentiviral Particles: sc-144954-V.

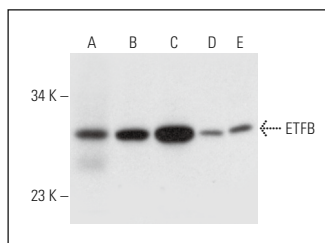
Molecular Weight of ETFB isoform 1/2: 28/37 kDa.

Positive Controls: human heart extract: sc-363763, human liver extract: sc-363766 or mouse skeletal muscle extract: sc-364250.

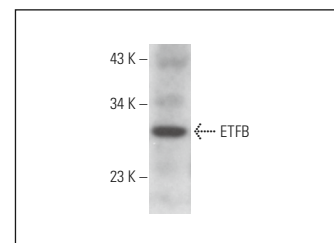
## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  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-IgG $\kappa$  BP-FITC: sc-516140 or m-IgG $\kappa$  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



ETFB (F-1): sc-514807. Western blot analysis of ETFB expression in mouse skeletal muscle (A), human liver (B) and human heart (C) tissue extracts and NCI-H460 (D) and Hep G2 (E) whole cell lysates.



ETFB (F-1): sc-514807. Western blot analysis of ETFB expression in rat liver tissue extract.

## 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](http://www.scbt.com) for detailed protocols and support products.