

ETFA (H-8): sc-365982

BACKGROUND

ETFA (electron-transfer-flavoprotein, α polypeptide), also known as EMA, GA2 or MADD, is a 333 amino acid protein that localizes to the mitochondrial matrix and belongs to the ETF α subunit/fixB family. Existing as a heterodimer with ETFB, ETFA uses FAD as a cofactor and serves as a specific electron acceptor for several dehydrogenases, effectively transferring electrons to the mitochondrial respiratory chain via ETF-ubiquinone oxidoreductase. Defects in the gene encoding ETFA are the cause of glutaric aciduria type IIA (GAIIA), a condition that is characterized by the excretion of lactic, ethylmalonic, butyric, isobutyric, 2-methyl-butyric, glutaric and isovaleric acids. The gene encoding ETFA maps to human chromosome 15, which houses over 700 genes and comprises nearly 3% of the human genome.

REFERENCES

1. Frerman, F.E. 1988. Acyl-CoA dehydrogenases, electron transfer flavoprotein and electron transfer flavoprotein dehydrogenase. *Biochem. Soc. Trans.* 16: 416-418.
2. Indo, Y., et al. 1991. Molecular characterization of variant α subunit of electron transfer flavoprotein in three patients with glutaric acidemia type II—and identification of glycine substitution for valine-157 in the sequence of the precursor, producing an unstable mature protein in a patient. *Am. J. Hum. Genet.* 49: 575-580.
3. Freneau, E., et al. 1992. Glutaric acidemia type II. Heterogeneity in β -oxidation flux, polypeptide synthesis, and complementary DNA mutations in the α subunit of electron transfer flavoprotein in eight patients. *J. Clin. Invest.* 90: 1679-1686.
4. Bross, P., et al. 1999. A polymorphic variant in the human electron transfer flavoprotein α -chain (α -T171) displays decreased thermal stability and is overrepresented in very-long-chain acyl-CoA dehydrogenase-deficient patients with mild childhood presentation. *Mol. Genet. Metab.* 67: 138-147.
5. Jones, M., et al. 2002. Electron transfer and conformational change in complexes of trimethylamine dehydrogenase and electron transferring flavoprotein. *J. Biol. Chem.* 277: 8457-8465.

CHROMOSOMAL LOCATION

Genetic locus: ETFA (human) mapping to 15q24.2; Etfa (mouse) mapping to 9 B.

SOURCE

ETFA (H-8) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 270-301 within an internal region of EFTA of human origin.

PRODUCT

Each vial contains 200 μ g IgM 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-365982 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

ETFA (H-8) is recommended for detection of EFTA of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

ETFA (H-8) is also recommended for detection of EFTA in additional species, including canine, bovine, porcine and avian.

Suitable for use as control antibody for ETFA siRNA (h): sc-62259, ETFA siRNA (m): sc-62260, ETFA shRNA Plasmid (h): sc-62259-SH, ETFA shRNA Plasmid (m): sc-62260-SH, ETFA shRNA (h) Lentiviral Particles: sc-62259-V and ETFA shRNA (m) Lentiviral Particles: sc-62260-V.

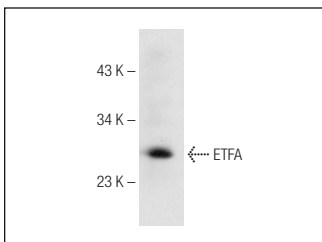
Molecular Weight of ETFA monomer: 30 kDa.

Positive Controls: K-562 whole cell lysate: sc-2203 or A549 cell lysate: sc-2413.

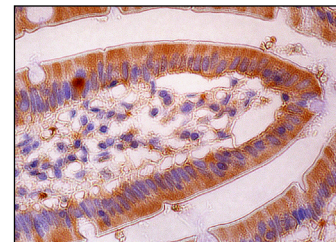
RECOMMENDED SUPPORT REAGENTS

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 L-Agarose: sc-2336 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz[®] Mounting Medium: sc-24941 or UltraCruz[®] Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgG κ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohisto-mount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



ETFA (H-8): sc-365982. Western blot analysis of ETFA expression in A549 whole cell lysate.



ETFA (H-8): sc-365982. Immunoperoxidase staining of formalin fixed, paraffin-embedded human small intestine tissue showing cytoplasmic staining of glandular cells.

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.