

ETFA (E-18): sc-66220

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-butyrac, 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

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3. Freneaux, E., Sheffield, V.C., Molin, L., Shires, A. and Rhead, W.J. 1992. Glutaric acidemia type II. Heterogeneity in β -oxidation flux, polypeptide synthesis, and complementary DNA mutations in the alpha subunit of electron transfer flavoprotein in eight patients. *J. Clin. Invest.* 90: 1679-1686.
4. Bross, P., Pedersen, P., Winter, V., Nyholm, M., Johansen, B.N., Olsen, R.K., Corydon, M.J., Andresen, B.S., Eiberg, H., Kolvraa, S. and Gregersen, N. 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.

CHROMOSOMAL LOCATION

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

SOURCE

ETFA (E-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of EFTA of human origin.

PRODUCT

Each vial contains 200 μ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-66220 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

RESEARCH USE

For research use only, not for use in diagnostic procedures.

APPLICATIONS

ETFA (E-18) is recommended for detection of EFTA of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

ETFA (E-18) is also recommended for detection of EFTA in additional species, including equine, canine, bovine and porcine.

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.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.