

## ETF A (C-17): sc-66219

### BACKGROUND

ETF A (electron-transfer-flavoprotein,  $\alpha$  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  $\alpha$  subunit/fixB family. Existing as a heterodimer with ETFB, ETF A 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 ETF A 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 ETF A 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., Glassberg, R., Yokota, I. and Tanaka, K. 1991. Molecular characterization of variant  $\alpha$  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. Frenaux, E., Sheffield, V.C., Molin, L., Shires, A. and Rhead, W.J. 1992. Glutaric acidemia type II. Heterogeneity in  $\beta$ -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  $\alpha$ -chain ( $\alpha$ -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: ETF A (human) mapping to 15q24.2; Etf a (mouse) mapping to 9 B.

### SOURCE

ETF A (C-17) 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  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-66219 P, (100  $\mu$ 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

ETF A (C-17) 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), 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).

ETF A (C-17) is also recommended for detection of EFTA in additional species, including equine, canine, bovine, porcine and avian.

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

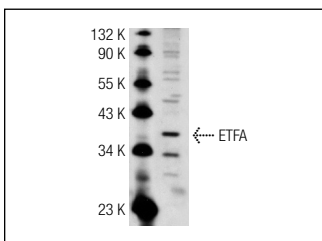
Molecular Weight of ETF A monomer: 30 kDa.

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

### 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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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.

### DATA



ETF A (C-17): sc-66219. Western blot analysis of ETF A expression in K-562 whole cell lysate.

### STORAGE

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

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Try **ETF A (H-8): sc-365982**, our highly recommended monoclonal alternative to ETF A (C-17).