SANTA CRUZ BIOTECHNOLOGY, INC.

EF-Tu (P-18): sc-12991

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Two elongation factors, EF-Tu and EF-2, participate in the elongation phase during protein biosynthesis on the ribosome, and their functional cycles depend on GTP binding and hydrolysis. EF-Tu (also designated mitochondrial precursor p43) and EF-2 are multidomain GTPases with essential functions in translation, and they both bind to the same site on the ribosome, where their low intrinsic GTPase activities are strongly stimulated. EF-Tu plays a central role in the fast and accurate delivery of aminoacyl-tRNAs to the translating ribosome. In addition, EF-Tu protects the aminoester bond against hydrolysis until a correct match between the codon on mRNA and the anticodon on tRNA can be achieved. EF-2 supports the translocation of tRNAs and of mRNAs on the ribosome so that a new codon can be exposed for decoding.

CHROMOSOMAL LOCATION

Genetic locus: TUFM (human) mapping to 16p11.2; Tufm (mouse) mapping to 7 F3.

SOURCE

EF-Tu (P-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of EF-Tu (elongation factor Tu) of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-12991 P, (100 µg 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

EF-Tu (P-18) is recommended for detection of EF-Tu of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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), 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).

EF-Tu (P-18) is also recommended for detection of EF-Tu in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for EF-Tu siRNA (h): sc-105322, EF-Tu siRNA (m): sc-35266, EF-Tu shRNA Plasmid (h): sc-105322-SH, EF-Tu shRNA Plasmid (m): sc-35266-SH, EF-Tu shRNA (h) Lentiviral Particles: sc-105322-V and EF-Tu shRNA (m) Lentiviral Particles: sc-35266-V.

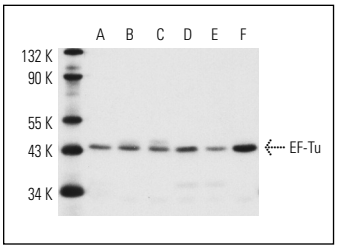
Molecular Weight of EF-Tu: 50 kDa.

Positive Controls: A549 cell lysate: sc-2413, Jurkat whole cell lysate: sc-2204 or Hep G2 cell lysate: sc-2227.

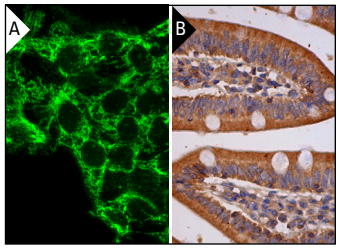
RECOMMENDED SECONDARY REAGENTS

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. 4) Immunohistochemistry: use ImmunoCruz™: sc-2053 or ABC: sc-2023 goat IgG Staining Systems.

DATA



EF-Tu (P-18): sc-12991. Western blot analysis of EF-Tu expression in HeLa (**A**), Jurkat (**B**), MOLT-4 (**C**), A549 (**D**), JAR (**E**) and Hep G2 (**F**) whole cell lysates.



EF-Tu (P-18): sc-12991. Immunofluorescence staining of formalin-fixed Hep G2 cells showing mitochondrial localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human small intestine tissue showing cytoplasmic staining of glandular cells (**B**).

SELECT PRODUCT CITATIONS

1. Pecorari, L., et al. 2009. Elongation factor 1 α interacts with phospho-Akt in breast cancer cells and regulates their proliferation, survival and motility. Mol. Cancer 8: 58.
2. Shi, H., et al. 2011. Proteomic analysis of advanced colorectal cancer by laser capture microdissection and two-dimensional difference gel electrophoresis. J. Proteomics 75: 339-351.
3. Dai, D.F., et al. 2012. Mitochondrial proteome remodelling in pressure overload-induced heart failure: the role of mitochondrial oxidative stress. Cardiovasc. Res. 93: 79-88.
4. Shi, H., et al. 2012. TUFM is a potential new prognostic indicator for colorectal carcinoma. Pathology 44: 506-512.

STORAGE

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