

EF-Tu (A-16): sc-12990

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.

REFERENCES

1. Nyborg, J. 1998. Possible evolution of factors involved in protein biosynthesis. *Acta Biochim. Pol.* 45: 883-894.
2. Agrawal, R.K., et al. 1998. Visualization of elongation factor G on the *Escherichia coli* 70S ribosome: the mechanism of translocation. *Proc. Natl. Acad. Sci. USA* 95: 6134-6138.
3. Kraal, B., et al. 1999. Translational regulation by modifications of the elongation factor Tu. *Folia Microbiol.* 44: 131-141.
4. Martemyanov, K.A. and Gudkov, A.T. 2000. Domain III of elongation factor G from *T. thermophilus* is essential for induction of GTP hydrolysis on the ribosome. *J. Biol. Chem.* 275: 35820-35824.
5. Rodnina, M.V., et al. 2000. GTPases mechanisms and functions of translation factors on the ribosome. *Biol. Chem.* 381: 377-387.

CHROMOSOMAL LOCATION

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

SOURCE

EF-Tu (A-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of EF-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-12990 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

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.

APPLICATIONS

EF-Tu (A-16) is recommended for detection of mitochondrial EF-Tu of mouse, rat, human and zebrafish 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), 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).

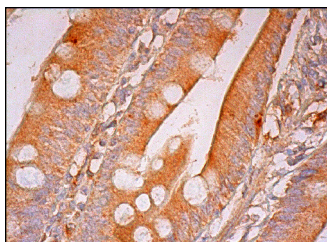
EF-Tu (A-16) is also recommended for detection of mitochondrial EF-Tu in additional species, including equine, canine, bovine and porcine.

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: HeLa whole cell lysate: sc-2200, HL-60 whole cell lysate: sc-2209 or Jurkat whole cell lysate: sc-2204.

DATA



EF-Tu (A-16) : sc-12990. Immunoperoxidase staining of formalin fixed, paraffin-embedded human small intestine tissue showing cytoplasmic staining of glandular cells.

RESEARCH USE

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

MONOS
Satisfaction
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Try **EF-Tu (A-5): sc-393924**, our highly recommended monoclonal alternative to EF-Tu (A-16).