SANTA CRUZ BIOTECHNOLOGY, INC.

EF-2 (C-14): sc-13004

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Two elongation factors (EF) 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 its 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: EEF2 (human) mapping to 19q13.3; Eef2 (mouse) mapping to 10 C1.

SOURCE

EF-2 (C-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of EF-2 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-13004 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

EF-2 (C-14) is recommended for detection of EF-2 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-2 (C-14) is also recommended for detection of EF-2 in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for EF-2 siRNA (h): sc-43541, EF-2 siRNA (m): sc-43542, EF-2 shRNA Plasmid (h): sc-43541-SH, EF-2 shRNA Plasmid (m): sc-43542-SH, EF-2 shRNA (h) Lentiviral Particles: sc-43541-V and EF-2 shRNA (m) Lentiviral Particles: sc-43542-V.

Molecular Weight of EF-2: 93 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, HL-60 whole cell lysate: sc-2209 or NIH/3T3 whole cell lysate: sc-2210.

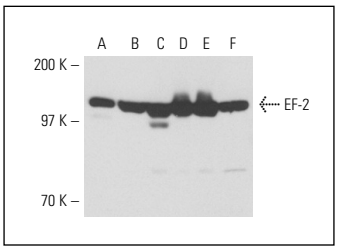
STORAGE

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

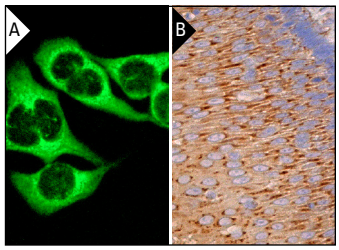
RESEARCH USE

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

DATA



EF-2 (C-14): sc-13004. Western blot analysis of EF-2 expression in HeLa (**A**), HL-60 (**B**), NIH/3T3 (**C**), PC-12 (**D**) and BC3H1 (**E**) whole cell lysates and rat liver tissue extract (**F**).



EF-2 (C-14): sc-13004. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic staining (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human esophagus tissue showing cytoplasmic staining of squamous epithelial cells (**B**).

SELECT PRODUCT CITATIONS

1. Liu, S., et al. 2003. Retroviral insertional mutagenesis identifies a small protein required for synthesis of diphthamide, the target of bacterial ADP-ribosylating toxins. Mol. Cell 12: 603-613.
2. Liu, S. 2004. Identification of the proteins required for biosynthesis of diphthamide, the target of bacterial ADP-ribosylating toxins on translation elongation factor 2. Mol. Cell. Biol. 24: 9487-9497.
3. Elo, M.A., et al. 2005. High hydrostatic pressure inhibits the biosynthesis of eukaryotic elongation factor-2. J. Cell. Biochem. 94: 497-507.
4. Nobukuni, Y., et al. 2005. Gene trap mutagenesis-based forward genetic approach reveals that the tumor suppressor OVCA1 is a component of the biosynthetic pathway of diphthamide on elongation factor 2. J. Biol. Chem. 280: 10572-10577.
5. Liu, S., et al. 2006. DPH3, a small protein required for diphthamide biosynthesis, is essential in mouse development. Mol. Cell. Biol. 26: 3835-3841.
6. Piltti, J., et al. 2008. Proteomics of chondrocytes with special reference to phosphorylation changes of proteins in stretched human chondrosarcoma cells. Biorheology 45: 323-335.
7. Menon, M.B., et al. 2013. Endoplasmic reticulum-associated ubiquitin-conjugating enzyme Ube2j1 is a novel substrate of MK2 (MAPKAP kinase-2) involved in MK2-mediated TNFα production. Biochem. J. 456: 163-172.
8. Menon, M.B., et al. 2014. Genetic deletion of SEPT7 reveals a cell type-specific role of septins in microtubule destabilization for the completion of cytokinesis. PLoS Genet. 10: e1004558.