SANTA CRUZ BIOTECHNOLOGY, INC.

EF-Tu (A-5): sc-393924

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 (A-5) is a mouse monoclonal antibody raised against amino acids 171-455 mapping at the C-terminus of EF-Tu of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

EF-Tu (A-5) is available conjugated to agarose (sc-393924 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-393924 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-393924 PE), fluorescein (sc-393924 FITC), Alexa Fluor® 488 (sc-393924 AF488), Alexa Fluor® 546 (sc-393924 AF546), Alexa Fluor® 594 (sc-393924 AF594) or Alexa Fluor® 647 (sc-393924 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-393924 AF680) or Alexa Fluor® 790 (sc-393924 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

EF-Tu (A-5) is recommended for detection of EF-Tu of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

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.

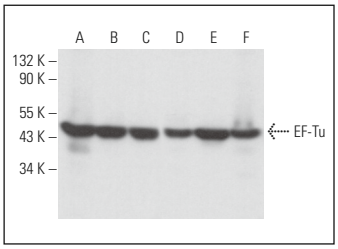
Molecular Weight of EF-Tu: 50 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227, A-10 cell lysate: sc-3806 or A549 cell lysate: sc-2413.

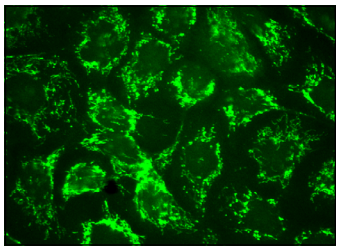
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 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 m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



EF-Tu (A-5): sc-393924. Western blot analysis of EF-Tu expression in Hep G2 (**A**), JAR (**B**), A549 (**C**), SP2/0 (**D**), A-10 (**E**) and KNRK (**F**) whole cell lysates.



EF-Tu (A-5): sc-393924. Immunofluorescence staining of formalin-fixed A-431 cells showing mitochondrial localization.

SELECT PRODUCT CITATIONS

1. Niu, Z., et al. 2017. Caspase-1 cleaves PPARγ for potentiating the pro-tumor action of TAMs. Nat. Commun. 8: 766.
2. Lin, M.W., et al. 2019. Celastrol inhibits dopaminergic neuronal death of Parkinson's disease through activating mitophagy. Antioxidants 9: 37.
3. Lin, J., et al. 2020. Paradoxical mitophagy regulation by PINK1 and TUFm. Mol. Cell 80: 607-620.e12.
4. Stecher, C., et al. 2021. Protein phosphatase 1 regulates human cytomegalovirus protein translation by restraining AMPK signaling. Front. Microbiol. 12: 698603.
5. Hollinger, J., et al. 2023. Expression and purification of the mitochondrial transmembrane protein FAM210A in *Escherichia coli*. Protein Expr. Purif. 210: 106322.
6. Vo, M.T., et al. 2023. The mitophagy receptor NIX induces vIRF-1 oligomerization and interaction with GABARAPL1 for the promotion of HHV-8 reactivation-induced mitophagy. PLoS Pathog. 19: e1011548.

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.