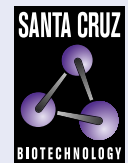


EF-G2 (E-10): sc-514242



The Power to Question

BACKGROUND

Mitochondrial translation is critical for maintaining function and preventing impairment of mitochondrial DNA, with mitochondrial translation elongation factors playing an essential role in this process. EF-G2 (elongation factor G2), also known as RRF2mt (ribosome-releasing factor 2, mitochondrial), GFM2 or MSTP027, is a 779 amino acid protein belonging to the GTP-binding elongation factor family and EF-G/EF-2 subfamily. Localizing to mitochondrion, EF-G2 is widely expressed with high levels found in adult heart, skeletal muscle and kidney as well as adult and fetal liver. EF-G2 mediates ribosome recycling and by interacting directly with MRRF on the ribosome large subunit, is required for ribosome dissociation from mRNA. Existing as five alternatively spliced isoforms, the gene encoding EF-G2 maps to human chromosome 5q13.3.

REFERENCES

1. Hammarsund, M., et al. 2001. Identification and characterization of two novel human mitochondrial elongation factor genes, hEFG2 and hEFG1, phylogenetically conserved through evolution. *Hum. Genet.* 109: 542-550.
2. Antonicka, H., et al. 2006. The molecular basis for tissue specificity of the oxidative phosphorylation deficiencies in patients with mutations in the mitochondrial translation factor EFG1. *Hum. Mol. Genet.* 15: 1835-1846.
3. Li, J., et al. 2007. Separation and identification of the exosomes derived from a mouse hepatoma carcinoma cell line (H22) and initial investigation of their protein composition. *Zhonghua Gan Zang Bing Za Zhi* 15: 437-440.
4. Sasarman, F., et al. 2008. The A3243G tRNA^{Leu}(UUR) MELAS mutation causes amino acid misincorporation and a combined respiratory chain assembly defect partially suppressed by overexpression of EFTu and EFG2. *Hum. Mol. Genet.* 17: 3697-3707.
5. Christian, B., et al. 2009. Ribosome shifting or splitting: it is all up to the EF-G. *Mol. Cell* 35: 400-402.

CHROMOSOMAL LOCATION

Genetic locus: GFM2 (human) mapping to 5q13.3; Gfm2 (mouse) mapping to 13 D1.

SOURCE

EF-G2 (E-10) is a mouse monoclonal antibody raised against amino acids 161-219 mapping within an internal region of EF-G2 of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

EF-G2 (E-10) is available conjugated to agarose (sc-514242 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-514242 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-514242 PE), fluorescein (sc-514242 FITC), Alexa Fluor® 488 (sc-514242 AF488), Alexa Fluor® 546 (sc-514242 AF546), Alexa Fluor® 594 (sc-514242 AF594) or Alexa Fluor® 647 (sc-514242 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-514242 AF680) or Alexa Fluor® 790 (sc-514242 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

EF-G2 (E-10) is recommended for detection of EF-G2 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-G2 siRNA (h): sc-91850, EF-G2 siRNA (m): sc-143308, EF-G2 shRNA Plasmid (h): sc-91850-SH, EF-G2 shRNA Plasmid (m): sc-143308-SH, EF-G2 shRNA (h) Lentiviral Particles: sc-91850-V and EF-G2 shRNA (m) Lentiviral Particles: sc-143308-V.

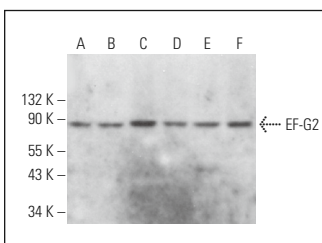
Molecular Weight of EF-G2 isoforms 1-5: 87/81/86/67/57 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, MCF7 whole cell lysate: sc-2206 or RAW 264.7 whole cell lysate: sc-2211.

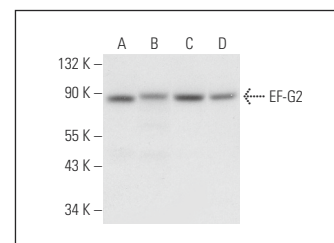
RECOMMENDED SUPPORT REAGENTS

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-G2 (E-10): sc-514242. Western blot analysis of EF-G2 expression in MCF7 (A), Raji (B), NAMALWA (C), BJAB (D), WEHI-231 (E) and Neuro-2A (F) whole cell lysates.



EF-G2 (E-10): sc-514242. Western blot analysis of EF-G2 expression in RAW 264.7 (A), Hep G2 (B), HeLa (C) and MCF7 (D) whole cell lysates.

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.

Alexa Fluor® is a trademark of Molecular Probes, Inc., Oregon, USA