SANTA CRUZ BIOTECHNOLOGY, INC.

EF-1 α1/2 (G-8): sc-377439

BACKGROUND

The elongation factor-1 complex is composed of two subunits, EF-1 α1 (elongation factor 1-α 1) and EF-1 α2 (elongation factor 1-α 2), and is responsible for the delivery of aminoacyl tRNAs to the ribosome. EF-1 α1 is expressed predominately in brain, placenta, lung, liver, kidney and pancreas, while EF-1 α2 is highly expressed in heart, brain and skeletal muscle. Both EF-1 α1 and α2 localize to the nucleus and belong to the GTP-binding elongation factor family. The gene encoding EF-1 α2, which maps to human chromosome 20q13.33, may play a role in the development of ovarian cancer, while the EF-1 α1 gene, mapping to chromosome 6q13, is commonly present as an autoantigen in patients with Felty syndrome. Felty syndrome is a disorder characterized by rheumatoid arthritis, a swollen spleen, decreased white blood cell count, and increased susceptibility to infection.

CHROMOSOMAL LOCATION

Genetic locus: EEF1A1 (human) mapping to 6q13, EEF1A2 (human) mapping to 20q13.33; Eef1a1 (mouse) mapping to 9 E1, Eef1a2 (mouse) mapping to 2 H4.

SOURCE

EF-1 α1/2 (G-8) is a mouse monoclonal antibody raised against amino acids 163-462 mapping at the C-terminus of EF-1 α1 of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

EF-1 α1/2 (G-8) is available conjugated to agarose (sc-377439 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-377439 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-377439 PE), fluorescein (sc-377439 FITC), Alexa Fluor® 488 (sc-377439 AF488), Alexa Fluor® 546 (sc-377439 AF546), Alexa Fluor® 594 (sc-377439 AF594) or Alexa Fluor® 647 (sc-377439 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-377439 AF680) or Alexa Fluor® 790 (sc-377439 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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

APPLICATIONS

EF-1 α1/2 (G-8) is recommended for detection of EF-1 α1 and EF-1 α2 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), 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-1 α1/2 (G-8) is also recommended for detection of EF-1 α1 and EF-1 α2 in additional species, including equine, canine, bovine, porcine and avian.

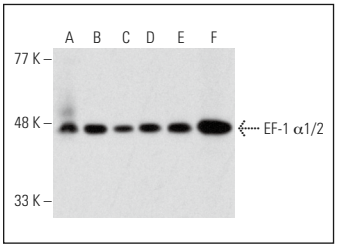
Molecular Weight of EF-1 α1/2: 50 kDa.

Positive Controls: HL-60 whole cell lysate: sc-2209, A549 cell lysate: sc-2413 or U-87 MG cell lysate: sc-2411.

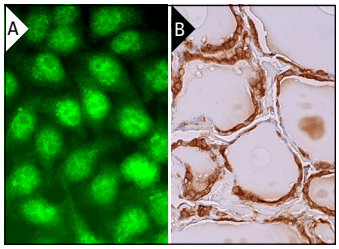
RECOMMENDED SUPPORT REAGENTS

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. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



EF-1 α1/2 (G-8): sc-377439. Western blot analysis of EF-1 α1/2 expression in HL-60 (**A**), U-87 MG (**B**), MOLT-4 (**C**), A549 (**D**) and HeLa (**E**) whole cell lysates and IMR-32 nuclear extract (**F**). Detection reagent used: m-IgGκ BP-HRP: sc-516102.



EF-1 α1/2 (G-8): sc-377439. Immunofluorescence staining of formalin-fixed HeLa cells showing cytoplasmic and nuclear localization (**A**). Immunoperoxidase stain-ing of formalin fixed, paraffin-embedded human thyroid gland tissue showing cytoplasmic staining of glandular cells (**B**).

SELECT PRODUCT CITATIONS

1. Liu, Y., et al. 2019. Mitochondrial carrier protein overloading and misfolding induce aggresomes and proteostatic adaptations in the cytosol. Mol. Biol. Cell 30: 1272-1284.
2. Dai, W., et al. 2021. Far upstream binding protein 1 (FUBP1) participates in translational regulation of Nrf2 protein under oxidative stress. Redox Biol. 41: 101906.
3. Tan, Y., et al. 2021. Tumor suppressor DRD2 facilitates M1 macrophages and restricts NFκB signaling to trigger pyroptosis in breast cancer. Theranostics 11: 5214-5231.

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.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.