SANTA CRUZ BIOTECHNOLOGY, INC.

eRF3a/b (B-8): sc-515615

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

eRF3a (eukaryotic peptide chain release factor subunit 3a), also known as GSPT1 (G_1 to S phase transition 1), is a 499 amino acid protein that belongs to the GTP-binding elongation factor family and is involved in the regulation of cell growth, specifically via control of translation termination. Human eRF3a shares 94% sequence identity with its mouse counterpart, suggesting a conserved function between species. eRF3b, also known as GSPT2, is a 632 amino acid cytoplasmic protein belonging to the GTP-binding elongation factor family. Highly expressed in brain, eRF3b is involved in translation termination in response to the termination codons UAA, UAG and UGA. As a potent stimulator, eRF3b may play a role in the release factor activity of eRF1. eRF3b exhibits GTPase activity, which is ribosome- and eRF1-dependent, and may participate in cell cycle progression. eRF3b is moderately expressed in spleen and lung with weak expression in heart, liver and kidney. eRF3b contains three GTP binding sites and is a component of the mRNA surveillance SURF complex.

CHROMOSOMAL LOCATION

Genetic locus: GSPT1 (human) mapping to 16p13.13, GSPT2 (human) mapping to Xp11.22; Gspt1 (mouse) mapping to 16 A1, Gspt2 (mouse) mapping to X C3.

SOURCE

eRF3a/b (B-8) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 120-137 within an internal region of eRF3a of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin. Also available as TransCruz reagent for Gel Supershift and ChIP applications, sc-515615 X, 200 µg/0.1 ml.

eRF3a/b (B-8) is available conjugated to agarose (sc-515615 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-515615 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-515615 PE), fluorescein (sc-515615 FITC), Alexa Fluor® 488 (sc-515615 AF488), Alexa Fluor® 546 (sc-515615 AF546), Alexa Fluor® 594 (sc-515615 AF594) or Alexa Fluor® 647 (sc-515615 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-515615 AF680) or Alexa Fluor® 790 (sc-515615 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-515615 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

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 for detailed protocols and support products.

APPLICATIONS

eRF3a/b (B-8) is recommended for detection of eRF3a and eRF3b 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).

eRF3a/b (B-8) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

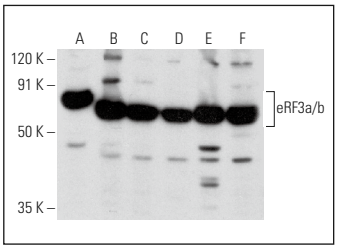
Molecular Weight of eRF3a/b: 84 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, Hep G2 cell lysate: sc-2227 or HEL 92.1.7 cell lysate: sc-2270.

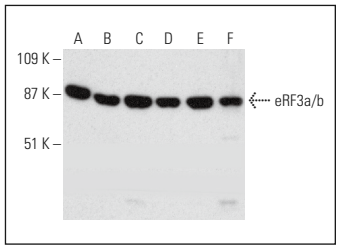
RECOMMENDED SUPPORT REAGENTS

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



eRF3a/b (B-8): sc-515615. Western blot analysis of eRF3a/b expression in HeLa (**A**), Hep G2 (**B**), U-251-MG (**C**), RT-4 (**D**), CCRF-CEM (**E**) and HEL 92.1.7 (**F**) whole cell lysates.



eRF3a/b (B-8): sc-515615. Western blot analysis of eRF3a/b expression in AMJ2-C8 (**A**), c4 (**B**), M1 (**C**), RPE-J (**D**) and LADMAC (**E**) whole cell lysates and rat liver tissue extract (**F**).

SELECT PRODUCT CITATIONS

1. Kansy, A.G., et al. 2024. Pharmacological degradation of ATR induces antiproliferative DNA replication stress in leukemic cells. Mol. Oncol. 18: 1958-1965.
2. Alfayomy, A.M., et al. 2024. Design, synthesis, and biological characterization of proteolysis targeting chimera (PROTACs) for the ataxia telangiectasia and RAD3-related (ATR) kinase. Eur. J. Med. Chem. 267: 116167.

RESEARCH USE

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