SANTA CRUZ BIOTECHNOLOGY, INC.

eRF3a (S-13): sc-109537

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. The gene encoding eRF3a maps to human chromosome 16, which encodes over 900 genes and comprises nearly 3% of the human genome. The GAN gene is located on chromosome 16 and, with mutation, may lead to giant axonal neuropathy, a nervous system disorder characterized by increasing malfunction with growth. The rare disorder Rubinstein-Taybi syndrome is also associated with chromosome 16, as is Crohn's disease, which is a gastrointestinal inflammatory condition.

REFERENCES

1. Kikuchi, Y., et al. 1988. A yeast gene required for the G_1-to-S transition encodes a protein containing an A-kinase target site and GTPase domain. EMBO J. 7: 1175-1182.
2. Hoshino, S., et al. 1989. A human homologue of the yeast GST1 gene codes for a GTP-binding protein and is expressed in a proliferation-dependent manner in mammalian cells. EMBO J. 8: 3807-3814.
3. Ozawa, K., et al. 1992. Mapping of the human GSPT1 gene, a human homolog of the yeast GST1 gene, to chromosomal band 16p13.1. Somat. Cell Mol. Genet. 18: 189-194.
4. Hoshino, S., et al. 1998. Molecular cloning of a novel member of the eukaryotic polypeptide chain-releasing factors (eRF). Its identification as eRF3 interacting with eRF1. J. Biol. Chem. 273: 22254-22259.
5. Tompkins, V., et al. 2006. Identification of novel ARF binding proteins by two-hybrid screening. Cell Cycle 5: 641-646.

CHROMOSOMAL LOCATION

Genetic location: 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 (S-13) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of eRF3a 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. Also available as TransCruz reagent for Gel Supershift and ChIP applications, sc-109537 X, 200 µg/0.1 ml.

Blocking peptide available for competition studies, sc-109537 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

eRF3a (S-13) is recommended for detection of eRF3a and eRF3b 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

eRF3a (S-13) is also recommended for detection of eRF3a and eRF3b in additional species, including equine, canine, bovine, porcine and avian.

eRF3a (S-13) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

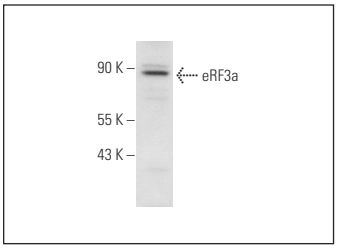
Molecular Weight of eRF3a: 84 kDa.

Positive Controls: U-251-MG whole cell lysate: sc-364176.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 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 donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



eRF3a (S-13): sc-109537. Western blot analysis of eRF3a expression in U-251-MG whole cell lysate.

RESEARCH USE

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