

# GUF1 (S-13): sc-138335

## BACKGROUND

GUF1 (GUF1 GTPase), also known as EF-4 (elongation factor 4 homolog), translation factor GUF1 (mitochondrial), ribosomal back-translocase or GTPase of unknown function 1, is a 669 amino acid protein belonging to the GTP-binding elongation factor family and the LepA subfamily. Localizing to the mitochondrion inner membrane, GUF1 is thought to promote mitochondrial protein synthesis and binds to mitochondrial ribosomes in a GTP-dependent manner. GUF1 is suggested to catalyze a one-codon backward translocation of tRNAs on improperly translocated ribosomes, thereby acting as a fidelity factor of the translation reaction. GUF1 is encoded by a gene located on human chromosome 4, which encodes nearly 6% of the human genome and has the largest gene desert (regions of the genome with no protein encoding genes) of all of the human chromosomes. Defects in some of the genes located on chromosome 4 are associated with Huntington's disease, Ellis-van Creveld syndrome, methylmalonic acidemia and polycystic kidney disease.

## REFERENCES

1. Kiser, G.L., et al. 1995. GUF1, a gene encoding a novel evolutionarily conserved GTPase in budding yeast. *Yeast* 11: 1311-1316.
2. Yamanaka, R., et al. 2006. Identification of expressed genes characterizing long-term survival in malignant glioma patients. *Oncogene* 25: 5994-6002.
3. Hillier, L.W., et al. 2005. Generation and annotation of the DNA sequences of human chromosomes 2 and 4. *Nature* 434: 724-731.
4. Stack, E.C., et al. 2007. Neuroprotective effects of synaptic modulation in Huntington's disease R6/2 mice. *J. Neurosci.* 27: 12908-12915.
5. Versteegh, F.G., et al. 2007. EvC Working Party. Growth hormone analysis and treatment in Ellis-van Creveld syndrome. *Am. J. Med. Genet. A* 143: 2113-2121.

## CHROMOSOMAL LOCATION

Genetic locus: GUF1 (human) mapping to 4p12; Guf1 (mouse) mapping to 5 C3.1.

## SOURCE

GUF1 (S-13) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping near the C-terminus of GUF1 of human origin.

## PRODUCT

Each vial contains 100 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-138335 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.

## RESEARCH USE

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

## APPLICATIONS

GUF1 (S-13) is recommended for detection of GUF1 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:50-1:500), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:25, dilution range 1:25-1:250) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

GUF1 (S-13) is also recommended for detection of GUF1 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for GUF1 siRNA (h): sc-89135, GUF1 siRNA (m): sc-145840, GUF1 shRNA Plasmid (h): sc-89135-SH, GUF1 shRNA Plasmid (m): sc-145840-SH, GUF1 shRNA (h) Lentiviral Particles: sc-89135-V and GUF1 shRNA (m) Lentiviral Particles: sc-145840-V.

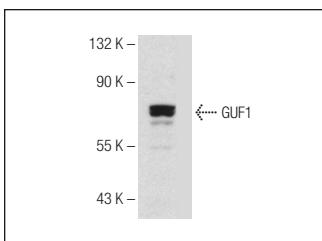
Molecular Weight of GUF1: 74 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## DATA



GUF1 (S-13): sc-138335. Western blot analysis of GUF1 expression in HeLa whole cell lysate.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.



Try **GUF1 (B-7): sc-514604**, our highly recommended monoclonal alternative to GUF1 (S-13).