SANTA CRUZ BIOTECHNOLOGY, INC.

CTU2 (E-12): sc-164891

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

CTU2 (cytosolic thiouridylase subunit 2), also known as NCS2 or UPF0432, is a 515 amino acid cytoplasmic protein that plays a role in the 2-thiolation of mcm(5)S(2)U at wobble positions of tRNA. CTU2 forms a complex with CTU1 and Urm1, and may also form a separate heterodimer with CTU1 to ligate sulfur from thiocarboxylated Urm1 onto tRNA. Existing as three alternatively spliced isoforms, the gene encoding CTU2 maps to human chromosome 16q24.3. Chromosome 16 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. Baraitser, M., et al. 1983. The Rubinstein-Taybi syndrome: occurrence in two sets of identical twins. Clin. Genet. 23: 318-320.
2. Breuning, M.H., et al. 1993. Rubinstein-Taybi syndrome caused by submicroscopic deletions within 16p13.3. Am. J. Hum. Genet. 52: 249-254.
3. Bomont, P., et al. 2000. The gene encoding gigaxonin, a new member of the cytoskeletal BTB/kelch repeat family, is mutated in giant axonal neuropathy. Nat. Genet. 26: 370-374.
4. Cho, J.H. 2004. Advances in the genetics of inflammatory bowel disease. Curr. Gastroenterol. Rep. 6: 467-473.
5. Mathew, C.G., et al. 2004. Genetics of inflammatory bowel disease: progress and prospects. Hum. Mol. Genet. 13 Spec. No. 1: R161-R168.
6. Pedrioli, P.G., et al. 2008. Urm1 at the crossroad of modifications. 'Protein Modifications: Beyond the Usual Suspects' Review Series. EMBO Rep. 9: 1196-1202.
7. Schlieker, C.D., et al. 2008. A functional proteomics approach links the ubiquitin-related modifier Urm1 to a tRNA modification pathway. Proc. Natl. Acad. Sci. USA 105: 18255-18260.

CHROMOSOMAL LOCATION

Genetic locus: CTU2 (human) mapping to 16q24.3; Ctu2 (mouse) mapping to 8 E1.

SOURCE

CTU2 (E-12) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an N-terminal cytoplasmic domain of CTU2 of human origin.

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 or our catalog for detailed protocols and support products.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-164891 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

CTU2 (E-12) is recommended for detection of CTU2 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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 CTU2 siRNA (h): sc-93162, CTU2 shRNA Plasmid (h): sc-93162-SH and CTU2 shRNA (h) Lentiviral Particles: sc-93162-V.

Molecular Weight of CTU2 isoforms: 56/47/52 kDa.

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) 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.

RESEARCH USE

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