SANTA CRUZ BIOTECHNOLOGY, INC.

TSEN2 (C-14): sc-103297

BACKGROUND

The tRNA-splicing endonuclease complex is responsible for identifying and cleaving pre-tRNA at both 5' and 3' splice sites, thereby releasing introns and free tRNA molecules with 2',3' cyclic phosphates and 5'-OH termini. In addition to its role in pre-tRNA splicing, the heterotetrameric endonuclease complex participates in mRNA processing and, via its association with pre-mRNA processing factors, is thought to link pre-tRNA and pre-mRNA splicing events. TSEN2 (tRNA-splicing endonuclease subunit SEN2), also known as tRNA-intron endonuclease SEN2, is a 465 amino acid nuclear protein that constitutes one of the two catalytic subunits of the tRNA-splicing endonuclease complex. There are three isoforms of TSEN2 that are produced as a result of alternative splicing events. Isoform 1 seems to carry the active site for 5'-splice site cleavage. Defects in the gene encoding TSEN2 are the cause of pontocerebellar hypoplasia type 2B, which is characterized by progressive microencephaly with epilepsy, extrapyramidal dyskinesia and chorea without spinal cord findings.

REFERENCES

1. Paushkin, S.V., et al. 2004. Identification of a human endonuclease complex reveals a link between tRNA splicing and pre-mRNA 3' end formation. Cell 117: 311-321.

2. Roux, M., et al. 2006. Cotranscription and intergenic splicing of the PPARG and TSEN2 genes in cattle. BMC Genomics 7: 71.

3. Ibrahim, A.E., et al. 2006. MMASS: an optimized array-based method for assessing CpG island methylation. Nucleic Acids Res. 34: e136.

4. Barth, P.G., et al. 2007. Pontocerebellar hypoplasia type 2: a neuropathological update. Acta Neuropathol. 114: 373-386.

5. Budde, B.S., et al. 2008. tRNA splicing endonuclease mutations cause pontocerebellar hypoplasia. Nat. Genet. 40: 1113-1118.

6. Online Mendelian Inheritance in Man, OMIM™. 2008. Johns Hopkins University, Baltimore, MD. MIM Number: 608753. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/

CHROMOSOMAL LOCATION

Genetic locus: TSEN2 (human) mapping to 3p25.1; Tsen2 (mouse) mapping to 6 E3.

SOURCE

TSEN2 (C-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of TSEN2 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.

Blocking peptide available for competition studies, sc-103297 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

RESEARCH USE

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

APPLICATIONS

TSEN2 (C-14) is recommended for detection of TSEN2 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); non cross-reactive with TSEN34 and TSEN54.

Suitable for use as control antibody for TSEN2 siRNA (h): sc-78520, TSEN2 siRNA (m): sc-154713, TSEN2 shRNA Plasmid (h): sc-78520-SH, TSEN2 shRNA Plasmid (m): sc-154713-SH, TSEN2 shRNA (h) Lentiviral Particles: sc-78520-V and TSEN2 shRNA (m) Lentiviral Particles: sc-154713-V.

Molecular Weight of TSEN2: 53 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.

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.