SANTA CRUZ BIOTECHNOLOGY, INC.

QTRTD1 (B-11): sc-377384

The Power to Question

BACKGROUND

QTRTD1 (queuine tRNA-ribosyltransferase domain containing 1) is a 415 amino acid protein involved in tRNA modification and tRNA-queuosine biosynthesis. Localizing to cytoplasm, QTRTD1 also localizes to the mitochondrial outer membrane and associates with QTRT1 (queuine tRNA-ribosyltransferase domain containing 1) to form an active queuine tRNA-ribosyltransferase. At the wobble position of tRNAs with GUN anticodons, QTRTD1 exchanges queuine for guanine to form queuosine, a modified nucleoside. QTRTD1 is a member of the queuine tRNA-ribosyltransferase family, QTRTD1 subfamily and is encoded by a gene located on human chromosome 3, which houses over 1,100 genes, including a chemokine receptor (CKR) gene cluster and a variety of human cancer-related gene loci. Marfan syndrome, porphyria, von Hippel-Lindau syndrome, osteogenesis imperfecta and Charcot-Marie-Tooth disease are a few of the numerous genetic diseases associated with chromosome 3.

REFERENCES

1. Collod, G., et al. 1994. A second locus for Marfan syndrome maps to chromosome 3p24.2-p25. Nat. Genet. 8: 264-268.
2. De Jonghe, P., et al. 1997. Mutilating neuropathic ulcerations in a chromosome 3q13-q22 linked Charcot-Marie-Tooth disease type 2B family. J. Neurol. Neurosurg. Psychiatry 62: 570-573.
3. Maho, A., et al. 1999. Mapping of the CCXCR1, CX3CR1, CCBP2 and CCR9 genes to the CCR cluster within the 3p21.3 region of the human genome. Cytogenet. Cell Genet. 87: 265-268.
4. Robinson, P.N., et al. 2000. The molecular genetics of Marfan syndrome and related microfibrillopathies. J. Med. Genet. 37: 9-25.
5. Braga, E.A., et al. 2003. New tumor suppressor genes in hot spots of human chromosome 3: new methods of identification. Mol. Biol. 37: 194-211.
6. Rasmussen, A., et al. 2010. Uptake of genetic testing and long-term tumor surveillance in von Hippel-Lindau disease. BMC Med. Genet. 11: 4.
7. Chen, Y.C., et al. 2010. Characterization of the human tRNA-guanine transglycosylase: confirmation of the heterodimeric subunit structure. RNA 16: 958-968.

CHROMOSOMAL LOCATION

Genetic locus: QTRTD1 (human) mapping to 3q13.31; Qtrtd1 (mouse) mapping to 16 B4.

SOURCE

QTRTD1 (B-11) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 329-363 within an internal region of QTRTD1 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.

Blocking peptide available for competition studies, sc-377384 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

QTRTD1 (B-11) is recommended for detection of QTRTD1 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).

Suitable for use as control antibody for QTRTD1 siRNA (h): sc-78408, QTRTD1 siRNA (m): sc-152617, QTRTD1 shRNA Plasmid (h): sc-78408-SH, QTRTD1 shRNA Plasmid (m): sc-152617-SH, QTRTD1 shRNA (h) Lentiviral Particles: sc-78408-V and QTRTD1 shRNA (m) Lentiviral Particles: sc-152617-V.

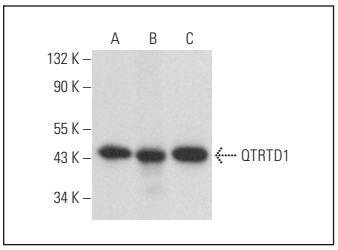
Molecular Weight of QTRTD1: 47 kDa.

Positive Controls: DU 145 cell lysate: sc-2268, A549 cell lysate: sc-2413 or U-937 cell lysate: sc-2239.

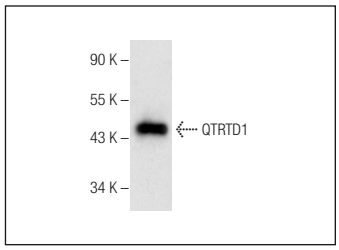
RECOMMENDED SUPPORT REAGENTS

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



QTRTD1 (B-11): sc-377384. Western blot analysis of QTRTD1 expression in DU 145 (**A**), HL-60 (**B**) and A549 (**C**) whole cell lysates.



QTRTD1 (B-11): sc-377384. Western blot analysis of QTRTD1 expression in U-937 whole cell lysate.

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.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.