SANTA CRUZ BIOTECHNOLOGY, INC.

UTP14C (H-1): sc-365603

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

UTP14C (UTP14, U3 small nucleolar ribonucleoprotein), also known as UTP14B, is a 766 amino acid protein that localizes to the nucleolus and belongs to the UTP14 family. Expressed in testicular tissue, UTP14C functions as an essential component of spermatogenesis and is specifically required for ribosome biogenesis and protein synthesis during male meiosis. UTP14A, a related protein, may also be required for ribosome biogenesis, but not necessarily in a male-specific manner. The gene encoding UTP14C maps to human chromosome 13, which houses over 400 genes, such as BRCA2 and RB1, and comprises nearly 4% of the human genome. As with most chromosomes, polysomy of part or all of chromosome 13 is deleterious to development and decreases the odds of survival. Trisomy 13, also known as Patau syndrome, is deadly and the few who survive past one year suffer from permanent neurologic defects, difficulty eating and vulnerability to serious respiratory infections.

REFERENCES

1. Bradley, J., et al. 2004. An X-to-autosome retrogene is required for spermatogenesis in mice. Nat. Genet. 36: 872-876.
2. Rohozinski, J. and Bishop, C.E. 2004. The mouse juvenile spermatogonial depletion (jsd) phenotype is due to a mutation in the X-derived retrogene, mUTP14B. Proc. Natl. Acad. Sci. USA 101: 11695-11700.
3. Online Mendelian Inheritance in Man, OMIM™. 2004. Johns Hopkins University, Baltimore, MD. MIM Number: 608969. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
4. Rohozinski, J., et al. 2006. UTP14C is a recently acquired retrogene associated with spermatogenesis and fertility in man. Biol. Reprod. 74: 644-651.
5. Shetty, G., et al. 2006. Spermatogonial differentiation in juvenile spermatogonial depletion (jsd) mice with androgen receptor or follicle-stimulating hormone mutations. Endocrinology 147: 3563-3570.
6. Zhao, M., et al. 2007. UTP14B: a unique retrogene within a gene that has acquired multiple promoters and a specific function in spermatogenesis. Dev. Biol. 304: 848-859.

CHROMOSOMAL LOCATION

Genetic locus: UTP14C (human) mapping to 13q14.3, UTP14A (human) mapping to Xq26.1; Utp14a (mouse) mapping to X A4.

SOURCE

UTP14C (H-1) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 679-711 within an internal region of UTP14C of human origin.

PRODUCT

Each vial contains 200 µg IgM 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-365603 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

UTP14C (H-1) is recommended for detection of UTP14C of human origin and UTP14A 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 UTP14A siRNA (m): sc-154955, UTP14A shRNA Plasmid (m): sc-154955-SH and UTP14A shRNA (m) Lentiviral Particles: sc-154955-V.

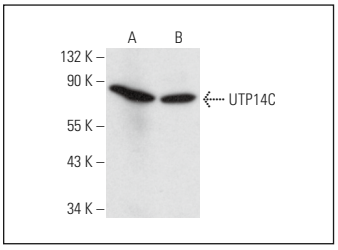
Molecular Weight of UTP14C: 87 kDa.

Positive Controls: mouse testis extract: sc-2405, F9 whole cell lysate: sc-2245 or NTERA-2 cl.D1 whole cell lysate: sc-364181.

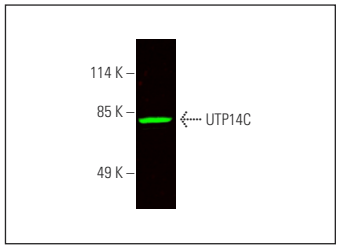
RECOMMENDED SUPPORT REAGENTS

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 L-Agarose: sc-2336 (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



UTP14C (H-1): sc-365603. Western blot analysis of UTP14C expression in F9 (**A**) and NTERA-2 cl.D1 (**B**) whole cell lysates.



UTP14C (H-1): sc-365603. Near-infrared western blot analysis of UTP14C expression in mouse testis tissue extract. Blocked with UltraCruz® Blocking Reagent: sc-516214. Detection reagent used: m-IgGκ BP-CFL 680: sc-516180.

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.