

CCDC6 (h2): 293T Lysate: sc-117205

BACKGROUND

CCDC6 (coiled-coil domain containing 6), also known as H4, PTC, TPC or TST1, is a 585 amino acid cytoskeletal protein. Expressed throughout the body, CCDC6 exists in an α -helical conformation and has a leucine zipper domain through which it can fuse to PDGFR- β (platelet-derived growth factor receptor β), a protein that functions as a mitogen for mesenchyme- and glia-derived cells. Additionally, CCDC6 is a fusion partner of Ret (Ret receptor tyrosine kinase), a proto-oncogene that is involved in GDNF signaling. These fusion products are not present in normal cells but are the result of a chromosomal rearrangement in the CCDC6 gene, which renders the CCDC6 protein susceptible to fusion events. When CCDC6 is fused to either PDGFR- β or Ret, further chromosomal rearrangements may occur that can lead to various carcinomas including human papillary thyroid carcinoma, chronic myelomonocytic leukemia and mammary and cutaneous gland tumors.

REFERENCES

1. Grieco, M., et al. 1994. Cloning and characterization of H4 (D10S170), a gene involved in Ret rearrangements *in vivo*. *Oncogene* 9: 2531-2535.
2. Tong, Q., et al. 1995. Characterization of the promoter region and oligomerization domain of H4 (D10S170), a gene frequently rearranged with the Ret proto-oncogene. *Oncogene* 10: 1781-1787.
3. Portella, G., et al. 1996. Development of mammary and cutaneous gland tumors in transgenic mice carrying the Ret/PTC1 oncogene. *Oncogene* 13: 2021-2026.
4. Tong, Q., et al. 1997. Leucine zipper-mediated dimerization is essential for the PTC1 oncogenic activity. *J. Biol. Chem.* 272: 9043-9047.
5. Schwaller, J., et al. 2001. H4(D10S170), a gene frequently rearranged in papillary thyroid carcinoma, is fused to the platelet-derived growth factor receptor β gene in atypical chronic myeloid leukemia with t(5;10)(q33;q22). *Blood* 97: 3910-3918.
6. Puxeddu, E., et al. 2005. Characterization of novel non-clonal intrachromosomal rearrangements between the H4 and PTEN genes (H4/PTEN) in human thyroid cell lines and papillary thyroid cancer specimens. *Mutat. Res.* 570: 17-32.
7. Merolla, F., et al. 2007. Involvement of H4(D10S170) protein in ATM-dependent response to DNA damage. *Oncogene* 26: 6167-6175.
8. Drechsler, M., et al. 2007. Fusion of H4/D10S170 to PDGFR- β in a patient with chronic myelomonocytic leukemia and long-term responsiveness to imatinib. *Ann. Hematol.* 86: 353-354.

CHROMOSOMAL LOCATION

Genetic locus: CCDC6 (human) mapping to 10q21.2.

PRODUCT

CCDC6 (h2): 293T Lysate represents a lysate of human CCDC6 transfected 293T cells and is provided as 100 μ g protein in 200 μ l SDS-PAGE buffer.

RESEARCH USE

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

APPLICATIONS

CCDC6 (h2): 293T Lysate is suitable as a Western Blotting positive control for human reactive CCDC6 antibodies. Recommended use: 10-20 μ l per lane.

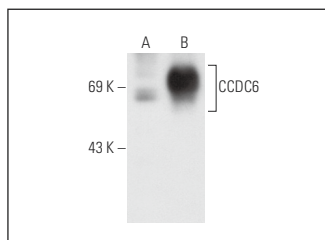
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

CCDC6 (Q-23): sc-100309 is recommended as a positive control antibody for Western Blot analysis of enhanced human CCDC6 expression in CCDC6 transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ 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.

DATA



CCDC6 (Q-23): sc-100309. Western blot analysis of CCDC6 expression in non-transfected: sc-117752 (A) and human CCDC6 transfected: sc-117205 (B) 293T whole cell lysates.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

PROTOCOLS

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