

# CCDC6 (H-160): sc-292276

## 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  $\alpha$  helical conformation and has a leucine zipper domain through which it can fuse to PDGFR- $\beta$  (platelet-derived growth factor receptor  $\beta$ ), 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- $\beta$  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

- Grieco, M., et al. 1994. Cloning and characterization of H4 (D10S170), a gene involved in RET rearrangements *in vivo*. *Oncogene* 9: 2531-2535.
- 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.
- Portella, G., et al. 1996. Development of mammary and cutaneous gland tumors in transgenic mice carrying the RET/PTC1 oncogene. *Oncogene* 13: 2021-2026.
- Tong, Q., et al. 1997. Leucine zipper-mediated dimerization is essential for the PTC1 oncogenic activity. *J. Biol. Chem.* 272: 9043-9047.
- Schwaller, J., et al. 2001. H4(D10S170), a gene frequently rearranged in papillary thyroid carcinoma, is fused to the platelet-derived growth factor receptor  $\beta$  gene in atypical chronic myeloid leukemia with t(5;10)(q33;q22). *Blood* 97: 3910-3918.
- 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.
- Merolla, F., et al. 2007. Involvement of H4(D10S170) protein in ATM-dependent response to DNA damage. *Oncogene* 26: 6167-6175.
- Drechsler, M., et al. 2007. Fusion of H4/D10S170 to PDGFR $\beta$  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; Ccdc6 (mouse) mapping to 10 B5.3.

## SOURCE

CCDC6 (H-160) is a rabbit polyclonal antibody raised against amino acids 111-270 mapping within an internal region of CCDC6 of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Available as TransCruz reagent for Gel Supershift and CHIP applications, sc-292276 X, 200  $\mu$ g/0.1 ml.

## APPLICATIONS

CCDC6 (H-160) is recommended for detection of CCDC6 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g 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).

CCDC6 (H-160) is also recommended for detection of CCDC6 in additional species, including equine, canine, porcine and avian.

Suitable for use as control antibody for CCDC6 siRNA (h): sc-90423, CCDC6 siRNA (m): sc-142125, CCDC6 shRNA Plasmid (h): sc-90423-SH, CCDC6 shRNA Plasmid (m): sc-142125-SH, CCDC6 shRNA (h) Lentiviral Particles: sc-90423-V and CCDC6 shRNA (m) Lentiviral Particles: sc-142125-V.

CCDC6 (H-160) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of CCDC6: 66 kDa.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotting A Blocking Reagent: sc-2333 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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (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.

## RESEARCH USE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.