

# CTHRC1 (1G12): sc-293270

## BACKGROUND

CTHRC1 (collagen triple helix repeat containing 1) is a 243 amino acid secreted protein that localizes to the extracellular matrix and contains one collagen-like domain. Expressed as two alternatively spliced isoforms, the first of which is expressed in calcified atherosclerotic plaque and chondrocyte-like cells, CTHRC1 is thought to function as a negative regulator of collagen matrix deposition and may also play a role in the stabilization of ligand-receptor interactions in the Wnt pathway. CTHRC1 is widely present in a variety of cancers, including melanoma and breast carcinoma, and may participate in cancer cell migration and cancer tissue invasion and metastasis. The gene encoding CTHRC1 maps to human chromosome 8, which consists of nearly 146 million base pairs, houses more than 800 genes and is associated with a variety of diseases and malignancies.

## REFERENCES

- Pyagay, P., et al. 2005. Collagen triple helix repeat containing 1, a novel secreted protein in injured and diseased arteries, inhibits collagen expression and promotes cell migration. *Circ. Res.* 96: 261-268.
- Tang, L., et al. 2006. Aberrant expression of collagen triple helix repeat containing 1 in human solid cancers. *Clin. Cancer Res.* 12: 3716-3722.
- LeClair, R.J., et al. 2007. CTHRC1 is a novel inhibitor of transforming growth factor- $\beta$  signaling and neointimal lesion formation. *Circ. Res.* 100: 826-833.
- LeClair, R. and Lindner, V. 2007. The role of collagen triple helix repeat containing 1 in injured arteries, collagen expression, and transforming growth factor  $\beta$  signaling. *Trends Cardiovasc. Med.* 17: 202-205.
- Leclair, R.J., et al. 2008. Intracellular localization of CTHRC1 characterizes differentiated smooth muscle. *Arterioscler. Thromb. Vasc. Biol.* 28: 1332-1338.
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- Yamamoto, S., et al. 2008. CTHRC1 selectively activates the planar cell polarity pathway of Wnt signaling by stabilizing the Wnt-receptor complex. *Dev. Cell* 15: 23-36.
- Online Mendelian Inheritance in Man, OMIM<sup>™</sup>. 2008. Johns Hopkins University, Baltimore, MD. MIM Number: 610635. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>

## CHROMOSOMAL LOCATION

Genetic locus: CTHRC1 (human) mapping to 8q22.3.

## SOURCE

CTHRC1 (1G12) is a mouse monoclonal antibody raised against amino acids 32-141 of CTHRC1 of human origin.

## PRODUCT

Each vial contains 100  $\mu$ g IgG<sub>2a</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## APPLICATIONS

CTHRC1 (1G12) is recommended for detection of CTHRC1 of 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

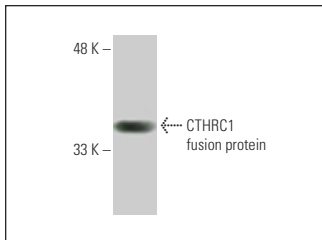
Suitable for use as control antibody for CTHRC1 siRNA (h): sc-77043, CTHRC1 shRNA Plasmid (h): sc-77043-SH and CTHRC1 shRNA (h) Lentiviral Particles: sc-77043-V.

Molecular Weight of CTHRC1: 28-30 kDa.

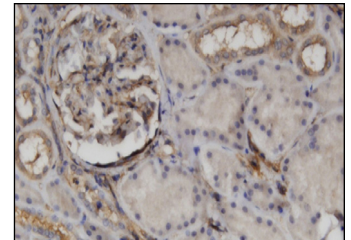
## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker<sup>™</sup> Molecular Weight Standards: sc-2035, UltraCruz<sup>®</sup> 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-IgG $\kappa$  BP-FITC: sc-516140 or m-IgG $\kappa$  BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz<sup>®</sup> Mounting Medium: sc-24941 or UltraCruz<sup>®</sup> Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgG $\kappa$  BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

## DATA



CTHRC1 (1G12): sc-293270. Western blot analysis of human recombinant CTHRC1 fusion protein.



CTHRC1 (1G12): sc-293270. Immunoperoxidase staining of formalin fixed, paraffin-embedded human kidney tissue showing extracellular staining.

## SELECT PRODUCT CITATIONS

- Mun, S., et al. 2022. Transcriptome profile of membrane and extracellular matrix components in ligament-fibroblastic progenitors and cementoblasts differentiated from human periodontal ligament cells. *Genes* 13: 659.

## 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.