

# CCDC74A/B (E-13): sc-138764

## BACKGROUND

The coiled-coil domain is a structural motif found in proteins that are involved in a diverse array of biological functions such as the regulation of gene expression, cell division, membrane fusion and drug extrusion and delivery. CCDC74A (coiled-coil domain-containing protein 74A) and CCDC74B are 378 and 380 amino acid proteins, respectively, that each exist as two alternatively spliced isoforms. The genes encoding CCDC74A and CCDC74B both map to human chromosome 2, which houses over 1,400 genes and comprises nearly 8% of the human genome. Harlequin ichthyosis, a rare and morbid skin deformity, is associated with mutations in the ABCA12 gene, while the lipid metabolic disorder sitosterolemia is associated with defects in the ABCG5 and ABCG8 genes. Additionally, an extremely rare recessive genetic disorder, Alström syndrome, is caused by mutations in the ALMS1 gene, which maps to chromosome 2.

## REFERENCES

1. Ijdo, J.W., et al. 1991. Origin of human chromosome 2: an ancestral telomere-telomere fusion. *Proc. Natl. Acad. Sci. USA* 88: 9051-9055.
2. Harbury, P.B., et al. 1993. A switch between two-, three-, and four-stranded coiled coils in GCN4 leucine zipper mutants. *Science* 262: 1401-1407.
3. Harbury, P.B., et al. 1998. High-resolution protein design with backbone freedom. *Science* 282: 1462-1467.
4. Mason, J.M., et al. 2004. Coiled coil domains: stability, specificity, and biological implications. *ChemBiochem* 5: 170-176.
5. Hillier, L.W., et al. 2005. Generation and annotation of the DNA sequences of human chromosomes 2 and 4. *Nature* 434: 724-731.
6. Thomas, A.C., et al. 2006. ABCA12 is the major harlequin ichthyosis gene. *J. Invest. Dermatol.* 126: 2408-2413.
7. Bromley, E.H., et al. 2008. Peptide and protein building blocks for synthetic biology: from programming biomolecules to self-organized biomolecular systems. *ACS Chem. Biol.* 3: 38-50.

## CHROMOSOMAL LOCATION

Genetic locus: CCDC74A/CCDC74B (human) mapping to 2q21.1.

## SOURCE

CCDC74A/B (E-13) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping within an internal region of CCDC74A of human origin.

## STORAGE

Store at 4° C, **\*\*DO NOT FREEZE\*\***. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

## PROTOCOLS

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

## PRODUCT

Each vial contains 100 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-138764 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

CCDC74A/B (E-13) is recommended for detection of CCDC74A and CCDC74B of human origin by Western Blotting (starting dilution 1:100, dilution range 1:50-1:500), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:25, dilution range 1:25-1:250) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

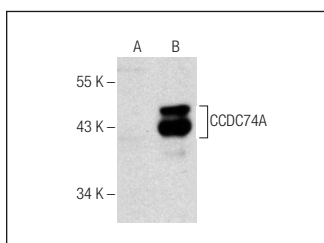
Molecular Weight of CCDC74A/B isoforms: 42/35 kDa.

Positive Controls: CCDC74A (h): 293T Lysate: sc-113234.

## 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 Blotto 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.

## DATA



CCDC74A/B (E-13): sc-138764. Western blot analysis of CCDC74A expression in non-transfected: sc-117752 (A) and human CCDC74A transfected: sc-113234 (B) 293T whole cell lysates.

## RESEARCH USE

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