

# CEP162 (F-16): sc-168343

## BACKGROUND

CEP162 (centrosomal protein of 162 kDa), also known as KIAA1009 or QN1 (quail neorotina 1), is a 1,403 amino acid protein in the CEP162 family and containing 4 coiled coil domains. CEP162 is an axoneme-associated protein required to promote the assembly of the transition zone at the base of primary cilia. CEP162 is localized at the distal ends of the centrioles before ciliogenesis and acts by specifically recognizing and binding the axonemal microtubule, effectively restricting zone formation specifically at the cilia base. During mitosis, CEP162 is located at the spindle poles and the centrosomes and is essential for chromosome segregation and spindle assembly, interacting with  $\alpha$ -tubulin. CEP162 interacts with CEP290 and is required to mediate its association with microtubules. The CEP162 gene is widely conserved, including mouse, rat, zebrafish, canine and bovine.

## REFERENCES

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- Jia, L., et al. 2002. Gene expression profile of human bone marrow stromal cells: high-throughput expressed sequence tag sequencing analysis. *Genomics* 79: 7-17.
- Tomsig, J.L., et al. 2003. Identification of targets for calcium signaling through the copine family of proteins. Characterization of a coiled-coil copine-binding motif. *J. Biol. Chem.* 278: 10048-10054.
- Leon, A., et al. 2006. QN1/KIAA1009: a new essential protein for chromosome segregation and mitotic spindle assembly. *Oncogene* 25: 1887-1895.
- Jakobsen, L., et al. 2011. Novel asymmetrically localizing components of human centrosomes identified by complementary proteomics methods. *EMBO J.* 30: 1520-1535.
- Wang, W.J., et al. 2013. CEP162 is an axoneme-recognition protein promoting ciliary transition zone assembly at the cilia base. *Nat. Cell Biol.* 15: 591-601.
- Awata, T., et al. 2014. A genome-wide association study for diabetic retinopathy in a Japanese population: potential association with a long intergenic non-coding RNA. *PLoS ONE* 9: e111715.

## CHROMOSOMAL LOCATION

Genetic locus: CEP162 (human) mapping to 6q14.2; Cep162 (mouse) mapping to 9 E3.1.

## SOURCE

CEP162 (F-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of CEP162 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.

Blocking peptide available for competition studies, sc-168343 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

CEP162 (F-16) is recommended for detection of CEP162 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).

CEP162 (F-16) is also recommended for detection of CEP162 in additional species, including canine and bovine.

Suitable for use as control antibody for CEP162 siRNA (h): sc-95330, CEP162 siRNA (m): sc-146449, CEP162 shRNA Plasmid (h): sc-95330-SH, CEP162 shRNA Plasmid (m): sc-146449-SH, CEP162 shRNA (h) Lentiviral Particles: sc-95330-V and CEP162 shRNA (m) Lentiviral Particles: sc-146449-V.

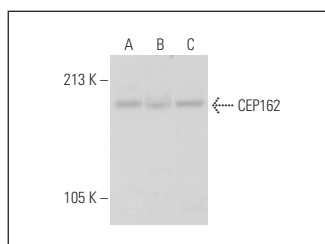
Molecular Weight of CEP162 isoforms: 162/153 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, Jurkat whole cell lysate: sc-2204 or K-562 whole cell lysate: sc-2203.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (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 donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## DATA



CEP162 (F-16): sc-168343. Western blot analysis of CEP162 expression in HeLa (A), Jurkat (B) and K-562 (C) whole cell lysates.

## 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.