

Product Datasheet

CEP164 Antibody - BSA Free

NBP1-81445

Unit Size: 0.1 ml

Store at 4C short term. Aliquot and store at -20C long term. Avoid freeze-thaw cycles.

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NBP1-81445

CEP164 Antibody - BSA Free

Product Information

Unit Size	0.1 ml
Concentration	Concentrations vary lot to lot. See vial label for concentration. If unlisted please contact technical services.
Storage	Store at 4C short term. Aliquot and store at -20C long term. Avoid freeze-thaw cycles.
Clonality	Polyclonal
Preservative	0.02% Sodium Azide
Isotype	IgG
Purity	Immunogen affinity purified
Buffer	PBS (pH 7.2) and 40% Glycerol

Product Description

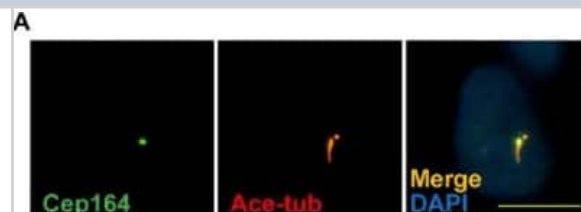
Host	Rabbit
Gene ID	22897
Gene Symbol	CEP164
Species	Human, Mouse, Zebrafish
Reactivity Notes	Use in Mouse reported in scientific literature (PMID:34208028). Zebrafish reactivity reported in scientific literature (PMID: 31042116).
Marker	Centriole Appendage Marker
Immunogen	This antibody was developed against Recombinant Protein corresponding to amino acids: DASQELEISEHMKEPQLSDSIASDPKSFHGLDFGFRSRRISEHLLDVLDVLPVLG GACRQAQQPLGIEDKDDSQSSQDELQSKQSKGLEERLSPPLPHE

Product Application Details

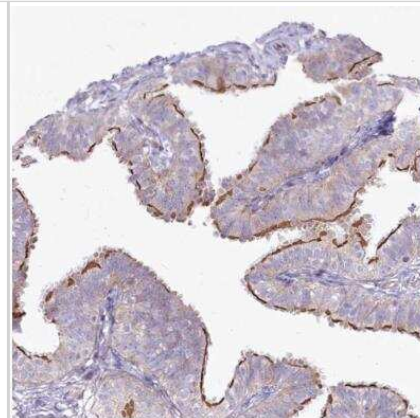
Applications	Western Blot, Immunocytochemistry/ Immunofluorescence, Immunohistochemistry, Immunohistochemistry-Paraffin
Recommended Dilutions	Western Blot Reported in scientific literature (PMID:31042116), Immunohistochemistry 1:200 - 1:500, Immunocytochemistry/ Immunofluorescence 0.25-2 ug/ml, Immunohistochemistry-Paraffin 1:200-1:500
Application Notes	For IHC-Paraffin, HIER pH 6 retrieval is recommended. ICC/IF Fixation Permeabilization: Use PFA/Triton X-100.

Images

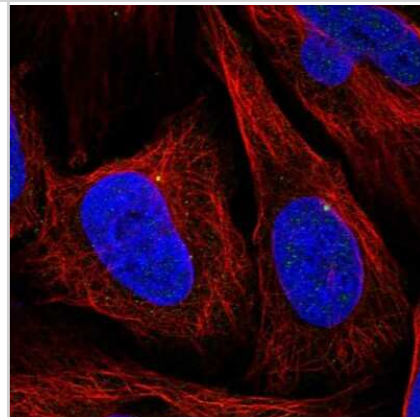
Immunocytochemistry/Immunofluorescence: CEP164 Antibody [NBP1-81445] - Fetuin-A inhibits ciliogenesis. Primary cilia were examined in the absence (CTL) or presence of fetuin-A (FA) by immunostaining with antibodies against acetylated tubulin (Ace-tub), Cep164, IFT88, or Arl13b. Image collected and cropped by CiteAb from the following publication (<https://www.mdpi.com/1422-0067/20/20/5207>), licensed under a CC-BY license.



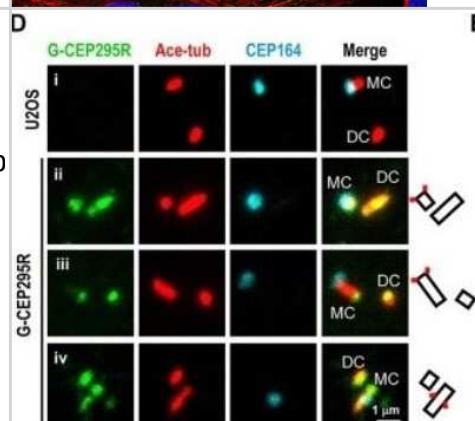
Immunohistochemistry-Paraffin: CEP164 Antibody [NBP1-81445] - Staining of human fallopian tube shows strong positivity in cilia in glandular cells.



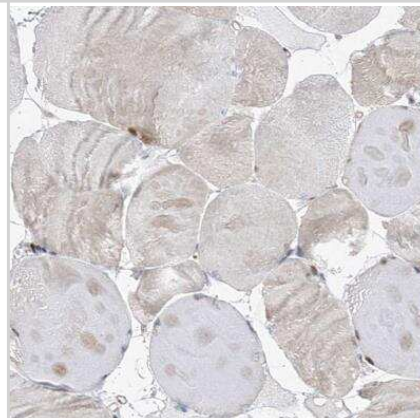
Immunocytochemistry/Immunofluorescence: CEP164 Antibody [NBP1-81445] - Staining of human cell line U-2 OS shows localization to centrosome. Antibody staining is shown in green.



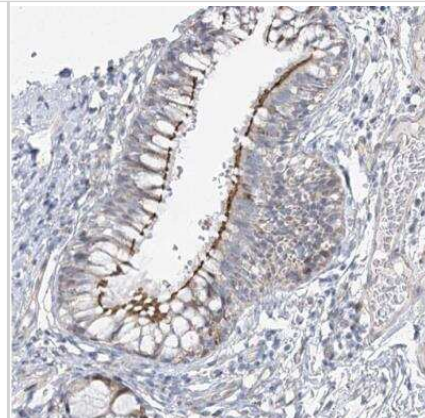
Immunocytochemistry/Immunofluorescence: CEP164 Antibody [NBP1-81445] - CEP295 overexpression induces extra-long microtubule-based filaments with low efficiency. Schematics on right of D indicate centrioles (black rectangles) and positions of CEP164 (red squares). MC, mother centriole; DC, daughter centriole. Image collected and cropped by CiteAb from the following publication (<https://jcs.biologists.org/lookup/doi/10.1242/jcs.186338>), licensed under a CC-BY license.



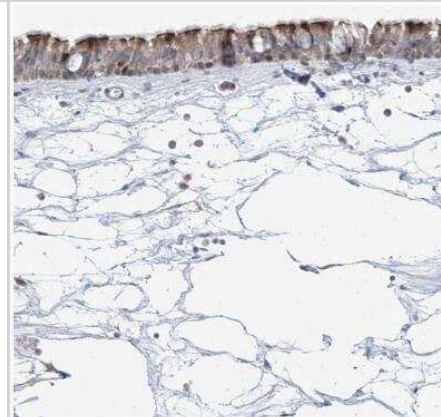
Immunohistochemistry-Paraffin: CEP164 Antibody [NBP1-81445] - Staining of human skeletal muscle shows no positivity in myocytes as expected.



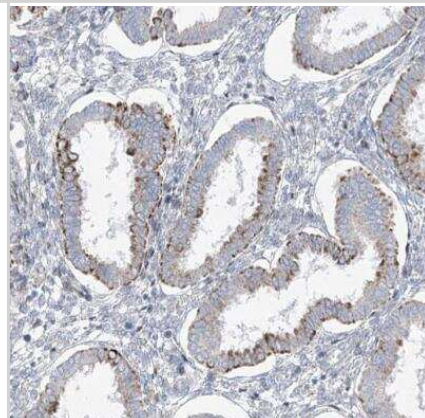
Immunohistochemistry-Paraffin: CEP164 Antibody [NBP1-81445] - Staining of human bronchus shows moderate to strong positivity in cilia in respiratory epithelial cells.



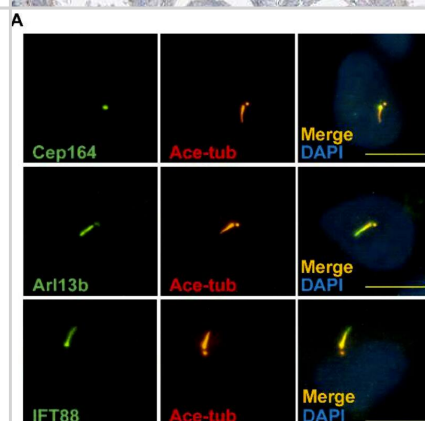
Immunohistochemistry-Paraffin: CEP164 Antibody [NBP1-81445] - Staining of human nasopharynx shows strong positivity in cilia in respiratory epithelial cells.



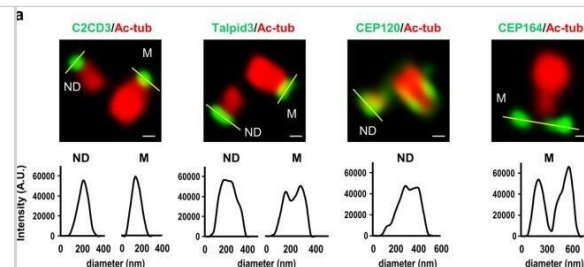
Immunohistochemistry-Paraffin: CEP164 Antibody [NBP1-81445] - Staining of human endometrium shows strong positivity in cilia in glandular cells.



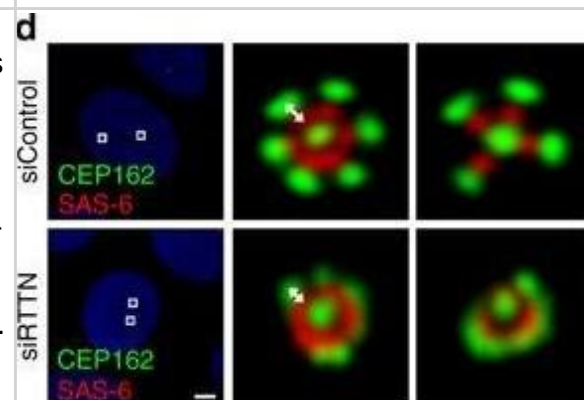
Fetuin-A inhibits ciliogenesis. (A–D) Primary cilia were examined in the absence (CTL) or presence of fetuin-A (FA) by immunostaining with antibodies against acetylated tubulin (Ace-tub), Cep164, IFT88, or Arl13b. (E) Quantification results of the frequency of ciliated HTR8 cells. ** $p < 0.01$, results are the mean $\pm$ SD from three independent experiments, more than 100 cells were counted in each individual group. DNA was stained with DAPI. Scale bar 10 μ M.



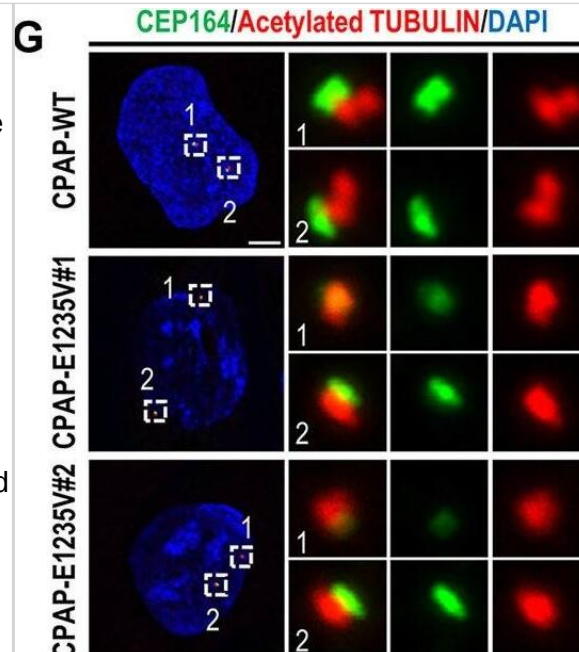
Immunocytochemistry/ Immunofluorescence: CEP164 Antibody [NBP1-81445] - Super-resolution (3D-SIM) microscopic analysis of centriolar distal-end proteins. (a) RPE1 cells were synchronized at G2 phase & immunostained with the indicated antibodies. Lower panels show fluorescence profile plots. Representative images of more than ten cells are presented in (a). ND: nascent daughter centriole, M: mother centriole. (b) The diameters of C2CD3, Talpid3, CEP120, & CEP164 protein spots (n = 30/each). Cumulative data from three independent experiments are shown. ***P < 0.001. (c,d) 3D-SIM analysis of the spatial localizations of C2CD3 (c), Talpid3 (d) & CEP120 (c,d) at the distal ends of centrioles. RPE1 cells were synchronized at G2 phase & immunostained with the indicated antibodies. Scale bar, 100 nm in (a,c,d). (e) Schematic illustration of the spatial localizations of C2CD3, Talpid3, CEP120, & CP110 at the distal ends of centrioles. Image collected & cropped by CiteAb from the following publication (<https://pubmed.ncbi.nlm.nih.gov/30988386>), licensed under a CC-BY license. Not internally tested by Novus Biologicals.



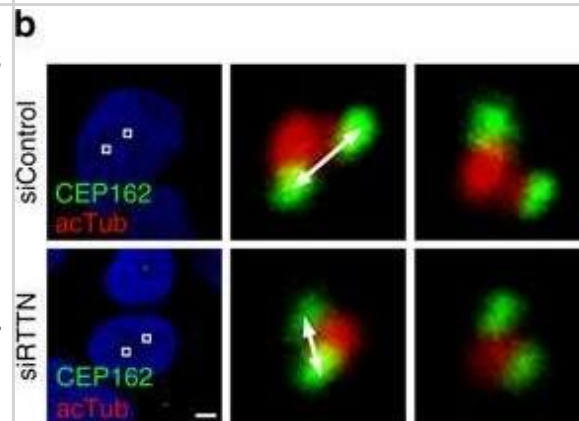
Immunocytochemistry/ Immunofluorescence: CEP164 Antibody [NBP1-81445] - Depletion of RTTN produces shorter centrioles. a, b U2OS cells were treated with siControl or siRTTN as shown in a, & analyzed by confocal fluorescence microscopy using the indicated antibodies. c Histogram illustrating the distance between the CEP162-positive dots associated with a given pair of orthogonally oriented centrioles. Error bars represent the mean $\pm$ s.d.; ***P < 0.001 (two-tailed t-test). d, f PLK4-myc doxycycline (Dox) inducible cells were treated with siControl or siRTTN as shown in a, & then analyzed by confocal fluorescence microscopy using the indicated antibodies d, or by electron microscopy f. e, g Histogram illustrating the length of procentrioles in PLK4-myc-inducible cells, as analyzed by confocal microscopy e or electron microscopy g. Error bars represent the mean $\pm$ s.d.; ***P < 0.001 (two-tailed t-test). The procentriole length in b/c was measured as the distance between two CEP162 dots as described by Azimzadeh et al.¹⁷ The procentriole length in d/e was measured as the distance between the fluorescent peak intensity of SAS-6 (red) & CEP162 (green) in siControl & siRTTN-treated cells. Scale bar, 5 μ m in b & d; Scale bar, 200 nm in f Image collected & cropped by CiteAb from the following publication (<https://www.nature.com/articles/s41467-017-00305-0>), licensed under a CC-BY license. Not internally tested by Novus Biologicals.



Immunocytochemistry/ Immunofluorescence: CEP164 Antibody [NBP1-81445] - CPAP-E1235V mutation impaired the recruitment of centriole elongation proteins onto the centrioles. Cells were synchronized in the early S phase by treatment with aphidicolin (2 μ g/ml) for 24 h. They were then fixed immediately with methanol (S phase centrioles) or released into fresh culture medium without aphidicolin for another 16 h (G2 phase centrioles). CPAP-WT or mutant cells in the S phase or G2 phase were immunostained with antibodies against the following centriolar proteins. (A) STIL, n = 42 for CPAP-WT; n = 25 for CPAP-E1235V#1; n = 34 for CPAP-E1235V#2. (B) CEP120, n = 50 for CPAP-WT; n = 42 for CPAP-E1235V#1; n = 48 for CPAP-E1235V#2. (C) CENTROBIN, n = 40 for all groups. (D) CEP295, n = 40 for all groups. (E) POC5, n = 42 for CPAP-WT; n = 40 for CPAP-E1235V#1; n = 40 for CPAP-E1235V#2. (F) POC1B, n = 40 for all groups. (G) CEP164, n = 88 for CPAP-WT; n = 74 for CPAP-E1235V#1; n = 38 for CPAP-E1235V#2. All data are presented as mean $\pm$ SEM from a pool of n cells from three independent experiments. n.s: not significant; **p < 0.01; ***p < 0.001. Scale bar: 5 μ m. Image collected & cropped by CiteAb from the following publication (<https://pubmed.ncbi.nlm.nih.gov/35309908>), licensed under a CC-BY license. Not internally tested by Novus Biologicals.



Immunocytochemistry/ Immunofluorescence: CEP164 Antibody [NBP1-81445] - Depletion of RTTN produces shorter centrioles. a, b U2OS cells were treated with siControl or siRTTN as shown in a, & analyzed by confocal fluorescence microscopy using the indicated antibodies. c Histogram illustrating the distance between the CEP162-positive dots associated with a given pair of orthogonally oriented centrioles. Error bars represent the mean $\pm$ s.d.; ***P < 0.001 (two-tailed t-test). d, f PLK4-myc doxycycline (Dox) inducible cells were treated with siControl or siRTTN as shown in a, & then analyzed by confocal fluorescence microscopy using the indicated antibodies d, or by electron microscopy f. e, g Histogram illustrating the length of procentrioles in PLK4-myc-inducible cells, as analyzed by confocal microscopy e or electron microscopy g. Error bars represent the mean $\pm$ s.d.; ***P < 0.001 (two-tailed t-test). The procentriole length in b/c was measured as the distance between two CEP162 dots as described by Azimzadeh et al.¹⁷ The procentriole length in d/e was measured as the distance between the fluorescent peak intensity of SAS-6 (red) & CEP162 (green) in siControl & siRTTN-treated cells. Scale bar, 5 μ m in b & d; Scale bar, 200 nm in f Image collected & cropped by CiteAb from the following publication (<https://www.nature.com/articles/s41467-017-00305-0>), licensed under a CC-BY license. Not internally tested by Novus Biologicals.



Publications

Yung-Chieh Tsai, Tian-Ni Kuo, Ruei-Ci Lin, Hui-Ling Tsai, Yu-Ying Chao, Pei-Rong Lee, Ping-Jui Su, Chia-Yih Wang
MicroRNA-155-5p inhibits trophoblast cell proliferation and invasion by disrupting centrosomal function *Molecular Medicine Reports* 2024-05-01 [PMID: 38551159]

Lin RC, Chao YY, Su MT et al. Upregulation of miR-20b-5p inhibits trophoblast invasion by blocking autophagy in recurrent miscarriage *Cellular signalling* 2023-10-21 [PMID: 37871665] (Immunocytochemistry/ Immunofluorescence)

Conduit SE, Davies EM, Fulcher AJ et al. Superresolution Microscopy Reveals Distinct Phosphoinositide Subdomains Within the Cilia Transition Zone *Frontiers in Cell and Developmental Biology* 2021-04-30 [PMID: 33996795]

Tsai YC, Kuo TN, Chao YY et al. PDGF-AA activates AKT and ERK signaling for testicular interstitial Leydig cell growth via primary cilia *Journal of cellular biochemistry* 2022-10-28 [PMID: 36306470]

An HL, Kuo HC, Tang TK Modeling Human Primary Microcephaly With hiPSC-Derived Brain Organoids Carrying CPAP-E1235V Disease-Associated Mutant Protein *Frontiers in cell and developmental biology* 2022-03-02 [PMID: 35309908]

Chao Y, Huang B, Peng I et al. ATM- and ATR-Induced Primary Ciliogenesis Promotes Cisplatin Resistance in Pancreatic Ductal Adenocarcinoma *Research Square* 2021-12-02 [PMID: 36251015]

Teng Yn, Chang Hc, Chao Yy Et Al. Etoposide Triggers Cellular Senescence by Inducing Multiple Centrosomes and Primary Cilia in Adrenocortical Tumor Cells *Cells* 2021-06-11 [PMID: 34208028] (ICC/IF)

Chen TY, Huang BM, Tang TK, et al. Genotoxic stress-activated DNA-PK-p53 cascade and autophagy cooperatively induce ciliogenesis to maintain the DNA damage response *Cell death and differentiation* 2021-01-18 [PMID: 33462409] (WB, ICC/IF, Human)

Chen TY, Lin TC, Kuo PL et al. Septin 7 is a centrosomal protein that ensures S phase entry and microtubule nucleation by maintaining the abundance of p150glued J. *Cell. Physiol.* 2020-09-01 [PMID: 32869310]

Wang CY, Su MT, Cheng HL et al. Fetuin-A Inhibits Placental Cell Growth and Ciliogenesis in Gestational Diabetes Mellitus *Int J Mol Sci* 2019-10-21 [PMID: 31640125] (ICC/IF, Human)

Colicino EG, Stevens K, Curtis E et al. Chromosome misalignment is associated with PLK1 activity at cenexin-positive mitotic centrosomes *Mol. Biol. Cell* [PMID: 31042116] (WB, ICC/IF, Zebrafish)

Tsai, JJ;Hsu, WB;Liu, JH;Chang, CW;Tang, TK; CEP120 interacts with C2CD3 and Talpid3 and is required for centriole appendage assembly and ciliogenesis *Sci Rep* 2019-04-15 [PMID: 30988386] (ICC/IF, Human)

More publications at <http://www.novusbio.com/NBP1-81445>





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Products Related to NBP1-81445

NBP1-81445PEP	CEP164 Recombinant Protein Antigen
HAF008	Goat anti-Rabbit IgG Secondary Antibody [HRP]
NB7160	Goat anti-Rabbit IgG (H+L) Secondary Antibody [HRP]
NBP2-24891	Rabbit IgG Isotype Control

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