

CEP164 Antibody

Catalog # ASC10871

Product Information

Application	WB, E, IHC-P
Primary Accession	Q9UPV0
Other Accession	NP_055771 , 115648142
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Calculated MW	164314
Concentration (mg/ml)	1 mg/mL
Conjugate	Unconjugated
Application Notes	CEP164 antibody can be used for detection of CEP164 by Western blot at 1 - 2 μ g/mL. Antibody can also be used for immunohistochemistry starting at 5 μ g/mL.

Additional Information

Gene ID	22897
Other Names	Centrosomal protein of 164 kDa, Cep164, CEP164, KIAA1052, NPHP15
Target/Specificity	CEP164;
Reconstitution & Storage	CEP164 antibody can be stored at 4°C for three months and -20°C, stable for up to one year. As with all antibodies care should be taken to avoid repeated freeze thaw cycles. Antibodies should not be exposed to prolonged high temperatures.
Precautions	CEP164 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	CEP164
Synonyms	KIAA1052, NPHP15
Function	Plays a role in microtubule organization and/or maintenance for the formation of primary cilia (PC), a microtubule-based structure that protrudes from the surface of epithelial cells. Plays a critical role in G2/M checkpoint and nuclear divisions. A key player in the DNA damage-activated ATR/ATM signaling cascade since it is required for the proper phosphorylation of H2AX, RPA, CHEK2 and CHEK1. Plays a critical role in chromosome segregation, acting as a mediator required for the maintenance of genomic stability through modulation of MDC1, RPA and CHEK1.

Cellular Location	Cytoplasm, cytoskeleton, microtubule organizing center, centrosome, centriole. Nucleus Note=Localizes specifically to very distally located appendage structures on the mature centriole from which initiate PC formation (PubMed:26337392). Persisted at centrioles throughout mitosis Expressed in chromatin-enriched nuclear fraction of HeLa cells. In response to DNA damage, it translocates to nuclear foci that contain the DNA damage response proteins KAT5/TIP60 and CHEK1
Tissue Location	Expressed in several cell lines.

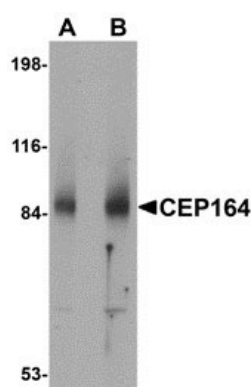
Background

CEP164 Antibody: CEP164 was initially identified as a centrosomal protein, but other studies have indicated that it also plays a role in the formation of primary cilia, the microtubule-based sensory antennae projecting from the surface of many eukaryotic cells as well as in DNA damage response acting as a mediator protein. CEP164 interacts with both ATR and ATM, proteins that trigger a number of cellular responses including the initiation of DNA damaged-induced cell cycle checkpoints. It is phosphorylated upon replication stress, ultraviolet (UV) radiation, and ionizing radiation; silencing of CEP164 significantly reduces the DNA damage-induced phosphorylation of several proteins in the DNA damage-activated signaling cascade and compromises cell survival after UV damage. At least two isoforms of CEP164 are known to exist.

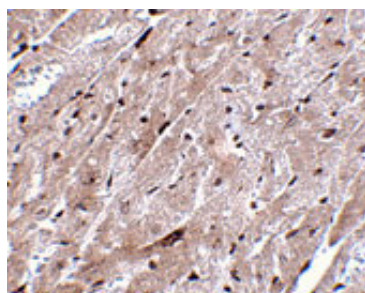
References

Andersen JS, Wilkinson CJ, Mayor T, et al. Proteomic characterization of the human centrosome by protein correlation profiling. *Nature*2003; 426:570-4.
 Graser S, Stierhof YD, Lavoie SB, et al. Cep164, a novel centriole appendage protein required for primary cilium formation. *J. Cell Biol.*2007; 179:321-30.
 Sivasubramaniam S, Sun X, Pan YR, et al. Cep164 is a mediator protein required for the maintenance of genomic stability through modulation of MDC1, RPA, and CHK1. *Genes Dev.*2008; 22:587-600.
 Pan Y-R and Lee EY-HP. UV-dependent interaction between Cep164 and XPA mediates localization of Cep164 at sites of DNA damage and UV sensitivity. *Cell Cycle*2009; 8:655-64.

Images



Western blot analysis of CEP164 in rat heart tissue lysate with CEP164 antibody at (A) 1 and (B) 2 µg/mL.



Immunohistochemistry of CEP164 in mouse heart tissue with CEP164 antibody at 5 µg/mL.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.