

#### HEC1 Antibody

Rabbit Polyclonal Antibody Catalog # ABV10582

## Specification

# **HEC1** Antibody - Product Information

Application Primary Accession Other Accession Reactivity Host Clonality Isotype Calculated MW WB, IP 014777 NP\_006092.1 Human, Mouse Rabbit Polyclonal Rabbit IgG 73913

# HEC1 Antibody - Additional Information

Gene ID 10403

Application & Usage

Western blotting (1:500 - 1:2500) and Immunoprecipitation. HeLa and NIH3T3 cell lysates can be used as a positive control. However, the optimal concentrations should be determined individually. The antibody recognizes the HEC1 of human and mouse origins. Reactivity to other species has not been tested.

**Other Names** HEC, HEC1, HEC-1, Highly Expressed in Cancer 1, KNTC2, Kinetochore Associated 2

Target/Specificity HEC1

Antibody Form Liquid

Appearance Colorless liquid

Formulation 100  $\mu$ l affinity purified rabbit polyclonal antibody in phosphate-buffered saline (PBS) containing 30% glycerol, 1% BSA and 0.02% thimerosal.

Handling The antibody solution should be gently mixed before use.

Reconstitution & Storage -20 °C

**Background Descriptions** 



Precautions

HEC1 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

## **HEC1 Antibody - Protein Information**

Name NDC80

Synonyms HEC, HEC1, KNTC2

Function

Acts as a component of the essential kinetochore-associated NDC80 complex, which is required for chromosome segregation and spindle checkpoint activity (PubMed: <a href="http://www.uniprot.org/citations/9315664" target="\_blank">9315664</a>, PubMed:<a href="http://www.uniprot.org/citations/12351790" target=" blank">12351790</a>, PubMed:<a href="http://www.uniprot.org/citations/14654001" target=" blank">14654001</a>, PubMed:<a href="http://www.uniprot.org/citations/14699129" target=" blank">14699129</a>, PubMed:<a href="http://www.uniprot.org/citations/15062103" target=" blank">15062103</a>, PubMed:<a href="http://www.uniprot.org/citations/15235793" target="\_blank">15235793</a>, PubMed:<a href="http://www.uniprot.org/citations/15239953" target="\_blank">15239953</a>, PubMed:<a href="http://www.uniprot.org/citations/15548592" target=" blank">15548592</a>, PubMed:<a href="http://www.uniprot.org/citations/16732327" target=" blank">16732327</a>, PubMed:<a href="http://www.uniprot.org/citations/30409912" target=" blank">30409912</a>). Required for kinetochore integrity and the organization of stable microtubule binding sites in the outer plate of the kinetochore (PubMed:<a href="http://www.uniprot.org/citations/15548592" target=" blank">15548592</a>, PubMed:<a href="http://www.uniprot.org/citations/30409912" target=" blank">30409912</a>). The NDC80 complex synergistically enhances the affinity of the SKA1 complex for microtubules and may allow the NDC80 complex to track depolymerizing microtubules (PubMed:<a href="http://www.uniprot.org/citations/23085020" target=" blank">23085020</a>). Plays a role in chromosome congression and is essential for the end-on attachment of the kinetochores to spindle microtubules (PubMed:<a href="http://www.uniprot.org/citations/25743205" target=" blank">25743205</a>, PubMed:<a href="http://www.uniprot.org/citations/23891108" target=" blank">23891108</a>).

#### **Cellular Location**

Nucleus. Chromosome, centromere, kinetochore. Note=Localizes to kinetochores from late prophase to anaphase (PubMed:14699129) Localizes specifically to the outer plate of the kinetochore (PubMed:14699129).

#### **HEC1 Antibody - Protocols**

Provided below are standard protocols that you may find useful for product applications.

- <u>Western Blot</u>
- Blocking Peptides
- <u>Dot Blot</u>
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- <u>Cell Culture</u>

HEC1 Antibody - Images



# HEC1 Antibody - Background

Highly expressed in cancer (Hec1) is a coiled-coil-enriched protein expressed abundantly in the S and M phases of rapidly dividing cells where it localizes to the kinetochores. Hec1 is involved in spindle checkpoint signaling. Hec1 is not expressed in terminal differentiated cells. Hec1 is expressed in tissues with high mitotic rates including testis, spleen and thymus. Hec1 is also found in the late S to M phases of bladder carcinoma cells. In dividing cells, Hec1 is required for the recruitment of Mps1 kinase and MAD1/MAD2 complexes to the kinetochores. The phosphorylation of Hec1 on Serine 165 by Nek2 is essential for faithful chromosome segregation. The binding of retinoblastoma protein to Hec1 also increases the fidelity of chromosomal segregation.