

CPTC-KNL1-1 (CAB079957)

Uniprot ID: [Q8NG31](#)

Protein name: KNL1_HUMAN

Full name: Kinetochore scaffold 1

Tissue specificity: Highly expressed in testis, where it is localized in germ cells, in particular in spermatocytes and in the pre-acrosome of round spermatids. Detected in the acrosome of ejaculated spermatozoa. Detected in adult thymus, bone marrow, colon, small intestine, appendix and placenta, and in fetal liver and thymus.

Function: Performs two crucial functions during mitosis: it is essential for spindle-assembly checkpoint signaling and for correct chromosome alignment. Required for attachment of the kinetochores to the spindle microtubules. Directly links BUB1 and BUB1B to kinetochores. Part of the MIS12 complex, which may be fundamental for kinetochore formation and proper chromosome segregation during mitosis. Acts in coordination with CENPK to recruit the NDC80 complex to the outer kinetochore.

Subcellular location:

Nucleus

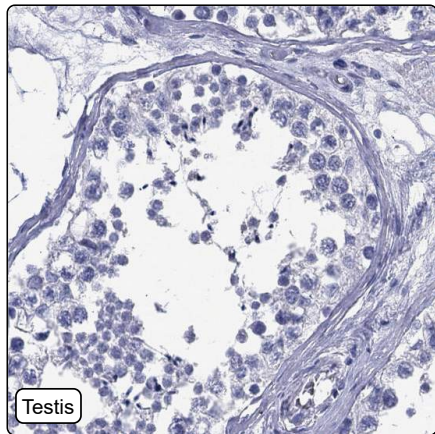
Chromosome > Centromere > Kinetochore

NOTE: Weakly expressed in interphase nuclei. Expression increases from prophase to late anaphase, but greatly diminishes from the telophase and cytokinesis to early G1 phase of cell cycle.

Protein existence: Experimental evidence at protein level

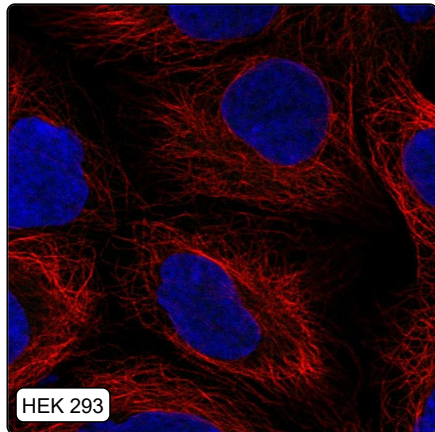
Comment:

Immunohistochemistry



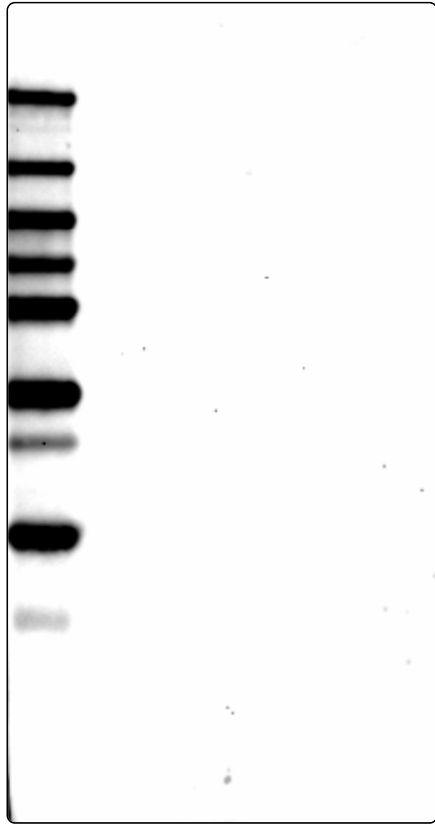
IHC protocol:	HIER pH6, Dilution 1:250
IHC test staining:	Negative in all tissues.
Literature conformance:	Not consistent with gene/protein characterization data
Literature significance:	
RNA consistency:	Not consistent with RNA expression data
IHC Sibling similarity:	Other antibody shows dissimilar IHC staining pattern
IHC fail comment:	ANTIBODY FAILED:

Immunofluorescence



IF Overlay:	antibody (green), anti-tubuline (red) and DAPI (blue)
IF main location:	
IF additional location:	
IF Antibody score:	Failed IF
IF in A549:	Negative
IF in HEK 293:	Negative
IF in U-2 OS:	Negative

Western blot



WB Size markers (kDa):	250, 130, 100, 70, 55, 35, 25, 15, 10
WB Lanes:	Marker (1), RT4 (2), U-251 MG (3), Plasma (4), Liver (5), Tonsil (6)
WB Target weight (kDa):	1, 1, 22, 196, 263, 265
WB Validation:	Uncertain (No bands detected.)