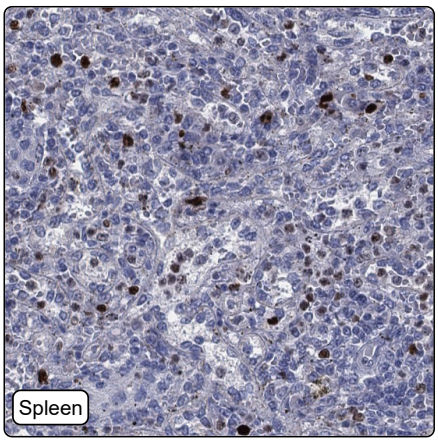
CPTC-MKI67-1 (CAB080228)

Uniprot ID: P46013
Protein name: KI67_HUMAN
Full name: Proliferation marker protein Ki-67
Function: Required to maintain individual mitotic chromosomes dispersed in the cytoplasm following nuclear envelope disassembly (PubMed:27362226). Associates with the surface of the mitotic chromosome, the perichromosomal layer, and covers a substantial fraction of the chromosome surface (PubMed:27362226). Prevents chromosomes from collapsing into a single chromatin mass by forming a steric and electrostatic charge barrier: the protein has a high net electrical charge and acts as a surfactant, dispersing chromosomes and enabling independent chromosome motility (PubMed:27362226). Binds DNA, with a preference for supercoiled DNA and AT-rich DNA (PubMed:10878551). Does not contribute to the internal structure of mitotic chromosomes (By similarity). May play a role in chromatin organization (PubMed:24867636). It is however unclear whether it plays a direct role in chromatin organization or whether it is an indirect consequence of its function in maintaining mitotic chromosomes dispersed (Probable).
Subcellular location:
Chromosome (*experimental evidence*)
Nucleus (*experimental evidence*)
Nucleus > Nucleolus (*experimental evidence*)
NOTE: Associates with the surface of the mitotic chromosome, the perichromosomal layer, and covers a substantial fraction of the mitotic chromosome surface (PubMed:27362226). Associates with satellite DNA in G1 phase (PubMed:9510506). Binds tightly to chromatin in interphase, chromatin-binding decreases in mitosis when it associates with the surface of the condensed chromosomes (PubMed:15896774, PubMed:22002106). Predominantly localized in the G1 phase in the perinucleolar region, in the later phases it is also detected throughout the nuclear interior, being predominantly localized in the nuclear matrix (PubMed:22002106).
Protein existence: Experimental evidence at protein level

Comment:

Immunohistochemistry



IHC protocol:	HIER pH6, Dilution 1:800
IHC test staining:	Nuclear positivity in immunecells and keratinocytes.
Literature conformance:	Consistent with extensive gene/protein characterization data
Literature significance:	
RNA similarity:	High consistency between antibody staining and RNA expression data
RNA tissue specificity:	Group enriched (bone marrow,lymphoid tissue)
RNA tissue distribution:	Detected in many
IHC Sibling similarity:	Other antibody shows partly similar IHC staining pattern
Reliability score:	Supported
APE summary:	Nuclear expression most abundant in germinal center cells and in a subset of cells in several tissues including squamous epithelia, cells in seminiferous ducts and the gastrointestinal tract.
APE explanatory sentences:	Medium consistency between antibody staining and RNA expression data. Presumed off target binding observed and disregarded.
Orthogonal validation:	No
Independent validation:	No
IHC Annotation summary:	Most normal tissues showed moderate to strong nuclear positivity in varying fractions of cells. CSN, muscle tissues, liver, respiratory epithelium, prostate and seminal vesicle were negative. Most cancers showed moderate to strong nuclear positivity in varying fractions of cells.