

**CASC5 Blocking Peptide (C-Term)**  
**Synthetic peptide**  
**Catalog # BP21540b****Specification**

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**CASC5 Blocking Peptide (C-Term) - Product Information**Primary Accession [Q8NG31](#)**CASC5 Blocking Peptide (C-Term) - Additional Information**

Gene ID 57082

**Other Names**

Protein CASC5, ALL1-fused gene from chromosome 15q14 protein, AF15q14, Bub-linking kinetochore protein, Blinkin, Cancer susceptibility candidate gene 5 protein, Cancer/testis antigen 29, CT29, Kinetochore-null protein 1, Protein D40/AF15q14, CASC5, KIAA1570, KNL1

**Target/Specificity**

The synthetic peptide sequence is selected from aa 2324-2337 of HUMAN CASC5

**Format**

Peptides are lyophilized in a solid powder format. Peptides can be reconstituted in solution using the appropriate buffer as needed.

**Storage**

Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C.

**Precautions**

This product is for research use only. Not for use in diagnostic or therapeutic procedures.

**CASC5 Blocking Peptide (C-Term) - Protein Information**Name KNL1 ([HGNC:24054](#))**Function**

Acts as a component of the outer kinetochore KNL1 complex that serves as a docking point for spindle assembly checkpoint components and mediates microtubule-kinetochore interactions (PubMed:<a href="http://www.uniprot.org/citations/15502821" target="\_blank">15502821</a>, PubMed:<a href="http://www.uniprot.org/citations/17981135" target="\_blank">17981135</a>, PubMed:<a href="http://www.uniprot.org/citations/18045986" target="\_blank">18045986</a>, PubMed:<a href="http://www.uniprot.org/citations/19893618" target="\_blank">19893618</a>, PubMed:<a href="http://www.uniprot.org/citations/21199919" target="\_blank">21199919</a>, PubMed:<a href="http://www.uniprot.org/citations/22000412" target="\_blank">22000412</a>, PubMed:<a href="http://www.uniprot.org/citations/22331848" target="\_blank">22331848</a>, PubMed:<a href="http://www.uniprot.org/citations/27881301" target="\_blank">27881301</a>, PubMed:<a href="http://www.uniprot.org/citations/30100357" target="\_blank">30100357</a>). Kinetochores, consisting of a centromere-associated inner segment and a microtubule-contacting outer segment, play a crucial role in chromosome segregation by mediating the physical

connection between centromeric DNA and spindle microtubules (PubMed:<a href="http://www.uniprot.org/citations/18045986" target="\_blank">18045986</a>, PubMed:<a href="http://www.uniprot.org/citations/19893618" target="\_blank">19893618</a>, PubMed:<a href="http://www.uniprot.org/citations/27881301" target="\_blank">27881301</a>). The outer kinetochore is made up of the ten-subunit KMN network, comprising the MIS12, NDC80 and KNL1 complexes, and auxiliary microtubule-associated components; together they connect the outer kinetochore with the inner kinetochore, bind microtubules, and mediate interactions with mitotic checkpoint proteins that delay anaphase until chromosomes are bioriented on the spindle (PubMed:<a href="http://www.uniprot.org/citations/17981135" target="\_blank">17981135</a>, PubMed:<a href="http://www.uniprot.org/citations/19893618" target="\_blank">19893618</a>, PubMed:<a href="http://www.uniprot.org/citations/22000412" target="\_blank">22000412</a>, PubMed:<a href="http://www.uniprot.org/citations/38459127" target="\_blank">38459127</a>, PubMed:<a href="http://www.uniprot.org/citations/38459128" target="\_blank">38459128</a>). Required for kinetochore binding by a distinct subset of KMAPs (kinetochore-bound microtubule-associated proteins) and motors (PubMed:<a href="http://www.uniprot.org/citations/19893618" target="\_blank">19893618</a>). Acts in coordination with CENPK to recruit the NDC80 complex to the outer kinetochore (PubMed:<a href="http://www.uniprot.org/citations/18045986" target="\_blank">18045986</a>, PubMed:<a href="http://www.uniprot.org/citations/27881301" target="\_blank">27881301</a>). Can bind either to microtubules or to the protein phosphatase 1 (PP1) catalytic subunits PPP1CA and PPP1CC (via overlapping binding sites), it has higher affinity for PP1 (PubMed:<a href="http://www.uniprot.org/citations/30100357" target="\_blank">30100357</a>). Recruits MAD2L1 to the kinetochore and also directly links BUB1 and BUB1B to the kinetochore (PubMed:<a href="http://www.uniprot.org/citations/17981135" target="\_blank">17981135</a>, PubMed:<a href="http://www.uniprot.org/citations/19893618" target="\_blank">19893618</a>, PubMed:<a href="http://www.uniprot.org/citations/22000412" target="\_blank">22000412</a>, PubMed:<a href="http://www.uniprot.org/citations/22331848" target="\_blank">22331848</a>, PubMed:<a href="http://www.uniprot.org/citations/25308863" target="\_blank">25308863</a>). In addition to orienting mitotic chromosomes, it is also essential for alignment of homologous chromosomes during meiotic metaphase I (By similarity). In meiosis I, required to activate the spindle assembly checkpoint at unattached kinetochores to correct erroneous kinetochore-microtubule attachments (By similarity).

### Cellular Location

Nucleus. Chromosome, centromere, kinetochore. Cytoplasm {ECO:0000250|UniProtKB:Q66JQ7}. 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 (PubMed:19893618). Localizes to the cytoplasm during meiotic prophase I and then the nucleus as meiosis progresses (By similarity). {ECO:0000250|UniProtKB:Q66JQ7, ECO:0000269|PubMed:19893618}

### Tissue Location

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

## CASC5 Blocking Peptide (C-Term) - Protocols

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

- [Blocking Peptides](#)

## CASC5 Blocking Peptide (C-Term) - Images

## CASC5 Blocking Peptide (C-Term) - Background

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.

#### **CASC5 Blocking Peptide (C-Term) - References**

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Kuefer M.U.,et al.Oncogene 22:1418-1424(2003).  
Zody M.C.,et al.Nature 440:671-675(2006).  
Nagase T.,et al.DNA Res. 7:273-281(2000).