

## Product datasheet for MC224065

### Camsap3 (NM\_001163749) Mouse Untagged Clone

#### Product data:

**Product Type:** Expression Plasmids  
**Product Name:** Camsap3 (NM\_001163749) Mouse Untagged Clone  
**Tag:** Tag Free  
**Symbol:** Camsap3  
**Synonyms:** 2310057J16Rik; Kiaa1543; Nezha  
**Vector:** pCMV6-Entry (PS100001)  
**E. coli Selection:** Kanamycin (25 ug/mL)  
**Cell Selection:** Neomycin  
**Fully Sequenced ORF:** >MC224065 representing NM\_001163749  
 Red=Cloning site Blue=ORF Orange=Stop codon

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**CGGATCGCC**

ATGGTGAAGCGGCCCGCAGGGTCCGGGCCACTGCGGAGGACTTTCCTGGTCCCCGAGATCAAGTCTT  
 TGGACAGTACGATTTCTCTCGAGCCAAGGCGGGCGGAGTCTGGCGTGGGTGCTGCGGGCCGATTTCGG  
 GGGAGCAGAGCATGTGCCTCCGGAGCTGTGGGAACCTTCTACACCGATCAGTACGCACAGGAGCAGCTG  
 AAGCCCCAGTGACGCGGCTGTGCTCTCTGCGGAATACTGTGCGGCCTGGCCGAGGCACTGCCAC  
 AGCTCGAGCCATCCCCAGTCCCTCTGCTCTGTTGGCCTTGTGGCGAGGAGGGGACGGTGCCTTCACT  
 GCCTGAGCACCCAGTGCAGGAGGCTGACCTGAAACACCAGCCAATTCTCATGGGAGCCCACTAGCTGTC  
 ATCGATGCTCTCATGGTTGCCTTCTCATTTGAGTGGACAAAGACTACCTGGTCCCTTGGCTCTGAGCA  
 GCTTGGAGCACAACCTCTTTTCTGGGTAGACACAAGTTCGGCGGCTGCAGGAGAAGACAGAACAAGA  
 AGCAGCCCAGCGTGCATCTCCTGCAGCCCCTCTGGATGGGGCTCTCCTGCCAGCCCTCGATTTCGAT  
 CGCAAGGACCGTGCATTGCCGAAGGGCTCCCTGCTTTCCAAATGTGACTACCTTCAGGACCTGGCCA  
 GTGGGGCAGCACTGGCTGCCACCATCCACTGCTATTGTCCCAAGTATTACGACTTGAGGAGGTGTCCT  
 CAAGGACCCCATGTCTGTGGCAGACAGTCTATACAACCTCCAGCTGGTGAAGACTTCTGTGCCTCCAT  
 CTTCCTCGAGGCTGCCCCCTGTCCCTTGAAGACTTGTGTATGTCCACACCCTCAAGGTCAACCTGG  
 TGGTGTGTTGGCTGAGATGTATATGTGCTTTGAGGTTCTGAAGCCTGATTTTGTGCAGGCCAAAGACTT  
 GCCTGATGGACATGTAGCTGTCTCCCCCGGAATACAGAGACTGTTCCATCTCAGAACAACAGTGGCAGC  
 AGTTCTCTGTCTTCACTTCCGTCACCCACTTCTGTACCTGGTGGTCCCCAGTCTCCACTCCGAGGAT  
 CCACAGGCTCCCTGAAGTCCCTCCATCAATGTCTCACATGGAGGCTCTTGGCAAAGCCTGGAACCGTCA  
 GCTTAGCCGTCCTCTCCAGGCTGTGTCGTTCCAGCACTCCCTTTGGCCTGGACAGCGATGTGGATGTC  
 GTCATGGGAGATCTGTCTGCTCGGCTCCGTCAGCTCAGACAGTCTGGGTCTCCACGCTCTGTGTCAA  
 CATCATCCCGAATTCTGCTCAGCCAGCCCGAATCTGGAGACCTACCCACGATTGAAGAGGCCCTGCA  
 GATCATTACAGTGTGAGCCCCGACTGCTCCCTGATGGGGCTGCTGATGGCAGTTTCTACCTCCATTCT  
 CCTGAGGGTCTCTCAAACCACCACTCTCCCTACCCTCCCGAAGGAGCCTCAAAGCCGCTGTCTGATA



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GGCTCAACAAGGCGCCTATCTATATATCACACCCTGAGAACCCTTCAAATCATCTCCCTGCTCAACAGG  
 AGAGATACTGAAACCACCACCCCATCCGAGGGTTCCCCAAAGCTGTGGCTTCATCCCCAGCAGCCAAC  
 AACTCCGAAGTGAAGATGACCAGTTTTGCTGAACGCAAGAAACAGCTGGTGAAGGCTGAGGCTGAGTCAG  
 GATTGGGGTCTCCAACATCCACCCCGTAGCACCTGAGGCCTTGAGCTCAGAGATGAGTGAAGCTGGGAGC  
 CAGGCTGGAGGAGAAGCGCCGAGCCATAGAGGCACAGAAACGACGCATTGAGGCAATCTTTGCCAAGCAT  
 AGGCAGAGGCTGGGCAAGAGCGCTTTCTGCAGGTGCAGCTCGGGAGGCTGCAGGGGAGGCCGAGGAGG  
 AAGCTGAGCTGGGCTCAGTTCTTGGTGGGAACGGCCAGCAGTGAGGGCCAGGGTGAAGCCGCTTACG  
 GCACAAGTCAGTTACCTTCTCTCCAGACCTGGGCCAGTGCCCCAGAGGGACTTGGGGATTACAATAGA  
 GCAGTCAGTAAGCTGAGTGCCGCTCTGAGCTCTGTCAGCGGGACATGCAGAGGCTCACAGACCAGCAAC  
 AGCGGCTTCTAGCCCTCCAGAAGCTCCTGGACCTGCCCCACCACCTGCAGCCTGGGTATTCTGGACC  
 CGCCACTGGGCTAAAGCAGCATCCCCAGCCCTGCCGTCGTGCCCCAGCTGCCGACGCAGCCCTGGG  
 CCAGGCCCCAGCCCAACACCCCGTAGTCCAAAACATGCAAGGCCGGCAGAGCTGAAGCTTGCACCTTTGA  
 CAAGGGTACTCACACCACCCATGATGTAGACAGCCTCCCTCACCTACGCAAGTTTTACCCAGCCAGGT  
 GCCTGTACAGACTCGCTCTCTATCTCTGTGCGAGGGGACACCTCCCGAGGAGCCACCACCAAGCCT  
 GCCCTATTGAGATCCCTTAGCCAGCCTGGGGGAGCCTGCTGCTGATGAGGAAGGAGATGGGAGCCCC  
 CTGGGGCTGAGGATTCTTAGAGGAAGAGGCATCTTCTGAGGGAGAGCCCGATCAGGGCTTGGATTCTT  
 TTATAAGGACGAAGACAAGCCTGAGGATGAGATGGCTCAGAAGCGAGCTAGCCTGCTGGAGCGTCAGCAG  
 AGGCGGGTAGAGGAAGCCCGCGCGCGCAAAACAGTGGCAGGAGGCAGAGAAGGAGCAGAAACGGGAGGAGG  
 CCGCCAGGCTGGCTCAGGAGGCTCCAGGCTTGGCTTTACAACCTCTGTTGTAGCCTCTGCGGCTCCAGT  
 GGCCACCTTGGCTCCTACTACCAGGCCATGGCCCCAGCTGAGGAGGAGTGGGCCCCCGGGGGGGAC  
 TTCACAAGACTTGAGTATGAACGCCGGGCACAACCTGAACTGATGGATGACCTTGATAAGGTGCTACGGC  
 CCCGGGCTCAGGAGCCGGGGACAGGGCGGGCGGGCCAGGGCCACCCGGCCACGCTCTGGTTGCTG  
 TGATGACTCGGCCTTGGCACGAAGCCAGCCCGGGCTGCTGGTTTACGGCTCAGCAAGGTCTATTCC  
 CAGTCCACGCTGTCCCTATCTACGGTGGCCAACGAGGCTCCAATAACCTTGGTGTGAAGAGGCCACCT  
 CTGCGGCCCTTCTCCATCAGGCCTCATGTCTCAAGCCGCTGCCTGGCAGTCGAGAACGTGACTGGGA  
 GAATGGAAGCAATGCATCCTCCCCAGCATCAGTGCCTGAGTACACAGGTCCCCGGCTATAACAAGAACCC  
 AGCGCCAAGTCTAACAAGTTTATCATCCACAATGCCTTGTCACTGCTGCCTGGCAGGCAAGGTGAATG  
 AGCCCCAGAAGAACAAGATTCTAGAGGAAATCGAGAAAAGCAAGGCCAACCACTTCTGATTCTCTTTG  
 GGACTCAAGCTGCCAGTTCGGGCCCTCTACACTCTGTCTGGGGAGACAGAGGAGCTATCGAGGCTGGCA  
 GGCTATGGGCTCGGACCGTCACTCCTGCCATGGTGAAGGCATCTATAAGTACAACCTCGGATCGCAAC  
 GGTTACCCAGATCCCTGCTAAAACCATGTCTATGAGTGTAGACGCTTCACTATCCAGGGACACCTTTG  
 GCAAAGCAAGAAGCCACCACGCCCAAGAAGGGTGGCGGTACCCCAAA TAG

ACGCGTACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT  
 ACAAGGATGACGACGATAAGGTTTAA

**Restriction Sites:**

Sgfl-MluI

**ACCN:**

NM\_001163749

**Insert Size:**

3762 bp

**OTI Disclaimer:**

Our molecular clone sequence data has been matched to the reference identifier above as a point of reference. Note that the complete sequence of our molecular clones may differ from the sequence published for this corresponding reference, e.g., by representing an alternative RNA splicing form or single nucleotide polymorphism (SNP).

**Components:**

The ORF clone is ion-exchange column purified and shipped in a 2D barcoded Matrix tube containing 10ug of transfection-ready, dried plasmid DNA (reconstitute with 100 ul of water).

**Reconstitution Method:**

1. Centrifuge at 5,000xg for 5min.
2. Carefully open the tube and add 100ul of sterile water to dissolve the DNA.
3. Close the tube and incubate for 10 minutes at room temperature.
4. Briefly vortex the tube and then do a quick spin (less than 5000xg) to concentrate the liquid at the bottom.
5. Store the suspended plasmid at -20°C. The DNA is stable for at least one year from date of shipping when stored at -20°C.

**RefSeq:** [NM\\_001163749.1](#), [NP\\_001157221.1](#)

**RefSeq Size:** 4306 bp

**RefSeq ORF:** 3762 bp

**Locus ID:** 69697

**UniProt ID:** [Q80VC9](#)

**Cytogenetics:** 8 A1.1

**Gene Summary:**

Key microtubule-organizing protein that specifically binds the minus-end of non-centrosomal microtubules and regulates their dynamics and organization (PubMed:23169647, PubMed:24706919, PubMed:26715742). Specifically recognizes growing microtubule minus-ends and autonomously decorates and stabilizes microtubule lattice formed by microtubule minus-end polymerization (PubMed:24706919). Acts on free microtubule minus-ends that are not capped by microtubule-nucleating proteins or other factors and protects microtubule minus-ends from depolymerization (PubMed:24706919). In addition, it also reduces the velocity of microtubule polymerization (PubMed:24706919). Required for the biogenesis and the maintenance of zonula adherens by anchoring the minus-end of microtubules to zonula adherens and by recruiting the kinesin KIFC3 to those junctional sites (By similarity). Required for orienting the apical-to-basal polarity of microtubules in epithelial cells: acts by tethering non-centrosomal microtubules to the apical cortex, leading to their longitudinal orientation (PubMed:26715742). Plays a key role in early embryos, which lack centrosomes: accumulates at the microtubule bridges that connect pairs of cells and enables the formation of a non-centrosomal microtubule-organizing center that directs intracellular transport in the early embryo (PubMed:28860385). Couples non-centrosomal microtubules with actin: interaction with MACF1 at the minus ends of non-centrosomal microtubules, tethers the microtubules to actin filaments, regulating focal adhesion size and cell migration (By similarity). Plays a key role in the generation of non-centrosomal microtubules by accumulating in the pericentrosomal region and cooperating with KATNA1 to release non-centrosomal microtubules from the centrosome (By similarity). Through the microtubule cytoskeleton, also regulates the organization of cellular organelles including the Golgi and the early endosomes (By similarity). Through the microtubule cytoskeleton, also regulates the organization of cellular organelles including the Golgi and the early endosomes (By similarity). Through interaction with AKAP9, involved in translocation of Golgi vesicles in epithelial cells, where microtubules are mainly non-centrosomal (By similarity).[UniProtKB/Swiss-Prot Function]

Transcript Variant: This variant (1) lacks two exons and uses an alternate in-frame splice site in the 5' coding region compared to variant 3. The encoded isoform (1) is shorter than isoform 3.