

## Product datasheet for **SC316033**

### KIAA1543 (CAMSAP3) (NM\_020902) Human Untagged Clone

#### Product data:

**Product Type:** Expression Plasmids  
**Product Name:** KIAA1543 (CAMSAP3) (NM\_020902) Human Untagged Clone  
**Tag:** Tag Free  
**Symbol:** KIAA1543  
**Synonyms:** KIAA1543; NEZHA; PPP1R80  
**Vector:** pCMV6 series  
**Fully Sequenced ORF:** >NCBI ORF sequence for NM\_020902, the custom clone sequence may differ by one or more nucleotides

```

ATGGTGGAGGCGCGCCCCCGGGCCCGGCGCTGCGGAGGACCTTTCTAGTGCCCGAG
ATCAAGTCGCTGGACCAGTACGATTTCTCGCGGGCCAAGGCGGCGCCAGCCTGGCGTGG
GTGCTGCGGGCCGCGTTCGGGGGCGCAGAGCACGTGCCCCGGAGCTGTGGGAGCCCTTC
TATACCGACCAGTACGCGCAGGAGCATGTGAAGCCCCGGTGACACGGCTGCTGCTCTCA
GCCGAGCTCTACTGCAGAGCCTGGCGCCAGGCACTGCCACAGCTTGAACACCCCCAAC
CCCTCTGCACTGCTGGCCCTGCTGGCGCGAGGGGCACAGTGCCTGCTTTGCCGAGCGC
CCGGTGC GCGAGGCCGACCTGAGGCACCCAGCCATTCTCATGGGAGCCCACTAGCTGTC
ATTGATGCCCTCATGGCTGCCTTTGCCTTCGAGTGGACAAGACCCTGCCAGGTCCCTTG
GCCCTGACCAGCTTGGAGCACAAGCTGCTTTTCTGGGTGGACACGACCGTCCGGCGGCTG
CAGGAGAAGACCGAGCAGGAAGCGGCCAGCGAGCCTCTCCAGCAGCCCTGCAGACGGG
GCGGCCCGGCGCAGCCCTCGATCCGATACCGCAAGGACCGTGTGGTGGCGCGACGTGCC
CCCTGCTTCCCGACGGTGACCAGCCTCCAGGACCTGGCCAGTGGGGCCGCGCTGGCCGCC
ACCATCCACTGCTATTGTCCCAGCTGCTTCGACTTGAGGAGGTGTGCTGAAGGACCCC
ATGTCTGTGGCGGACAGCCTGTACAACCTCCAGCTCGTGCAGGATTTCTGTGCCTCTCG
CTTCCCTCGTGGCTGCCCCCTGTCCCTTGAGGACTTGCTGTACGTCCCACCGCCACTCAAG
GTCAACTTGGTGGTGTGCTGGCCGAGTTGTTCAATGTGTTTTGAGGTGCTCAAGCCGAC
TTTGTGCAAGTGAAGGACTTGCCCGATGGTCACGCTGCCTCCCCCGGGGCACTGAGGCC
TCCCCACCTCAGAACAACAGCGGAGTATTCTCCTGTCTTACCTTCCGCCACCCGCTT
CTGTCACTGGTGGCCCCAGTCCCCACTCCGAGGATCCACAGGCTCCCTGAAGTCTTCC
CCGTCCATGTCCCATATGGAGGCCCTGGGCAAGGCCTGGAACCGGACGCTCAGCCGTCCC
CTCTCCCAGGCTGTGTCATTTCAGCACCCCTTTGGCTGGACAGCGACGTGGATGTCGTC
ATGGGAGACCCTGTGCTCCTCCGCTCTGTGAGCTCGGACAGCCTGGGCCCCCGCGTCCC
GCGCCGGCCAGGACCCCCACCCAGCCACCCCGGAGCCTGGTACCTGCCACCACATCGAG
GAAGCTCTGCAGATCATCCACAGTGCCGAGCCCCGGCTCCTCCCAGATGGGGCGGCGAC
GGCAGTTCTACCTCCACTCCCCTGAGGGGCCCTCCAAGCCATCCTGGCCTCCCCCTAC
CTGCCCCGAGGGGACCTCCAAACCACTGTCCGACAGGCCACCAAAGCACCAGTGTACATG
CCACACCCCGAGACCCCTCGAAACCATCTCCCTGTCTGGTGGGGGAGGCATCGAAACCG
CCAGCCCCATCCGAGGGGTCCCCGAAGGCGGTGGCTTCGTCGCCAGCAGCCACCAACTCC
GAGGTGAAAATGACCAGCTTTCAGAACGCAAGAAACAGCTGGTGAAGGCAGAGGCTGAG

```



[View online >](#)

```
GCCGGAGCGGGTCCCCACGTCCA CTCCGCCCCCGGAGGCCCTGAGCTCGGAGATG
AGTGAGCTCAGCGCCCGGCTGGAGGAGAAACGCAGAGCCATCGAGGCTCAGAAGCGACGG
ATTGAGGCCATATTCGCCAAGCACCGCCAGCGGCTGGGCAAAAGCGCCTTCTGCAGGTG
CAGCCGCGGAAGCCTCTGGGGAGGCGGAAGCAGAGGCGGAGGAGGCCGATTCCGGTCCA
GTCCCTGGTGGGAGCGGCCCGCAGGCGAGGGCCAGGGTGAGCCAACCTCACGGCCAAAG
GCAGTGACCTTCTCGCCAGACCTGGGCCCGTGGCCACGAGGGGCTGGGGGAATAACAAT
CGAGCGGTCAGCAAGCTGAGTGCCGCCTTGAGCTCGCTGCAGCGGACATGCAGAGGCTC
ACGGACCAGCAGCAGCGGCTCCTGGCCCCGCGAGGCCCGGATCCGCCCCACCACCT
GCTGCGTGGGTACATCCCTGGCCCCACGACGGGGCCAAAGCTGCATCCCCAGCCCCGCC
CGGCGAGTCCCGGCCACCCGGCGCAGCCCTGGGCCGGGCCAGCCAGTCACCCGACGC
CCGAAACACACGCGGCCAGCGGAGCTGCGGCTGGCACCCCTTGACCAGGGTGCTTACGCCA
CCCCACGAGCTAGACAGCCTCCCCACCTGCGCAAGTTCTCGCCGAGCCAGGTGCCCGTG
CAGACGCGCTCTCCATCCTCCTGGCGGAGGAGACGCCCCGAGGAGCCAGCCGCCCGG
CCGGCCCTCATCGAGATCCGCTGGGCAGCCTGGCAGATCCCGCCGCGAGGACGAGGGA
GACGGGAGCCCCGCTGGTGTGAGGATTCTTGAGGAGGAGGCGTCTTCGGAGGGGGAG
CCCCGGTGGGGTGGGGTCTTCTACAAGGATGAAGACAAGCCTGAGGACGAGATGGCC
CAAAGCGGGCCAGCCTGCTGGAGCGGCAGCAGCGGCGAGCAGAGGAGGCGGGCGGCGC
AAGCAGTGGCAGGAGGTGGAGAAGGAACAGCGAGGGAGGAGGCCGCGAGGCTGGCCAA
GAGGAGGCCCGGGCCAGCCCCGCTTGTGTCCGAGTCCCGATGGCGACTCCAGCCCCT
GCTGCCCGGGCTCCAGCCGAGGAGGAGGTGGGCCCGGAAAGGGGACTTCACGCGGCAG
GAGTACGAGCGCGGGCCAGCTGAAGCTGATGGACGACCTCGATAAGGTGCTGCGGCC
CGGGTTCGCGGGTCCGGGGTCCAGGTGCGGGCGGGCGGAGGGCCACCCGGCCTCGCTCG
GGTTGCTGTGACGACTCAGCCCTGGCACGAAGCCAGCCCGCGGCTGCTGGGCTCTCGG
CTGAGCAAAATCTATTCCAGTCCACCCTGTCACTGTCCACTGTGGCCAACGAGGCCAC
AATAACCTCGGGTGAAGAGGCCACGCTCTGGGCTCCCTCCCCGTCAGGTCTCATGTCC
CCAAGCCGCTGCCTGGAAGCCGGAACGGGACTGGGAAAATGGCAGCAATGCCTCCTCC
CCAGCGTCAGTGCCCGAGTACACAGGTCCACGGCTGTACAAGAACCAGCGCCAAGTCC
AACAAAGTTCATCATCCACAATGCCCTATCACACTGCTGCCTGGCGGGCAAGGTGAACGAA
CCGCAGAAAGATCGATTCTGGAGGAAATTGAGAAAAGCAAGGCCAACCACTTCTGATC
CTCTTTTCGCGACTCGAGTGCCAGTTCGGGGCGCTCTACAGCTGTGGGGGAGACAGAG
GAGCTGTGCGGGTGGCAGGGTATGGGCCCGGACCGTACGCCCCCATGGTGAAGGC
ATCTACAAGTACAACCTCGGACCGCAAGCGCTTACCCAGATCCCCGCAAGACCATGTCC
ATGAGCGTCGATGCCTTACCATCCAGGGACACCTCTGGCAGGGCAAGAAACCCACCACT
CCCAAGAAGGGCGGGCACCCCAAA
```

- Restriction Sites:** Please inquire
- ACCN:** NM\_020902
- 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).
- OTI Annotation:** This TrueClone is provided through our Custom Cloning Process that includes sub-cloning into OriGene's pCMV6 vector and full sequencing to provide a non-variant match to the expected reference without frameshifts, and is delivered as lyophilized plasmid DNA.
- 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\\_020902.1](#), [NP\\_065953.1](#)

**RefSeq Size:** 4120 bp

**RefSeq ORF:** 3750 bp

**Locus ID:** 57662

**UniProt ID:** [Q9P1Y5](#)

**Cytogenetics:** 19p13.2

**Gene Summary:** Key microtubule-organizing protein that specifically binds the minus-end of non-centrosomal microtubules and regulates their dynamics and organization (PubMed:19041755, PubMed:23169647). Specifically recognizes growing microtubule minus-ends and autonomously decorates and stabilizes microtubule lattice formed by microtubule minus-end polymerization (PubMed:24486153). 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:24486153). In addition, it also reduces the velocity of microtubule polymerization (PubMed:24486153). 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 (PubMed:19041755). 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:27802168, 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 (By similarity). 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 (PubMed:27693509). 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 (PubMed:28386021). Through the microtubule cytoskeleton, also regulates the organization of cellular organelles including the Golgi and the early endosomes (PubMed:28089391). Through interaction with AKAP9, involved in translocation of Golgi vesicles in epithelial cells, where microtubules are mainly non-centrosomal (PubMed:28089391).[UniProtKB/Swiss-Prot Function]

Transcript Variant: This variant (2) lacks two exons in the 5' coding region, compared to variant 1. The encoded isoform (2) is shorter, compared to isoform 1.