

## Product datasheet for RC216127

### KIAA1543 (CAMSAP3) (NM\_001080429) Human Tagged ORF Clone

#### Product data:

Product Type:	Expression Plasmids
Product Name:	KIAA1543 (CAMSAP3) (NM_001080429) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	KIAA1543
Synonyms:	KIAA1543; NEZHA; PPP1R80
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)
ORF Nucleotide Sequence:	>RC216127 representing NM_001080429 Red=Cloning site Blue=ORF Green=Tags(s)

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CAGATCATCCACAGTGCCGAGCCCCGGCTCCTCCCAGATGGGGCGGCGACGGCAGCTTCTACCTCCA  
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Protein Sequence: >RC216127 representing NM\_001080429  
 Red=Cloning site Green=Tags(s)

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 RWWYKLVPHAI AFCLKESGSKPPMIRYRKDRVVARAPCFPTVTSLQDLASGAALAAATIHICYCPQLRLE  
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 NGSNASSPASVPEYTGRLYKPSAKSNKFIHNL SHCCLAGKVNPEQKNRILEEIEKSKANHFLILFR  
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 QGKKPTTPKKG GTPK

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

Chromatograms: [https://cdn.origene.com/chromatograms/mk8017\\_d06.zip](https://cdn.origene.com/chromatograms/mk8017_d06.zip)

Restriction Sites: SgfI-MluI

Cloning Scheme:



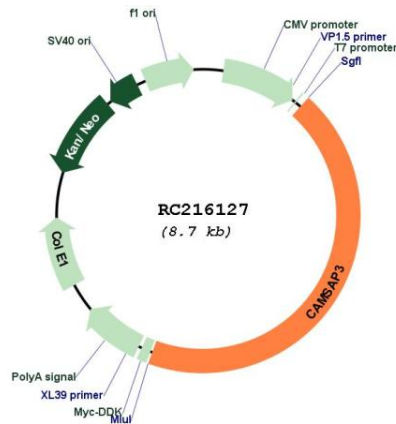
ACCN: NM\_001080429

ORF Size: 3828 bp

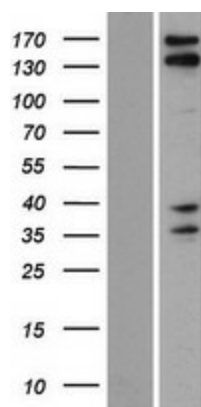
<b>OTI Disclaimer:</b>	The molecular sequence of this clone aligns with the gene accession number as a point of reference only. However, individual transcript sequences of the same gene can differ through naturally occurring variations (e.g. polymorphisms), each with its own valid existence. This clone is substantially in agreement with the reference, but a complete review of all prevailing variants is recommended prior to use. <a href="#">More info</a>
<b>OTI Annotation:</b>	This clone was engineered to express the complete ORF with an expression tag. Expression varies depending on the nature of the gene.
<b>Components:</b>	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).
<b>Reconstitution Method:</b>	<ol style="list-style-type: none"> <li>1. Centrifuge at 5,000xg for 5min.</li> <li>2. Carefully open the tube and add 100ul of sterile water to dissolve the DNA.</li> <li>3. Close the tube and incubate for 10 minutes at room temperature.</li> <li>4. Briefly vortex the tube and then do a quick spin (less than 5000xg) to concentrate the liquid at the bottom.</li> <li>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.</li> </ol>
<b>RefSeq:</b>	<a href="#">NM_001080429.3</a>
<b>RefSeq Size:</b>	4084 bp
<b>RefSeq ORF:</b>	3831 bp
<b>Locus ID:</b>	57662
<b>UniProt ID:</b>	<a href="#">Q9P1Y5</a>
<b>Cytogenetics:</b>	19p13.2
<b>MW:</b>	137.7 kDa

**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]

**Product images:**

Circular map for RC216127



Western blot validation of overexpression lysate (Cat# [LY421646]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from untransfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC216127 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).