

SKA1 Rabbit pAb

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Catalog # AP58772

Product Information

Application	WB, IHC-P, IHC-F, IF
Primary Accession	Q96BD8
Predicted	Rat, Pig, Dog, Human, Mouse, Rabbit, Horse
Host	Rabbit
Clonality	Polyclonal
Calculated MW	29484
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from human SKA1
Epitope Specificity	181-255/255
Isotype	IgG
Purity	affinity purified by Protein A
Buffer	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.
SUBCELLULAR LOCATION	Cytoplasm, cytoskeleton, spindle. Chromosome, centromere, kinetochore.
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	Component of the SKA1 complex, a microtubule-binding subcomplex of the outer kinetochore that is essential for proper chromosome segregation. Required for timely anaphase onset during mitosis, when chromosomes undergo bipolar attachment on spindle microtubules leading to silencing of the spindle checkpoint. The SKA1 complex is a direct component of the kinetochore-microtubule interface and directly associates with microtubules as oligomeric assemblies. The complex facilitates the processive movement of microspheres along a microtubule in a depolymerization-coupled manner. In the complex, it mediates the interaction with microtubules.

Additional Information

Gene ID	220134
Other Names	SKA complex subunit 1, Spindle and kinetochore-associated protein 1, SKA1, C18orf24
Dilution	WB=1:500-2000,IHC-P=1:100-500,IHC-F=1:100-500,IF=1:100-500,ELISA=1:5000-10000
Storage	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. When reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.

Protein Information

Name	SKA1
Synonyms	C18orf24
Function	Component of the SKA complex, a microtubule plus end-binding complex of the outer kinetochore that stabilizes spindle microtubule- kinetochore attachments, promotes alignment of chromosomes at the mitotic spindle equator (chromosome congression) and assists suppression of the spindle assembly checkpoint (PubMed:17093495, PubMed:19289083, PubMed:22371557, PubMed:22483620, PubMed:23085020, PubMed:26981768, PubMed:27697923, PubMed:29487209, PubMed:31804178). 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:19289083, PubMed:22483620, PubMed:23085020, PubMed:28479321, PubMed:29487209). The outer kinetochore is made up of the ten-subunit KMN network complex, comprising the MIS12, NDC80 and KNL1 complexes, and auxiliary microtubule-associated components such as the SKA complex; 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:17093495, PubMed:19289083, PubMed:23085020, PubMed:28479321, PubMed:29487209). The SKA complex is loaded onto bioriented kinetochores and it facilitates chromosome congression by stabilizing microtubules together with MAPRE1, and end-on attachment of the NDC80 complex to depolymerizing spindle microtubules, thereby assisting the poleward-moving kinetochore in withstanding microtubule pulling forces (PubMed:19289083, PubMed:22371557, PubMed:22454517, PubMed:23085020, PubMed:24413531, PubMed:27697923, PubMed:28479321, PubMed:28495837, PubMed:29487209). The complex associates with dynamic microtubule plus- ends and can track both depolymerizing and elongating microtubules (PubMed:23085020, PubMed:29153323). The complex recruits protein phosphatase 1 (PP1) to the kinetochore in prometaphase and metaphase, to oppose spindle assembly checkpoint signaling and promote the onset of anaphase (PubMed:26981768). In the complex, it mediates interactions with microtubules (PubMed:19289083, PubMed:22483620, PubMed:23085020, PubMed:24413531, PubMed:27667719, PubMed:29153323, PubMed:36592928). It also stimulates AURKB/Aurora B catalytic activity (PubMed:27697923). During meiosis the SKA complex stabilizes the meiotic spindle and is required for its migration to the cortex (By similarity).
Cellular Location	Cytoplasm, cytoskeleton, spindle. Chromosome, centromere, kinetochore. Cytoplasm, cytoskeleton, microtubule organizing center, centrosome Note=Localizes to bioriented kinetochores and spindle microtubules during metaphase in a NDC80 complex-dependent manner (PubMed:17093495, PubMed:28479321, PubMed:29487209). The SKA complex begins to concentrate at kinetochores before microtubule attachment but reaches maximum levels on bioriented metaphase chromosomes (PubMed:17093495) Localizes both to microtubule plus-ends and along the length of microtubules (PubMed:27225956). The localization of the SKA complex to kinetochores is positively regulated by protein serine/threonine kinase CDK1 (PubMed:28479321). The localization of the SKA complex to kinetochores is negatively regulated by protein serine/threonine kinase AURKB, and this action is opposed directly or indirectly by the PP1 and PP2A protein phosphatase complexes (PubMed:22371557, PubMed:27697923) Localizes at the centrosome during interphase and prophase (PubMed:19646878).

Localizes to the meiotic spindle, but not to kinetochores, from the stage of germinal vesicle breakdown (GVBD) to meiosis II (MII) (By similarity).
{ECO:0000250|UniProtKB:Q9CPV1, ECO:0000269|PubMed:17093495,
ECO:0000269|PubMed:19646878, ECO:0000269|PubMed:22371557,
ECO:0000269|PubMed:27225956, ECO:0000269|PubMed:27697923,
ECO:0000269|PubMed:28479321, ECO:0000269|PubMed:29487209}

Background

This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.