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Anti-RCC1 Antibody Picoband™ (monoclonal, 6B11E7)

Catalog # ABO16574

Product Information

Application	WB, IHC, IF, ICC
Primary Accession	P18754
Host	Mouse
Isotype	Mouse IgG2a
Reactivity	Human
Clonality	Monoclonal
Format	Lyophilized
Description	Anti-RCC1 Antibody Picoband™ (monoclonal, 6B11E7) . Tested in IF, IHC, ICC, WB applications. This antibody reacts with Human.
Reconstitution	Adding 0.2 ml of distilled water will yield a concentration of 500 □g/ml.

Additional Information

Gene ID	1104
Other Names	Regulator of chromosome condensation, Cell cycle regulatory protein, Chromosome condensation protein 1, RCC1, CHC1
Calculated MW	44969
Application Details	Western blot, 0.25-0.5 □g/ml, Human Immunohistochemistry(Paraffin-embedded Section), 2-5 □g/ml, Human Immunocytochemistry/Immunofluorescence, 5 □g/ml, Human
Source	Eukaryota
Contents	Each vial contains 4 mg Trehalose, 0.9 mg NaCl and 0.2 mg Na2HPO4.
Clone Names	Clone: 6B11E7
Immunogen	E.coli-derived human RCC1 recombinant protein (Position: A14-S421).
Purification	Immunogen affinity purified.
Storage	At -20°C for one year from date of receipt. After reconstitution, at 4°C for one month. It can also be aliquotted and stored frozen at -20°C for six months. Avoid repeated freezing and thawing.

Protein Information

Name	RCC1

Synonyms	CHC1
Function	Guanine-nucleotide releasing factor that promotes the exchange of Ran-bound GDP by GTP, and thereby plays an important role in RAN-mediated functions in nuclear import and mitosis (PubMed:11336674, PubMed:17435751, PubMed:1944575, PubMed:20668449, PubMed:22215983, PubMed:29042532). Contributes to the generation of high levels of chromosome-associated, GTP-bound RAN, which is important for mitotic spindle assembly and normal progress through mitosis (PubMed:12194828, PubMed:17435751, PubMed:22215983). Via its role in maintaining high levels of GTP-bound RAN in the nucleus, contributes to the release of cargo proteins from importins after nuclear import (PubMed:22215983). Involved in the regulation of onset of chromosome condensation in the S phase (PubMed:3678831). Binds both to the nucleosomes and double-stranded DNA (PubMed:17435751, PubMed:18762580).
Cellular Location	Nucleus. Chromosome. Cytoplasm Note=Predominantly nuclear in interphase cells (PubMed:12194828). Binds to mitotic chromosomes (PubMed:12194828, PubMed:17435751, PubMed:20668449).

Background

CHC1, also named as RCC1, SNHG3-RCC1, promotes the exchange of ran-bound gdp by gtp. It is involved in the regulation of onset of chromosome condensation in the S-phase. Phosphorylation of RCC1 on serines located in or near its nuclear localization signal activates RCC1 to generate RanGTP on mitotic chromosomes, which is required for spindle assembly and chromosome segregation. This antibody is a rabbit polyclonal antibody raised against residues near the C terminus of human RCC1. The geneID has updated as 1104 recently.

Images

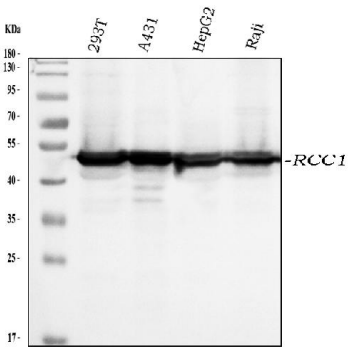


Figure 1. Western blot analysis of RCC1 using anti-RCC1 antibody (M02719-2).
Electrophoresis was performed on a 5-20% SDS-PAGE gel at 70V (Stacking gel) / 90V (Resolving gel) for 2-3 hours. The sample well of each lane was loaded with 30 ug of sample under reducing conditions.
Lane 1: human 293T whole cell lysates,
Lane 2: human A431 whole cell lysates,
Lane 3: human HepG2 whole cell lysates,
Lane 4: human Raji whole cell lysates.
After electrophoresis, proteins were transferred to a nitrocellulose membrane at 150 mA for 50-90 minutes. Blocked the membrane with 5% non-fat milk/TBS for 1.5 hour at RT. The membrane was incubated with mouse anti-RCC1 antigen affinity purified monoclonal antibody (Catalog # M02719-2) at 0.5 µg/mL overnight at 4°C, then washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-mouse IgG-HRP secondary antibody at a dilution of 1:10000 for 1.5 hour at RT. The signal is developed using an Enhanced Chemiluminescent detection (ECL) kit (Catalog # EK1001) with Tanon 5200 system. A specific band was detected for RCC1 at approximately 47 kDa. The expected band size for RCC1 is at 47 kDa.

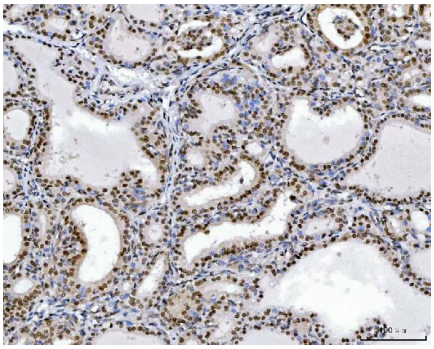


Figure 2. IHC analysis of RCC1 using anti-RCC1 antibody (M02719-2).
RCC1 was detected in a paraffin-embedded section of human thyroiditis tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2 µg/ml mouse anti-RCC1 Antibody (M02719-2) overnight at 4°C. Peroxidase Conjugated Goat Anti-mouse IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using HRP Conjugated Mouse IgG Super Vision Assay Kit (Catalog # SV0001) with DAB as the chromogen.

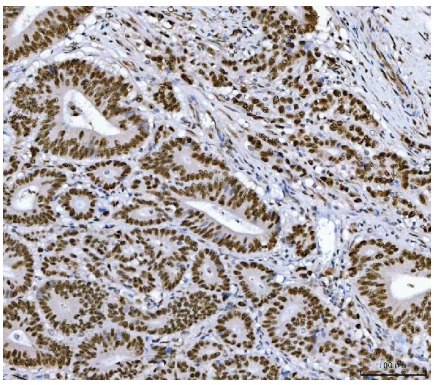


Figure 3. IHC analysis of RCC1 using anti-RCC1 antibody (M02719-2).
RCC1 was detected in a paraffin-embedded section of human colorectal adenocarcinoma tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2 µg/ml mouse anti-RCC1 Antibody (M02719-2) overnight at 4°C. Peroxidase Conjugated Goat Anti-mouse IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using HRP Conjugated Mouse IgG Super Vision Assay Kit (Catalog # SV0001) with DAB as the chromogen.

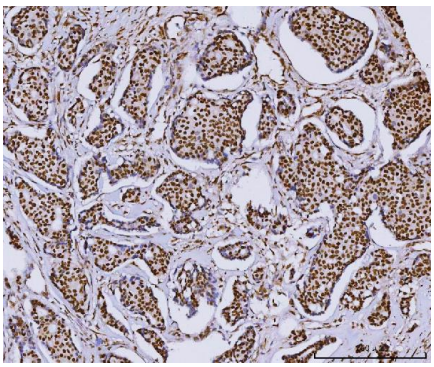


Figure 4. IHC analysis of RCC1 using anti-RCC1 antibody (M02719-2).
RCC1 was detected in a paraffin-embedded section of human breast cancer tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2 µg/ml mouse anti-RCC1 Antibody (M02719-2) overnight at 4°C. Peroxidase Conjugated Goat Anti-mouse IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using HRP Conjugated Mouse IgG Super Vision Assay Kit (Catalog # SV0001) with DAB as the chromogen.

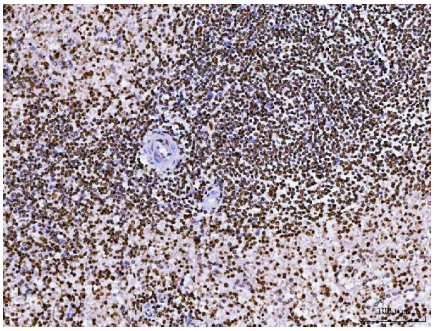
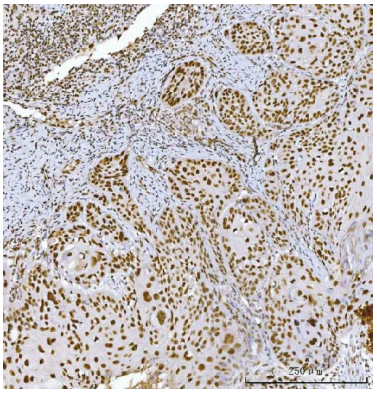


Figure 5. IHC analysis of RCC1 using anti-RCC1 antibody (M02719-2).
RCC1 was detected in a paraffin-embedded section of human spleen tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2 µg/ml mouse anti-RCC1 Antibody (M02719-2) overnight at 4°C. Peroxidase Conjugated Goat Anti-mouse IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using HRP Conjugated Mouse IgG Super Vision Assay Kit (Catalog # SV0001) with DAB as the chromogen.

Figure 6. IHC analysis of RCC1 using anti-RCC1 antibody (M02719-2).
RCC1 was detected in a paraffin-embedded section of



human squamous cell lung carcinoma tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2 µg/ml mouse anti-RCC1 Antibody (M02719-2) overnight at 4°C. Peroxidase Conjugated Goat Anti-mouse IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using HRP Conjugated Mouse IgG Super Vision Assay Kit (Catalog # SV0001) with DAB as the chromogen.

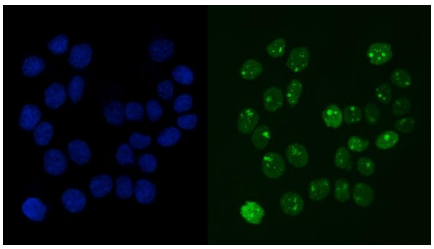


Figure 7. IF analysis of RCC1 using anti-RCC1 antibody (M02719-2).
RCC1 was detected in an immunocytochemical section of A431 cells. Enzyme antigen retrieval was performed using IHC enzyme antigen retrieval reagent (AR0022) for 15 mins. The cells were blocked with 10% goat serum. And then incubated with 5 µg/mL mouse anti-RCC1 Antibody (M02719-2) overnight at 4°C. DyLight®488 Conjugated Goat Anti-Mouse IgG (BA1126) was used as secondary antibody at 1:100 dilution and incubated for 30 minutes at 37°C. The section was counterstained with DAPI. Visualize using a fluorescence microscope and filter sets appropriate for the label used.

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