

Anti-RAD51AP1 Antibody Picoband®

Catalog Number: A06705-2

About RAD51AP1

The RAD51AP1 gene encodes a protein known as RAD51-associated protein 1, which plays a crucial role in homologous recombination, a DNA repair pathway essential for maintaining genomic integrity. RAD51AP1 interacts with RAD51, a key protein involved in homologous recombination, and promotes the assembly of RAD51 nucleoprotein filaments on single-stranded DNA, facilitating the search for homologous sequences and strand exchange. This process is vital for repairing DNA double-strand breaks and stalled replication forks, as well as for meiotic recombination and telomere maintenance. Dysregulation of RAD51AP1 expression or function has been implicated in cancer development and progression, as defects in homologous recombination can lead to genomic instability and oncogenesis. Understanding the molecular mechanisms underlying RAD51AP1-mediated homologous recombination is crucial for deciphering its role in DNA repair and genome maintenance, as well as for developing targeted therapies for cancer and other diseases associated with DNA damage.

Overview

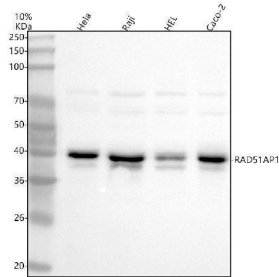
Product Name	Anti-RAD51AP1 Antibody Picoband®
Reactive Species	Human
Description	Boster Bio Anti-RAD51AP1 Antibody Picoband® catalog # A06705-2. Tested in WB, IF, IHC, ICC, Flow Cytometry, ELISA applications. This antibody reacts with Human. The brand Picoband indicates this is a premium antibody that guarantees superior quality, high affinity, and strong signals with minimal background in Western blot applications. Only our best-performing antibodies are designated as Picoband, ensuring unmatched performance.
Application	ELISA, Flow Cytometry, IF, IHC, ICC, WB
Clonality	Polyclonal
Formulation	Each vial contains 4 mg Trehalose, 0.9 mg NaCl, 0.2 mg Na ₂ HPO ₄ .
Storage Instructions	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.
Host	Rabbit
Uniprot ID	Q96B01

Technical Details

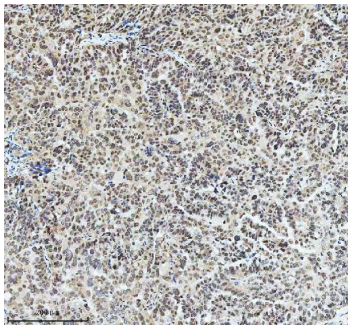
Immunogen	E.coli-derived human RAD51AP1 recombinant protein (Position: M1-K303).
Recommended Detection Systems	Boster recommends Enhanced Chemiluminescent Kit with anti-Rabbit IgG (EK1002) for Western blot, and HRP Conjugated anti-Rabbit IgG Super Vision Assay Kit (SV0002-1) for IHC(P) and ICC.
Form	Lyophilized
Concentration	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml.

Purification	Immunogen affinity purified.
Suggested Dilutions	Western blot, 0.25-0.5 ug/ml, Human Immunohistochemistry(Paraffin-embedded Section), 2-5 ug/ml, Human Immunocytochemistry/Immunofluorescence, 5 ug/ml, Human Flow Cytometry (Fixed), 1-3 ug/1x10 ⁶ cells, Human ELISA, 0.1-0.5 ug/ml, -

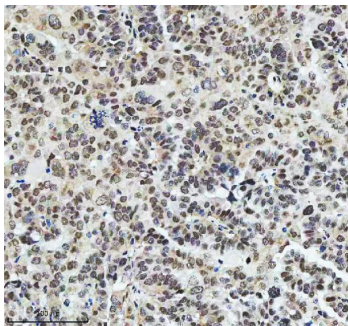
Anti-RAD51AP1 Antibody Picoband® (A06705-2) Images



Western blot analysis of RAD51AP1 using anti-RAD51AP1 antibody (A06705-2). 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 HeLa whole cell lysates, Lane 2: human Raji whole cell lysates, Lane 3: human HEL whole cell lysates, Lane 4: human Caco-2 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 rabbit anti-RAD51AP1 antigen affinity purified polyclonal antibody (Catalog # A06705-2) at 0.5 ug/mL overnight at 4°C, then washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-rabbit IgG-HRP secondary antibody at a dilution of 1:5000 for 1.5 hour at RT. The signal is developed using an Enhanced Chemiluminescent detection (ECL) kit (Catalog # EK1002) with Tanon 5200 system. A specific band was detected for RAD51AP1 at approximately 38 kDa. The expected band size for RAD51AP1 is at 38 kDa.

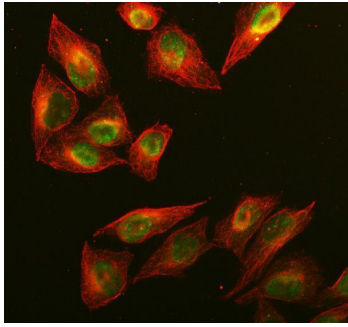


IHC analysis of RAD51AP1 using anti-RAD51AP1 antibody (A06705-2). RAD51AP1 was detected in a paraffin-embedded section of human ovarian cancer tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2 ug/ml rabbit anti-RAD51AP1 Antibody (A06705-2) overnight at 4°C. Peroxidase Conjugated Goat Anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using HRP Conjugated Rabbit IgG Super Vision Assay Kit (Catalog # SV0002) with DAB as the chromogen.

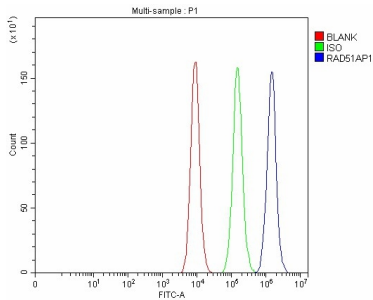


IHC analysis of RAD51AP1 using anti-RAD51AP1 antibody (A06705-2). RAD51AP1 was detected in a paraffin-embedded section of human ovarian cancer tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2 ug/ml rabbit anti-RAD51AP1 Antibody (A06705-2) overnight at 4°C. Peroxidase Conjugated Goat Anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using HRP Conjugated Rabbit IgG Super Vision Assay Kit (Catalog # SV0002) with DAB as the chromogen.

IF analysis of RAD51AP1 using anti-RAD51AP1 antibody (A06705-2) and anti-Beta Tubulin antibody (M01857-3). RAD51AP1 was detected in immunocytochemical section of U2OS cell. 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 ug/mL rabbit anti-RAD51AP1 Antibody (A06705-2) and mouse anti-Beta Tubulin antibody (M01857-3) overnight at 4°C. DyLight®488 Conjugated Goat Anti-Rabbit IgG (BA1127) and Cy3 Conjugated Goat Anti-Mouse IgG (BA1031) were used as secondary antibody at 1:500 dilution and incubated for 30 minutes at 37°C. Visualize using a fluorescence microscope and filter sets appropriate for the label used.



Flow Cytometry analysis of Caco-2 cells using anti-RAD51AP1 antibody (A06705-2). Overlay histogram showing Caco-2 cells stained with A06705-2 (Blue line). To facilitate intracellular staining, cells were fixed with 4% paraformaldehyde and permeabilized with permeabilization buffer. The cells were blocked with 10% normal goat serum. And then incubated with rabbit anti-RAD51AP1 Antibody (A06705-2, 1 ug/1x10⁶ cells) for 30 min at 20°C. DyLight®488 conjugated goat anti-rabbit IgG (BA1127, 5-10 ug/1x10⁶ cells) was used as secondary antibody for 30 minutes at 20°C. Isotype control antibody (Green line) was rabbit IgG (1 ug/1x10⁶) used under the same conditions. Unlabelled sample without incubation with primary antibody and secondary antibody (Red line) was used as a blank control.

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Anti-RAD51AP1 Antibody

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