

Anti-RP2 Antibody Picoband™ (monoclonal, 3D7)

Catalog # ABO14900

Product Information

Application	WB, IF, ICC, FC
Primary Accession	O75695
Host	Mouse
Isotype	Mouse IgG2b
Reactivity	Rat, Human, Mouse
Clonality	Monoclonal
Format	Lyophilized
Description	Anti-RP2 Antibody Picoband™ (monoclonal, 3D7) . Tested in Flow Cytometry, IF, ICC, WB applications. This antibody reacts with Human, Mouse, Rat.
Reconstitution	Add 0.2ml of distilled water will yield a concentration of 500 µg/ml.

Additional Information

Gene ID	6102
Other Names	Protein XRP2, RP2
Calculated MW	39641
Application Details	Western blot, 0.1-0.5 µg/ml, Human, Mouse, Rat Immunocytochemistry/Immunofluorescence, 2 µg/ml, Human Flow Cytometry, 1-3 µg/1x10 ⁶ cells, Human
Subcellular Localization	Cell membrane; Lipid-anchor; Cytoplasmic side; cilium
Tissue Specificity	Ubiquitous. Expressed in the rod and cone photoreceptors, extending from the tips of the outer segment (OS) through the inner segment (IS) and outer nuclear layer (ONL) and into the synaptic terminals of the outer plexiform layer (ONL). Also detected in the bipolar, horizontal and amacrine cells in the inner nuclear layer (INL), extending to the inner plexiform layer (IPL) and through the ganglion cell layer (GCL) and into the nerve fiber layer (NFL) (at protein level).
Source	Eukaryota
Contents	Each vial contains 4mg Trehalose, 0.9mg NaCl, 0.2mg Na ₂ HPO ₄ , 0.05mg NaN ₃ .
Clone Names	Clone: 3D7
Immunogen	E. coli-derived human RP2recombinant protein (Position: D244-M348).
Cross Reactivity	No cross-reactivity with other proteins.

Storage	Store 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 freeze-thaw cycles.
----------------	--

Protein Information

Name	RP2
Function	Acts as a GTPase-activating protein (GAP) involved in trafficking between the Golgi and the ciliary membrane. Involved in localization of proteins, such as NPHP3, to the cilium membrane by inducing hydrolysis of GTP ARL3, leading to the release of UNC119 (or UNC119B). Acts as a GTPase-activating protein (GAP) for tubulin in concert with tubulin-specific chaperone C, but does not enhance tubulin heterodimerization. Acts as a guanine nucleotide dissociation inhibitor towards ADP-ribosylation factor-like proteins.
Cellular Location	Cell membrane; Lipid-anchor; Cytoplasmic side. Cell projection, cilium. Note=Detected predominantly at the plasma membrane of rod and cone photoreceptors. Not detected in the nucleus.
Tissue Location	Ubiquitous. Expressed in the rod and cone photoreceptors, extending from the tips of the outer segment (OS) through the inner segment (IS) and outer nuclear layer (ONL) and into the synaptic terminals of the outer plexiform layer (ONL). Also detected in the bipolar, horizontal and amacrine cells in the inner nuclear layer (INL), extending to the inner plexiform layer (IPL) and though the ganglion cell layer (GCL) and into the nerve fiber layer (NFL) (at protein level).

Background

Protein XRP2 is a protein that in humans is encoded by the RP2 gene. It is mapped to Xp11.3. The RP2 locus has been implicated as one cause of X-linked retinitis pigmentosa. The predicted gene product shows homology with human cofactor C, a protein involved in the ultimate step of beta-tubulin folding. Progressive retinal degeneration may therefore be due to the accumulation of incorrectly folded photoreceptor or neuron-specific tubulin isoforms followed by progressive cell death. The RP2 protein is also involved in regulating the function and extension of outer segment of cone photoreceptors in mice.

Images

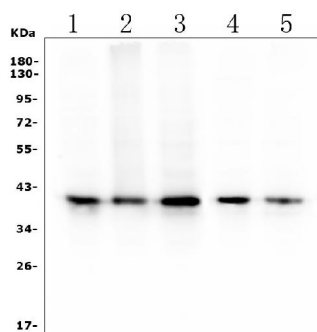


Figure 1. Western blot analysis of RP2 using anti ZO-1 antibody (M01923). Electrophoresis was performed on a 5-20% SDS-PAGE gel at 70V (Stacking gel) / 90V (Resolving gel) for 2-3 hours. The sample well of each lane was loaded with 50ug of sample under reducing conditions. Lane 1: human HepG2 tissue lysates, Lane 2: human Jurkat, whole cell lysates, Lane 3: human Caco-2 whole cell lysates, Lane 4: human Hela whole cell lysates, Lane 5: human A549 whole cell lysates, After Electrophoresis, proteins were transferred to a Nitrocellulose membrane at 150mA 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-RP2 antigen affinity purified polyclonal antibody (Catalog # M01923) 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 RP2 at approximately 40KD. The expected band size for RP2 is at 40KD.

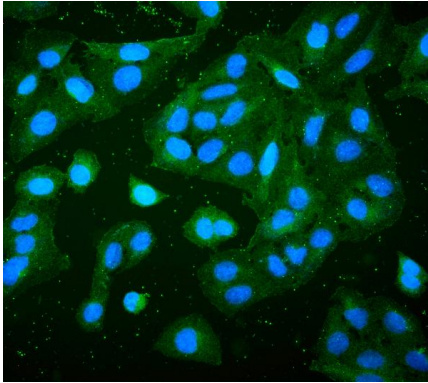


Figure 2. IF analysis of RP2 using anti-RP2 antibody (M01923).

RP2 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 2 µg/mL mouse anti-RP2 Antibody (M01923) 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.

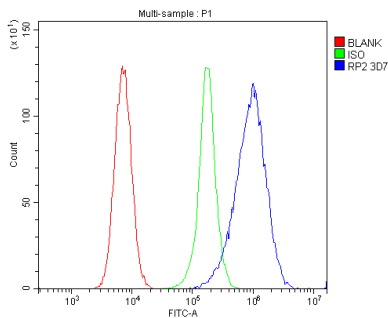


Figure 3. Flow Cytometry analysis of 293T cells using anti-RP2 antibody M01923).

Overlay histogram showing 293T cells stained with M01923 (Blue line). The cells were blocked with 10% normal goat serum. And then incubated with mouse anti-RP2 Antibody (M01923, 1 µg/1x10⁶ cells) for 30 min at 20°C. DyLight®488 conjugated goat anti-mouse IgG (BA1126, 5-10 µg/1x10⁶ cells) was used as secondary antibody for 30 minutes at 20°C. Isotype control antibody (Green line) was mouse IgG (1 µg/1x10⁶) used under the same conditions. Unlabelled sample (Red line) was also used as a control.

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