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Anti-Retinoid X Receptor alpha/RXRA Antibody Picoband™ (monoclonal, 5E7)

Catalog # ABO14953

Product Information

Application	WB, FC
Primary Accession	P19793
Host	Mouse
Isotype	Mouse IgG1
Reactivity	Rat, Human, Mouse
Clonality	Monoclonal
Format	Lyophilized
Description	Anti-Retinoid X Receptor alpha/RXRA Antibody Picoband™ (monoclonal, 5E7) . Tested in Flow Cytometry, WB applications. This antibody reacts with Human, Mouse, Rat.
Reconstitution	Add 0.2ml of distilled water will yield a concentration of 500ug/ml.

Additional Information

Gene ID	6256
Other Names	Retinoic acid receptor RXR-alpha, Nuclear receptor subfamily 2 group B member 1, Retinoid X receptor alpha, RXRA, NR2B1
Calculated MW	50811
Application Details	Western blot, 0.1-0.5 □g/ml, Human, Mouse, Rat Flow Cytometry, 1-3 □g/1x10^6 cells, Human
Subcellular Localization	Nucleus. Mitochondrion. Cytoplasm.
Tissue Specificity	Expressed in lung fibroblasts (at protein level). Expressed in monocytes. Highly expressed in liver, also found in kidney and brain.
Source	Eukaryota
Contents	Each vial contains 4mg Trehalose, 0.9mg NaCl, 0.2mg Na_2HPO_4, 0.05mg NaN_3.
Clone Names	Clone: 5E7
Immunogen	E. coli-derived human RXRA recombinant protein (Position: A226-T462).
Purification	Immunogen affinity purified.
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 RXRA

Synonyms NR2B1

Function Receptor for retinoic acid that acts as a transcription factor (PubMed:10874028, PubMed:11162439, PubMed:11915042, PubMed:37478846). Forms homo- or heterodimers with retinoic acid receptors (RARs) and binds to target response elements in response to their ligands, all-trans or 9-cis retinoic acid, to regulate gene expression in various biological processes (PubMed:10195690, PubMed:11162439, PubMed:11915042, PubMed:16107141, PubMed:17761950, PubMed:18800767, PubMed:19167885, PubMed:28167758, PubMed:37478846). The RAR/RXR heterodimers bind to the retinoic acid response elements (RARE) composed of tandem 5'-AGGTCA-3' sites known as DR1-DR5 to regulate transcription (PubMed:10195690, PubMed:11162439, PubMed:11915042, PubMed:17761950, PubMed:28167758). The high affinity ligand for retinoid X receptors (RXRs) is 9-cis retinoic acid (PubMed:1310260). In the absence of ligand, the RXR-RAR heterodimers associate with a multiprotein complex containing transcription corepressors that induce histone deacetylation, chromatin condensation and transcriptional suppression (PubMed:20215566). On ligand binding, the corepressors dissociate from the receptors and coactivators are recruited leading to transcriptional activation (PubMed:20215566, PubMed:37478846, PubMed:9267036). Serves as a common heterodimeric partner for a number of nuclear receptors, such as RARA, RARB and PPARA (PubMed:10195690, PubMed:11915042, PubMed:28167758, PubMed:29021580). The RXRA/RARB heterodimer can act as a transcriptional repressor or transcriptional activator, depending on the RARE DNA element context (PubMed:29021580). The RXRA/PPARA heterodimer is required for PPARA transcriptional activity on fatty acid oxidation genes such as ACOX1 and the P450 system genes (PubMed:10195690). Together with RARA, positively regulates microRNA-10a expression, thereby inhibiting the GATA6/VCAM1 signaling response to pulsatile shear stress in vascular endothelial cells (PubMed:28167758). Acts as an enhancer of RARA binding to RARE DNA element (PubMed:28167758). May facilitate the nuclear import of heterodimerization partners such as VDR and NR4A1 (PubMed:12145331, PubMed:15509776). Promotes myelin debris phagocytosis and remyelination by macrophages (PubMed:26463675). Plays a role in the attenuation of the innate immune system in response to viral infections, possibly by negatively regulating the transcription of antiviral genes such as type I IFN genes (PubMed:25417649). Involved in the regulation of calcium signaling by repressing ITPR2 gene expression, thereby controlling cellular senescence (PubMed:30216632).

Cellular Location Nucleus {ECO:0000255|PROSITE-ProRule:PRU00407, ECO:0000269|PubMed:10874028, ECO:0000269|PubMed:11915042, ECO:0000269|PubMed:12145331, ECO:0000269|PubMed:15509776, ECO:0000269|PubMed:17761950, ECO:0000269|PubMed:28167758}. Cytoplasm Mitochondrion. Note=Localization to the nucleus is enhanced by vitamin D3 (PubMed:15509776). Nuclear localization may be enhanced by the interaction with heterodimerization partner VDR (PubMed:12145331). Translocation to the mitochondrion upon interaction with NR4A1 (PubMed:15509776, PubMed:17761950). Increased nuclear localization upon pulsatile shear stress (PubMed:28167758)

Tissue Location	Expressed in lung fibroblasts (at protein level) (PubMed:30216632). Expressed in monocytes (PubMed:26463675). Highly expressed in liver, also found in kidney and brain (PubMed:14702039, PubMed:2159111, PubMed:24275569).

Background

Retinoid X receptor alpha (RXR-alpha), also known as NR2B1 (nuclear receptor subfamily 2, group B, member 1) is a nuclear receptor that in humans is encoded by the RXRA gene. Retinoid X receptors (RXRs) and retinoic acid receptors (RARs) are nuclear receptors that mediate the biological effects of retinoids by their involvement in retinoic acid-mediated gene activation. These receptors function as transcription factors by binding as homodimers or heterodimers to specific sequences in the promoters of target genes. The protein encoded by this gene is a member of the steroid and thyroid hormone receptor superfamily of transcriptional regulators. Alternative splicing of this gene results in multiple transcript variants.

Images

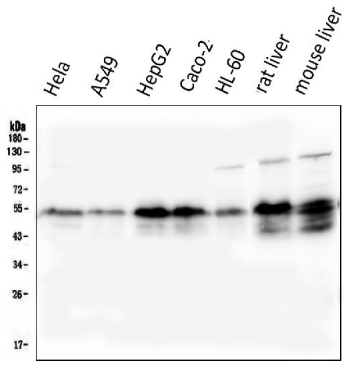


Figure 1. Western blot analysis of Retinoid X Receptor alpha/RXRA using anti-Retinoid X Receptor alpha/RXRA antibody (M01299).
Electrophoresis was performed on a 5-20% SDS-PAGE gel at 70V (Stacking gel) / 90V (Resolving gel) for 2-3 hours. The sample well of each lane was loaded with 50ug of sample under reducing conditions.
Lane 1: human Hela whole cell lysates;
Lane 2: human A549 whole cell lysates;
Lane 3: human HepG2 whole cell lysates;
Lane 4: human Caco-2 whole cell lysates;
Lane 5: human HL-60 whole cell lysates;
Lane 6: rat liver tissue lysates;
Lane 7: mouse liver tissue 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-Retinoid X Receptor alpha/RXRA antigen affinity purified monoclonal antibody (Catalog # M01299) 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 Retinoid X Receptor alpha/RXRA at approximately 55KD. The expected band size for Retinoid X Receptor alpha/RXRA is at 51KD.

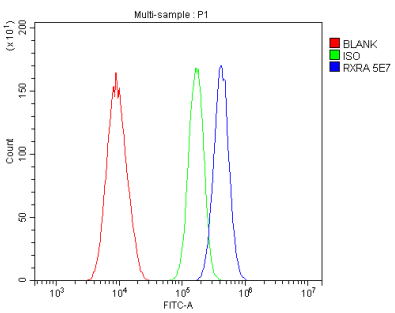


Figure 2. Flow Cytometry analysis of A549 cells using anti-Retinoid X Receptor alpha/RXRA antibody (M01299). Overlay histogram showing A549 cells stained with M01299 (Blue line).The cells were blocked with 10% normal goat serum. And then incubated with mouse anti-Retinoid X Receptor alpha/RXRA Antibody (M01299, 1 µg/1x10^6 cells) for 30 min at 20°C. DyLight®488 conjugated goat anti-mouse IgG (BA1126, 5-10 µg/1x10^6 cells) was used as secondary antibody for 30 minutes at 20°C. Isotype control antibody (Green line) was mouse

IgG (1 µg/1x10^6) used under the same conditions. Unlabelled sample (Red line) was also used as a control.

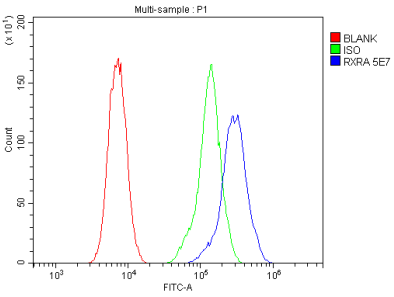


Figure 3. Flow Cytometry analysis of CACO-2 cells using anti-Retinoid X Receptor alpha/RXRA antibody (M01299). Overlay histogram showing CACO-2 cells stained with M01299 (Blue line).The cells were blocked with 10% normal goat serum. And then incubated with mouse anti-Retinoid X Receptor alpha/RXRA Antibody (M01299, 1 µg/1x10^6 cells) for 30 min at 20°C. DyLight®488 conjugated goat anti-mouse IgG (BA1126, 5-10 µg/1x10^6 cells) was used as secondary antibody for 30 minutes at 20°C. Isotype control antibody (Green line) was mouse IgG (1 µg/1x10^6) 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'.