abcam

## ab41902

# Anti-LXR alpha antibody [PPZ0412]

Anti-LXR alpha antibody [PPZ0412] (ab41902) is a mouse monoclonal antibody detecting LXR alpha in **Flow Cytometry, IP, IHC-P, ICC/IF, ELISA, EM, ChIP**. Suitable for **Human, Mouse, Rat**.

- Over 80 publications
- Trusted since 2006

## Key facts

| | |
|---|---|
| **Isotype** | IgG2a |
| **Host species** | Mouse |
| **Storage buffer** | pH: 7 Preservative: 0.1% Sodium azide |
| **Form** | Liquid |
| **Clonality** | Monoclonal |
| **Immunogen** | Recombinant Fragment Protein within Human NR1H3 aa 150 to C-terminus. The exact immunogen used to generate this antibody is proprietary information. Database link Q13133 |
| **Clone number** | PPZ0412 |
| **Purification technique** | Affinity purification Protein A |
| **Concentration** | 1 mg/mL The concentration of this product may be batch-dependent<br>Batch concentration finder → |

## Reactivity data

## ELISA

**Expected**

| | |
|---|---|
| **Species** | Human, Rat, Mouse |
| **Dilution info** | Use at an assay dependent concentration. |
| **Notes** | - |

## IP

### Expected

| | |
|---|---|
| **Species** | Mouse, Rat, Human |
| **Dilution info** | Use at an assay dependent concentration. |
| **Notes** | - |

## EMSA

### Expected

| | |
|---|---|
| **Species** | Mouse, Rat, Human |
| **Dilution info** | Use at an assay dependent concentration. |
| **Notes** | - |

## ChIP

### Expected

| | |
|---|---|
| **Species** | Mouse, Rat, Human |
| **Dilution info** | Use at an assay dependent concentration. |
| **Notes** | - |

## Flow Cyt

### Tested

| | |
|---|---|
| **Species** | Human |
| **Dilution info** | - |
| **Notes** | ab170191 - Mouse monoclonal IgG2a, is suitable for use as an isotype control with this antibody. |

### Expected

| | |
|---|---|
| **Species** | Rat |
| **Dilution info** | Use at an assay dependent concentration. |
| **Notes** | - |

### Predicted

| | |
|---|---|
| **Species** | Mouse |
| **Dilution info** | - |
| **Notes** | - |

## WB

### Not recommended

| | |
|---|---|
| **Species** | Mouse, Rat, Human |
| **Dilution info** | - |
| **Notes** | - |

## IHC-P

### Tested

| | |
|---|---|
| **Species** | Rat, Human |
| **Dilution info** | - |
| **Notes** | - |

### Predicted

| | |
|---|---|
| **Species** | Mouse |
| **Dilution info** | - |
| **Notes** | - |

## GSA

### Expected

| | |
|---|---|
| **Species** | Mouse, Rat, Human |
| **Dilution info** | Use at an assay dependent concentration. |
| **Notes** | - |

## ICC/IF

### Expected

| | |
|---|---|
| **Species** | Mouse, Rat, Human |
| **Dilution info** | Use at an assay dependent concentration. |
| **Notes** | - |

## Target data

See full target information NR1H3

**Function**

Nuclear receptor that exhibits a ligand-dependent transcriptional activation activity (PubMed:19481530, PubMed:25661920, PubMed:37478846). Interaction with retinoic acid receptor (RXR) shifts RXR from its role as a silent DNA-binding partner to an active ligand-binding subunit in mediating retinoid responses through target genes defined by LXRES (PubMed:37478846). LXRES are DR4-type response elements characterized by direct repeats of two similar hexanuclotide half-sites spaced by four nucleotides (By similarity). Plays an important role in the regulation of cholesterol homeostasis, regulating cholesterol uptake through MYLIP-dependent ubiquitination of LDLR, VLDLR and LRP8 (PubMed:19481530). Interplays functionally with RORA for the regulation of genes involved in liver metabolism (By similarity). Induces LPCAT3-dependent phospholipid remodeling in endoplasmic reticulum (ER) membranes of hepatocytes, driving SREBF1 processing and lipogenesis (By similarity). Via LPCAT3, triggers the incorporation of arachidonate into phosphatidylcholines of ER membranes, increasing membrane dynamics and enabling triacylglycerols transfer to nascent very low-density lipoprotein (VLDL) particles. Via LPCAT3 also counteracts lipid-induced ER stress response and inflammation, likely by modulating SRC kinase membrane compartmentalization and limiting the synthesis of lipid inflammatory mediators (By similarity).

## Storage

| | |
|---|---|
| **Shipped at conditions** | Blue Ice |
| **Appropriate short-term storage duration** | 1-2 weeks |

| | |
|---|---|
| **Appropriate short-term storage conditions** | +4°C |
| **Appropriate long-term storage conditions** | -20°C |
| **Aliquoting information** | Upon delivery aliquot |
| **Storage information** | Avoid freeze / thaw cycle |

## Notes

**What is this antibody validated in?**
Anti-LXR alpha antibody [PPZ0412] (ab41902) is a mouse monoclonal antibody and is validated for use in Flow Cytometry (Flow Cyt), Immunoprecipitation (IP), Immunohistochemistry (IHC-P), Immunocytochemistry/immunofluorescence (ICC/IF), ELISA, Electron microscopy (EM), ChIP in Human, Mouse, Rat samples.

**Trusted by the scientific community**
Anti-LXR alpha [PPZ0412] (ab41902) was first used in a scientific publication in 2006 and has been cited over 80 times in peer-reviewed journals.

**Reviewed by scientists**
Anti-LXR alpha [PPZ0412] (ab41902) has over 10 independent reviews from customers.

## Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

| | |
|---|---|
| **Activity summary** | LXR alpha also known as NR1H3 is a nuclear receptor protein involved in the regulation of lipid metabolism and inflammation. It has a molecular mass of approximately 55 kDa. Expressed mainly in the liver adipose tissue macrophages and intestines LXR alpha acts as a transcription factor controlling the expression of genes important for cholesterol homeostasis. It binds to DNA at specific LXR response elements usually forming heterodimers with the retinoid X receptor (RXR). |
| **Biological function summary** | LXR alpha plays a critical role in lipid metabolism and cholesterol efflux. It is part of a larger LXR and CO complex which contributes to the regulation of genes that manage cholesterol absorption transport and excretion. For instance LXR activation increases the expression of ATP-binding cassette transporters such as ABCA1 and ABCG1 which are essential for transporting cholesterol out of cells and facilitating reverse cholesterol transport. |
| **Pathways** | The function of LXR alpha is significant in both the cholesterol catabolism pathway and the inflammatory response pathway. Within these pathways it upregulates genes involved in cholesterol catabolism providing a mechanism to prevent excess accumulation in cells and tissues. LXR alpha interacts closely with other nuclear |

| | |
|---|---|
| | receptors and proteins like PPARs (peroxisome proliferator-activated receptors) highlighting its role in lipid signaling networks. |
| **Associated diseases and disorders** | LXR alpha is linked to atherosclerosis and Alzheimer's disease. Its ability to regulate cholesterol transport and immune function demonstrates involvement in the pathogenesis of atherosclerosis by influencing macrophage-derived foam cell formation. Additionally improper cholesterol metabolism is associated with Alzheimer's disease where LXR alpha's interaction with amyloid precursor protein (APP) may influence disease progression connecting cholesterol dysfunction with neurodegenerative processes. |

## Product promise

**Tested**

We have tested this species and application combination and it works. It is covered by our product promise.

**Expected**

We have not tested this specific species and application combination in-house, but expect it will work. It is covered by our product promise.

**Predicted**

This species and application combination has not been tested, but we predict it will work based on strong homology. However, this combination is not covered by our product promise.

**Not recommended**

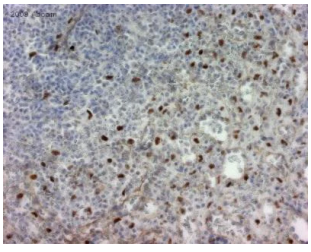
We do not recommend this combination. It is not covered by our product promise.

We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

In the unlikely event of one of our products not working as expected, you are covered by our product promise.

Full details and terms and conditions can be found here:
Terms & Conditions.

## 4 product images



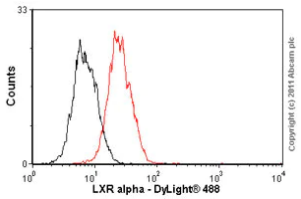
### Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-LXR alpha antibody [PPZ0412] (ab41902)

LXR alpha Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using mouse Anti-LXR alpha antibody

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of human spleen tissue sections labeling LXR alpha with ab41902 at 1/100 dilution. Tissue was fixed with formaldehyde and permeabilized with Tween 20. Heat mediated antigen retrieval was performed

This image is courtesy of a customer review submitted by Rudolf Jung, University of Regensburg.

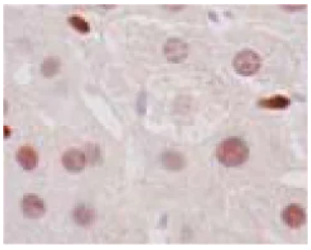
using TRIS-EDTA Buffer. Tissue sections were incubated with Anti-LXR alpha antibody [PPZ0412] - ChIP Grade (ab41902) for 30 minutes at 20°C in diluent from DAKO. An undiluted HRP conjugated horse anti-mouse secondary antibody was used.
This image was generated using the ascites version of the product.




## Flow Cytometry - Anti-LXR alpha antibody [PPZ0412] (ab41902)

LXR alpha Flow Cytometry staining using mouse Anti-LXR alpha antibody

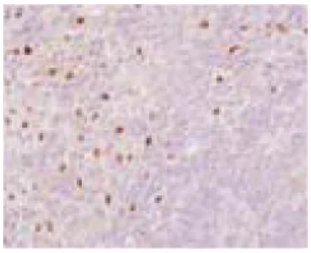
Overlay histogram showing HepG2 cells stained with ab41902 (red line). The cells were fixed with 80% methanol (5 min) and then permeabilized with 0.1% PBS-Tween for 20 min. The cells were then incubated in 1x PBS / 10% normal goat serum / 0.3M glycine to block non-specific protein-protein interactions followed by the antibody (ab41902, 1µg/1x$10^6$ cells) for 30 min at 22°C. The secondary antibody used was DyLight® 488 goat anti-mouse IgG (H+L) (ab96879) at 1/500 dilution for 30 min at 22°C. Isotype control antibody (black line) was mouse IgG2a [ICIGG2A] (ab91361, 2µg/1x$10^6$ cells) used under the same conditions. Acquisition of >5,000 events was performed.
This image was generated using the ascites version of the product.



## Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-LXR alpha antibody [PPZ0412] (ab41902)

LXR alpha Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using mouse Anti-LXR alpha antibody

ab41902 staining LXR alpha in Rat Hepatocyte and Kupffer cell paraffin section (20-40ug/mL) by Immunohistochemistry, formalin-fixed paraffin embedded sections.
This image was generated using the ascites version of the product.



## Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-LXR alpha antibody [PPZ0412] (ab41902)

LXR alpha Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using mouse Anti-LXR alpha antibody

ab41902 staining LXR alpha in rat spleen macrophage cell paraffin section (20-40ug/mL) by Immunohistochemistry, formalin-fixed paraffin embedded sections.
This image was generated using the ascites version of the product.

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