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LXR-A Antibody

Catalog # ASC11053

Product Information

Application	WB, IF, E, IHC-P
Primary Accession	Q13133
Other Accession	NP_005684, 194294517
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Calculated MW	50396
Concentration (mg/ml)	1 mg/mL
Conjugate	Unconjugated
Application Notes	LXR-A antibody can be used for detection of LXR-A by Western blot at 1 - 2 g/mL. Antibody can also be used for immunohistochemistry starting at 5 g/mL. For immunofluorescence start at 20 g/mL.

Additional Information

Gene ID	10062
Other Names	Oxysterols receptor LXR-alpha, Liver X receptor alpha, Nuclear receptor subfamily 1 group H member 3, NR1H3, LXRA
Target/Specificity	NR1H3;
Reconstitution & Storage	LXR-A antibody can be stored at 4℃ for three months and -20℃, stable for up to one year. As with all antibodies care should be taken to avoid repeated freeze thaw cycles. Antibodies should not be exposed to prolonged high temperatures.
Precautions	LXR-A Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	NR1H3
Synonyms	LXRA
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).
Cellular Location	Nucleus {ECO:0000255|PROSITE-ProRule:PRU00407, ECO:0000269|PubMed:25661920}. Cytoplasm {ECO:0000250|UniProtKB:Q9Z0Y9}
Tissue Location	Visceral organs specific expression. Strong expression was found in liver, kidney and intestine followed by spleen and to a lesser extent the adrenals

Background

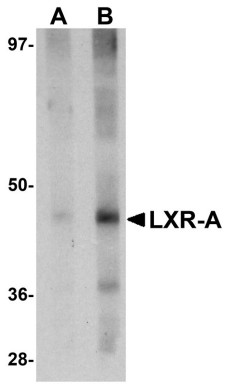
LXR-A Antibody: LXR-A belongs to the Liver X Receptor family that encodes highly homologous transcription factors. Like the highly homologous LXR-B, LXR-A forms heterodimers with the retinoic acid receptor RXRalpha, function as sensors for cellular oxysterols which when activated, increase the expression of genes that control sterol and fatty acid metabolism and homeostasis. Recent experiments have indicated that the LXRs can also modulate both innate and adaptive immune responses. Human and mouse tumors produce LXR ligands that inhibit CCR7 expression on maturing dendritic cells (DCs), thereby allowing tumor immunoescape. In mouse models, it was shown that ablating LXR-A signaling led to an immune-mediated strong inhibition of tumor growth, suggesting that manipulation of this pathway may be a viable anti-cancer approach.

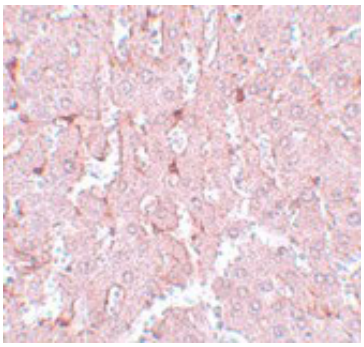
References

Willy PJ, Umesono K, Ong ES, et al. LXR, a nuclear receptor that defines a distinct retinoid response pathway. Genes Dev.1995; 9:1033-45.
Edwards PA, Kennedy MA, and Mak PA. LXRs; Oxysterol-activated nuclear receptors that regulate genes controlling lipid homeostasis. Vasc. Pharmacol.2002; 38:249-56.
Bensinger SJ and Tontonoz P. Integration of metabolism and inflammation by lipid-activated nuclear receptors. Nature2008; 454:470-7.
Villablanca EJ, Raccosta L, Zhou D, et al. Tumor-mediated liver X receptor-a activation inhibits CC chemokine reeptor-7 expression on dendritic cells and dampens antitumor responses. Nature Med.2010; 16:98-106.

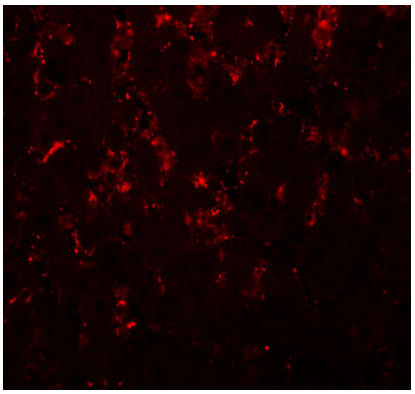
Images

Western blot analysis of LXR-A in rat liver tissue lysate with LXR-A antibody at (A) 1 and (B) 2 µg/mL.





Immunohistochemistry of LXR-A in rat liver tissue with LXR-A antibody at 5 µg/mL.



Immunofluorescence of LXR-A in rat liver tissue with LXR-A antibody at 20 µg/mL.