LXR-α Protein, Human

Cat. No.:	HY-P701404
Synonyms:	NR1H3; Oxysterols receptor LXR-alpha; Liver X receptor alpha; Nuclear receptor subfamily 1 group H member 3
Species:	Human
Source:	E. coli
Accession:	Q13133 (Q182-E447)
Gene ID:	10062
Molecular Weight:	Approximately 30.7 kDa

PROPERTIES

Appearance	Solution
Formulation	Supplied as a 0.22 μm filtered solution of 25 mM Tris-HCl, 50 mM NaCl, pH 8.5.
Endotoxin Level	untested
Reconsititution	Please use rapid thawing with running water to thaw the protein.
Storage & Stability	Stored at -80°C for 1 year. It is stable at -20°C for 3 months after opening. It is recommended to freeze aliquots at -80°C for extended storage. Avoid repeated freeze-thaw cycles.
Shipping	Shipping with dry ice

DESCRIPTION

Background	LXR-α Protein, a nuclear receptor, displays ligand-dependent transcriptional activation activity, and its interaction with retinoic acid receptor (RXR) transforms RXR into an active ligand-binding subunit, mediating retinoid responses through target genes defined by LXRES. These LXRES consist of DR4-type response elements characterized by direct repeats of two similar hexanucleotide half-sites spaced by four nucleotides. A pivotal player in cholesterol homeostasis, LXR-α regulates cholesterol uptake through MYLIP-dependent ubiquitination of LDLR, VLDLR, and LRP8. Functionally interacting with RORA, it contributes to the regulation of genes involved in liver metabolism. Moreover, LXR-α induces LPCAT3-dependent phospholipid remodeling in hepatocyte endoplasmic reticulum membranes, facilitating SREBF1 processing and lipogenesis. Through LPCAT3, it promotes the incorporation of arachidonate into phosphatidylcholines, enhancing membrane dynamics and enabling the transfer of triacylglycerols to nascent very low-density lipoprotein particles. Additionally, LXR-α, via LPCAT3, counteracts lipid-induced ER stress response and inflammation by modulating SRC kinase membrane compartmentalization and limiting the synthesis of lipid inflammatory mediators. Forming a heterodimer with NR1H3 and RXR, LXR-α also interacts with CCAR2, SIRT1, and GPS2, further illustrating its intricate regulatory network.

Caution: Product has not been fully validated for medical applications. For research use only.

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