Recombinant Liver X receptor beta, human recombinant protein, expressed in Nicotiana benthamiana, His Tag, animal free

Catalog No:	99859
Lot No:	
Source:	Nicotiana benthamiana
Molecular formula:	$C_{1422}H_{2249}N_{409}O_{415}S_8$
Extinction coefficient:	E0.1% = 0.581 (A 280 nm)
Molecular weight:	31.9 kDa
p.I:	6.4
Purity:	> 98% by SDS-PAGE gel
Endotoxin level:	<0.04 EU/ µg protein (LAL method)

Sequence:

HHHHHHSSGI EGRGRLIKHM TPGGSEAGSQ GSGEGEGVQL TAAQELMIQQ LVAAQLQCNK RSFSDQPKVT PWPLGADPQS RDARQQRFAH FTELAIISVQ EIVDFAKQVP GFLQLGREDQ IALLKASTIE IMLLETARRY NHETECITFL KDFTYSKDDF HRAGLQVEFI NPIFEFSRAM RRLGLDDAEY ALLIAINIFS ADRPNVQEPG RVEALQQPYV EALLSYTRIK RPQDQLRFPR MLMKLVSLRT LSSVHSEQVF ALRLQDKKLP PLLSEIWDVH E

Description:

Liver X Receptors (LXRs) are nuclear receptors that regulate the metabolism of cholesterol and bile acids. There are two subtypes of LXRs, LXRa and LXRβ. The LXRs are ligand-dependent transcription factors that form permissive heterodimers with the retinoid X receptor (RXR). LXR- member of Nuclear Receptor Family is activated by certain oxysterol derivatives of cholesterol. They play an important role in cholesterol, lipid, and carbohydrate metabolism. LXRα is highly expressed in liver tissue. They respond to elevated cholesterol levels via transactivation of genes involved in sterol transport (ABCA1, ABCG1, ABCG5, and ABCG8), cholesterol efflux and high-density lipoprotein (HDL) metabolism, and sterol catabolism (CYP7A1). They also play a central role in regulating cellular lipid content through activation of SREBP-1c, which is the master regulator of de novo lipogenesis. LXRs were found to upregulate angiopoietin- like protein 3 (Angpf13), a member of the family of vascular endothelial growth factors that is also a key regulator of lipid metabolism.

The livers X receptors are critical for the control of lipid homeostasis. LXRs serve as cholesterol sensors that regulate the expression of multiple genes involved in the efflux, transport, and excretion of cholesterol. Synthetic LXR agonists inhibit the development of atherosclerosis in murine models. These observations identify the LXR pathway as a potential target for therapeutic intervention in human cardiovascular disease.

Formulation:

Lyophilized from a Tris HCl 20mM buffer at pH 8, 0.1% SDS.

Source:

Produced by transient expression of LXR in non-transgenic plants. Recombinant human LXR contains a 6-His-tag at the N-terminal end and is purified by sequential chromatography (FPLC). Contains no animal–derived components or impurities.

Reconstitution recommendation:

Lyophilized protein should be reconstituted in water to a concentration of 50 µg/ml.

Storage and Stability:

This lyophilized preparation is stable at 2-8º C. For long storage should be kept at -20º C and it is recommended to add a carrier protein (0.1% HSA or BSA).
Repeated freezing and thawing is not recommended.

Purity Confirmation:

The protein was resolved by SDS polyacrylamide gel electrophoresis and the gel was stained with Coomassie blue.

Figure 1.
SDS-PAGE analysis of recombinant LXR. Samples were loaded in 15% SDS-polyacrylamide gel and stained with Coomassie blue.
Lane 1: Molecular weight marker (kDa)
Lane 2: contains 0.3 µg of recombinant LXR.

Serological Identification:

The protein was electrophoresed under reducing condition on a 15% SDS-polyacrylamide gel, transferred by electroblotting to a NC membrane and visualized by immune-detection with specific LXR antibody.

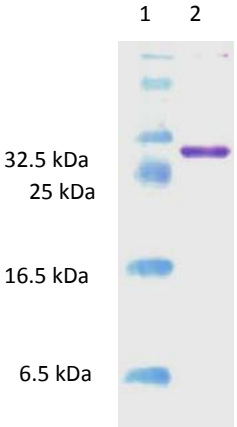

Figure 2.
Western Blot analysis of recombinant LXR.
Lane 1: Molecular weight marker (kDa).
Lane 2: 0.2 ug of LXR.

References

-Toresson G., Schuster G.U., Steffensen K.R., Bengtsson M., Ljunggren J., Dahlman-Wright K., Gustafsson J.A. 2004. Purification of functional full-length liver X receptor beta produced in Escherichia coli. Protein Expr. Purif. 35(2):190-8.

-Quinet E.M., Savio D.A., Halpern A.R., Chen L., Schuster G.U., Gustafsson J.A., Basso M.D., Nambi P. 2006. Liver X receptor (LXR)-beta regulation in LXRalpha-deficient mice: implications for therapeutic targeting Mol. Pharmacol. 70(4):1340-9.

-Patel M. B., Oza N. A., Anand I. S., Deshpande S. S., Patel C. N. 2008. Liver X Receptor: A Novel Therapeutic Target. Indian J Pharm Sci.; 70(2): 135–144.