Bile Acid Receptor (NR1H4) Bovine Recombinant Protein

PRODUCT OVERVIEW

Product Name	Bile acid receptor (NR1H4), Recombinant Protein
Full Product Name	Recombinant Bovine Bile acid receptor (NR1H4)
Product Gene Name	NR1H4 recombinant protein
Product Synonym Gene Name	NR1H4
Sequence	MVMQFQELEN PVQISPCHSH TSSGFDMEVM SMKPAKGVLT EQVAGPLGQN LEVEPYSQYN NVQFPQVQPQ ISSSSYYSNV GFYPQQPEEW YSPGIYELRR MPAETLYQGE TEVVEIPITK KARLGASAGR IKGDELCVVC GDRASGYHYN ALTCEGCKGF FRRSITKNAV YKCKNGGNCV MDMYMRRKCQ ECRLRKCKEM GMLAECLLTE IQCKSKRLRK NVKQHADQAI HEDSEGRDLR QVTSTTKSCR EKTELTPDQQ NLLHYIMDSY SKQRMPQEIT NKFLKEEFSA EENFIILTEM ATSHVQVLVE FTKKLPGFQT LDHEDQIALL KGSAVEAMFL RSAEIFSKKL PAGHTDLLEE RIRKSGISDE YITPMFSFYK SVAELKMTQE EYALLTAIVI LSPDRQYIKD REAVEKLQEP LLDVLQKLCK IHQPENPQHF ACLLGRLTEL RTFNHHHADM LMSWRVNDHK FTPLLCEIWD VQ
Host	E Coli or Yeast or Baculovirus or Mammalian Cell
Form/Format	Lyophilized or liquid (Format to be determined during the manufacturing process)
Purity/Purification	Greater or equal to 85% purity as determined by SDS-PAGE. (lot specific)
Preparation and Storage	Store at -20 degrees C. For long-term storage, store at -20 degrees C or -80 degrees C. Store working aliquots at 4 degrees C for up to one week. Repeated freezing and thawing is not recommended.
Molecular Weight	55,460 Da
Sequence Positions	1-482, full length protein
Tag Information	This protein contains an N-terminal tag and may also contain a C-terminal tag. Tag types are determined by various factors including tag-protein stability, please inquire for tag information.
Sterility	Sterile filter available upon request.
Endotoxin	Low endotoxin available upon request.
3D Structure	ModBase 3D Structure for Q3SZL0
Species	Bovine
ISO Certification	Manufactured in an ISO 9001:2015 Certified Laboratory.
Related Product Information for NR1H4 recombinant protein	MBS1283920 is a recombinant protein targeting NR1H4. Also known as Recombinant Bovine Bile acid receptor (NR1H4). Host: E Coli or Yeast or Baculovirus or Mammalian Cell.
Other Notes	Small volumes of NR1H4 recombinant protein vial(s) may occasionally become entrapped in the seal of the product vial during shipment and storage. If necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the container`s cap. Certain products may require to ship with dry ice and additional dry ice fee may apply.

ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for NR1H4. It may not necessarily be applicable to this product.

NCBI GI #	77736361
NCBI GeneID	540528
NCBI Accession #	NP_001029880.1
UniProt Primary Accession #	Q3SZL0

UniProt Related Accession #	Q3SZL0
GenBank Nucleotide #	NM_001034708.2
NCBI Official Full Name	bile acid receptor
NCBI Official Synonym Full Names	nuclear receptor subfamily 1 group H member 4
NCBI Official Symbol	NR1H4
UniProt Protein Name	Bile acid receptor
UniProt Synonym Protein Names	Farnesoid X-activated receptor; Farnesol receptor HRR-1; Nuclear receptor subfamily 1 group H member 4
Protein Family	Bile acid receptor
UniProt Gene Name	NR1H4
NCBI Protein Information	bile acid receptor
UniProt Comments for NR1H4	Ligand-activated transcription factor. Receptor for bile acids (BAs) such as chenodeoxycholic acid (CDCA), lithocholic acid, deoxycholic acid (DCA) and allocholic acid (ACA). Plays a essential role in BA homeostasis through the regulation of genes involved in BA synthesis, conjugation and enterohepatic circulation. Also regulates lipid and glucose homeostasis and is involved innate immune response. The FXR-RXR heterodimer binds predominantly to farnesoid X receptor response elements (FXREs) containing two inverted repeats of the consensus sequence 5'-AGGTCA-3' in which the monomers are spaced by 1 nucleotide (IR-1) but also to tandem repeat DR1 sites with lower affinity, and can be activated by either FXR or RXR-specific ligands. It is proposed that monomeric nuclear receptors such as NR5A2/LRH-1 bound to coregulatory nuclear responsive element (NRE) halfsites located in close proximity to FXREs modulate transcriptional activity. In the liver activates transcription of the corepressor NR0B2 thereby indirectly inhibiting CYP7A1 and CYP8B1 (involved in BA synthesis) implicating at least in part histone demethylase KDM1A resulting in epigenomic repression, and SLC10A1/NTCP (involved in hepatic uptake of conjugated BAs). Activates transcription of the repressor MAFG (involved in regulation of BA synthesis). Activates transcription of SLC27A5/BACS and BAAT (involved in BA conjugation), ABCB11/BSEP (involved in bile salt export) by directly recruiting histone methyltransferase CARM1, and ABCC2/MRP2 (involved in secretion of conjugated BAs) and ABCB4 (involved in secretion of phosphatidylcholine in the small intestine). Activates transcription of SLC27A5/BACS and BAAT (involved in BA conjugation), ABCB11/BSEP (involved in bile salt export) by directly recruiting histone methyltransferase CARM1, and ABCC2/MRP2 (involved in secretion of conjugated BAs) and ABCB4 (involved in secretion of phosphatidylcholine in the small intestine). In the intestine activates FGF19 expression and secretion leading to hepatic CYP7A1 repression. The function also involves the coordinated induction of hepatic KLB/beta-klotho expression. Regulates transcription of liver UGT2B4 and SULT2A1 involved in BA detoxification; binding to the UGT2B4 promoter seems to imply a monomeric transactivation independent of RXRA. Modulates lipid homeostasis by activating liver NR0B2/SHP-mediated repression of SREBF1 (involved in de novo lipogenesis), expression of PLTP (involved in HDL formation), SCARB1 (involved in HDL hepatic uptake), APOE, APOC1, APOC4, PPARA (involved in beta-oxidation of fatty acids), VLDLR and SDC1 (involved in the hepatic uptake of LDL and IDL remnants), and inhibiting expression of MTTP (involved in VLDL assembly). Increases expression of APOC2 (promoting lipoprotein lipase activity implicated in triglyceride clearance). Transrepresses APOA1 involving a monomeric competition with NR2A1 for binding to a DR1 element. Also reduces triglyceride clearance by inhibiting expression of ANGPTL3 and APOC3 (both involved in inhibition of lipoprotein lipase). Involved in glucose homeostasis by modulating hepatic gluconeogenesis through activation of NR0B2/SHP-mediated repression of respective genes. Modulates glycogen synthesis (inducing phosphorylation of glycogen synthase kinase-3). Modulates glucose-stimulated insulin secretion and is involved in insulin resistance. Involved in intestinal innate immunity. Plays a role in protecting the distal small intestine against bacterial overgrowth and preservation of the epithelial barrier. Down-regulates inflammatory cytokine expression in several types of immune cells including macrophages and mononuclear cells. Mediates trans-repression of TLR4-induced cytokine expression; the function seems to require its sumoylation and prevents N-CoR nuclear receptor corepressor clearance from target genes such as IL1B and NOS2. Involved in the TLR9-mediated protective mechanism in intestinal inflammation. Plays an anti-inflammatory role in liver inflammation; proposed to inhibit proinflammatory (but not antiapoptotic) NF-kappa-B signaling.
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