Datasheet for ABIN3135275

NR1H4 Protein (AA 1-488) (Strep Tag)

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Overview

Quantity:	1 mg
Target:	NR1H4
Protein Characteristics:	AA 1-488
Origin:	Mouse
Source:	Tobacco (Nicotiana tabacum)
Protein Type:	Recombinant
Purification tag / Conjugate:	This NR1H4 protein is labelled with Strep Tag.
Application:	Western Blotting (WB), SDS-PAGE (SDS), ELISA

Product Details

Sequence:	MVMQFQGLEN PIQISLHHSH RLSGFVPEGM SVKPAKGMLT EHAAGPLGQN LDLESYSPYN NVPFPQVQPQ ISSSSYYSNL GFYPQQPEDW YSPGIYELRR MPAETGYQGE TEVSEMPVTK KPRMAAASAG RIKGDELCVV CGDRASGYHY NALTCEGCKG FFRRSITKNA VYKCKNGGNC VMDMYMRRKC QECRLRKCKE MGMLAECMYT GLLTEIQCKS KRLRKNVKQH ADQTANEDDS EGRDLRQVTS TTKFCREKTE LTADQQTLLD YIMDSYNKQR MPQEITNKIL KEEFSAEENF LILTEMATSH VQILVEFTKK LPGFQTLDHE DQIALLKGSA VEAMFLRSAE IFNKKLPAGH ADLLEERIRK SGISDEYITP MFSFYKSVGE LKMTQEEYAL LTAIVILSPD RQYIKDREAV EKLQEPLLDV LQKLCKMYQP ENPQHFACLL GRLTELRTFN HHHAEMLMSW RVNDHKFTPL LCEIWDVQ **Sequence without tag. The proposed Strep-Tag is based on experience s with the expression system, a different complexity of the protein could make another tag necessary. In case you have a special request, please contact us.**

Product Details

Characteristics:

Key Benefits:

- Made in Germany - from design to production - by highly experienced protein experts.
- Protein expressed with ALiCE® and purified by multi-step, protein-specific process to ensure correct folding and modification.
- These proteins are normally active (enzymatically functional) as our customers have reported (not tested by us and not guaranteed).
- State-of-the-art algorithm used for plasmid design (Gene synthesis).

This protein is a **made-to-order protein** and will be made for the first time for your order. Our experts in the lab will ensure that you receive a correctly folded protein.

The big advantage of ordering our **made-to-order proteins** in comparison to ordering custom made proteins from other companies is that there is no financial obligation in case the protein cannot be expressed or purified.

Expression System:

- ALiCE®, our Almost Living Cell-Free Expression System is based on a lysate obtained from Nicotiana tabacum c.v.. This contains all the protein expression machinery needed to produce even the most difficult-to-express proteins, including those that require post-translational modifications.
- During lysate production, the cell wall and other cellular components that are not required for protein production are removed, leaving only the protein production machinery and the mitochondria to drive the reaction. During our lysate completion steps, the additional components needed for protein production (amino acids, cofactors, etc.) are added to produce something that functions like a cell, but without the constraints of a living system - all that's needed is the DNA that codes for the desired protein!

Concentration:

- The concentration of our recombinant proteins is measured using the absorbance at 280nm.
- The protein's absorbance will be measured in several dilutions and is measured against its specific reference buffer.
- We use the Expasy's protparam tool to determine the absorption coefficient of each protein.

Purification:

Two step purification of proteins expressed in Almost Living Cell-Free Expression System (ALiCE®):

1. In a first purification step, the protein is purified from the cleared cell lysate using StrepTag capture material. Eluate fractions are analyzed by SDS-PAGE.
2. Protein containing fractions of the best purification are subjected to second purification step through size exclusion chromatography. Eluate fractions are analyzed by SDS-PAGE and

Product Details

	Western blot.
Purity:	≥ 80 % as determined by SDS PAGE, Size Exclusion Chromatography and Western Blot.
Endotoxin Level:	Low Endotoxin less than 1 EU/mg (< 0.1 ng/mg)

Target Details

Target:	NR1H4
Alternative Name:	Nr1h4 (NR1H4 Products)
Background:	Bile acid receptor (Farnesoid X-activated receptor) (Farnesol receptor HRR-1) (Nuclear receptor subfamily 1 group H member 4) (Retinoid X receptor-interacting protein 14) (RXR-interacting protein 14),FUNCTION: 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 in innate immune response (PubMed:11030617, PubMed:21383957, PubMed:22820415). 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 (PubMed:20091679, PubMed:20483916). 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) (PubMed:21383957, PubMed:25651182, PubMed:25545350). 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) (PubMed:21383957). In ileal enterocytes activates FABP6/IBABP (involved in cytosolic transport), SLC51A/OSTA and SLC51B/OSTB (involved in secretion of conjugated BAs to the portal blood), and repressor NR0B2/SHP thereby indirectly inhibiting SLC10A2/ASBT (involved in BA uptake) (By similarity). In the intestine activates FGF15 expression and secretion

leading to hepatic CYP7A1 repression, the function also involves the coordinated induction of hepatic KLB/beta-klotho expression (PubMed:16213224, PubMed:26505219). Transcriptional activation of FABP6/IBAP and SCD1 but not of ABCB11 is isoform-specific (PubMed:12393883). 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 (By similarity). Modulates lipid homeostasis by activating liver NR0B2/SHP-mediated repression of SREBF1 isoform SREBP-1C (involved in de novo lipogenesis), expression of PLTP (involved in HDL formation), SCARB1 (involved in HDL hepatic uptake), APOE, APOC1, APOC4, VLDLR and SDC1 (involved in the hepatic uptake of LDL and IDL remnants), and inhibiting expression of MTTP (involved in VLDL assembly) (PubMed:12421815, PubMed:15146238). Increases expression of APOC2 (promoting lipoprotein lipase activity implicated in triglyceride clearance) (PubMed:11579204). Transrepresses APOA1 probably involving a monomeric competition with NR2A1 for binding to a DR1 element (PubMed:21804189). Also reduces triglyceride clearance by inhibiting expression of ANGPTL3 and APOC3 (both involved in inhibition of lipoprotein lipase) (PubMed:12891557, PubMed:15146238). 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 (PubMed:15564327, PubMed:16446356, PubMed:16557297, PubMed:16410358, PubMed:20447400). Involved in intestinal innate immunity. Plays a role in protecting the distal small intestine against bacterial overgrowth and preservation of the epithelial barrier (PubMed:16473946, PubMed:21242261). Down-regulates inflammatory cytokine expression in several types of immune cells including macrophages and mononuclear cells (PubMed:19864602). Mediates transrepression 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 (By similarity). Involved in the TLR9-mediated protective mechanism in intestinal inflammation (PubMed:23372731). Plays a anti-inflammatory role in liver inflammation, proposed to inhibit pro-inflammatory (but not antiapoptotic) NF-kappa-B signaling (PubMed:18972444). {ECO:0000250|UniProtKB:Q62735, ECO:0000250|UniProtKB:Q96RI1, ECO:0000269|PubMed:11030617, ECO:0000269|PubMed:11579204, ECO:0000269|PubMed:11706036, ECO:0000269|PubMed:12004058, ECO:0000269|PubMed:12393883, ECO:0000269|PubMed:12421815, ECO:0000269|PubMed:12660231, ECO:0000269|PubMed:12891557, ECO:0000269|PubMed:15146238, ECO:0000269|PubMed:15564327, ECO:0000269|PubMed:16213224, ECO:0000269|PubMed:16410358,

Target Details

	ECO:0000269|PubMed:16446356, ECO:0000269|PubMed:16473946, ECO:0000269|PubMed:16557297, ECO:0000269|PubMed:16946559, ECO:0000269|PubMed:18972444, ECO:0000269|PubMed:19864602, ECO:0000269|PubMed:20091679, ECO:0000269|PubMed:20447400, ECO:0000269|PubMed:20483916, ECO:0000269|PubMed:21242261, ECO:0000269|PubMed:21804189, ECO:0000269|PubMed:23372731, ECO:0000269|PubMed:25545350, ECO:0000269|PubMed:25651182, ECO:0000269|PubMed:26505219, ECO:0000305|PubMed:21383957, ECO:0000305|PubMed:22820415}., FUNCTION: [Isoform 2]: Activates transcription of IBAP and SDC1. {ECO:0000269|PubMed:12393883}., FUNCTION: [Isoform 4]: Activates transcription of IBAP and SDC1. {ECO:0000269|PubMed:12393883}.
Molecular Weight:	56.0 kDa
UniProt:	Q60641
Pathways:	Nuclear Receptor Transcription Pathway, Steroid Hormone Mediated Signaling Pathway, Regulation of Carbohydrate Metabolic Process

Application Details

Application Notes:	In addition to the applications listed above we expect the protein to work for functional studies as well. As the protein has not been tested for functional studies yet we cannot offer a guarantee though.
Comment:	ALiCE®, our Almost Living Cell-Free Expression System is based on a lysate obtained from Nicotiana tabacum c.v.. This contains all the protein expression machinery needed to produce even the most difficult-to-express proteins, including those that require post-translational modifications. During lysate production, the cell wall and other cellular components that are not required for protein production are removed, leaving only the protein production machinery and the mitochondria to drive the reaction. During our lysate completion steps, the additional components needed for protein production (amino acids, cofactors, etc.) are added to produce something that functions like a cell, but without the constraints of a living system - all that's needed is the DNA that codes for the desired protein!
Restrictions:	For Research Use only

Handling

Format:	Liquid
Buffer:	The buffer composition is at the discretion of the manufacturer. If you have a special request, please contact us.
Handling Advice:	Avoid repeated freeze-thaw cycles.
Storage:	-80 °C
Storage Comment:	Store at -80°C.
Expiry Date:	Unlimited (if stored properly)

