Datasheet for ABIN3095259

Retinoid X Receptor alpha Protein (AA 1-462) (Strep Tag)

1 Image

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Overview

Quantity:	1 mg
Target:	Retinoid X Receptor alpha (RXRA)
Protein Characteristics:	AA 1-462
Origin:	Human
Source:	Tobacco (Nicotiana tabacum)
Protein Type:	Recombinant
Purification tag / Conjugate:	This Retinoid X Receptor alpha protein is labelled with Strep Tag.
Application:	Western Blotting (WB), SDS-PAGE (SDS), ELISA

Product Details

Sequence:	MDTKHFLPLD FSTQVNSSLT SPTGRGSMAA PSLHPSLGPG IGSPGQLHSP ISTLSSPING MGPPFSVISS PMGPHSMSVP TTPTLGFSTG SPQLSSPMNP VSSSEDIKPP LGLNGVLKVP AHPSGNMASF TKHICAICGD RSSGKHYGVY SCEGCKGFFK RTVRKDLTYT CRDNKDCLID KRQRNRCQYC RYQKCLAMGM KREAVQEERQ RGKDRNENEV ESTSSANEDM PVERILEAEL AVEPKTETYV EANMGLNPSS PNDPVTNICQ AADKQLFTLV EWAKRIPHFS ELPLDDQVIL LRAGWNELLI ASFSHRSIAV KDGILLATGL HVHRNSAHSA GVGAIFDRVL TELVSKMRDM QMDKTELGCL RAIVLFNPDS KGLSNPAEVE ALREKVYASL EAYCKHKYPE QPGRFAKLLL RLPALRSIGL KCLEHLFFFK LIGDTPIDTF LMEMLEAPHQ MT **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.**
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 Western blot.

Product Details

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)
Grade:	Crystallography grade

Target Details

Target:	Retinoid X Receptor alpha (RXRA)
Alternative Name:	RXRA (RXRA Products)
Background:	Retinoic acid receptor RXR-alpha (Nuclear receptor subfamily 2 group B member 1) (Retinoid X receptor alpha),FUNCTION: Receptor for retinoic acid that acts as a transcription factor (PubMed:11162439, PubMed:11915042). Forms homo- or heterodimers with retinoic acid receptors (RARs) and binds to target response elements in response to their ligands, all-trans or 9-cis retinoic acid, to regulate gene expression in various biological processes (PubMed:10195690, PubMed:11162439, PubMed:11915042, PubMed:28167758, PubMed:17761950, PubMed:16107141, PubMed:18800767, PubMed:19167885). The RAR/RXR heterodimers bind to the retinoic acid response elements (RARE) composed of tandem 5'-AGGTCA-3' sites known as DR1-DR5 to regulate transcription (PubMed:10195690, PubMed:11162439, PubMed:11915042, PubMed:17761950, PubMed:28167758). The high affinity ligand for retinoid X receptors (RXRs) is 9-cis retinoic acid (PubMed:1310260). In the absence of ligand, the RXR-RAR heterodimers associate with a multiprotein complex containing transcription corepressors that induce histone deacetylation, chromatin condensation and transcriptional suppression (PubMed:20215566). On ligand binding, the corepressors dissociate from the receptors and coactivators are recruited leading to transcriptional activation (PubMed:20215566, PubMed:9267036). Serves as a common heterodimeric partner for a number of nuclear receptors, such as RARA, RARB and PPARA (PubMed:10195690, PubMed:11915042, PubMed:28167758, PubMed:29021580). The RXRA/RARB heterodimer can act as a transcriptional repressor or transcriptional activator, depending on the RARE DNA element context (PubMed:29021580). The RXRA/PPARA heterodimer is required for PPARA transcriptional activity on fatty acid oxidation genes such as ACOX1 and the P450 system genes (PubMed:10195690). Together with RARA, positively regulates microRNA-10a expression, thereby inhibiting the GATA6/VCAM1 signaling response to pulsatile shear stress in vascular endothelial cells (PubMed:28167758). Acts as an enhancer of RARA binding to RARE DNA element (PubMed:28167758). May facilitate the nuclear import of heterodimerization partners such as VDR and NR4A1 (PubMed:12145331, PubMed:15509776). Promotes myelin debris phagocytosis and remyelination by macrophages (PubMed:26463675). Plays a role in

Target Details

	the attenuation of the innate immune system in response to viral infections, possibly by negatively regulating the transcription of antiviral genes such as type I IFN genes (PubMed:25417649). Involved in the regulation of calcium signaling by repressing ITPR2 gene expression, thereby controlling cellular senescence (PubMed:30216632). {ECO:0000269|PubMed:10195690, ECO:0000269|PubMed:11162439, ECO:0000269|PubMed:11915042, ECO:0000269|PubMed:12145331, ECO:0000269|PubMed:1310260, ECO:0000269|PubMed:15509776, ECO:0000269|PubMed:16107141, ECO:0000269|PubMed:17761950, ECO:0000269|PubMed:18800767, ECO:0000269|PubMed:19167885, ECO:0000269|PubMed:20215566, ECO:0000269|PubMed:25417649, ECO:0000269|PubMed:26463675, ECO:0000269|PubMed:28167758, ECO:0000269|PubMed:29021580, ECO:0000269|PubMed:30216632, ECO:0000269|PubMed:9267036}.
Molecular Weight:	50.8 kDa
UniProt:	P19793
Pathways:	Nuclear Receptor Transcription Pathway, Retinoic Acid Receptor Signaling Pathway, Steroid Hormone Mediated Signaling Pathway, Regulation of Lipid Metabolism by PPARalpha, Hepatitis C

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)

Images

Image 1. „Crystallography Grade“ protein due to multi-step, protein-specific purification process