

Datasheet for ABIN3094887

## Retinoic Acid Receptor alpha Protein (AA 1-462) (Strep Tag)



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### Overview

Quantity:	250 µg
Target:	Retinoic Acid Receptor alpha (RARA)
Protein Characteristics:	AA 1-462
Origin:	Human
Source:	Cell-free protein synthesis (CFPS)
Protein Type:	Recombinant
Purification tag / Conjugate:	This Retinoic Acid Receptor alpha protein is labelled with Strep Tag.
Application:	Western Blotting (WB), SDS-PAGE (SDS), ELISA

### Product Details

Brand:	ALICE®
Sequence:	<p>MASNSSSCPT PGGGHLNGYP VPPYAFFFP MLGGLSPPGA LTTLQHQLPV SGYSTPSPAT  IETQSSSSEE IVPSPSPPPP LPRIYKPCFV CQDKSSGYHY GVSACEGCKG FFRRSIQKNM  VYTCHRDKNC IINKVTRNRC QYCRLQKCFE VGMSKESVRN DRNKKKKEVP KPECSSESYTL  TPEVGELIEK VRKAHQETFP ALCQLGKYTT NNSSEQRVSL DIDLWDFSE LSTKCIKTV  EFAKQLPGFT TLTADQITL LKAACLDILI LRICTRYTPE QDTMTFSDGL TLNRTQMHNA  GFGPLTDLVF AFANQLLPLE MDDAETGLLS AICLICGDRQ DLEQPDRVDM LQEPLLEALK  VYVRKRRPSR PHMFPKMLMK ITDLRSISAK GAERVITLKM EIPGSMPLI QEMLENSEGL  DTLSGQPGGG GRDGGGLAPP PGSCSPSLSP SSNRSSPATH SP</p> <p><b>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.</b></p>

# Product Details

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Characteristics:

Key Benefits:

- Made in Germany - from design to production - by highly experienced protein experts.
- Protein expressed with ALiCE® and purified in one-step affinity chromatography
- 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 try to ensure that you receive soluble 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 against its specific reference buffer.
- We use the ExPASy's ProtParam tool to determine the absorption coefficient of each protein.

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Purification:

One-step Strep-tag purification of proteins expressed in Almost Living Cell-Free Expression System (ALiCE®).

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Purity:

> 70-80 % as determined by SDS PAGE, Western Blot and analytical SEC (HPLC).

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Grade:

custom-made

## Target Details

Target:	Retinoic Acid Receptor alpha (RARA)
Alternative Name:	RARA ( <a href="#">RARA Products</a> )
Background:	<p>Retinoic acid receptor alpha (RAR-alpha) (Nuclear receptor subfamily 1 group B member 1),FUNCTION: Receptor for retinoic acid (PubMed:19850744, PubMed:16417524, PubMed:20215566). Retinoic acid receptors bind as heterodimers to their target response elements in response to their ligands, all-trans or 9-cis retinoic acid, and regulate gene expression in various biological processes (PubMed:28167758). The RXR/RAR heterodimers bind to the retinoic acid response elements (RARE) composed of tandem 5'-AGGTCA-3' sites known as DR1-DR5 (PubMed:28167758, PubMed:19398580). 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:16417524). On ligand binding, the corepressors dissociate from the receptors and associate with the coactivators leading to transcriptional activation (PubMed:9267036, PubMed:19850744, PubMed:20215566). Formation of a complex with histone deacetylases might lead to inhibition of RARE DNA element binding and to transcriptional repression (PubMed:28167758). Transcriptional activation and RARE DNA element binding might be supported by the transcription factor KLF2 (PubMed:28167758). RARA plays an essential role in the regulation of retinoic acid-induced germ cell development during spermatogenesis (By similarity). Has a role in the survival of early spermatocytes at the beginning prophase of meiosis (By similarity). In Sertoli cells, may promote the survival and development of early meiotic prophase spermatocytes (By similarity). In concert with RARG, required for skeletal growth, matrix homeostasis and growth plate function (By similarity). Together with RXRA, positively regulates microRNA-10a expression, thereby inhibiting the GATA6/VCAM1 signaling response to pulsatile shear stress in vascular endothelial cells (PubMed:28167758). In association with HDAC3, HDAC5 and HDAC7 corepressors, plays a role in the repression of microRNA-10a and thereby promotes the inflammatory response (PubMed:28167758).</p> <p>{ECO:0000250 UniProtKB:P11416, ECO:0000269 PubMed:16417524, ECO:0000269 PubMed:19398580, ECO:0000269 PubMed:19850744, ECO:0000269 PubMed:20215566, ECO:0000269 PubMed:28167758, ECO:0000269 PubMed:9267036}.</p>
Molecular Weight:	50.8 kDa
UniProt:	<a href="#">P10276</a>
Pathways:	<a href="#">Nuclear Receptor Transcription Pathway</a> , <a href="#">Retinoic Acid Receptor Signaling Pathway</a> , <a href="#">Intracellular Steroid Hormone Receptor Signaling Pathway</a> , <a href="#">Steroid Hormone Mediated</a>

## Target Details

Signaling Pathway, Cellular Response to Molecule of Bacterial Origin, Positive Regulation of Immune Effector Process, S100 Proteins

## 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.  
Standard Storage Buffer: PBS pH 7.4, 10 % Glycerol **Might differ depending on protein.**

**Handling Advice:** Avoid repeated freeze-thaw cycles.

**Storage:** -80 °C

**Storage Comment:** Store at -80°C.

**Expiry Date:** 12 months