

Datasheet for ABIN3095109
RORA Protein (AA 1-523) (Strep Tag)[Go to Product page](#)

1 Image

Overview

Quantity:	1 mg
Target:	RORA
Protein Characteristics:	AA 1-523
Origin:	Human
Source:	Tobacco (Nicotiana tabacum)
Protein Type:	Recombinant
Purification tag / Conjugate:	This RORA protein is labelled with Strep Tag.
Application:	Western Blotting (WB), SDS-PAGE (SDS), ELISA

Product Details

Sequence: MESAPAAPDP AASEPGSSGA DAAAGSRETP LNQESARKSE PPAPVRRQSY SSTSRGISVT
KKTHTSQIEI IPCKICGDKS SGIHYGVITC EGCKGFFRRS QQSNATYSCP RQKNCLIDRT
SRNRCQHCR L QKCLAVGMSR DAVKFGMSK KQRDSLAEV QKHRMQQQQR DHQQQPGEAE
PLTPTYNISA NGLTELHDDL SNYIDGHTPE GSKADSAVSS FYLDIQSPD QSGLDINGIK
PEPICDYTPA SGFFPYCSFT NGETSPTVSM AELEHLAQNI SKSHLETQY LREELQQITW
QTFLQEEIEN YQNKQREVMW QLCAIKITEA IQYVVEFAKR IDGFMELCQN DQIVLLKAGS
LEVVFIRMCR AFDSQNNTVY FDGKYASPDV FKSLGCEDFI SFVFEGKSL CSMHLTEDEI
ALFSAFVLMS ADRSWLQEKV KIEKLQQIK LALQHVLQKN HREDGILTKL ICKVSTLRAL
CGRHTEKLMA FKAIPDIVR LHFPPLYKEL FTSEFEPAMQ IDG

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

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)

Grade: Crystallography grade

Target Details

Target: RORA

Alternative Name: RORA ([RORA Products](#))

Background: Nuclear receptor ROR-alpha (Nuclear receptor RZR-alpha) (Nuclear receptor subfamily 1 group F member 1) (RAR-related orphan receptor A) (Retinoid-related orphan receptor-alpha),FUNCTION: Nuclear receptor that binds DNA as a monomer to ROR response elements (RORE) containing a single core motif half-site 5'-AGGTCA-3' preceded by a short A-T-rich sequence. Key regulator of embryonic development, cellular differentiation, immunity, circadian rhythm as well as lipid, steroid, xenobiotics and glucose metabolism. Considered to have intrinsic transcriptional activity, have some natural ligands like oxysterols that act as agonists (25-hydroxycholesterol) or inverse agonists (7-oxygenated sterols), enhancing or repressing the transcriptional activity, respectively. Recruits distinct combinations of cofactors to target genes regulatory regions to modulate their transcriptional expression, depending on the tissue, time and promoter contexts. Regulates genes involved in photoreceptor development including OPN1SW, OPN1SM and ARR3 and skeletal muscle development with MYOD1. Required for proper cerebellum development (PubMed:29656859). Regulates SHH gene expression, among others, to induce granule cells proliferation as well as expression of genes involved in calcium-mediated signal transduction. Regulates the circadian expression of several clock genes, including CLOCK, BMAL1, NPAS2 and CRY1. Competes with NR1D1 for binding to their shared DNA response element on some clock genes such as BMAL1, CRY1 and NR1D1 itself, resulting in NR1D1-mediated repression or RORA-mediated activation of clock genes expression, leading to the circadian pattern of clock genes expression. Therefore influences the period length and stability of the clock. Regulates genes involved in lipid metabolism such as apolipoproteins APOA1, APOA5, APOC3 and PPARG. In liver, has specific and redundant functions with RORC as positive or negative modulator of expression of genes encoding phase I and phase II proteins involved in the metabolism of lipids, steroids and xenobiotics, such as CYP7B1 and SULT2A1. Induces a rhythmic expression of some of these genes. In addition, interplays functionally with NR1H2 and NR1H3 for the regulation of genes involved in cholesterol metabolism. Also

Target Details

involved in the regulation of hepatic glucose metabolism through the modulation of G6PC1 and PCK1. In adipose tissue, plays a role as negative regulator of adipocyte differentiation, probably acting through dual mechanisms. May suppress CEBPB-dependent adipogenesis through direct interaction and PPARG-dependent adipogenesis through competition for DNA-binding. Downstream of IL6 and TGFB and synergistically with RORC isoform 2, is implicated in the lineage specification of uncommitted CD4(+) T-helper (T(H)) cells into T(H)17 cells, antagonizing the T(H)1 program. Probably regulates IL17 and IL17F expression on T(H) by binding to the essential enhancer conserved non-coding sequence 2 (CNS2) in the IL17-IL17F locus. Involved in hypoxia signaling by interacting with and activating the transcriptional activity of HIF1A. May inhibit cell growth in response to cellular stress. May exert an anti-inflammatory role by inducing CHUK expression and inhibiting NF-kappa-B signaling.

{ECO:0000269|PubMed:10478845, ECO:0000269|PubMed:11053433, ECO:0000269|PubMed:11252722, ECO:0000269|PubMed:11554739, ECO:0000269|PubMed:12467577, ECO:0000269|PubMed:14570920, ECO:0000269|PubMed:15781255, ECO:0000269|PubMed:15790933, ECO:0000269|PubMed:16462772, ECO:0000269|PubMed:17512500, ECO:0000269|PubMed:18005000, ECO:0000269|PubMed:18354202, ECO:0000269|PubMed:18658046, ECO:0000269|PubMed:19965867, ECO:0000269|PubMed:21499262, ECO:0000269|PubMed:29656859, ECO:0000269|PubMed:7926749, ECO:0000269|PubMed:9328355, ECO:0000269|PubMed:9862959}.

Molecular Weight: 59.0 kDa

UniProt: [P35398](#)

Pathways: [Nuclear Receptor Transcription Pathway](#), [Steroid Hormone Mediated Signaling Pathway](#), [Regulation of Lipid Metabolism by PPARalpha](#)

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.

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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