

Datasheet for ABIN7564187

## O3FAR1 Protein (AA 1-361) (His tag)



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### Overview

Quantity:	1 mg
Target:	O3FAR1
Protein Characteristics:	AA 1-361
Origin:	Mouse
Source:	HEK-293 Cells
Protein Type:	Recombinant
Purification tag / Conjugate:	This O3FAR1 protein is labelled with His tag.

### Product Details

Purpose:	Custom-made recombinant Ffar4 Protein expressed in mammalian cells.
Sequence:	MSPECAQTTG PGPSTLDQV NRTHFPFFSD VKGDHRLVLS VVETTVLGLI FVVSLLGNVC ALVLVARRRR RGATASLVLN LFCADLLFTS AIPLVLVVRW TEAWLLGPVV CHLLFYVMTM SGSVTILTLA AVSLERMVCI VRLRRGLSGP GRRTQAALLA FIWGYSALAA LPLCILFRVV PQRLPGGDQE IPICTLDWPN RIGEISWDVF FVTLNFLVPG LVIVISYSKI LQITKASRKR LTLSLAYSES HQIRVSQQDY RLFRTLFLLM VSFFIMWSPI IITILLILIQ NFRQDLVIWP SLFFWVVAFT FANSALNPIL YNMSLFRNEW RKIFCCFFFP EKGAIFTDTS VRRNDLSVIS S <b>Sequence without tag. The proposed Purification-Tag is based on experiences 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>
Specificity:	If you are looking for a specific domain and are interested in a partial protein or a different isoform, please contact us regarding an individual offer.
Characteristics:	Key Benefits:

## Product Details

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- Made to order protein - from design to production - by highly experienced protein experts.
- Protein expressed in mammalian cells and purified in one-step affinity chromatography
- The optimized expression system ensures reliability for intracellular, secreted and transmembrane proteins.
- 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.

If you are not interested in a full length protein, please contact us for individual protein fragments.

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.

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Purity:	> 90 % as determined by Bis-Tris PAGE, anti-tag ELISA, Western Blot and analytical SEC (HPLC)
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Grade:	custom-made
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## Target Details

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Target:	O3FAR1
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Alternative Name:	Ffar4 ( <a href="#">O3FAR1 Products</a> )
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Background:	Free fatty acid receptor 4 (G-protein coupled receptor 120) (G-protein coupled receptor GT01) (Omega-3 fatty acid receptor 1),FUNCTION: G-protein-coupled receptor for long-chain fatty acids (LCFAs) with a major role in adipogenesis, energy metabolism and inflammation. Signals via G-protein and beta-arrestin pathways (PubMed:27852822, PubMed:26873857). LCFAs sensing initiates activation of phosphoinositidase C-linked G proteins GNAQ and GNA11 (G(q)/G(11)), inducing a variety of cellular responses via second messenger pathways such as intracellular calcium mobilization, modulation of cyclic adenosine monophosphate (cAMP) production, and mitogen-activated protein kinases (MAPKs) (PubMed:27852822, PubMed:26873857). After LCFAs binding, associates with beta-arrestin ARRB2 that acts as an adapter protein coupling the receptor to specific downstream signaling pathways, as well as mediating receptor endocytosis (PubMed:27852822, PubMed:26873857). In response to dietary fats, plays an important role in the regulation of adipocyte proliferation and differentiation (PubMed:17250804, PubMed:22343897, PubMed:27853148, PubMed:29343498, PubMed:31761534). Acts as a receptor for omega-3 polyunsaturated fatty acids (PUFAs) at
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primary cilium of perivascular preadipocytes, initiating an adipogenic program via cAMP and CTCF-dependent chromatin remodeling that ultimately results in transcriptional activation of adipogenic genes and cell cycle entry (PubMed:31761534). Induces differentiation of brown and beige adipocytes probably via autocrine and endocrine functions of FGF21 hormone (PubMed:27853148, PubMed:29343498). Contributes to the thermogenic activation of brown adipose tissue and the browning of white adipose tissue (PubMed:27853148, PubMed:29343498). Activates brown adipocytes by initiating intracellular calcium signaling leading to mitochondrial depolarization and fission, and overall increased mitochondrial respiration (PubMed:29343498). Consequently stimulates fatty acid uptake and oxidation in mitochondria together with UCP1-mediated thermogenic respiration, eventually reducing fat mass (PubMed:29343498). Regulates bi-potential differentiation of bone marrow mesenchymal stem cells toward osteoblasts or adipocytes likely by up-regulating distinct integrins (PubMed:26365922). In response to dietary fats regulates hormone secretion and appetite (PubMed:15619630, PubMed:25535828, PubMed:24742677, PubMed:24663807, PubMed:24222669). Stimulates GIP and GLP1 secretion from enteroendocrine cells as well as GCG secretion in pancreatic alpha cells, thereby playing a role in the regulation of blood glucose levels (PubMed:15619630, PubMed:25535828, PubMed:24742677). Negatively regulates glucose-induced SST secretion in pancreatic delta cells (PubMed:24663807). Mediates LCFAs inhibition of GHRL secretion, an appetite-controlling hormone (PubMed:24222669). In taste buds, contributes to sensing of dietary fatty acids by the gustatory system (PubMed:20573884). During the inflammatory response, promotes anti-inflammatory M2 macrophage differentiation in adipose tissue (PubMed:20813258). Mediates the anti-inflammatory effects of omega-3 PUFAs via inhibition of NLRP3 inflammasome activation (By similarity). In this pathway, interacts with adapter protein ARRB2 and inhibits the priming step triggered by Toll-like receptors (TLRs) at the level of TAK1 and TAB1 (PubMed:20813258). Further inhibits the activation step when ARRB2 directly associates with NLRP3, leading to inhibition of pro-inflammatory cytokine release (By similarity). Mediates LCFAs anti-apoptotic effects (PubMed:15774482). {ECO:0000250|UniProtKB:Q5NUL3, ECO:0000269|PubMed:15619630, ECO:0000269|PubMed:15774482, ECO:0000269|PubMed:17250804, ECO:0000269|PubMed:20573884, ECO:0000269|PubMed:20813258, ECO:0000269|PubMed:22343897, ECO:0000269|PubMed:24222669, ECO:0000269|PubMed:24663807, ECO:0000269|PubMed:24742677, ECO:0000269|PubMed:25535828, ECO:0000269|PubMed:26365922, ECO:0000269|PubMed:26873857, ECO:0000269|PubMed:27852822, ECO:0000269|PubMed:27853148, ECO:0000269|PubMed:29343498, ECO:0000269|PubMed:31761534}.

## Target Details

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Molecular Weight:	40.8 kDa
UniProt:	<a href="#">Q7TMA4</a>
Pathways:	<a href="#">Hormone Transport</a>

## Application Details

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Application Notes:	We expect the protein to work for functional studies. As the protein has not been tested for functional studies yet we cannot offer a guarantee though.
Restrictions:	For Research Use only

## Handling

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Format:	Liquid
Buffer:	The buffer composition is at the discretion of the manufacturer.
Handling Advice:	Avoid repeated freeze-thaw cycles.
Storage:	-80 °C
Storage Comment:	Store at -80°C.
Expiry Date:	12 months