Datasheet for ABIN7563756

NR1D1 Protein (AA 1-615) (His tag)

Go to Product page

Overview

Quantity:	1 mg
Target:	NR1D1
Protein Characteristics:	AA 1-615
Origin:	Mouse
Source:	HEK-293 Cells
Protein Type:	Recombinant
Purification tag / Conjugate:	This NR1D1 protein is labelled with His tag.

Product Details

Purpose:	Custom-made recombinant Nr1d1 Protein expressed in mammalian cells.
Sequence:	MTTLDSNNNT GGVITYIGSS GSSPSRTSPE SLYSDSSNGS FQSLTQGCPT YFPPSPTGSL TQDPARSFGS APPSLSDDSS PSSASSSSSS SSSSFYNGSP PGSLQVAMED SSRVSPSKGT SNITKLNGMV LLCKVCGDVA SGFHYGVHAC EGCKGFFRRS IQQNIQYKRC LKNENCSIVR INRNRCQQCR FKKCLSVGMS RDAVRFGRIP KREKQRMLAE MQSAMNLANN QLSSLCPLET SPTPHPTSGS MGPSPPPAPA PTPLVGFSQF PQQLTPPRSP SPEPTMEDVI SQVARAHREI FTYAHDKLGT SPGNFNANHA SGSPSATTPH RWESQGCPSA PNDNNLLAAQ RHNEALNGLR QGPSSYPPTW PSGPTHHSCH QPNSNGHRLC PTHVYSAPEG EAPANSLRQG NTKNVLLACP MNMYPHGRSG RTVQEIWEDF SMSFTPAVRE VVEFAKHIPG FRDLSQHDQV TLLKAGTFEV LMVRFASLFN VKDQTVMFLS RTTYSLQELG AMGMGDLLNA MFDFSEKLNS LALTEEELGL FTAVVLVSAD RSGMENSASV EQLQETLLRA LRALVLKNRP SETSRFTKLL LKLPDLRTLN NMHSEKLLSF RVDAQ **Sequence without tag. The proposed Purification-Tag is based on experiences with the expression system, a different complexity of the protein could make**

Product Details

	another tag necessary. In case you have a special request, please contact us.
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: • 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.
Purity:	> 90 % as determined by Bis-Tris PAGE, anti-tag ELISA, Western Blot and analytical SEC (HPLC)
Grade:	custom-made

Target Details

Target:	NR1D1
Alternative Name:	Nr1d1 (NR1D1 Products)
Background:	Nuclear receptor subfamily 1 group D member 1 (Rev-erbA-alpha) (V-erbA-related protein 1) (EAR-1),FUNCTION: Transcriptional repressor which coordinates circadian rhythm and metabolic pathways in a heme-dependent manner. Integral component of the complex transcription machinery that governs circadian rhythmicity and forms a critical negative limb of the circadian clock by directly repressing the expression of core clock components BMAL1, CLOCK and CRY1. Also regulates genes involved in metabolic functions, including lipid and bile acid metabolism, adipogenesis, gluconeogenesis and the macrophage inflammatory response. Acts as a receptor for heme which stimulates its interaction with the NCOR1/HDAC3 corepressor complex, enhancing transcriptional repression. Recognizes two classes of DNA response elements within the promoter of its target genes and can bind to DNA as either

monomers or homodimers, depending on the nature of the response element. Binds as a monomer to a response element composed of the consensus half-site motif 5'-[A/G]GGTCA-3' preceded by an A/T-rich 5' sequence (RevRE), or as a homodimer to a direct repeat of the core motif spaced by two nucleotides (RevDR-2). Acts as a potent competitive repressor of ROR alpha (RORA) function and regulates the levels of its ligand heme by repressing the expression of PPARGC1A, a potent inducer of heme synthesis. Regulates lipid metabolism by repressing the expression of APOC3 and by influencing the activity of sterol response element binding proteins (SREBPs), represses INSIG2 which interferes with the proteolytic activation of SREBPs which in turn govern the rhythmic expression of enzymes with key functions in sterol and fatty acid synthesis. Regulates gluconeogenesis via repression of G6PC1 and PEPCK and adipocyte differentiation via repression of PPARG. Regulates glucagon release in pancreatic alpha-cells via the AMPK-NAMPT-SIRT1 pathway and the proliferation, glucose-induced insulin secretion and expression of key lipogenic genes in pancreatic-beta cells. Positively regulates bile acid synthesis by increasing hepatic expression of CYP7A1 via repression of NR0B2 and NFIL3 which are negative regulators of CYP7A1. Modulates skeletal muscle oxidative capacity by regulating mitochondrial biogenesis and autophagy, controls mitochondrial biogenesis and respiration by interfering with the STK11-PRKAA1/2-SIRT1-PPARGC1A signaling pathway. Represses the expression of SERPINE1/PAI1, an important modulator of cardiovascular disease and the expression of inflammatory cytokines and chemokines in macrophages. Represses gene expression at a distance in macrophages by inhibiting the transcription of enhancer-derived RNAs (eRNAs). Plays a role in the circadian regulation of body temperature and negatively regulates thermogenic transcriptional programs in brown adipose tissue (BAT), imposes a circadian oscillation in BAT activity, increasing body temperature when awake and depressing thermogenesis during sleep. In concert with NR2E3, regulates transcriptional networks critical for photoreceptor development and function. In addition to its activity as a repressor, can also act as a transcriptional activator. In the ovarian granulosa cells acts as a transcriptional activator of STAR which plays a role in steroid biosynthesis. In collaboration with SP1, activates GJA1 transcription in a heme-independent manner. Represses the transcription of CYP2B10, CYP4A10 and CYP4A14 (PubMed:30555544). Represses the transcription of CES2 (PubMed:29653076). Represses and regulates the circadian expression of TSHB in a NCOR1-dependent manner (PubMed:24794873). Negatively regulates the protein stability of NR3C1 and influences the time-dependent subcellular distribution of NR3C1, thereby affecting its transcriptional regulatory activity (PubMed:27686098). Plays a critical role in the circadian control of neutrophilic inflammation in the lung, under resting, non-stress conditions, acts as a rhythmic repressor to limit inflammatory activity whereas in the presence of inflammatory triggers undergoes ubiquitin-mediated degradation thereby relieving inhibition of the

Target Details

	inflammatory response (PubMed:29533925). Plays a key role in the circadian regulation of microglial activation and neuroinflammation, suppresses microglial activation through the NF-kappaB pathway in the central nervous system (PubMed:30792350). Plays a role in the regulation of the diurnal rhythms of lipid and protein metabolism in the skeletal muscle via transcriptional repression of genes controlling lipid and amino acid metabolism in the muscle (PubMed:30096135). {ECO:0000269|PubMed:18227153, ECO:0000269|PubMed:18454201, ECO:0000269|PubMed:18565334, ECO:0000269|PubMed:19710360, ECO:0000269|PubMed:19721697, ECO:0000269|PubMed:20159955, ECO:0000269|PubMed:21408158, ECO:0000269|PubMed:21874017, ECO:0000269|PubMed:22166979, ECO:0000269|PubMed:22184247, ECO:0000269|PubMed:22474260, ECO:0000269|PubMed:22549838, ECO:0000269|PubMed:23201262, ECO:0000269|PubMed:23728303, ECO:0000269|PubMed:23852339, ECO:0000269|PubMed:23936124, ECO:0000269|PubMed:24030830, ECO:0000269|PubMed:24162845, ECO:0000269|PubMed:24794873, ECO:0000269|PubMed:27686098, ECO:0000269|PubMed:29533925, ECO:0000269|PubMed:29653076, ECO:0000269|PubMed:30096135, ECO:0000269|PubMed:30555544, ECO:0000269|PubMed:30792350, ECO:0000269|PubMed:31748741}.
Molecular Weight:	66.8 kDa
UniProt:	Q3UV55
Pathways:	Nuclear Receptor Transcription Pathway, Steroid Hormone Mediated Signaling Pathway, Cellular Response to Molecule of Bacterial Origin, Regulation of Lipid Metabolism by PPARalpha

Application Details

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

Format:	Liquid
Buffer:	The buffer composition is at the discretion of the manufacturer.
Handling Advice:	Avoid repeated freeze-thaw cycles.

Handling

Storage:	-80 °C
Storage Comment:	Store at -80°C.
Expiry Date:	12 months

