

# Product datasheet for MC216815

## Nr1h4 (NM\_001163700) Mouse Untagged Clone

### **Product data:**

Product Type:	Expression Plasmids
Product Name:	Nr1h4 (NM_001163700) Mouse Untagged Clone
Tag:	Tag Free
Symbol:	Nr1h4
Synonyms:	Al957360; Fxr; HRR1; RlP14; Rxrip14
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)

#### OriGene Technologies, Inc.

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VRIGENE	Nr1n4 (NM_001163700) Mouse Ontagged Clone – MC216815
Fully Sequenced ORF:	<pre>ORF: &gt;MC216815 representing NM_001163700     Red=Cloning site Blue=ORF Orange=Stop codon</pre>
	TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC GCC <mark>GCGATCGC</mark> C
	ATGGTGATGCAGTTTCAGGGTTTAGAAAATCCAATTCAGATTAGTCTTCACCACAGCCACCGGCTGTCAG GATTTGTGCCGGAAGGGATGAGTGTGAAACCCAGCTAAAGGTATGCTAACCAGAACACCGCGGCAGGCCCTCT GGGGCAGAATCTGGATTTGGAATCGTACTCCCCCATACAACAATGTCCCGGTTTCCTCAAGTTCAGCACAAG ATTTCCTCCTCGGTTTACTATTCCAACCTGGGCTTCACCCCCAACAACCGGAAGACTGGGTATTCAGCACAAG GCATCTATGAACTCAGGCGAATGCCCGGCGGAGACTGGGTACCAGGGAGAGACTGAGGTATCAGAGATGCC TGTGACAAAGAAGCCGCGGAATGCCCGGCGGCACTCGGCAGGCA
Restriction Sites	Sgfl-Mlul
ACCN:	NM 001163700
Insert Size:	1467 bp
OTI Disclaimer:	Our molecular clone sequence data has been matched to the reference identifier above as a point of reference. Note that the complete sequence of our molecular clones may differ from the sequence published for this corresponding reference, e.g., by representing an alternative RNA splicing form or single nucleotide polymorphism (SNP).
Components:	The ORF clone is ion-exchange column purified and shipped in a 2D barcoded Matrix tube containing 10ug of transfection-ready, dried plasmid DNA (reconstitute with 100 ul of water).
Reconstitution N	<ul> <li>lethod: 1. Centrifuge at 5,000xg for 5min.</li> <li>2. Carefully open the tube and add 100ul of sterile water to dissolve the DNA.</li> <li>3. Close the tube and incubate for 10 minutes at room temperature.</li> <li>4. Briefly vortex the tube and then do a quick spin (less than 5000xg) to concentrate the liquic at the bottom.</li> <li>5. Store the suspended plasmid at -20°C. The DNA is stable for at least one year from date of shipping when stored at -20°C</li> </ul>

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Note:	Plasmids are not sterile. For experiments where strict sterility is required, filtration with 0.22um filter is required.
RefSeq:	<u>NM 001163700.1, NP 001157172.1</u>
RefSeq Size:	1985 bp
RefSeq ORF:	1467 bp
Locus ID:	20186
UniProt ID:	<u>Q60641</u>
Cytogenetics:	10 44.98 cM
Gene Summary:	Ligand-activated transcription factor. Receptor for bile acids (BAs) such as chenodeoxycholic acid (CDCA), lithocholic acid, deoxycholic acid (DCA) and allocholic acid (ACA). Plays a essential role in BA homeostasis through the regulates lipid and glucose homeostasis and is involved in innate immune response (PubMed:11030617, PubMed:21383957, PubMed:22820415). The FXR-RXR heterodimer binds predominantly to farnesoid X receptor response elements (FXREs) containing two inverted repeats of the consensus sequence 5'-AGGTCA-3' in which the monomers are spaced by 1 nucleotide (IR-1) but also to tandem repeat DR1 sites with lower affinity, and can be activated by either FXR or RXR-specific ligands. It is proposed that monomeric nuclear receptors such as NR5A2/LRH-1 bound to coregulatory nuclear responsive element (NRE) halfsites located in close proximity to FXREs modulate transcriptional activity (PubMed:20091679, PubMed:20483916). In the liver activates transcription of the corepressor NR0B2 thereby indirectly inhibiting CYP7A1 and CYP8B1 (involved in BA synthesis) implicating at least in part histone demethylase KDM1A resulting in epigenomic repression, and SLC10A1/NTCP (involved in regulation of BA synthesis) (PubMed:21383957, PubMed:25651182, PubMed:25545350). Activates transcription of the repressor MAFG (involved in regulation of BA synthesis) (PubMed:21383957, PubMed:21383957). In ileal enterocytes activates FABP6/IBABP (involved in secretion of conjugated BAs) and ABCB4 (involved in secretion of phosphatidylcholine in the small intestine) (PubMed:11383957). In ileal enterocytes activates FABP6/IBABP (involved in cytosolic transport), SLC51A/OSTA and SLC51B/OSTB (involved in bile salt export) by directly recruiting histone methyltransferase CARM1, and ABCC2/MRP2 (involved in cytosolic transport), SLC51A/OSTA and SLC51B/OSTB (involved in secretion of conjugated BAs to the portal blood), and repressor NR0B2/SHP thereby indirectly inhibiting SLC10A2/ASBT (involved in BA uptake) (By similarity). In the intestine a

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IDL remnants), and inhibiting expression of MTTP (involved in VLDL assembly) (PubMed:12421815, PubMed:15146238). Increases expression of APOC2 (promoting lipoprotein lipase activity implicated in triglyceride clearance) (PubMed:11579204). Transrepresses APOA1 probably involving a monomeric competition with NR2A1 for binding to a DR1 element (PubMed:21804189). Also reduces triglyceride clearance by inhibiting expression of ANGPTL3 and APOC3 (both involved in inhibition of lipoprotein lipase) (PubMed:12891557, PubMed:15146238). Involved in glucose homeostasis by modulating hepatic gluconeogenesis through activation of NR0B2/SHP-mediated repression of respective genes. Modulates glycogen synthesis (inducing phosphorylation of glycogen synthase kinase-3). Modulates glucose-stimulated insulin secretion and is involved in insulin resistance (PubMed:15564327, PubMed:16446356, PubMed:16557297, PubMed:16410358, PubMed:20447400). Involved in intestinal innate immunity. Plays a role in protecting the distal small intestine against bacterial overgrowth and preservation of the epithelial barrier (PubMed:16473946, PubMed:21242261). Down-

Transcript Variant: This variant (1), alternatively referred to as beta 1 and alpha 3, encodes the longest isoform (1). Sequence Note: This RefSeq record was created from transcript and genomic sequence data to make the sequence consistent with the reference genome assembly. The genomic coordinates used for the transcript record were based on transcript alignments.

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