

NR1D2 Antibody (Ligand-binding Domain)
Rabbit Polyclonal Antibody
Catalog # ALS10550

Specification

NR1D2 Antibody (Ligand-binding Domain) - Product Information

Application	IHC
Primary Accession	Q14995
Reactivity	Human, Rabbit, Monkey, Horse, Bovine, Dog
Host	Rabbit
Clonality	Polyclonal
Calculated MW	65kDa KDa

NR1D2 Antibody (Ligand-binding Domain) - Additional Information

Gene ID 9975

Other Names

Nuclear receptor subfamily 1 group D member 2, Orphan nuclear hormone receptor BD73, Rev-erb alpha-related receptor, RVR, Rev-erb-beta, V-erbA-related protein 1-related, EAR-1R, NR1D2

Target/Specificity

Human NR1D2. BLAST analysis of the peptide immunogen showed no homology with other human proteins.

Reconstitution & Storage

Long term: -70°C; Short term: +4°C

Precautions

NR1D2 Antibody (Ligand-binding Domain) is for research use only and not for use in diagnostic or therapeutic procedures.

NR1D2 Antibody (Ligand-binding Domain) - Protein Information

Name NR1D2 ([HGNC:7963](#))

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 and CLOCK. Also regulates genes involved in metabolic functions, including lipid metabolism and the 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 also negatively regulates the expression of NR1D1. Regulates lipid and energy homeostasis in the skeletal muscle via repression of genes involved in lipid metabolism and myogenesis including: CD36, FABP3, FABP4, UCP3, SCD1 and MSTN. Regulates hepatic lipid metabolism via the repression of APOC3. Represses gene expression at a distance in macrophages by inhibiting the transcription of enhancer-derived RNAs (eRNAs). In addition to its activity as a repressor, can also act as a transcriptional activator. Acts as a transcriptional activator of the sterol regulatory element-binding protein 1 (SREBF1) and the inflammatory mediator interleukin-6 (IL6) in the skeletal muscle (By similarity). Plays a role in the regulation of circadian sleep/wake cycle; essential for maintaining wakefulness during the dark phase or active period (By similarity). Key regulator of skeletal muscle mitochondrial function; negatively regulates the skeletal muscle expression of core clock genes and genes involved in mitochondrial biogenesis, fatty acid beta-oxidation and lipid metabolism (By similarity). May play a role in the circadian control of neutrophilic inflammation in the lung (By similarity).

Cellular Location

Nucleus {ECO:0000255|PROSITE-ProRule:PRU00407, ECO:0000269|PubMed:17892483, ECO:0000269|PubMed:17996965}. Cytoplasm {ECO:0000250|UniProtKB:Q60674}.
Note=Phosphorylation by CSNK1E enhances its cytoplasmic localization.
{ECO:0000250|UniProtKB:Q60674}

Tissue Location

Widely expressed. Expressed at high levels in the liver, adipose tissue, skeletal muscle and brain. Expression oscillates diurnally in the suprachiasmatic nucleus (SCN) of the hypothalamus as well as in peripheral tissues

Volume

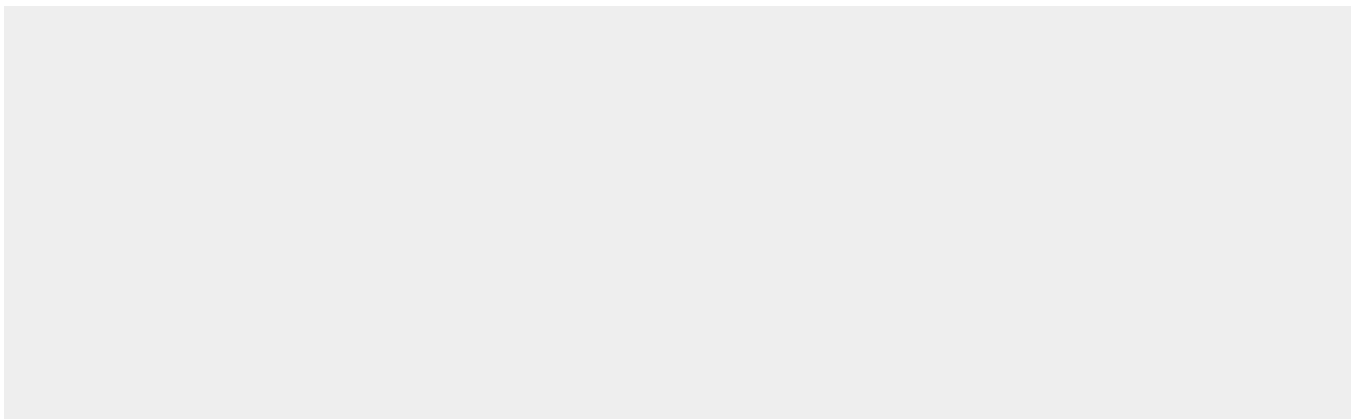
50 µl

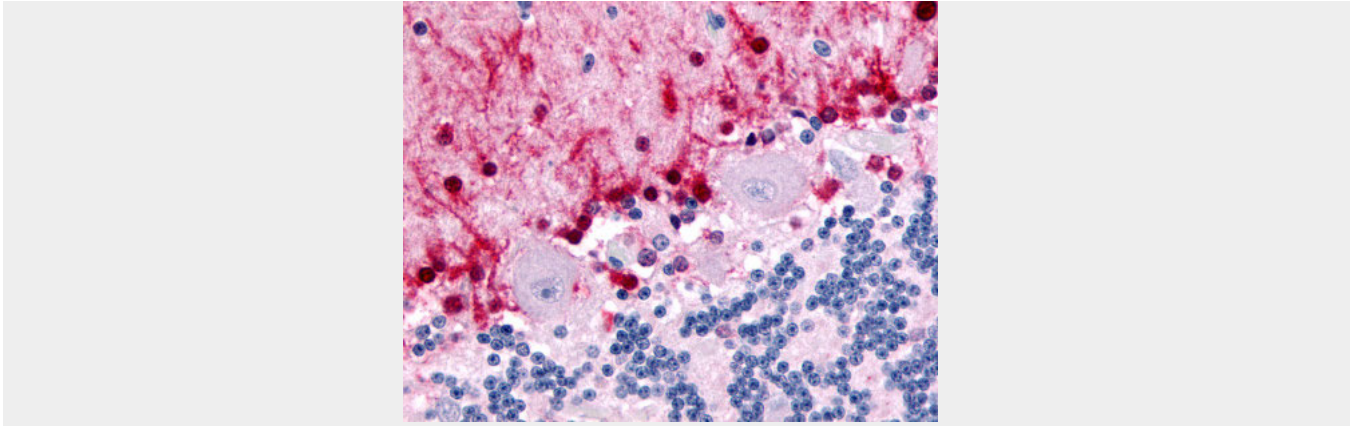
NR1D2 Antibody (Ligand-binding Domain) - Protocols

Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

NR1D2 Antibody (Ligand-binding Domain) - Images





Anti-NR1D2 antibody ALS10550 IHC of human brain, cerebellum.

NR1D2 Antibody (Ligand-binding Domain) - Background

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 ARNTL/BMAL1 and CLOCK. Also regulates genes involved in metabolic functions, including lipid metabolism and the 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 also negatively regulates the expression of NR1D1. Regulates lipid and energy homeostasis in the skeletal muscle via repression of genes involved in lipid metabolism and myogenesis including: CD36, FABP3, FABP4, UCP3, SCD1 and MSTN. Regulates hepatic lipid metabolism via the repression of APOC3. Represses gene expression at a distance in macrophages by inhibiting the transcription of enhancer-derived RNAs (eRNAs). In addition to its activity as a repressor, can also act as a transcriptional activator. Acts as a transcriptional activator of the sterol regulatory element-binding protein 1 (SREBF1) and the inflammatory mediator interleukin-6 (IL6) in the skeletal muscle.

NR1D2 Antibody (Ligand-binding Domain) - References

- Kamizono A., et al. Submitted (JUL-1993) to the EMBL/GenBank/DDBJ databases.
- Ota T., et al. Nat. Genet. 36:40-45(2004).
- Muzny D.M., et al. Nature 440:1194-1198(2006).
- Dumas B., et al. Mol. Endocrinol. 8:996-1005(1994).
- Sauve F., et al. Mol. Cell. Biol. 21:343-353(2001).