Recombinant NR1D2 protein (His tag)

Catalog Number	538070
Synonyms	Orphan nuclear hormone receptor BD73; Rev-erb alpha-related receptor; RVR; Rev-erb-beta; V-erbA-related protein 1-related; EAR-1R
Species	Human
Expression System	E. coli
Accession	Q14995
Molecular Weight	Predictes a molecular mass of 23.77 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 25 kDa band.

Product Information

Sequence Region	384-579
Form	Lyophilized powder
Formulation	Lyophilized from sterile PBS, pH 7.4
Purity	>87%, by SDS-PAGE with Coomassie Brilliant Blue staining.
Endotoxin	Not tested.
Activity	Not tested.
Stability	Samples are stable for up to twelve months from date of receipt at -70℃
Protein Construction	DNA encoding 384-579 aa (Q14995) were fused with 6His tag.

Storage & Handling

Reconstitution	Reconstitute at 0.25 μg/μl in sterile water for short-term storage. Reconstitution with 50% glycerol solution is recommended for longer term storage (see Stability and Storage for more details). If a different concentration is needed for your purposes please adjust the reconstitution volume as required (please note: the ion concentration of the final solution will vary according to the volume used). Note: Centrifuge vial before opening. When reconstituting, gently pipet and wash down the sides of the vial to ensure full recovery of the protein into solution.
Storage	Store it under sterile conditions at -20℃ to -80℃. It is recommended that the protein be aliquoted for optimal storage. Avoid repeated freeze-thaw cycles.
Shipping	In general, recombinant proteins are provided as lyophilized powder which are shipped at ambient temperature. Bulk packages of recombinant proteins are provided as frozen liquid. They are shipped out with blue ice unless customers require otherwise.

Description

Description	Recombinant Human NR1D2 Protein Fragment (384-579) is a high-quality, stable, and soluble protein product designed for structural and biochemical studies. This fragment of the Nuclear receptor subfamily 1 group D member 2 (Rev-erb-beta) offers researchers a reliable tool to investigate circadian rhythm regulation and metabolic pathways, with optimized properties for experimental applications. Nuclear receptor subfamily 1 group D member 2 (NR1D2) functions as a transcriptional repressor that coordinates circadian rhythm and metabolic pathways in a heme-dependent manner. It forms an integral component of the circadian clock machinery by directly repressing core clock components BMAL1 and CLOCK, while also regulating genes involved in lipid metabolism, energy homeostasis, and inflammatory responses. The protein acts as a receptor for heme, which enhances its interaction with the NCOR1/HDAC3 corepressor complex to strengthen transcriptional repression. NR1D2 binds to DNA response elements either as monomers or homodimers, depending on the specific motif, and can function as both a repressor and activator of gene expression. It plays roles in skeletal muscle mitochondrial function, hepatic lipid metabolism, and circadian control of inflammation. The protein primarily localizes to the nucleus, with phosphorylation influencing cytoplasmic localization. The provided fragment (residues 384-579) represents a stable, soluble region selected for structural and functional analyses, supporting research into NR1D2's biological significance.