

## Active Recombinant Human NR1H4, GST-tagged

**Cat. No.** NR1H4-1036H    **Lot. No.** (See product label)

### SPECIFICATION

#### Product Overview

**Species** Human

**Source** E.coli

#### Description

Farnesoid-X-activated Receptor (FXR) was originally identified and cloned in rat as an orphan nuclear hormone receptor based on hybridization with a degenerate oligonucleotide designed from the highly conserved nuclear hormone receptor DNA binding domain. FXR functions as a heterodimer with RXR and binds to sequence elements in the promoters of target genes. The FXR/RXR heterodimer binds with highest affinity to inverted repeats separated by 1 bp (IR-1) and with low affinity to direct repeats separated by 4 and 5 bp (DR-4 and DR-5). As is the case for other nuclear hormone receptors, FXR regulates target gene activity in response to ligand. While initial studies suggested that farnesol and retinoid metabolites were likely ligands for FXR, current data support the notion that FXR is a bile acid sensor that plays an integral role in bile acid synthesis and transport. In the small intestine, FXR regulates bile acid uptake through the upregulation of the ileal bile acid binding protein gene via binding to an upstream response element. The FXR/RXR heterodimer can be activated by the bile salt chenodeoxycholic acid (CDCA) and FXR is required for the bile salt-dependent transcriptional control of the human ABCB11 gene (the bile salt export pump). In addition, FXR has been shown to inhibit the cholesterol 7-hydrolase gene (CYP7A1) transcription. Recombinant GST-FXR is isolated from an *E. coli* strain that carries the coding sequence of the human FXR under the control of a T7 promoter.

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|--------------------|------------------------------------------------------------------------------------------------------------------------|
| <b>Form</b>        | Liquid. Supplied in 20 mM Tris-HCl pH 8.0, 100 mM KCl, 0.2 mM EDTA, 1 mM DTT and 20% glycerol.                         |
| <b>Purity</b>      | > 95% by SDS-PAGE.                                                                                                     |
| <b>Activity</b>    | 20 ng are sufficient for a gel-mobility shift assay and 100 ng are sufficient for a protein-protein interaction assay. |
| <b>Application</b> | GST-FXR has been applied in DNA and protein-protein interaction assays.                                                |
| <b>Usage</b>       | For in vitro use only.                                                                                                 |
| <b>Storage</b>     | Quality guaranteed for 12 months store at - 80°C. Avoid freeze / thaw cycles.                                          |

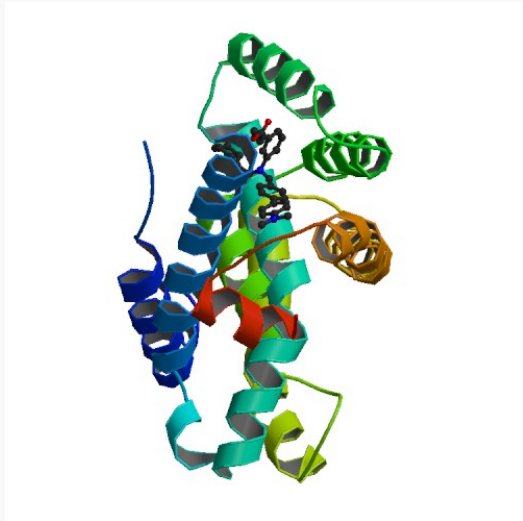
## GENE INFORMATION

|                       |                                                                                                                                                                                                                                                                                                                                                 |
|-----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Gene Name</b>      | NR1H4 nuclear receptor subfamily 1, group H, member 4 [ Homo sapiens ]                                                                                                                                                                                                                                                                          |
| <b>Synonyms</b>       | NR1H4; nuclear receptor subfamily 1, group H, member 4; BAR; FXR; HRR1; HRR-1; RIP14; MGC163445; farnesoid X receptor; Bile acid receptor; Farnesoid X-activated receptor; Farnesol receptor HRR-1; Nuclear receptor subfamily 1 group H member 4; Retinoid X receptor-interacting protein 14; RXR-interacting protein 14; farnesoid X receptor |
| <b>Gene ID</b>        | 9971                                                                                                                                                                                                                                                                                                                                            |
| <b>mRNA Refseq</b>    | NM_005123                                                                                                                                                                                                                                                                                                                                       |
| <b>Protein Refseq</b> | NP_005114                                                                                                                                                                                                                                                                                                                                       |
| <b>MIM</b>            | 603826                                                                                                                                                                                                                                                                                                                                          |

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|-------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>UniProt ID</b>                   | Q96RI1                                                                                                                                                                                                                                                                                                    |
| <b>Chromosome Location</b>          | 12q23.1                                                                                                                                                                                                                                                                                                   |
| <b>Function</b>                     | bile acid binding; double-stranded DNA binding; metal ion binding; peptide binding; protein N-terminus binding; sequence-specific DNA binding; steroid hormone receptor activity; transcription coactivator activity; transcription corepressor activity; transcription factor activity; zinc ion binding |
| <b>PDB rendering based on 1osh.</b> |                                                                                                                                                                                                                        |