

Active Recombinant Human Nuclear Receptor Subfamily 1, Group I, Member 2

Cat. No. NR1I2-1095H Lot. No. (See product label)

SPECIFICATION

Species Human

Source Insect Cells

Description

His tagged PXR is purified by affinity and FPLC chromatography. The nuclear pregnane X receptor (PXR; NR1I2) is an important component of the body's adaptive defense mechanism against toxic substances including foreign chemicals (xenobiotics). PXR is activated by a large number of endogenous and exogenous chemicals including steroids, antibiotics, antimycotics, bile acids, and the herbal antidepressant St. John's wort. PXR is known to regulate the expression of several additional genes encoding proteins involved in xenobiotic metabolism, including multidrug resistance protein 1 (MDR1), multidrug resistance-associated protein 2 (MRP2), and organic anion transporter polypeptide 2. Elucidation of the three-dimensional structure of the PXR ligand binding domain revealed that it has a large, spherical ligand binding cavity that allows it to interact with a wide range of hydrophobic chemicals. Thus, unlike other nuclear receptors that interact selectively with their physiological ligands, PXR serves as a generalized sensor of hydrophobic toxins. PXR binds as a heterodimer with the 9-cis retinoic acid receptor (NR2B) to DNA response elements in the regulatory regions of cytochrome P450 3A monooxygenase genes and a number of other genes involved in the metabolism and elimination of xenobiotics from the body. Although PXR evolved to protect the body, its activation by a variety of prescription drugs represents the molecular basis for an important class of harmful drug-drug interactions. Thus, assays that detect PXR

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activity will be useful in developing safer prescription drugs.

Application

Use only for research and not for drug or diagnostic purposes. PXR can be used for gel mobility shift assays, for protein-protein and small molecules-protein interaction assays.

Usage

For in vitro use only.

Form

Liquid. Supplied in 20 mM Tris-HCl pH 8.0, 100 mM KCl, 0.2 mM EDTA, 1 mM DTT and 20% glycerol.

Activity

100 ng are sufficient for a protein-protein interaction assay.

Purity

> 95% by SDS-PAGE.

Storage

Quality guaranteed for 12 months, store at -80 °C. Avoid freeze / thaw cycles.

GENE INFORMATION

Gene Name

NR1I2 nuclear receptor subfamily 1, group I, member 2 [Homo sapiens]

Synonyms

NR1I2; nuclear receptor subfamily 1, group I, member 2; BXR; PAR; PRR; PXR; SAR; SXR; ONR1; PAR1; PAR2; PARq; orphan nuclear receptor PXR; steroid and xenobiotic receptor

Gene ID

8856

mRNA Refseq

NM_003889

Protein Refseq

NP_003880

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MIM	603065
UniProt ID	O75469
Chromosome Location	3q12-q13.3
Pathway	Gene Expression
Function	metal ion binding; sequence-specific DNA binding; protein binding; steroid hormone receptor activity; transcription coactivator activity; transcription factor activity; transcription repressor activity; zinc ion binding
PDB rendering based on 1ilg.	

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