

Recombinant Human NR1I2, His-tagged

Cat. No. NR1I2-8489H Lot. No. (See product label)

SPECIFICATION

Product Overview Recombinant Human NR1I2, fused with His tag, was expressed in Sf21 Cells.

Species Human

Source Sf21 Cells

Description

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.

Form 20 mM Tris-Cl, pH 7.9, 20% Glycerol, 100 mM KCl, 1 mM DTT and 0.2 mM EDTA

AA Sequence
 MEVRPKESWN HADVFHCEDT ESVP GKPSVN ADEEVGGPQI CRVCGDKATG
 YHFNVM TCEG CKGFFRRAMK RNARLRCPFR KGACEITRKT RRQCQACRLR
 KCLESGMKKE MIMSDEAVEE RRALIKRKKS ERTGTQPLGV QGLTEEQRMM
 IRELMDAQMK TFDTTFSHK NFRLPGVLSS GCELPESLQA PSREEAAKWS
 QVRKDLCSLK VSLQLRGEDG SVWNYKPPAD SGGKEIFSLL PHMADMSTYM
 FKGIISSFAKV ISYFRDLPIE DQISLLKGAA FELCQLRFNT VFNAETGTWE
 CGRLSYCLED TAGGFQQLLL EPMLKFHYML KKLQLHEEEY VLMQAISLFS
 PDRPGVLQHR VVDQLQEQA ITLKSIECN RPQPAHRFLF LKIMAMLTEL
 RSINAQHTQR LLRIQDIHPF ATPLMQELFG ITGS

Purity >95% as determined by SDS-PAGE

Storage -80 °C

Shipping Dry Ice

GENE INFORMATION

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

Official Symbol NR1I2

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

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Gene ID	8856
mRNA Refseq	NM_003889
Protein Refseq	NP_003880
MIM	603065
UniProt ID	O75469
Chromosome Location	3q12-q13.3
Pathway	Gene Expression, organism-specific biosystem; Generic Transcription Pathway, organism-specific biosystem; Nuclear Receptor transcription pathway, organism-specific biosystem; Nuclear Receptors, organism-specific biosystem; Nuclear receptors in lipid metabolism and toxicity, organism-specific biosystem;
Function	drug binding; ligand-activated sequence-specific DNA binding RNA polymerase II transcription factor activity; metal ion binding; protein binding; receptor activity; sequence-specific DNA binding; sequence-specific DNA binding transcription factor activity; steroid hormone receptor activity; transcription coactivator activity; zinc ion binding;

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