

PXR (R-14): sc-7739

BACKGROUND

Steroid hormones function as signaling molecules by diffusing into cells and interacting with specific intracellular receptors to regulate gene expression. This superfamily of receptors includes both steroid and nonsteroid receptors. Like many nonsteroid hormone receptors, PXR (Pregnane X Receptor) binds as a heterodimer with RXR to a DNA sequence typical of a nonsteroid hormone receptor; however, PXR is activated by several steroids, such as naturally occurring pregnanes and synthetic glucocorticoids and anti-glucocorticoids. PXR exists as two alternatively spliced isoforms, PXR.1 and PXR.2. PXR is thought to define a novel steroid hormone signaling pathway that may account for some of the effects of synthetic glucocorticoids and antiglucocorticoids that are not mediated through the classical glucocorticoid receptor signaling pathway.

REFERENCES

1. Evans, R.M. 1988. The steroid and thyroid hormone receptor superfamily. *Science* 240: 889-895.
2. Mangelsdorf, D.J., et al. 1995. The RXR heterodimers and orphan receptors. *Cell* 83: 841-850.
3. Beato, M., et al. 1995. Steroid hormone receptors: many actors in search of a plot. *Cell* 83: 851-857.
4. Huss, J.M., et al. 1996. Dexamethasone responsiveness of a major glucocorticoid-inducible CYP3A gene is mediated by elements unrelated to a glucocorticoid receptor binding motif. *Proc. Natl. Acad. Sci. USA* 93: 4666-4670.
5. Heery, D.M., et al. 1997. A signature motif in transcriptional co-activators mediates binding to nuclear receptors. *Nature* 387: 733-736.

CHROMOSOMAL LOCATION

Genetic locus: Nr1i2 (mouse) mapping to 16 B3.

SOURCE

PXR (R-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of PXR of mouse origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-7739 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

Available as TransCruz reagent for Gel Supershift and ChIP applications, sc-7739 X, 200 µg/0.1 ml.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

APPLICATIONS

PXR (R-14) is recommended for detection of PXR.1 and PXR.2 of mouse and rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

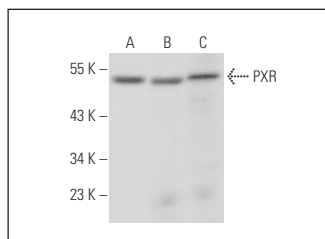
Suitable for use as control antibody for PXR siRNA (m): sc-44058, PXR shRNA Plasmid (m): sc-44058-SH and PXR shRNA (m) Lentiviral Particles: sc-44058-V.

PXR (R-14) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of PXR: 50 kDa.

Positive Controls: mouse brain extract: sc-2253, mouse heart extract: sc-2254 or WEHI-231 whole cell lysate: sc-2213.

DATA



PXR (R-14): sc-7739. Western blot analysis of PXR expression in WEHI-231 whole cell lysate (A) and mouse brain (B) and mouse heart (C) tissue extracts.

SELECT PRODUCT CITATIONS

1. Drocourt, L., et al. 2001. Calcium channel modulators of the dihydropyridine family are human pregnane X receptor activators and inducers of CYP3A, CYP2B, and CYP2C in human hepatocytes. *Drug. Metab. Dispos.* 29: 1325-1331.
2. Ostberg, T., et al. 2002. Identification of residues in the PXR ligand binding domain critical for species specific and constitutive activation. *Eur. J. Biochem.* 269: 4896-4904.
3. Teng, S., et al. 2005. The involvement of the pregnane X receptor in hepatic gene regulation during inflammation in mice. *J. Pharmacol. Exp. Ther.* 312: 841-848.
4. Bell, A.W., et al. 2006. Phenobarbital regulates nuclear expression of HNF-4α in mouse and rat hepatocytes independent of CAR and PXR. *Hepatology* 44: 186-194.
5. Fery, Y., et al. 2009. Technical pentabromodiphenyl ether and hexabromocyclododecane as activators of the pregnane-X-receptor (PXR). *Toxicology* 264: 45-51.
6. Zhang, X., et al. 2015. Tanshinone IIA ameliorates dextran sulfate sodium-induced inflammatory bowel disease via the pregnane X receptor. *Drug Des. Devel. Ther.* 9: 6343-6362.