

FXR (D-3): sc-25309



BACKGROUND

The steroid receptor superfamily acts through direct association with DNA sequences known as hormone response elements (HREs) and binds DNA as either homo- or heterodimers. The promiscuous mediator of heterodimerization, RXR, is the receptor for 9-*cis* retinoic acid, and dimerizes with VDR, TR, PPAR, and several novel receptors including LXR (also referred to as RLD-1) and FXR. FXR and LXR fall into a category of proteins termed "orphan receptors" because of their lack of a defined function, and in the case of LXR, the lack of a defined ligand. FXR has been shown to bind a class of lipid molecules called farnesoids. LXR/RXR heterodimers have highest affinity for DR-4 DNA elements while FXR/RXR heterodimers bind IR-1 elements. Both LXR/RXR and FXR/RXR heterodimers retain their responsiveness to 9-*cis* retinoic acid.

CHROMOSOMAL LOCATION

Genetic locus: NR1H4 (human) mapping to 12q23.1; Nr1h4 (mouse) mapping to 10 C2.

SOURCE

FXR (D-3) is a mouse monoclonal antibody raised against amino acids 1-130 of FXR of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin. Also available as TransCruz reagent for Gel Supershift and ChIP applications, sc-25309 X, 200 µg/0.1 ml.

FXR (D-3) is available conjugated to agarose (sc-25309 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-25309 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-25309 PE), fluorescein (sc-25309 FITC), Alexa Fluor® 488 (sc-25309 AF488), Alexa Fluor® 546 (sc-25309 AF546), Alexa Fluor® 594 (sc-25309 AF594) or Alexa Fluor® 647 (sc-25309 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-25309 AF680) or Alexa Fluor® 790 (sc-25309 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

FXR (D-3) is recommended for detection of FXR of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1,000), 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 FXR siRNA (h): sc-38848, FXR siRNA (m): sc-155894, FXR shRNA Plasmid (h): sc-38848-SH, FXR shRNA Plasmid (m): sc-155894-SH, FXR shRNA (h) Lentiviral Particles: sc-38848-V and FXR shRNA (m) Lentiviral Particles: sc-155894-V.

FXR (D-3) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

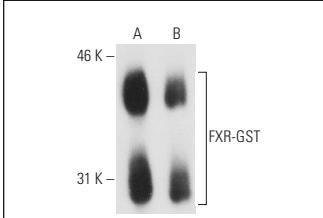
Molecular Weight (predicted) of FXR: 56 kDa.

Molecular Weight (observed) of FXR: 75 kDa.

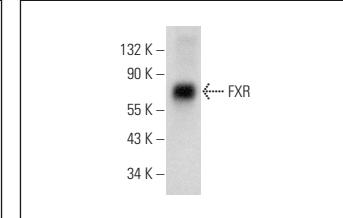
STORAGE

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

DATA



FXR (D-3): sc-25309. Western blot analysis of GST-tagged human recombinant FXR (**A, B**).



FXR (D-3): sc-25309. Western blot analysis of FXR expression in mouse ileum tissue extract.

SELECT PRODUCT CITATIONS

1. Fujino, T., et al. 2009. Hypoxia downregulates farnesoid X receptor via a hypoxia-inducible factor-independent but p38 mitogen-activated protein kinase-dependent pathway. *FEBS J.* 276: 1319-1332.
2. Purushotham, A., et al. 2012. Hepatic deletion of SIRT1 decreases hepatocyte nuclear factor 1α/farnesoid X receptor signaling and induces formation of cholesterol gallstones in mice. *Mol. Cell. Biol.* 32: 1226-1236.
3. Balasubramaniyan, N., et al. 2013. SUMOylation of the farnesoid X receptor (FXR) regulates the expression of FXR target genes. *J. Biol. Chem.* 288: 13850-13862.
4. Fujino, T., et al. 2015. Farnesoid X receptor knockdown provides significant growth inhibition in hepatocellular carcinoma cells while it does not interfere with the proliferation of primary human hepatocyte-derived cells. *J. Toxicol. Sci.* 40: 501-508.
5. Fujino, T., et al. 2017. Farnesoid X receptor regulates the growth of renal adenocarcinoma cells without affecting that of a normal renal cell-derived cell line. *J. Toxicol. Sci.* 42: 259-265.
6. Malivindi, R., et al. 2018. Activated-farnesoid X receptor (FXR) expressed in human sperm alters its fertilising ability. *Reproduction* 156: 249-259.
7. Zhao, Q., et al. 2019. Celastrol protects from cholestatic liver injury through modulation of SIRT1-FXR signaling. *Mol. Cell. Proteomics* 18: 520-533.
8. Zhou, J., et al. 2020. SUMOylation inhibitors synergize with FXR agonists in combating liver fibrosis. *Nat. Commun.* 11: 240.
9. Huang, W., et al. 2021. Dexamethasone induces an imbalanced fetal-placental-maternal bile acid circulation: involvement of placental transporters. *BMC Med.* 19: 87.

RESEARCH USE

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

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