

FXR2 (S-16): sc-10557

BACKGROUND

Fragile X syndrome is the most frequent form of inherited mental retardation and is the result of transcriptional silencing of the FMR1 gene on the X chromosome. The FMR1 gene contains a distinct CpG dinucleotide repeat located in the 5' untranslated region of the gene, and in the fragile X syndrome this tandem repeat is substantially amplified and subjected to extensive methylation and enhanced transcriptional silencing. The FMR1 protein (or FMRP) is an RNA-binding protein that associates with polyribosomes and is a likely component of a messenger ribonuclear protein (mRNP) particle. It contains several features that are characteristics of RNA-binding proteins, including two hnRNPK homology (KH) domains and an RGG amino acid motif (RGG box). FMR1 can also interact with two fragile X syndrome related factors, FXR1 and FXR2, and these proteins form heterodimers through their N-terminal coiled-coiled domains. FMR1 localizes to both the nucleus and the cytoplasm, and since it contains both a nuclear localization signal and a nuclear export signal it is also implicated in the nucleocytoplasmic transport of mRNAs.

REFERENCES

1. Verkerk, A.J., et al. 1991. Identification of a gene (FMR1) containing a CGG repeat coincident with a breakpoint cluster region exhibiting length variation in fragile X syndrome. *Cell* 65: 905-914.
2. Pieretti, M., et al. 1991. Absence of expression of the FMR1 gene in fragile X syndrome. *Cell* 66: 817-22.
3. Matunis, M.J., et al. 1992. Characterization and primary structure of the poly(C)-binding heterogeneous nuclear ribo-nucleoprotein complex K protein. *Mol. Cell. Biol.* 12: 164-171.
4. De Boulle, K., et al. 1993. A point mutation in the FMR1 gene associated with fragile X mental retardation. *Nat. Genet.* 3: 31-35.
5. Zhang, Y., et al. 1995. The fragile X mental retardation syndrome protein interacts with novel homologs FXR1 and FXR2. *EMBO J.* 14: 5358-5366.

CHROMOSOMAL LOCATION

Genetic locus: FXR2 (human) mapping to 17p13.1; Fxr2h (mouse) mapping to 11 B3.

SOURCE

FXR2 (S-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of FXR2 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-10557 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

FXR2 (S-16) is recommended for detection of FXR2 of mouse, rat and human 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).

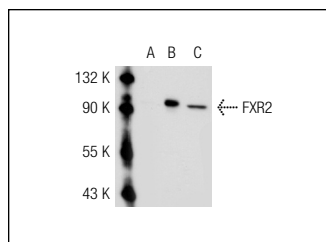
FXR2 (S-16) is also recommended for detection of FXR2 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for FXR2 siRNA (h): sc-37895, FXR2 siRNA (m): sc-37896, FXR2 shRNA Plasmid (h): sc-37895-SH, FXR2 shRNA Plasmid (m): sc-37896-SH, FXR2 shRNA (h) Lentiviral Particles: sc-37895-V and FXR2 shRNA (m) Lentiviral Particles: sc-37896-V.

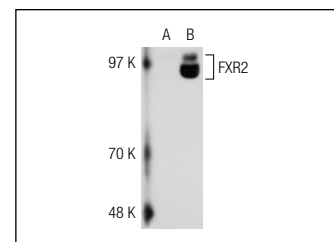
Molecular Weight of FXR2: 90 kDa.

Positive Controls: FXR2 (h3): 293T Lysate: sc-117244, IMR-32 cell lysate: sc-2409 or F9 cell lysate: sc-2245.

DATA



FXR2 (S-16): sc-10557. Western blot analysis of FXR2 expression in non-transfected 293T: sc-117752 (A), human FXR2 transfected 293T: sc-117244 (B) and IMR-32 (C) whole cell lysates.



FXR2 (S-16): sc-10557. Western blot analysis of FXR2 expression in non-transfected: sc-117752 (A) and human FXR2 transfected: sc-116393 (B) 293T whole cell lysates.

SELECT PRODUCT CITATIONS

1. Sung, Y., et al. 2003. The fragile X mental retardation protein FMRP binds elongation factor 1A mRNA and negatively regulates its translation *in vivo*. *J. Biol. Chem.* 278: 15669-15678.
2. Dolzhanskaya, N., et al. 2006. Oxidative stress reveals heterogeneity of FMRP granules in PC12 cell neurites. *Brain Res.* 1112: 56-64.

RESEARCH USE

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


 MONOS
Satisfaction
Guaranteed

Try **FXR2 (1G2): sc-32266** or **FXR2 (G-2): sc-376963**, our highly recommended monoclonal alternatives to FXR2 (S-16).