SANTA CRUZ BIOTECHNOLOGY, INC.

FXR2 (55): sc-135912

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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. In 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 localizes to both the nucleus and the cytoplasm and can also interact with two fragile X syndrome related factors, FXR1 and FXR2, which form heterodimers through their N-terminal coiled-coil domains. Since FMR1 contains both a nuclear localization signal and a nuclear export signal it is also implicated in the nucleocytoplasmic transport of mRNAs.

REFERENCES

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3. Matunis, M.J., et al. 1992. Characterization and primary structure of the poly(C)-binding heterogeneous nuclear ribonucleoprotein 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.
6. Eberhart, D.E., et al. 1996. The fragile X mental retardation protein is a ribonucleoprotein containing both nuclear localization and nuclear export signals. Hum. Mol. Genet. 5: 1083-1091.
7. Ceman, S., et al. 1999. Isolation of an FMRP-associated messenger ribonucleoprotein particle and identification of nucleolin and the fragile X-related proteins as components of the complex. Mol. Cell. Biol. 19: 7925-7932.
8. Tamanini, F., et al. 1999. Oligomerization properties of fragile X mental-retardation protein (FMRP) and the fragile X-related proteins FXR1P and FXR2P. Biochem. J. 343: 517-523.

CHROMOSOMAL LOCATION

Genetic locus: FXR2 (human) mapping to 17p13.1; Fxr2 (mouse) mapping to 11 B3.

SOURCE

FXR2 (55) is a mouse monoclonal antibody raised against amino acids 520-639 of FXR2 of human origin.

PRODUCT

Each vial contains 50 µg in 0.5 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

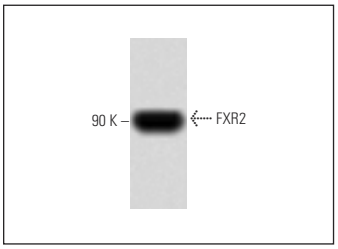
FXR2 (55) is recommended for detection of FXR2 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

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.

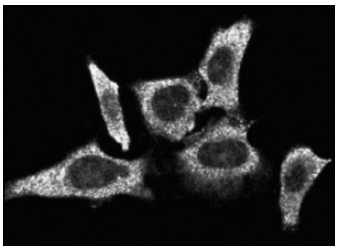
Molecular Weight of FXR2: 90 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, PC-12 cell lysate: sc-2250 or T98G cell lysate: sc-2294.

DATA



FXR2 (55): sc-135912. Western blot analysis of FXR2 expression in PC-12 whole cell lysate.



FXR2 (55): sc-135912. Immunofluorescence staining of HeLa cells showing cytoplasmic staining.

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. Not for resale.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.