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, 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 coil-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 nucleo-cytoplasmic 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: 817-822.
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.

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 IgG_{2b} in 0.5 ml PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

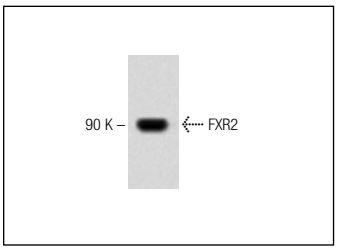
FXR2 (55) is recommended for detection of FXR2 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

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.

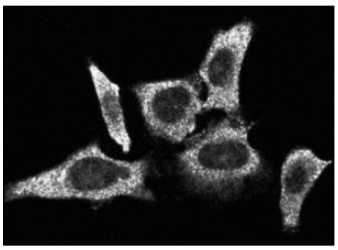
Molecular Weight of FXR2: 90 kDa.

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.