SANTA CRUZ BIOTECHNOLOGY, INC.

FXR2 (1G2): sc-32266

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.

CHROMOSOMAL LOCATION

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

SOURCE

FXR2 (1G2) is a mouse monoclonal antibody raised against amino acids 414-658 of human FXR2.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

FXR2 (1G2) is available conjugated to agarose (sc-32266 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-32266 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-32266 PE), fluorescein (sc-32266 FITC), Alexa Fluor® 488 (sc-32266 AF488), Alexa Fluor® 546 (sc-32266 AF546), Alexa Fluor® 594 (sc-32266 AF594) or Alexa Fluor® 647 (sc-32266 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-32266 AF680) or Alexa Fluor® 790 (sc-32266 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

FXR2 (1G2) 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.

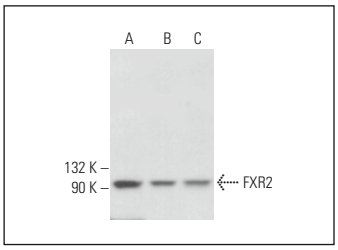
Molecular Weight of FXR2: 90 kDa.

Positive Controls: U-251-MG whole cell lysate: sc-364176, SH-SY5Y cell lysate: sc-3812 or IMR-32 cell lysate: sc-2409.

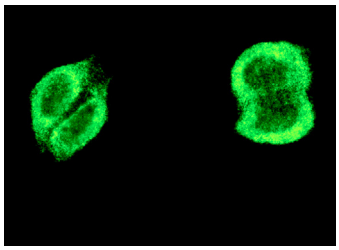
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



FXR2 (1G2): sc-32266. Western blot analysis of FXR2 expression in IMR-32 (**A**), U-251-MG (**B**) and SH-SY5Y (**C**) whole cell lysates. Detection reagent used: m-IgGκ BP-HRP: sc-516102.



FXR2 (1G2): sc-32266. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization.

SELECT PRODUCT CITATIONS

1. Simpson-Holley, M., et al. 2011. Formation of antiviral cytoplasmic granules during orthopoxvirus infection. J. Virol. 85: 1581-1593.
2. Lyons, S.M., et al. 2016. YB-1 regulates tiRNA-induced stress granule formation but not translational repression. Nucleic Acids Res. 44: 6949-6960.
3. Estañ, M.C, et al. 2019. Recessive mutations in muscle-specific isoforms of FXR1 cause congenital multi-minicore myopathy. Nat. Commun. 10: 797.
4. Sanders, D.W., et al. 2020. Competing protein-RNA interaction networks control multiphase intracellular organization. Cell 181: 306-324.e28.
5. Zhou, G.F., et al. 2023. ARL6IP1 mediates small-molecule-induced alleviation of Alzheimer pathology through FXR1-dependent BACE1 translation initiation. Proc. Natl. Acad. Sci. USA 120: e2220148120.

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.

PROTOCOLS

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