



3050 Spruce Street
Saint Louis, Missouri 63103 USA
Telephone 800-325-5832 • (314) 771-5765
Fax (314) 286-7828
email: techserv@sial.com
sigma-aldrich.com

Product Information

Monoclonal Anti-FXR2

Clone A42

Purified Mouse Immunoglobulin

Product Number **F 1554**

Product Description

Monoclonal Anti-FXR2 (mouse IgG1 isotype) is derived from the hybridoma A42 produced by the fusion of mouse myeloma cells (NS1 cells) and splenocytes from BALB/c mice immunized with human FXR2 recombinant protein.¹ The isotype is determined using Sigma ImmunoType™ Kit (Sigma ISO-1) and by a double diffusion immunoassay using Mouse Monoclonal Antibody Isotyping Reagents (Sigma ISO-2).

Monoclonal Anti-FXR2 recognizes human,^{1,2} monkey, bovine, canine, rat, hamster, and mouse^{1,2} FXR2 (approx. 74 kDa), and does not cross react with FMR or FXR1.¹ The antibody may be used in immunoblotting,^{1,2} immunoprecipitation,¹ immunocytochemistry,^{1,2} and immunohistochemistry.²

One out of 4,000 males and one out of 6,000 females suffer from the fragile X syndrome that is an inherited mental disease. Fragile X syndrome is characterized by mental retardation, macroorchidism, typical facial appearance, and various degrees of autistic behavior. This syndrome is caused by the expansion of a highly polymorphic CGG repeats present in the untranslated region of the FMR1 gene (also known as FMRP).¹⁻³ As a consequence, the promoter of the gene is hypermethylated and the gene FMR1 is not transcribed. This protein can bind to RNA. It contains two heterogeneous nuclear ribonucleoprotein K homology (KH) domains and one RGG box. Two proteins named FXR1 and FXR2 interact with FMR1. Both proteins have 60% amino acid identity to FMR1 and both have two KH domains and one RGG box that together with FMR1 bind to RNA. FXR2 gene is located on human chromosome 17 and its protein is localized mainly in the cytoplasm.

The protein is highly expressed in brain and testis.¹⁻³ FXR2 knock-out mice are hyperactive in the open-field test, impaired on the rotarod test, have reduced levels of prepulse inhibition, display less contextual conditioned fear, are impaired at locating the hidden platform in the Morris water task and less sensitive to heat stimulus.

Reagent

Monoclonal Anti-FXR2 is supplied as a solution in 0.01 M phosphate buffered saline, pH 7.4, containing 15 mM sodium azide.

Antibody Concentration: approx. 2 mg/ml.

Precautions and Disclaimer

Due to the sodium azide content, a material safety data sheet (MSDS) for this product has been sent to the attention of the safety officer of your institution. Consult the MSDS for information regarding hazards and safe handling practices.

Storage/Stability

For continuous use, store at 2-8 °C for up to one month. For prolonged storage, freeze in working aliquots. Repeated freezing and thawing is not recommended. Storage in frost-free freezers is also not recommended. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use. Working dilution samples should be discarded if not used within 12 hours.

Product Profile

By immunoblotting, a working antibody concentration of 0.5-1 µg/ml is recommended using total cell extract of HEK 293T cells.

Note: In order to obtain the best results using various techniques and preparations, we recommend determining optimal working dilutions by titration.

References

1. Zhang, Y., et al., EMBO J., **14**, 5358-5366 (1995).
2. Tamanini, F., et al., Hum. Mol. Gen., **6**, 1315-1322 (1997).
3. Siomi, M.C., et al., Mol. Cell. Biol., **16**, 3825-3832 (1996).
4. Bontekoe, C.J.M., et al., Hum. Mol. Gen., **11**, 487-498 (2002).

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