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Product Information

Monoclonal Anti-FMR1 antibody produced in mouse
clone FMR2.5, hybridoma cell culture supernatant

Product Number **SAB4200597**

Product Description

Monoclonal Anti-FMR1 (mouse IgG1 isotype) is derived from the hybridoma FMR2.5 produced by the fusion of mouse myeloma cells and splenocytes from BALB/c mice immunized with a synthetic peptide corresponding to a sequence at the C-terminal region of human FMR1 (GeneID: 2332). The isotype is determined by ELISA using Mouse Monoclonal Antibody Isotyping Reagents, Product Number ISO2. The antibody is purified from culture supernatant of hybridoma cells grown in a bioreactor.

Monoclonal Anti- FMR1 recognizes human, hamster, rat and mouse FMR1. The product may be used in several immunochemical techniques including immunoblotting (~ 71 kDa), immunocytochemistry, immunofluorescence and flow cytometry.

The fragile X mental retardation (FXMR) syndrome is one of the most frequent causes of mental retardation. Affected individuals display a wide range of additional characteristic features including behavioral and physical phenotypes.[1] It is caused by expansion of a CGG repeat in the 5′ untranslated region of the fragile X mental retardation 1 (*FMR1*) gene. The repeat can be up to 55 CGGs long in normal population. Nevertheless, the mutation is associated with hypermethylation at the *FMR1* promoter and results in transcriptional silencing. Interestingly, the full mutation is the cause of the mental retardation in patients with Fragile X Syndrome while the premutation is defined as 55-200 CGGs long. Female premutation carriers are at risk of developing primary ovarian insufficiency. Elderly premutation carriers might develop a progressive neurodegenerative disorder called fragile X-associated tremor/ataxia syndrome.[2-4] The FMR1 protein functions as an RNA-binding protein that associates with polyribosomes and is a likely component of a messenger ribonuclear protein (mRNP) particle. It localizes to both the nucleus and the cytoplasm. Since FMR1 contains both a nuclear localization signal and a nuclear export signal it is also implicated in nucleocytoplasmic transport.[5]

Reagent

Supplied as a solution in 0.01 M phosphate buffered saline, pH 7.4, containing 15 mM sodium azide.

Antibody Concentration: ~ 1.0 mg/mL

Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Safety Data Sheet for information regarding hazards and safe handling practices.

Storage/Stability

For extended storage, freeze at −20 °C in working aliquots. Repeated freezing and thawing, or storage in "frost-free" freezers, is 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

Immunoblotting: a working concentration of 1.0-2.0 μg/mL is recommended using HepG2 total cell extracts.

Immunofluorescence: a working concentration of 5-10 μg/mL is recommended using HepG2 cells.

Flow Cytometry: a working amount of 2.0-5.0 μg /test is recommended using HeLa cells.

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

References

1. Seltzer, M.M., et al., *Am. J. Med. Genet.,B Neuropstchiatr. Genet.*, **159B**, 589-597 (2012).
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3. Jacquemont, S., et al., *Sci. Transl. Med.,* **3**, 64ra1 (2011).

Willemsen, R., et al., *Clin. Genet.,* **80**, 214-225 (2011).

4. Eberhart, D.E., et al., *Hum. Mol. Gen.,* **5**, 1083-1091 (1996).

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