

Product Information

Monoclonal Anti Rat IgG1
Mouse Ascites Fluid
Clone RG-88

Product No. **R 7636**

Product Description

Monoclonal Anti-Rat IgG1 (mouse IgM isotype) is derived from the RG-88 hybridoma produced by the fusion of mouse myeloma cells and splenocytes from BALB/c mice immunized with purified rat IgG. The isotype is determined using Sigma ImmunoType™ Kit (Product Code ISO-1) and by a double diffusion immunoassay using Mouse Monoclonal Antibody Isotyping Reagents (Product Code ISO-2).

Monoclonal Anti-Rat IgG1 recognizes an epitope located on the heavy chain of rat IgG1. The antibody detects the rat IgG1 derived from normal serum or myeloma proteins and rat IgG2c, but not the other rat immunoglobulin types. It cross-reacts with bovine, dog, goat and, horse immunoglobulins. Weak cross-reaction is also observed with guinea pig immunoglobulins but not with IgG or serum preparations of human, cat, pig, chicken, mouse, rabbit, or sheep, when tested by indirect ELISA and dot blot techniques. The antibody is also applicable as a secondary antibody in immunohistochemistry of human tissue, where it does not react against the tissue itself. No reactivity is observed against the denatured-reduced rat IgG molecule applying the immunoblotting technique.

Rat immunoglobulins are subdivided into five classes; IgM, IgG, IgA, IgE, IgD, and four IgG subclasses; IgG1, IgG2a, IgG2b, IgG2c, on the basis of structural, biological, physicochemical, and electrophoretic properties of their heavy chains.¹ The rat has been extensively used as research model in pharmacology, oncology and the study of the immunology of aging. Rat polyclonal and monoclonal antibodies have come into widespread use as primary antibodies.^{2,3}

Secondary antibodies to rat immunoglobulin subtypes are particularly valuable as specific anti-rat immunoglobulin reagents in double labeling experiments or for isotyping and immunoaffinity purification of rat-derived antibodies. Anti-rat antibodies are commonly produced by xenogeneic immunization of rabbits, goats or sheep, resulting in antibodies that cross-react with other immunoglobulin subclasses of rat and of other species, unless extensively adsorbed. Monoclonal anti-rat immunoglobulins which are devoid of any binding capacity to human and many other species can therefore serve as an essential tool in many applications, especially when used as a secondary reagent in immunohistochemistry.

Reagent

The product is provided as ascites fluid with 0.1% sodium azide as a preservative.

Product Profile

Monoclonal Anti-Rat IgG1 may be used for the localization of rat IgG1 using various immunochemical assays such as ELISA, immunoblot, dot blot and immunohistology.

The minimum antibody titer of 1:500 was determined by indirect ELISA using 10 µg/ml freshly prepared rat myeloma protein for coating.

Note: Second antibodies against mouse immunoglobulins may cross-react with the rat protein coated on the microtiter plate unless properly adsorbed with rat immunoglobulins.

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 hazardous and safe handling practices.

References

1. Bazin, H., et al., Eur. J. Immunol., 4, 44 (1974).
2. Springer, T., et al., Hybridoma, 1, 257 (1982).
3. Bazin, H., (ed.) " Rat Hybridomas and Rat Monoclonal Antibodies", CRC Press, Boca Raton Florida (1990).

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