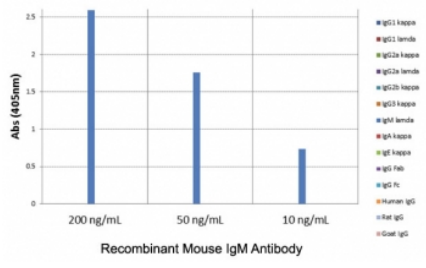
Recombinant Mouse IgM Antibody [clone RM109] (R20170)

Catalog No.	Formulation	Size
R20170-100UG	1 mg/ml in PBS with 50% glycerol, 1% BSA and 0.09% sodium azide	100 ug

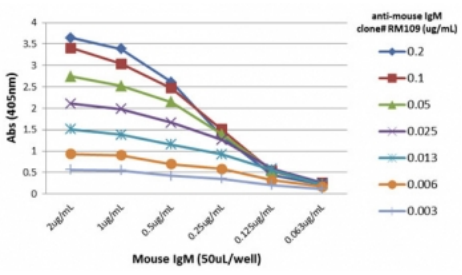
Recombinant RABBIT MONOCLONAL

Bulk quote request

Availability	1-3 business days
Species Reactivity	Mouse
Format	Purified
Clonality	Recombinant Rabbit Monoclonal
Isotype	Rabbit IgG
Clone Name	RM109
Purity	Protein A purified from animal origin-free supernatant
UniProt	P01872
Gene ID	16019
Applications	ELISA : 0.005ug/ml-0.2ug/ml
Limitations	This recombinant Mouse IgM antibody is available for research use only.



ELISA of mouse immunoglobulins shows the recombinant Mouse IgM antibody reacts to mIgM; no cross reactivity with IgG1, IgG2a, IgG2b, IgG3, IgA, IgE, human/rat/goat IgG.



ELISA Titration: the plate was coated with different amounts of mouse IgM. A serial dilution of recombinant Mouse IgM antibody was used as the primary and an alkaline phosphatase conjugated anti-rabbit IgG as the secondary.

Description

The Recombinant Mouse IgM antibody is engineered as a control reagent and standard reference for immunoassays involving mouse immunoglobulin M. IgM is the earliest antibody isotype produced during an immune response and is critical for the rapid neutralization of pathogens. In mice, IgM exists predominantly as a pentameric molecule, enabling high avidity binding to antigens and strong activation of the complement cascade. The Recombinant Mouse IgM antibody mirrors the structure of this isotype but lacks antigen specificity, allowing it to function as a reliable negative control in flow cytometry, ELISA, and tissue staining.

Structurally, mouse IgM is composed of five Y shaped units joined by a J chain, forming a pentamer with ten potential antigen binding sites. This multivalent design confers extraordinary binding capacity, which is essential for early immune defense. The Fc portion of IgM interacts efficiently with complement component C1q, triggering the classical pathway of complement activation. The Recombinant Mouse IgM antibody reproduces these features while serving as an antigen independent reagent, highlighting nonspecific binding and fluorescence in experimental systems.

In research applications, the Recombinant Mouse IgM antibody is widely employed as an isotype control in flow cytometry, where it establishes baseline fluorescence levels and reveals nonspecific interactions with Fc receptors. In immunohistochemistry, it identifies background staining in tissues where endogenous IgM or complement components might otherwise contribute to nonspecific signals. In ELISA, the Recombinant Mouse IgM antibody functions as a standard to confirm specificity of antigen antibody binding. Recombinant production ensures consistent quality across batches, avoiding variability often associated with hybridoma derived controls.

This antibody is also useful in assay optimization and validation. By providing a structurally accurate representation of mouse IgM, it allows researchers to test blocking conditions, secondary antibody specificity, and detection reagents without consuming experimental monoclonals. Its role is particularly important in studies of immune activation, where IgM is abundant and could generate false positive signals if not properly controlled. Synonym phrases such as recombinant mouse immunoglobulin M antibody and recombinant IgM isotype control antibody improve discoverability for investigators searching under alternate names.

By providing reproducible and validated detection, the Recombinant Mouse IgM antibody strengthens the accuracy of antibody based assays. NSJ Bioreagents supplies the Recombinant Mouse IgM antibody with rigorous quality control, ensuring scientists can confidently use it as a negative control across diverse platforms. Through its use, researchers can distinguish true antigen specific signals from background, advancing reliable studies in immunology and beyond.

This recombinant Mouse IgM antibody reacts to mIgM. No cross reactivity with IgG1, IgG2a, IgG2b, IgG3, IgA, IgE, human/rat/goat IgG.

Application Notes

The stated application concentrations are suggested starting points. Titration of the recombinant Mouse IgM antibody may be required due to differences in protocols and secondary/substrate sensitivity.

Immunogen

Mouse IgM was used as the immunogen for this recombinant Mouse IgM antibody.

Storage

Store the recombinant Mouse IgM antibody at -20oC (with glycerol) or aliquot and store at -20oC (without glycerol).