

Recombinant Human IgM protein (rFc Tag)

Catalog Number: Eg6742

Basic Information

Species:
Human

Purity:
>90 %, SDS-PAGE

Tag:
rFc Tag

Technical Specifications

Purity:

>90 %, SDS-PAGE

Endotoxin Level:

<0.1 EU/ µg protein, LAL method

Source:

HEK293-derived Human IgM protein Val105-Trp448 (Accession# P01871-2) with a rabbit IgG Fc tag at the C-terminus.

GeneID:

3507

Accession:

P01871-2

Predicted Molecular Mass:

64.3 kDa

SDS-PAGE:

65-85 kDa, reducing (R) conditions

Formulation:

Lyophilized from 0.22 µm filtered solution in PBS, pH 7.4. Normally 5% trehalose and 5% mannitol are added as protectants before lyophilization.

Biological Activity

Not tested

Storage and Shipping

Storage:

It is recommended that the protein be aliquoted for optimal storage. Avoid repeated freeze-thaw cycles.

- Until expiry date, -20°C to -80°C as lyophilized proteins.
- 3 months, -20°C to -80°C under sterile conditions after reconstitution.

Shipping:

The product is shipped at ambient temperature. Upon receipt, store it immediately at the recommended temperature.

Reconstitution

Briefly centrifuge the tube before opening. Reconstitute at 0.1-0.5 mg/mL in sterile water.

Background

Human IgM (Immunoglobulin M) is the largest antibody in the human humoral immune system and exists in two forms: membrane bound (mIgM) and secreted (sIgM). Membrane bound IgM is a monomer that serves as the antigen recognition component of the B cell receptor (BCR) expressed on the surface of B cells, mediating B cell activation and the initiation of immune responses. Secreted IgM is a pentameric structure (containing a J chain) that is abundantly secreted by plasma cells; it is the earliest antibody produced during a primary immune response and is highly efficient in activating the classical complement pathway, neutralizing pathogens, and promoting agglutination. Elevated serum IgM levels are observed in acute infections, Waldenström's macroglobulinemia, and other conditions. Auto reactive IgM (e.g., rheumatoid factor) participates in the pathogenesis of autoimmune diseases such as rheumatoid arthritis. Membrane bound IgM is a target for CAR T therapy in B cell lymphomas, while secreted IgM serves as a therapeutic target for various immune related diseases.

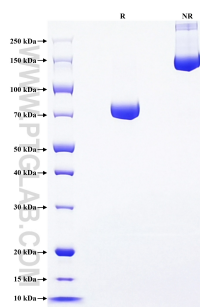
References

1. Budeus, Bettina et al. Frontiers in immunology vol. 14 (2023): 1308378.
2. Trevijano-Contador, Nuria et al. Infection and immunity vol. 88,4 (2020): e00046-20.
3. Chen, Qu et al. Nature communications vol. 13,1 (2022): 6314.
4. Saltukoglu, Deniz et al. The EMBO journal vol. 42,4 (2023): e112030.

Synonyms

IGHM, IgM, MU, VH

Selected Validation Data



Purity of Recombinant Human IgM was determined by SDS-PAGE. The protein was resolved in an SDS-PAGE in reducing (R) and non-reducing (NR) conditions and stained using Coomassie blue.

For technical support and original validation data for this product please contact

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