



IgM Fab fragment (5E673): sc-71330

BACKGROUND

Immunoglobulin M (IgM) is the largest circulating antibody molecule in humans. It is the first immunoglobulin expressed by mature B cells, and it normally appears early in the course of an infection and does not reappear after further exposure. Immunoglobulins consist of two heavy chains (μ -chains) and two light chains (κ or λ chains), that together comprise the Fab (antigen binding) and Fc (constant) fragments. IgM normally exists as a pentamer, but occasionally as a hexamer. IgM is mainly found in serum, however, it is also important as a secretory immunoglobulin. Monovalent Fab fragments have two antigen binding sites, so they may be used to sterically cover the surface of immunoglobulins for double labeling primary antibodies from the same host species, or to block endogenous immunoglobulins on cell surfaces or in tissue sections. After binding to the primary antibody, most of the secondary antibodies will still have one open binding site, which can capture the second primary antibody from the same species. Consequently, overlapping labeling of the two antigens will occur.

REFERENCES

1. Liu, C.P., et al. 1980. Mapping of heavy chain genes for mouse immunoglobulins M and D. *Science* 209: 1348-1353.
2. Marchalonis, J.J., et al. 1981. A marmoset T-lymphocyte protein related to defined human serum immunoglobulin and fragments. *J. Immunogenet.* 8: 165-175.
3. Dahan, A., et al. 1983. Nucleotide sequence of the constant region of a chicken μ heavy chain immunoglobulin mRNA. *Nucleic Acids Res.* 11: 5381-5389.
4. Richards, J.E., et al. 1983. Unusual sequences in the murine immunoglobulin μ - δ heavy-chain region. *Nature* 306: 483-487.
5. Erber, W.N., et al. 1983. Immuno-alkaline phosphatase labelling of haematological samples with monoclonal antibodies. In Feldman, G., ed., *Proc. 2nd Int. Symp. Immunoenzymatic Techniques*. Elsevier: North Holland, 29-40.
6. Leptin, M., et al. 1985. Monoclonal antibodies specific for murine IgM. II. Activation of B lymphocytes by monoclonal antibodies specific for the four constant domains of IgM. *Eur. J. Immunol.* 15: 131-137.
7. Mathur, A., et al. 1988. Expression, distribution and specificity of Fc receptors for IgM on murine B cells. *J. Immunol.* 141: 1855-1862.

CHROMOSOMAL LOCATION

Genetic locus: IGHM (human) mapping to 14p13.

SOURCE

IgM Fab fragment (5E673) is a mouse monoclonal antibody raised against IgM of human origin.

PRODUCT

Each vial contains 100 μ g IgG_{2b} in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

IgM Fab fragment (5E673) is recommended for detection of Fab-region of IgM of human origin by solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Molecular Weight of IgM Fab fragment: 57 kDa.

SELECT PRODUCT CITATIONS

1. Zeng, J., et al. 2018. Increased serum protein levels by Yuanshi Shengmai Chenggu tablet in treatment of avascular osteonecrosis of the femoral head. *Mol. Med. Rep.* 17: 2121-2126.

STORAGE

Store at 4° C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.