Description	**Specificity Reference Reagent** **Biotin-conjugated IgG fraction of polyclonal goat antiserum to human IgM, Fc specific**
Product code	SR/GAHu/IgM(Fc)/Bio
Biological origin	Goat
Physical form	Biotin-coupled purified hyperimmune goat IgG lyophilized from a solution in phosphate buffered saline (PBS, pH 7.2).
Preservative	No preservative added, as it may interfere with the antibody activity.
Immunogen	Purified normal IgM isolated from pooled human serum. Freund's complete adjuvant is used in the first step of the immunization procedure.
Purification	Hyperimmune antisera with strong precipitating activity are selected for fractionation by salt-precipitation and purification of the IgM fraction by DEAE-chromatography.
Adsorption	Immunoaffinity adsorbed using insolubilized antigens as required to eliminate antibodies cross-reacting with other components of the immunoglobulin system or reacting with other serum proteins. Special attention is given to the removal of antibodies to common Ig/Fab. The use of insolubilized adsorption antigens prevents the presence of excess adsorbent protein or immune complexes in the antiserum.
Identity & Specificity	The reactivity of the antiserum is directed to the Fc subunit of the IgM molecule which expresses strict isotypic (class) specificity. In immunoelectrophoresis and double radial immunodiffusion using various antiserum concentrations against normal human plasma and serum, a single characteristic precipitin line is obtained which shows a reaction of identity with the precipitin line obtained with purified IgM. It does not react with IgG, IgA and IgG/Fab or any non-Ig protein in human serum.
Cross-reactivity	Inter-species cross-reactivity is a normal feature of antibodies to immunoglobulins, since Ig of different species frequently share antigenic determinants. Reactions have been observed with IgM in serum of Rhesus monkey, Cynomolgus and Baboon.
Physicochemical characteristics	IgG protein concentration 10 mg/ml. Biotin/IgG protein molar ratio (B/P) is approximately 7.4. No foreign proteins added.
Marker	N-Hydroxysuccinimidobiotin
Conjugation procedure	Conjugation is carried out using a proprietary technique for the binding to biotin, followed by several purification steps. After each step activity and specificity are tested in a variety of techniques. The conjugate is lyophilized to assure stability and long shelf life. No foreign protein has been added.
Intended use	In immunocytochemical and immunohistochemical staining of IgM at the cellular and subcellular level of appropriately treated cell and tissue substrates; to demonstrate circulating IgM antibodies in serodiagnostic microbiology and autoimmune diseases; to identify a specific antigen using a reference antibody of human origin known to be of the IgM isotype in the middle layer of the indirect test procedure; in non-isotopic assay methodology (e.g. ELISA) to measure IgM in human serum or other body fluids. As a second step an avidin or streptavidin conjugate of the user's choice has to be used. *This immunoconjugate is not pre-diluted. The optimum working dilution of each conjugate should be established by titration before being used. Excess labelled antibody must be avoided because it may cause high unspecific background staining and interfere with the specific signal.* Working dilutions for histochemical and cytochemical use are usually between 1:100 and 1:500; in ELISA and comparable non-precipitating antibody-binding assays between 1:2,000 and 1:10,000.
Handling	The lyophilized conjugate is shipped at ambient temperature and may be stored at +4°C; prolonged storage at or below -20°C. It is reconstituted by adding 1 ml sterile distilled water, spun down to remove insoluble particles, divided into small aliquots, frozen and stored at or below -20°C. Prior to use, an aliquot is thawed slowly at ambient temperature, spun down again and used to prepare working dilutions by adding sterile phosphate buffered saline (PBS, pH 7.2). Repeated thawing and freezing should be avoided. Working dilutions should be stored at +4°C, not refrozen, and preferably used the same day. If a slight precipitation occurs upon storage, this should be removed by centrifugation. It will not affect the performance of the immunoconjugate.
Packing	Vial with 1 ml lyophilized immunoconjugate.
Storage / shelf life	Lyophilized at +4°C — at least 10 years reconstituted at or below -20°C — 3-5 years reconstituted at +4°C — 7 days
Caution	This immunoconjugate should be handled by qualified persons only and appropriate precautions should be taken in its handling and disposal, and of all associated materials. For *in vitro* laboratory research purposes only.

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