Description	**Tetramethylrhodamine isothiocyanate–conjugated IgG fraction of polyclonal goat antiserum to rat IgG, IgA and IgM, heavy and light chains, adsorbed for human and mouse cross-reactivity.**
Product code	GARa/mIg/TRITC
Biological origin	Goat
Physical form	TRITC-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 polyclonal rat IgG, and homogenous IgA and IgM isolated from rat serum. Freund's complete adjuvant is used in the first step of the immunization procedure.
Purification	The IgG (7S) fraction is isolated and purified from hyperimmune antisera with strong precipitating activity and contains the bulk of the antibody specificity. It is free of other serum proteins as tested by immunoelectrophoresis and double radial immunodiffusion.
Adsorption	Immunoaffinity adsorbed using insolubilized Ig-depleted rat serum as required, to eliminate antibodies reacting with other serum proteins. The use of insolubilized adsorption antigens prevents the presence of excess adsorbent protein or immune complexes in the antiserum. This product has been passed over appropriate immunoadsorbent to remove antibodies cross-reacting with human and mouse immunoglobulins. This renders it specific for use in test systems containing material of human and mouse origin.
Identity & Specificity	The reactivity of the antiserum is directed to the major isotypes of the rat immunoglobulin system (classes and both light chain types) including antibodies to common determinants, to class and to the surface determinants of the common Fab portion, as tested by immunoelectrophoresis and double radial immunodiffusion against pooled serum and purified immunoglobulins. In immunoelectrophoresis and double radial immunodiffusion using various antiserum concentrations against normal rat plasma and serum, the characteristic IgG, IgA and IgM precipitin lines are obtained.
Cross-reactivity	Inter-species cross-reactivity is a normal feature of antibodies to mammalian immunoglobulins, since homologous proteins of different species frequently share antigenic determinants. The degree of cross-reactivity is also dependent on the concentrations of the reactants and the sensitivity of the assay arrangement. If the product is to be used in the presence of material originating from an other species than human and mouse, prior screening for cross-reactivity with that material is essential and additional adsorption of the reagent may be required to ensure intra-assay specificity.
Physicochemical characteristics	IgG protein concentration 10 mg/ml. Fluorochrome/IgG protein molar ratio (F/P) is approximately 1.7. No foreign proteins added.
Fluorescent marker	Tetramethylrhodamine isothiocyanate isomer R. It has an orange-red fluorescence. Excitation: 554 nm, emission: 573 nm. To avoid nonspecific background staining, specially synthesized and exceptionally pure crystalline isomer R has been used instead of the usual racemic mixture. Although its fluorescence efficiency is less than of FITC, TRITC conjugates have the advantage of significantly less photo bleaching. This facilitates their use in quantitative cell-counting procedures.
Conjugation procedure	A proprietary technique for the binding to TRITC is used, followed by several purification steps to remove free reactants and protein aggregates. After each step activity and specificity are tested in a variety of techniques. The conjugate is lyophilized to assure stability and long shelf life.
Intended use	Direct immunofluorescence staining of cytoplasmic Ig of appropriately treated cell and tissue substrates; to demonstrate immunoglobulins or specific antibodies in cells and tissues; to identify circulating antibodies in serodiagnostic microbiology and autoimmune diseases; to identify a specific antigen or immune complex using a reference antibody of rat origin in the middle layer of the indirect test procedure. *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 are usually between 1:10 and 1:40.
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 in the dark 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.

NORDIC IMMUNOLOGICAL LABORATORIES
Langendijk 25, 5652 AX Eindhoven, The Netherlands
Tel. +31 630 070 625, Fax: +31 402 920 069
E-mail: info@nordiclabs.nl
www.nordiclabs.nl

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