

PRODUCT SHEET

Human IgG ELISA Kit

Description

Cytodiagnosics Human IgG ELISA kit is a sensitive and accurate assay for the determination of human IgG levels produced *in vivo* and for assessing the level of immunoglobulin secretion by a hybridoma *in vitro*.

The discovery and development of hybridoma technology for the generation of monoclonal antibodies in mice by Georges Kohler and Cesar Milstein in 1975 has had a huge impact on basic research and modern medicine (Kohler & Milstein, 1975). As a result of this technology, it became possible to generate antibodies that are highly specific to their target and in large quantities. Two transgenic mouse lines, the HuMaBMouse and the XenoMouse with mouse immunoglobulin genes replaced with human IgG genes, were capable of producing fully human antibodies after immunization (Lonberg et al., 1994; Green et al., 1994). These advances led to development of the first human antibody therapeutic generated in transgenic mouse, anti-epidermal growth factor receptor, Panitumumab (Moroni et al., 2005; Gibson et al., 2006). In 1984, Aman et al. developed the single B cell antibody technology, where single B cells are immortalized with Epstein–Barr virus and used for the production of human monoclonal antibodies. In the face of novel emergent pathogens, single B cell antibody technology has proven invaluable for the rapid generation of potent human monoclonal neutralizing antibodies against many infectious diseases.

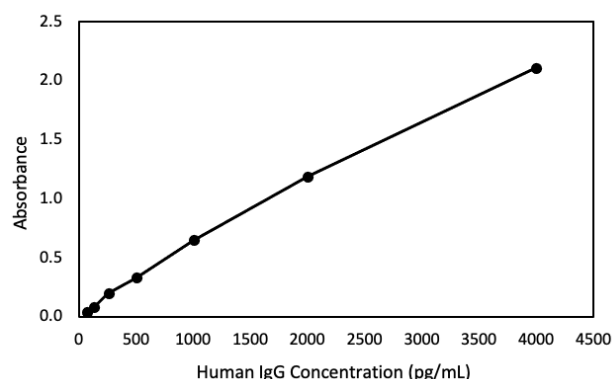
The development of various techniques for the large-scale production of human monoclonal antibodies has created a need for a rapid and simple method for accurately quantifying human antibody production both *in vitro* (i.e., cell culture supernatant) and *in vivo* (i.e., serum, plasma, ascites).

Contents

Pre-coated Microplate (12 x 8 wells)	96 wells
10X Wash Buffer	50 mL
1X Sample Diluent	50 mL
1X Assay Diluent	50 mL
Human IgG Purified Protein, Lyophilized	1 vial
200X HRP-Detection Antibody conjugate	150 µL
1X One-step TMB Substrate	12 mL
1X Stop Solution	8 mL
Adhesive Plate Covers	1 count

Features

The Human IgG ELISA kit is based on the antibody sandwich principle. A microtiter plate coated with a capture antibody specific to human IgG Fc has been blocked and stabilized to create the solid phase of the assay. To perform the assay, samples, standards, and controls are added directly to the wells of the plate. After washing away unbound IgG, an HRP-conjugated Detection Antibody Solution is added and binds to the heavy and light chains of the captured human IgG protein that were immobilized by the capture antibody, completing the sandwich. The wells are washed and a tetramethylbenzidine (TMB) Substrate Solution is added. A blue colour develops in proportion to the amount of bound human IgG. The color development is stopped using Stop Solution, which turns the blue end product yellow and the optical density (OD) of the yellow product is measured at 450 nm on a microtiter plate reader. See manual for more information on the assay procedure.



Characteristics

Protein name	Human IgG
Species reactivity	Human
Assay format	Solid-phase Sandwich ELISA (quantitative)
Sample type	Serum, Cell culture supernatant
Sample volume	100 µL
Assay length	3.5 hrs
Analytical sensitivity	< 50 pg/mL
Assay range	62.5 – 4000 pg/mL
Intra-assay CV%	<6%
Inter-assay CV%	<12%
Recovery%	98.7% (Serum), 96.2% (Culture media)
Detection & Instrument	Colorimetric, Microplate Reader

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Validation

Each manufactured lot of this ELISA kit is quality tested for criteria such as sensitivity, specificity, precision, and lot-to-lot consistency. See manual for more information on validation.

Storage

This product should be stored at 4°C. Do not freeze. If stored as specified, the ELISA Plates and reagents are stable for 12 months.

Precautions and Disclaimer

For Research Use Only. Not for use in diagnostic procedures. Not for resale without express authorization. Please consult the Material Safety Data Sheet available online at www.cytodiagnostics.com for information regarding hazards and safe handling procedures.

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