

PRODUCT SHEET

Rabbit IgG ELISA Kit

Description

Cytodiagnosics Rabbit IgG ELISA kit is a sensitive and accurate assay for the quantitative determination of Rabbit IgG levels in serum, plasma and cell culture supernatants.

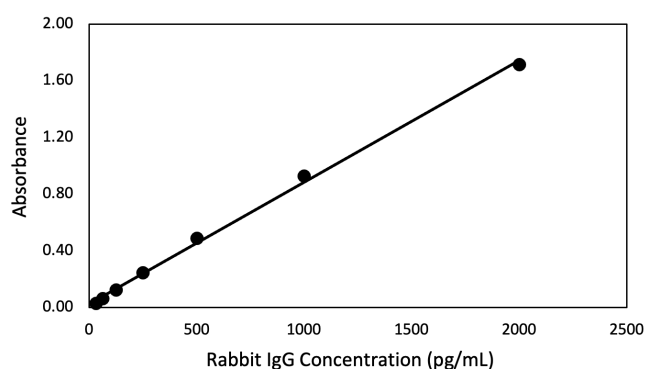
In rabbits, four isotypes have been identified to date (IgG, IgA, IgM and IgE). IgG is the most abundant immunoglobulin in rabbit and is equally distributed in tissues and blood. Notably, rabbits have only one IgG subclass compared to four IgG subclasses in both mice and humans. In addition to their simplified IgG repertoire, the attraction for using rabbit antibodies in basic research, clinical diagnostics and immunotherapies has been growing in recent years for several reasons. Rabbits belong to the order Lagomorpha which is evolutionarily distinct from the order Rodentia to which rats and mice belong (Matthee et al., 2004; Miller et al., 2007; Carneiro et al., 2011). Rabbits have strong immune responses against small molecules and haptens, which is uncommon in mice and rats (Li et al., 2000; Kim et al., 2007; Liu et al., 2013; Liu et al., 2016). Another advantage of using rabbits to raise antibodies is the rarity of inbred rabbit strains. In contrast, most rodent strains are inbred and as a result, elicit less diverse immune responses.

The first rabbit hybridoma was developed in the laboratory of Katherine Knight in 1995 (Spieker-Polet et al., 1995). However, initial rabbit hybridomas were unstable and a drastic decrease in IgG secretion over time was observed. For this reason, Zhu and Pytela further improved the initial cell line and developed multiple fusion partner cell lines for rabbit splenocytes capable of yielding hybridomas with increased genetic stability and more stable rabbit IgG mAb production in the absence of endogenous rabbit light- and heavy-chain production (US Patent 7429487-2008; US Patent 10377814-2019). They have led to an increase in production and use of rabbit mAbs in basic research, diagnostics and medical applications. This has created a need for a rapid and simple method for accurately quantifying rabbit antibody production both *in vitro* (i.e., cell culture supernatant) and *in vivo* (i.e., serum, plasma, ascites).

Features

The Rabbit IgG ELISA kit is based on the antibody sandwich principle. A microtiter plate coated with a capture antibody specific to Rabbit 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 Rabbit 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 Rabbit IgG. The color development is stopped using Stop Solution, which turns the blue end-product to 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.



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
Rabbit 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

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Characteristics

Protein name	Rabbit IgG
Species reactivity	Rabbit
Assay format	Solid-phase Sandwich ELISA (quantitative)
Sample type	Serum, Plasma, Cell culture supernatant
Sample volume	100 μ L
Assay length	3.5 hrs
Analytical sensitivity	< 20 pg/mL
Assay range	31.25 – 2000 pg/mL
Intra-assay CV%	<6%
Inter-assay CV%	<10%
Recovery%	98.5% (Serum) 91.6% (Plasma) 88.9% (Culture media)
Detection & Instrument	Colorimetric, Microplate Reader

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.cytodiagnosics.com for information regarding hazards and safe handling procedures.

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