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Datasheet for 010-001-330

# Mouse IgG1 Kappa Isotype control

## Overview

| | |
|---|---|
| **Description:** | Mouse IgG1 Kappa (κ) Isotype Control - 010-001-330 |
| **Item No.:** | 010-001-330 |
| **Size:** | 1 mg |
| **Applications:** | SDS-PAGE, FC |
| **Origin:** | Mouse |

## Product Details

| | |
|---|---|
| **Background:** | Mouse isotype controls are used in flow cytometry, western blot and ELISA and differentiate between immunoglobulin classes and subclasses. Isotype controls allow for the genetic variations or differences in the constant regions of the heavy and light chains. In mouse there are six relevant heavy chain isotypes and two light chain isotypes: heavy chain alpha - IgA, gamma - IgG 1, 2a, 2b, 3 and μ - IgM, light chain kappa and lambda. |
| **Synonyms:** | Mouse Isotype Control, MOUSE IgG1 Kappa |
| **Species of Origin:** | Mouse |
| **Clone ID:** | MG1K |
| **Format:** | IgG1 |
| **Type:** | Native Protein |

## Target Details

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| **Purity/Specificity:** | Mouse Isotype control has been prepared from concentrated cell culture supernatant by immunoaffinity chromatography using protein A. Assay by immunoelectrophoresis resulted in a single precipitin arc against anti-Mouse IgG and anti-Mouse serum. Isotyping assay resulted non-reactive with antisera to mouse IgG2a, IgG2b, IgG3, IgA, IgM. Light chain composition has been confirmed by SDS-PAGE. |
| **Relevant Links:** | • 010-001-330 SDS |

## Application Details

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|---|---|
| **Tested Applications:** | SDS-PAGE |
| **Suggested Applications:** | FC (Based on references) |
| **Application Note:** | Mouse IgG1 kappa isotype control has been tested in SDS-Page and can be utilized as a control or standard reagent in Flow Cytometry, Western Blotting, and ELISA experiments where determination of sample isotype is important. |
| **Assay Dilutions:** | All assays should be optimized by the user. Recommended dilutions (if any) may be listed below. |
| **ELISA:** | User Optimized |
| **FC:** | 1:1000-1:5000 |
| **FLISA:** | User Optimized |
| **IF:** | User Optimized |
| **WB:** | User Optimized |

## Formulation

| | |
|---|---|
| **Physical State:** | Liquid (sterile filtered) |
| **Concentration:** | 1.0 mg/mL by UV absorbance at 280 nm |
| **Buffer:** | 0.02 M Potassium Phosphate, 0.5 M Sodium Chloride, pH 7.2 |
| **Preservative:** | 0.01% (w/v) Sodium Azide |
| **Stabilizer:** | None |

## Shipping & Handling

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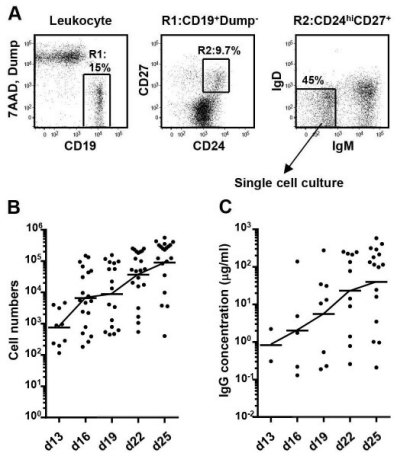
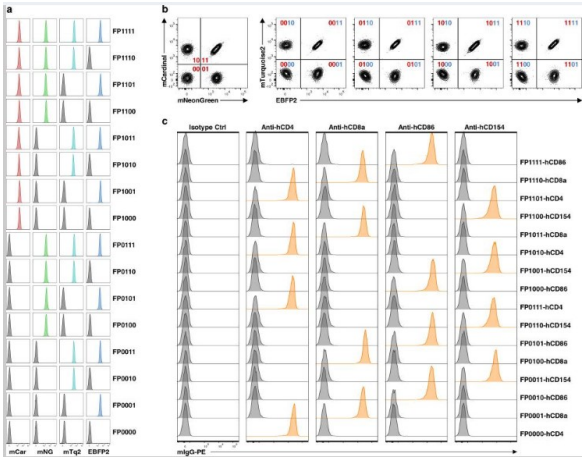
|---|---|
| **Shipping Condition:** | Wet Ice |
| **Storage Condition:** | Store vial at 4° C prior to opening. This product is stable 4° C as an undiluted liquid. Dilute only prior to immediate use. For extended storage mix with an equal volume of glycerol, aliquot contents and freeze at -20° C or below. Avoid cycles of freezing and thawing. |
| **Expiration:** | Expiration date is one (1) year from date of receipt. |

## Images



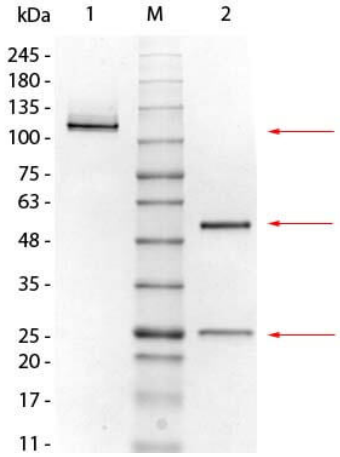

## Flow Cytometry

Kinetics of B cell growth and IgG concentrations in single-cell cultures of human B mem cells. Single B cells were sorted from PBMCs and cultured in the presence of MS40Llo feeder cells with exogenous recombinant human IL-2, IL-4, IL-21, and BAFF. (A) Representative flow diagrams from 4 or more independent experiments showing the gating strategy used to isolate human B mem cells (CD19+CD27+CD24hiIgM−IgD−). (B and C) Kinetics of B cell numbers (B) and IgG concentrations in culture supernatants (C) during single-cell cultures of switched B mem cells. We analyzed 22 individual cultures from a single experiment for each timepoint; data shown are values for samples that exceeded the background for cell counting and IgG determinations. Mouse IgG1 kappa (p/n 010-001-330). Figure 1. PMID: 29343437.




## Flow Cytometry

A multiplex immunoassay based on FP-barcoded reporter cell lines. a A basic panel of FP-barcoded reporter cell lines. K530 cells were transduced with different combinations of 4 FPs to produce 16 uniquely FP-barcoded reporter cell lines. The absence/presence of fluorescence from FPs EBFP2, mTurquoise2 (mTq2), mNeonGreen (mNG), and mCardinal (mCar) are designated as four digits of binary barcodes as shown on the right of histograms for each individual cell line. b Demultiplexing of pooled FP-barcoded reporter cell lines by flow cytometry. c The 16 barcoded reporter cell lines were transduced to express human CD4, CD8a, CD86, and CD154 molecules in a shifted pattern relative to FP expression. These cells were pooled and stained with corresponding mouse monoclonal antibodies (as indicated on the top of each histogram) followed by a PE-conjugated anti-mouse IgG antibody. Signals from individual reporter cell lines were demultiplexed as shown in b and the binding by corresponding antibodies were plotted as half-offset histograms. In all cases, the detected expression patterns were consistent with antigen expression by barcoded cells before multiplexing as shown on the right of histograms for each individual cell line. Isotype Ctrl, mouse IgG1, κ-isotype control antibody (p/n 010-001-330). Fig. 1. PMID: 34824350.




**SDS-PAGE**
SDS-PAGE of Mouse IgG1 Kappa Isotype Control. Lane 1: Mouse IgG1 Kappa Isotype Control, Non-reduced. M: Opal Pre-stained Ladder (p/n MB-210-0500). Lane 2: Mouse IgG1 Kappa Isotype Control, Reduced. Load: 1.0 µg per lane. Predicted/Observed: 120 kDa Non-reduced, 55 and 25 Reduced.

## References


- Garcia-Hernandez V et al. Inhibition of Soluble Stem Cell Factor Promotes Intestinal Mucosal Repair. *Inflamm Bowel Dis.* (2023)
- Song S et al. A cell-based multiplex immunoassay platform using fluorescent protein-barcoded reporter cell lines. *Commun Biol.* (2021)
- Watanabe A et al. Antibodies to a Conserved Influenza Head Interface Epitope Protect by an IgG Subtype-Dependent Mechanism. *Cell.* (2019)
- McCarthy KR et al. Memory B cells that cross-react with group 1 and group 2 influenza A viruses are abundant in adult human repertoires. *Immunity.* (2018)


## Disclaimer