

**Datasheet for 009-0103****Human IgG Fc****Overview**

|                      |                                                   |
|----------------------|---------------------------------------------------|
| <b>Description:</b>  | Human IgG Fc Fragment - 009-0103                  |
| <b>Item No.:</b>     | 009-0103                                          |
| <b>Size:</b>         | 1 mg                                              |
| <b>Applications:</b> | Dot Blot, SDS-PAGE, Cellular Assay, ELISA, IF, WB |
| <b>Origin:</b>       | Human                                             |

**Product Details**

|                           |                                                                                                                                                                                                                                                                                                                                                                  |
|---------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Background:</b>        | Human IgG Fc purified protein is a proteolytic fragment of immunoglobulin G (IgG) obtained by limited digestion with the enzyme papain under controlled conditions of temperature, time and pH. Receptors bind the Fc portion of Human IgG and often this fragment is removed from immunoglobulins to minimize receptor binding and lower background reactivity. |
| <b>Synonyms:</b>          | Human Immunoglobulin G F(c) Fragment, IgG Fc                                                                                                                                                                                                                                                                                                                     |
| <b>Species of Origin:</b> | Human                                                                                                                                                                                                                                                                                                                                                            |
| <b>Format:</b>            | IgG Fc                                                                                                                                                                                                                                                                                                                                                           |
| <b>Type:</b>              | Native Protein                                                                                                                                                                                                                                                                                                                                                   |

**Target Details**

|                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|----------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Purity/Specificity:</b> | HUMAN IgG F(c) was prepared from normal serum by a multi-step process which includes delipidation, salt fractionation, ion exchange chromatography and papain digestion followed by chromatographic separation and extensive dialysis against the buffer stated above. Assay by immunoelectrophoresis resulted in a single precipitin arc against anti-Human Serum, anti-Human IgG and anti-Human IgG F(c). No reaction was observed against anti-Human IgG F(ab') <sub>2</sub> or anti-Papain. |
| <b>Relevant Links:</b>     | <ul style="list-style-type: none"><li><a href="#">009-0103 SDS</a></li></ul>                                                                                                                                                                                                                                                                                                                                                                                                                    |

**Application Details**

|                             |                    |
|-----------------------------|--------------------|
| <b>Tested Applications:</b> | Dot Blot, SDS-PAGE |
|-----------------------------|--------------------|

|                                |                                                                                                                                                                        |
|--------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Suggested Applications:</b> | Cellular Assay, ELISA, IF, WB (Based on references)                                                                                                                    |
| <b>Application Note:</b>       | HUMAN IgG F(c) Fragment has been tested by SDS-Page and dot blot and can be utilized as a control or standard reagent in SDS, Western Blotting, and ELISA experiments. |
| <b>Assay Dilutions:</b>        | All assays should be optimized by the user. Recommended dilutions (if any) may be listed below.                                                                        |
| <b>ELISA:</b>                  | 1:5000 - 1:50,000                                                                                                                                                      |
| <b>WB:</b>                     | 1:1000                                                                                                                                                                 |

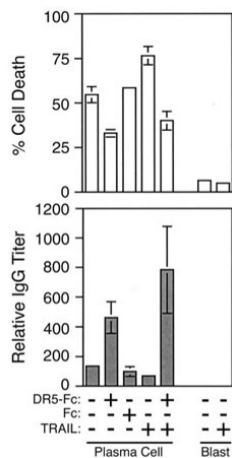
## Formulation

|                        |                                                            |
|------------------------|------------------------------------------------------------|
| <b>Physical State:</b> | Liquid (sterile filtered)                                  |
| <b>Concentration:</b>  | 1.029 mg/mL by UV absorbance at 280 nm                     |
| <b>Buffer:</b>         | 0.02 M Potassium Phosphate, 0.15 M Sodium Chloride, pH 7.2 |
| <b>Preservative:</b>   | 0.01% (w/v) Sodium Azide                                   |
| <b>Stabilizer:</b>     | None                                                       |

## Shipping & Handling

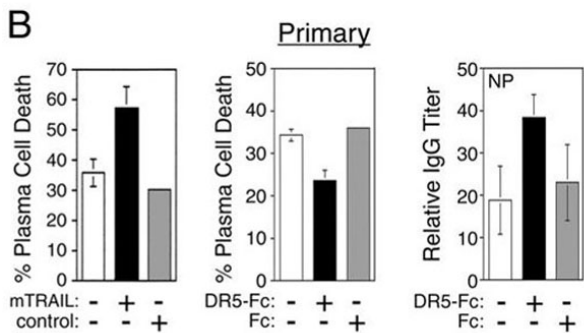
|                            |                                                                                                                                                                                                                                                                               |
|----------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Shipping Condition:</b> | Wet Ice                                                                                                                                                                                                                                                                       |
| <b>Storage Condition:</b>  | 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. |
| <b>Expiration:</b>         | Expiration date is one (1) year from date of receipt.                                                                                                                                                                                                                         |

## Images



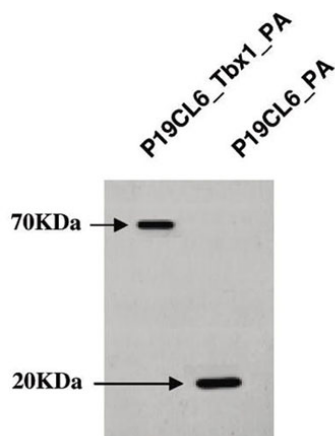
**Figure**

TRAIL-mediated apoptosis of human plasma cells. Top, Control CESS cells (blast) or IL-6-differentiated plasma cells were cultured for 24 h in the presence or absence of 1.0 µg/ml TRAIL, DR5-Fc, or the Fc portion of human IgG. Cell viability was determined by trypan blue exclusion, and the percent of plasma cell death was calculated by dividing the number of dead plasma cells by the total number of plasma cells in the culture. Bottom, ELISA of IgG secretion in the corresponding culture medium. Data represent the relative IgG titer required to obtain a single OD value that lies within the linear range. Data represent three independent cell populations from one experiment. Three independent experiments were performed with similar results. Fig 3. PMID: 12421926.



**Figure**

TRAIL induces apoptosis of primary plasma cells generated in a T-dependent immune response. (B) The in vivo-generated, syndecan-1-positive plasma cells were cultured alone (□) or with TRAIL-expressing 2PK3 cells (mTRAIL, ■) or the parental 2PK3 (control, ▤) cells at a 10:1 ratio for 5 h before determination of cell death by trypan blue staining (left panel). In vivo-generated plasma cells were plated onto CD40L-expressing L cells at a 10:1 ratio in the absence (□) or presence (■) of DR5-Fc or Fc (▤) (1 µg/ml). Cell viability was determined by trypan blue exclusion after a 5-h incubation (middle panel), and the relative amount of NP-specific IgG secreted into the medium for a total of 20 h was determined by ELISA (right panel). For each of the conditions, the values represent independent analysis of cells isolated from three mice. Fig 4. PMID: 12421926.

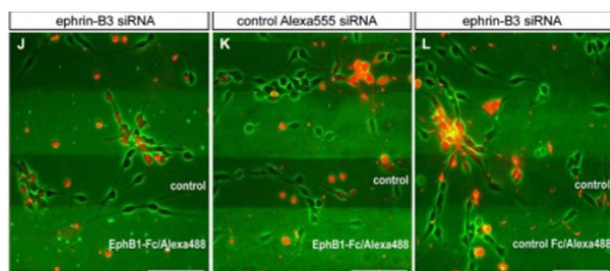


### Western Blot

Western blot analysis of P19CL6\_Tbx1-PA cells and P19CL6\_PA control cells. Proteins were separated on 10% SDS-PAGE gel and immunoblotted with human IgG F(c). Figure 1. PMID: 19178302.

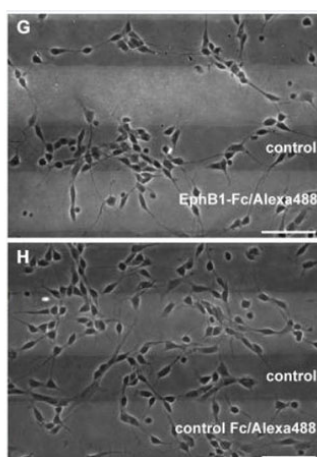
### Immunofluorescence Microscopy

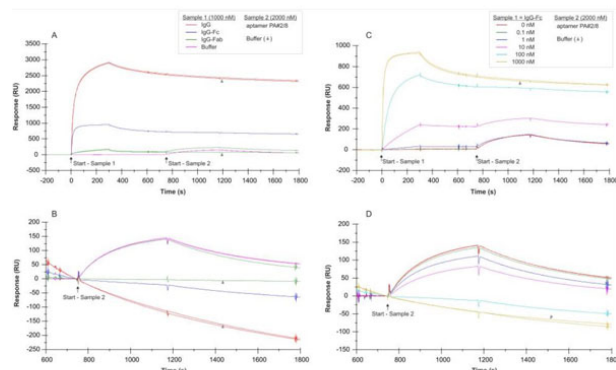
EphB1 acts repulsive on neurons of the superficial migratory stream via reverse signaling with stripe assay. (J) After down regulation of ephrin-B3 ligands by siRNA transfection (red) in MGE-derived neurons the repulsion induced by EphB1-Fc in the stripe assay is abolished after 2 DIV, while non-transfected interneurons still avoid the EphB1-Fc stripes. (K) Application of Alexa555 labeled control siRNA has no effect as most of the cells still avoid the EphB1-Fc containing stripes. (L) Addition of ephrin-B3 siRNA does not affect MGE-derived neurons growing on Fc/control stripes. Scale bars: (J–L) 50  $\mu$ m. Figure 3. PMID: 25100946.



### Immunofluorescence Microscopy

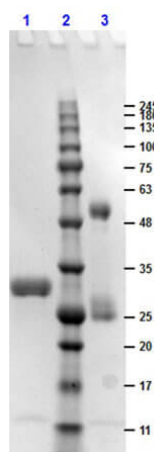
EphB1 acts repulsive on neurons of the superficial migratory stream via reverse signaling with stripe assay. (G) Dissociated neurons from the MGE clearly avoid EphB1-containing lanes in the stripe assay after 2 DIV. (H) On alternating stripes of labeled and unlabeled control protein the cells show no preferential growth. Scale bars: (G–H) 50  $\mu$ m. Figure 3. PMID: 25100946.





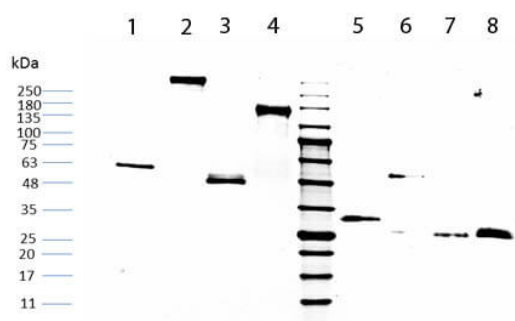
### Surface Plasmon Resonance (SPR)

SPR interaction analyses regarding the aptamer binding site in Protein A. Biacore X100 / sensor chip CAP / ligand: biotinylated Protein A with immobilization level of ~560 RU / two-step analyte binding without regeneration in between, (A-B) analyte 1 = sample 1: human IgG, IgG-Fc fragment, IgG-Fab fragment with a concentration of 1000 nM each, or buffer, (C-D) analyte 1 = sample 1: concentration series of human IgG-Fc in the range of 0–1000 nM, (A-D) analyte 2 = sample 2: 2000 nM 5'-fluorescein-labeled aptamer PA#2/8 or buffer. Double-referenced sensorgrams are shown (blank reference surface without Protein A, buffer injection). Binding of sample 1 followed by sample 2 is shown in (A) and (C) with alignment to injection start of sample 1. In (B) and (D) only binding of sample 2 with alignment to injection start of sample 2 is shown. Fig 12. PMID: 26221730.



### SDS-PAGE

SDS-PAGE results of Human IgG F(c) Fragment. Lane 1: reduced Human IgG F(c) Fragment. Lane 2: Opal Prestained Molecular Weight Ladder (p/n MB-210-0500). Lane 3: non-reduced Human IgG F(c) Fragment. Load: 1µg. 4-20% Lonza SDS-PAGE; Coomassie Stained; BioRad ChemiDoc Imaged.



### SDS-PAGE

SDS-PAGE of Human IgG Fc (009-0103). Lane 1: Non-reduced Human IgG Fc. Lane 2: Non-reduced Human IgG Whole Molecule (009-0102). Lane 3: Non-reduced Human IgG Fab Fragment (009-0105). Lane 4: Non-reduced Human IgG F(ab')<sub>2</sub> (009-0104). Middle Lane: 5µL OPAL Pre-stained Marker MB-210-0500. Lane 5: Reduced Human IgG Fc. Lane 6: Reduced Human IgG Whole Molecule (009-0102). Lane 7: Reduced Human IgG Fab Fragment (009-0105). Lane 8: Reduced Human IgG F(ab')<sub>2</sub> (009-0104). Load: 1µg per lane. Predicted/Observed size: Non-reduced at 50kDa, reduced at 25kDa/Non-reduced at 55-60kDa, reduced at 30-33kDa.

## References

- Mathew S et al. Altered Expression of NK Receptors in Racially/Ethnically Diverse and Risk-of-Relapse Pediatric Acute Lymphoblastic Leukemia Patients. *Biomedicines*. (2025)
- Eid L et al. Both GEF domains of the autism and developmental epileptic encephalopathy-associated Trio protein are required for proper tangential migration of GABAergic interneurons. *Mol Psychiatry*. (2025)
- Reichard J et al. DNMT1-mediated regulation of somatostatin-positive interneuron migration impacts cortical architecture and function. *Nat Commun*. (2025)
- Kunda S et al. Inhibition of Extracellular Matrix Protein Fibulin-3 Reduces Immunosuppressive Signaling and Increases Macrophage Activation in Glioblastoma. *Cancer Res Commun*. (2025)
- Kundu S et al. Inhibition of the extracellular matrix protein fibulin-3 reduces immunosuppressive signaling in tumor stem cells and increases macrophage activation against glioblastoma. *bioRxiv [preprint]* (2024)
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- Caterino, M et al. Transcription factor TBX1 overexpression induces downregulation of proteins involved in retinoic acid metabolism: a comparative proteomic analysis. *Journal of Proteome Research* (2009)
- Ursini-Siegel J et al. TRAIL/Apo-2 ligand induces primary plasma cell apoptosis. *J Immunol*. (2002)

## Disclaimer

No test method can provide total assurance that the hepatitis B virus, hepatitis C virus, human immunodeficiency virus, or any other infectious agents are absent. Thus, all blood products, including purified proteins derived from human blood sources, should be handled at Biosafety Level 2 as recommended by the CDC/NIH manual entitled Biosafety in Microbiological and Biomedical Laboratories for potentially infectious human serum, blood specimens or proteins derived from same. Source material for the human blood product supplied to your facility has been tested for the detection of HIV antibody, Hepatitis B surface antigen, antibody to Hepatitis C, HIV 1 antigen(s), antibody to HTLV - I/II, and syphilis by FDA guidelines. All units were found to be non-reactive/negative for these tests. All human blood source material is collected in FDA licensed centers and is tested with FDA approved test kits.

This product is for research use only and is not intended for therapeutic or diagnostic applications. Please contact a technical service representative for more information. All products of animal origin manufactured by Rockland Immunochemicals are derived from starting materials of North American origin. Collection was performed in United States Department of Agriculture (USDA) inspected facilities and all materials have been inspected and certified to be free of disease and suitable for exportation. All properties listed are typical characteristics and are not specifications. All suggestions and data are offered in good faith but without guarantee as conditions and methods of use of our products are beyond our control. All claims must be made within 30 days following the date of delivery. The prospective user must determine the suitability of our materials before adopting them on a commercial scale. Suggested uses of our products are not recommendations to use our products in violation of any patent or as a license under any patent of Rockland Immunochemicals, Inc. If you require a commercial license to use this material and do not have one, then return this material, unopened to: Rockland Inc., P.O. BOX 5199, Limerick, Pennsylvania, USA.