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Datasheet for 009-0103

Human IgG Fc

Overview

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

Product Details

Background:	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.
Synonyms:	Human Immunoglobulin G F(c) Fragment, IgG Fc
Species of Origin:	Human
Format:	IgG Fc
Type:	Native Protein

Target Details

Purity/Specificity:	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')2 or anti-Papain.
Relevant Links:	• 009-0103 SDS

Application Details

Tested Applications:	Dot Blot, SDS-PAGE

Suggested Applications:	Cellular Assay, ELISA, WB (Based on references)
Application Note:	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.
Assay Dilutions:	All assays should be optimized by the user. Recommended dilutions (if any) may be listed below.
ELISA:	1:5000 - 1:50,000
WB:	1:1000

Formulation

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

Shipping & Handling

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

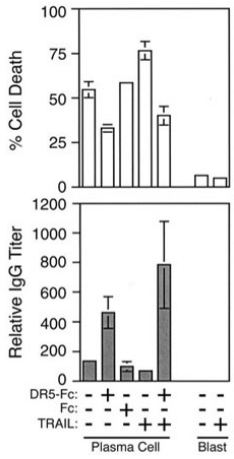


Figure
TRAIL-mediated apoptosis of human plasma cells. Top, Control CESS cells (blast) or IL-6-differentiated plasma cells were cultured for 24 h in the presence or absence of 1.0 µg/ml TRAIL, DR5-Fc, or the Fc portion of human IgG. Cell viability was determined by trypan blue exclusion, and the percent 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.

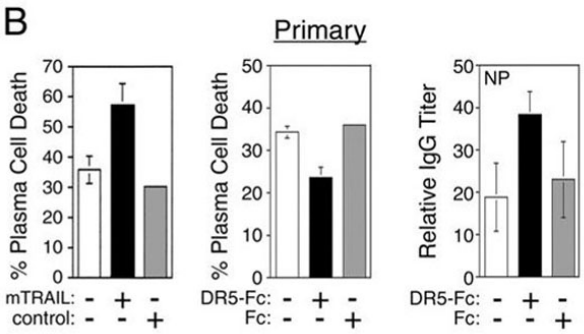
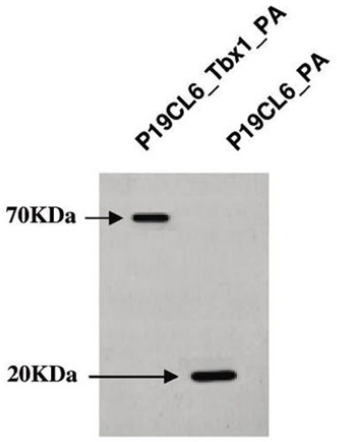
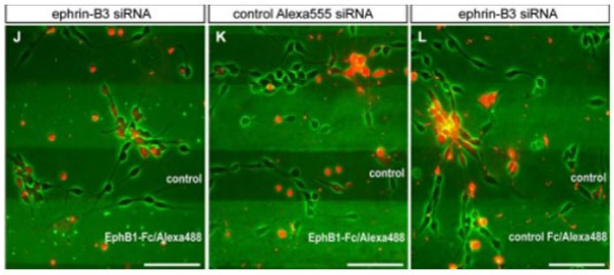


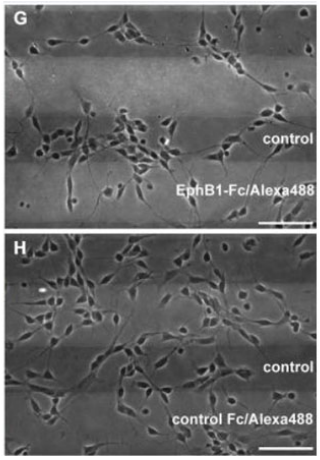
Figure
TRAIL induces apoptosis of primary plasma cells generated in a T-dependent immune response. (B) The in vivo-generated, syndecan-1-positive plasma cells were cultured alone (□) or with TRAIL-expressing 2PK3 cells (mTRAIL, ▪) or the parental 2PK3 (control, ▨) cells at a 10:1 ratio for 5 h before 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.



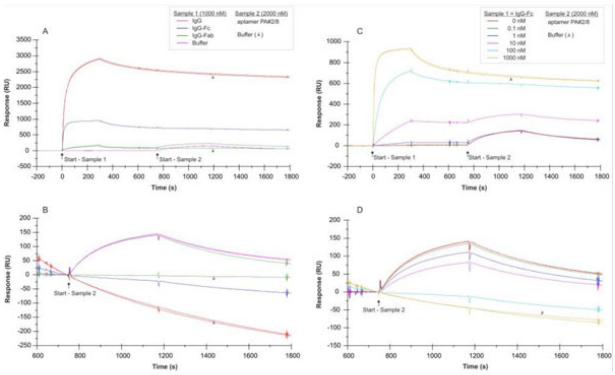
Western Blot
Western blot analysis of P19CL6_Tbx1-PA cells and P19CL6_PA control cells. Proteins were separated on 10% SDS-PAGE gel and immunoblotted with human IgG F(c). Figure 1. PMID: 19178302.



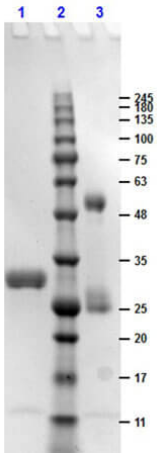
Immunofluorescence Microscopy
EphB1 acts repulsive on neurons of the superficial migratory stream via reverse signaling with stripe assay. (J) After down regulation of ephrin-B3 ligands by siRNA transfection (red) in MGE-derived neurons the repulsion induced by EphB1-Fc in the stripe assay is abolished 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 µm. Figure 3. PMID: 25100946.



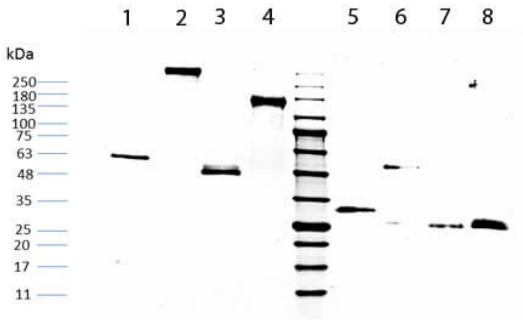
Immunofluorescence Microscopy
EphB1 acts repulsive on neurons of the superficial migratory stream via reverse signaling with stripe assay. (G) Dissociated neurons from the MGE clearly avoid EphB1-containing lanes in the stripe assay after 2 DIV. (H) On alternating stripes of labeled and unlabeled control protein the cells show no preferential growth. Scale bars: (G-H) 50 µm. 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')2 (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')2 (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

- Rudolph, J et al. A dual role of EphB1/ephrin-B3 reverse signaling on migrating striatal and cortical neurons originating in the preoptic area: should I stay or go away? *Frontiers in Cellular Neuroscience* (2014)
- 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)

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