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Datasheet for 010-0105

Mouse IgG Fab fragment

Overview

Description:	Mouse IgG Fab Fragment - 010-0105
Item No.:	010-0105
Size:	2 mg
Applications:	SDS-PAGE, Biochemical Assay, IF, Multiplex
Origin:	Mouse

Product Details

Background:	Secreted as part of the adaptive immune response by plasma B cells, immunoglobulin G constitutes 75% of serum immunoglobulins. Immunoglobulin G binds to viruses, bacteria, as well as fungi and facilitates their destruction or neutralization via agglutination (and thereby immobilizing them), activation of the compliment cascade, and opsonization for phagocytosis. This product possesses the F(ab) region possessing the epitope-recognition site, both heavy and light chains of the antibody molecule are present.
Synonyms:	Mouse Immunoglobulin Fab, F(ab), Fragment antigen-binding
Species of Origin:	Mouse
Format:	IgG Fab
Type:	Native Protein

Target Details

Purity/Specificity:	Mouse IgG Fab fragment was prepared from normal serum by a multi-step process which includes delipidation, salt fractionation and ion exchange chromatography followed by papain digestion and extensive dialysis against the buffer stated above. Mouse IgG Fab fragment assayed by immunoelectrophoresis resulted in a single precipitin arc against anti-Mouse IgG, anti-Mouse IgG F(ab')2 and anti-Mouse Serum. No reaction was observed against anti-Mouse IgG F(c) or anti- Papain.

Application Details

Tested Applications:	SDS-PAGE
Suggested Applications:	Biochemical Assay, IF, Multiplex (Based on references)
Application Note:	Mouse IgG Fab Fragment has been tested by SDS-Page and can be utilized as a control or standard reagent in Western Blotting and ELISA experiments.
Assay Dilutions:	All assays should be optimized by the user. Recommended dilutions (if any) may be listed below.
ELISA:	User Optimized
IHC:	User Optimized
WB:	User Optimized

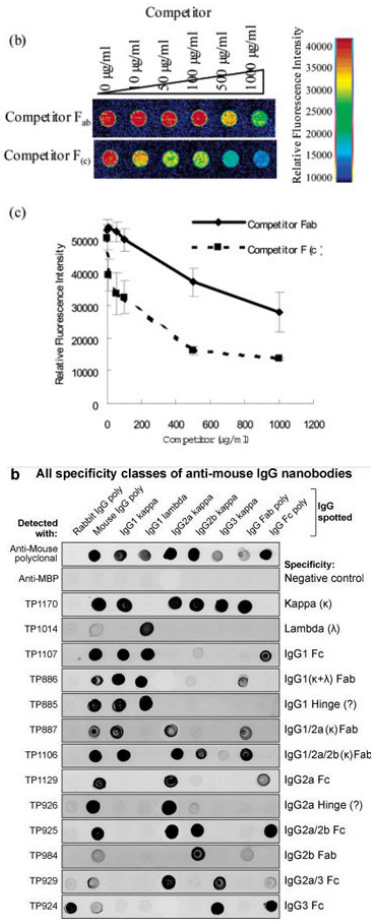
Formulation

Physical State:	Liquid (sterile filtered)
Concentration:	2.0 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 for several weeks at 4° C as an undiluted liquid. Dilute only prior to immediate use. For extended storage, 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

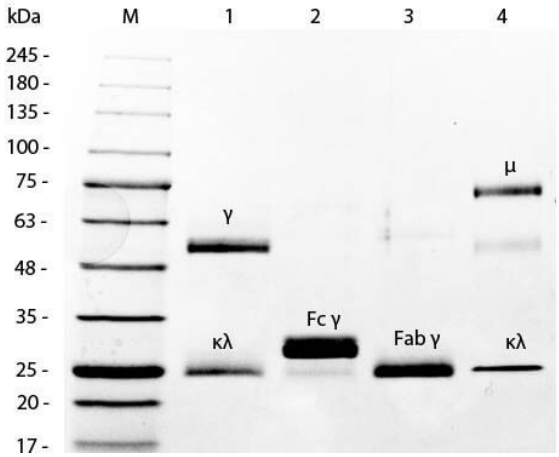


Dot Blot

Ability of ProteoChip to bind the antibody F(c) region. (b) Scanning images of protein microarray: competition between FITC-labeled F(c) [p/n 010-0203] and unlabeled Fab fragments [p/n 010-0105] (upper picture), and FITC-labeled F(c) [p/n 010-0203] and unlabeled F(c) fragments [010-0103] (lower picture). (c) Scanning images were analyzed using QuantumArray software, and fluorescence intensities of each spot were plotted versus competitor concentration. Competition between FITC-labeled F(c) and unlabeled Fab fragment, and FITC-labeled F(c) and unlabeled F(c) fragments, are shown by the solid line and broken line, respectively. Figure 2. PMID: 15538771.

Dot Blot

Characterization of the anti-IgG nanobody toolbox. (a) Overview of all identified anti-IgG nanobodies. The nanobodies obtained were characterized for IgG subclass and light chain specificity, epitope location on Fab or Fc fragment, and species cross reactivity. The protein sequences of all anti-IgG nanobodies can be found in Table S1. Nb, nanobody; CDR III, complementarity-determining region III; Gp, guinea pig; Hs, human; κ, κ light chain; λ, lambda light chain; Fab, fragment antigen-binding, Fc, fragment crystallizable. (a. not shown) (b) IgG subclass reactivity profiling of selected anti–mouse IgG nanobodies representing all identified specificity groups. The indicated IgG species were spotted on nitrocellulose strips, and the strips were blocked with 4% (wt/vol) milk in 1× PBS. Then 300 nM of the indicated tagged nanobodies were added in milk. After washing with 1× PBS, bound nanobodies were detected using a fluorescence scanner. Note that the signal strength on polyclonal IgG depends on the relative abundance of the specific subclass (e.g., IgG2b and IgG3 are low abundance) or light chain (κ/λ ratio = 99:1). TP885 and TP926 showed no detectable binding to polyclonal Fab or Fc fragment and might bind to the hinge region. (p/n 010-001-331 Mouse IgG1 λ lambda, 010-0105 Mouse Fab fragment). Fig 1. PMID: 29263082.



SDS-PAGE
SDS-PAGE of Mouse IgG Whole Molecule Rhodamine Conjugated (p/n 010-0002). MW: 5 µL Opal Prestained Marker (p/n MB-210-0500). Lane 1: Reduced Mouse IgG Whole Molecule Rhodamine Conjugated (p/n 010-0002). Lane 2: Reduced Mouse F(c) Fragment (p/n 010-0103). Lane 3: Reduced Mouse F(ab) Fragment (p/n 010-0105). Lane 4: Mouse IgM Kappa Myeloma Protein (p/n 010-001-033). Load: 1 µg per lane. Predicted/Observed size: IgG at 50 and 25 kDa; F(c) at 25 kDa; F(ab) at 25 kDa; IgM K at 70 and 23 kDa. Observed F(c) Fragment migrates slightly higher.

References

- Pleiner T et al. A toolbox of anti–mouse and anti–rabbit IgG secondary nanobodies. *J Cell Biol.* (2018)
- Sasakura Y et al. Protein microarray system for detecting protein-protein interactions using an anti-His-tag antibody and fluorescence scanning: effects of the heme redox state on protein-protein interactions of heme-regulated phosphodiesterase from Escherichia coli. *Anal Chem.* (2004)
- Rui H et al. JAK2 activation and cell proliferation induced by antibody-mediated prolactin receptor dimerization. *Endocrinology.* (1994)

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