

Datasheet for 009-0104

Human IgG F(ab')₂

Overview

Description:	Human IgG F(ab') ₂ Fragment - 009-0104
Item No.:	009-0104
Size:	2 mg
Applications:	ELISA, SDS-PAGE, Biochemical Assay, FC
Origin:	Human

Product Details

Background:	Human IgG F(ab') ₂ purified protein is a proteolytic fragment of immunoglobulin G (IgG) obtained by limited digestion with the enzyme pepsin under controlled conditions of temperature, time and pH. Human IgG F(ab') ₂ molecules lack the Fc portion of Human IgG and therefore receptors that bind Human IgG Fc will not bind Human IgG F(ab') ₂ molecules.
Synonyms:	Human Immunoglobulin G F(ab') ₂ Fragment, IgG Fab2
Species of Origin:	Human
Format:	IgG F(ab') ₂
Type:	Native Protein

Target Details

Purity/Specificity:	Human IgG F(ab') ₂ was prepared from normal serum by a multi-step process which includes delipidation, salt fractionation, ion exchange chromatography and pepsin 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(ab') ₂ . No reaction was observed against anti-Human IgG F(c) or anti-Pepsin.
Relevant Links:	009-0104 SDS

Application Details

Tested Applications:	ELISA, SDS-PAGE
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Suggested Applications:	Biochemical Assay, FC (Based on references)
Application Note:	Human IgG F(ab') ₂ Fragment has been tested in SDS-Page and ELISA 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

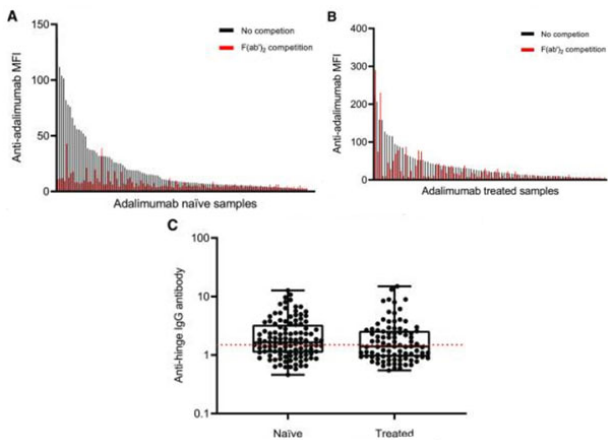
Formulation

Physical State:	Liquid (sterile filtered)
Concentration:	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

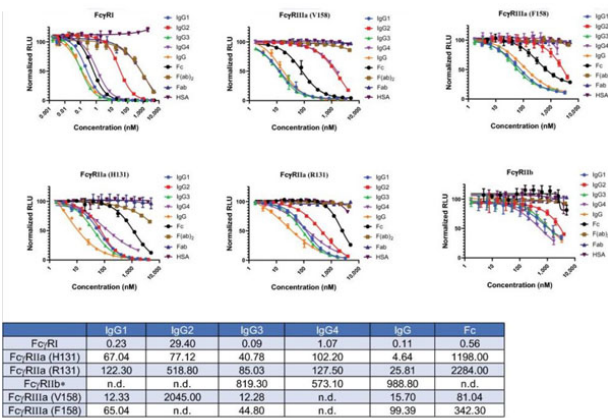
Shipping Condition:	Wet Ice
Storage Condition:	Store vial at 4° C prior to opening. This product is stable 4° C as an undiluted liquid. Dilute only prior to immediate use. For extended storage mix with an equal volume of glycerol, aliquot contents and freeze at -20° C or below. Avoid cycles of freezing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

Images



Flow Cytometry

Anti-hinge antibodies interfere with the detection of anti-drug antibodies. A total of 115 samples from patients with no previous adalimumab exposure (A) and 91 samples from patients treated with adalimumab (B) were evaluated by flow cytometry and resulted in high anti-adalimumab MFIs. The addition of 20 µg/ml of human IgG F(ab')₂ reduced the anti-adalimumab MFI signals in both naïve and adalimumab-treated patients. (C) There was no difference between adalimumab-naïve vs. treated groups in MFI fold-change or proportion of patients positive for anti-hinge antibodies. Anti-hinge-positive status was defined as ≥1.5-fold change as shown by the horizontal line. Fig. 3. PMID: 33008870.

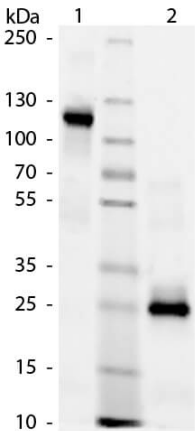


Figure

Dose dependent inhibition curves generated with six different FcγR assays. Four different set of samples were tested to show the specificity and subclass specific binding. Analytes tested are (1) human IgG subclasses IgG1, IgG2, IgG3, IgG4; (2) human IgG; (3) Fc, Fab, and F(ab')₂ domains; and (4) human serum albumin (HSA). Data represent the mean ± standard error of triplicate experiments. IC₅₀ (nM) values calculated from the inhibition curves are shown in the Table. IC₅₀ values are in nM. *For FcγRIIb IC₅₀ values are intended only for qualitative purposes as mentioned in the text. n.d. not determined. Figure 3. PMID: 35842448.

SDS-PAGE

SDS-Page of Human IgG F(ab')₂ Fragment. Lane 1: Human F(ab')₂ – Non-Reduced. Lane 2: Human F(ab')₂ – Reduced. Load: 1.0 µg per lane. Predicted/observed size: 25 kDa – Reduced, 120 kDa – Non-Reduced for F(ab')₂ fragment. Other band(s): None.



References

- Cramer P et al. A viral glycoprotein targets IgG+ memory B cells to mediate humoral immune evasion. *EMBO Mol Med.* (2026)
- Pezeshkpoor B et al. Comprehensive evaluation of anti-emicizumab antibodies in acquired hemophilia A: a detailed case study and methodological evaluation. *J Thromb Haemost.* (2024)
- Nath, N et al. A homogeneous bioluminescent immunoassay for parallel characterization of binding between a panel of antibodies and a family of Fcγ receptors. *Scientific Reports* (2022)
- Hoshitshuki K et al. Adalimumab immunogenicity is negatively correlated with anti-hinge antibody levels in patients with rheumatoid arthritis. *J Pharmacol Exp Ther.* (2020)

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.