

Product Information

Description:	Recombinant human anti-FcGR3A (also known as CD16A) biotinylated monoclonal antibody, which recognizes the human FcGR3A protein. This antibody has been tested for specific binding to purified human FcGR3A (BPS Bioscience #79013) in an ELISA binding assay with colorimetric detection. It does not cross-react with purified human FcGR2B (also known as CD16B).
Background:	Fc Gamma Receptor IIIa (FcGR3A) is a low/intermediate affinity receptor for polyvalent immune-complexed IgG. It is involved in phagocytosis, antibody-dependent cytotoxicity, and clearance of immune complexes. FcGR3A plays a role in the activation of natural killer (NK) cells. Clinically, it serves as a marker of certain immune cells such as neutrophils. CD16 expression has been observed at the surface of T cells in patients with chronic viral infections (such as COVID-19). It is considered a potential therapeutic target to potentiate the efficacy of therapeutic antibodies used to treat solid tumors, or as direct target in hematopoietic cancers.
Species:	Human
Concentration:	1.73 mg/ml
Isotype:	IgG1
Clonality:	Monoclonal
Expression System:	HEK293
Purity:	≥90%
Purification:	Protein A affinity chromatography
Format:	Aqueous buffer solution.
Formulated In:	8 mM phosphate, pH 7.4, 110 mM NaCl, 2.2 mM KCl, and 20% glycerol
MW:	Heavy Chain: 50 kDa; Light Chain: 25 kDa
Stability:	At least 12 months at -80°C.
Storage:	-80°C
Instructions for Use:	Thaw on ice and gently mix prior to use. DO NOT VORTEX. Perform a quick spin before opening. Aliquot into small volumes and flash freeze for long term storage. Avoid multiple freeze/thaw cycles.
Cross Reactivity:	This antibody recognizes human FcGR3A. It does not recognize human FcGR3B. It has not been tested with other species
Assay Conditions:	Experimental design and assay protocol for measuring anti-FcGR3A specific binding to human FcGR3A in an ELISA assay: <ol style="list-style-type: none">1. Purified human FcGR3A (BPS Bioscience #79013) and purified human FcGR3B (BPS Bioscience #79016) were thawed on ice and coated onto a clear 96-well plate overnight at 4°C (4 µg/ml in PBS, 50 µl per well). <i>***"No Coat" controls were included by coating PBS only to determine background levels**</i>2. The next day, the plate was washed three times with 1x Immuno Buffer 1 (BPS Bioscience #79311). Plate was tapped upside down on absorbent pads to remove excess liquid.3. Wells were then blocked with 100 µl of Blocking Buffer 2 (BPS Bioscience #79728) for 1 hour at room temperature with slow shaking.4. Serial dilutions of purified human biotin-labeled anti-FcGR3 were prepared in Blocking Buffer 2. <i>**Titration from 0 nM to 300 nM, using 50 µl per well**</i>5. 50 µl of the biotinylated antibody dilutions were added to the wells and incubated for 1 hour at room temperature with slow shaking. <i>**Buffer only was added to wells designated as "BLANK"***</i>6. Wells were washed as in step 2.

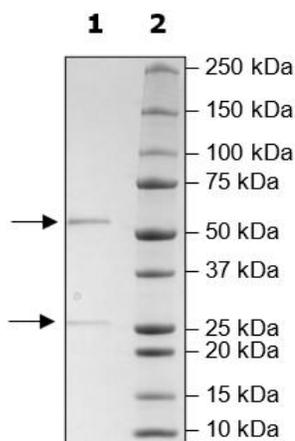
7. Streptavidin-HRP (BPS Bioscience #79742) was diluted 1/1000 in Blocking Buffer 2. 50 μ l was added to each well and incubated for 30-60 minutes at room temperature with slow shaking.
8. Wells were washed as in step 2.
9. 100 μ l of Colorimetric HRP Substrate (BPS Bioscience #79651) was added to all wells. Upon color development the reaction was quickly quenched with 100 μ l of 1N HCl.
10. Absorbance was read at 450 nm. The "blank" value was subtracted from all other measurements.

Applications:

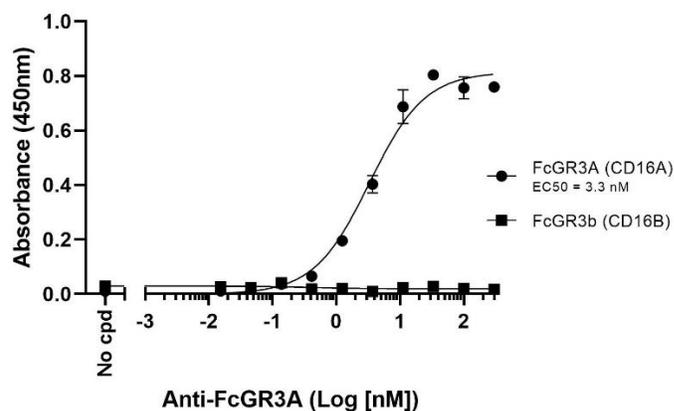
Useful for studying the binding of FcGR3A in ELISA and in cellular assays.

Quality Control Data

4-20% SDS-PAGE Coomassie Staining



Anti-FcGR3 Binding Assay



This binding assay was performed following the assay conditions detailed above. The serial dilutions of antibody were prepared between 0 to 300 nM. Background value was subtracted to all other values.