abcam

ab269972

Anti-IgD antibody [IA6-2] - BSA and Azide free

Recombinant

Key facts

Isotype	IgG2a
Host species	Mouse
Storage buffer	pH: 7.2 - 7.4 Constituents: PBS
Form	Liquid
Clonality	Monoclonal
Carrier free	Yes
Clone number	IA6-2
Purification technique	Affinity purification Protein A
Light chain type	kappa
Concentration	1.011 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

Flow Cyt

Tested

Species	Human
Dilution info	-
Notes	-

Not recommended

Species	Mouse, Rat
Dilution info	-
Notes	-

I-ELISA

Tested

Species	Human
Dilution info	-
Notes	-

Not recommended

Species	Mouse, Rat
Dilution info	-
Notes	-

WB

Tested

Species	Human
Dilution info	-
Notes	-

Not recommended

Species	Mouse, Rat
Dilution info	-
Notes	-

IHC-P

Not recommended

Species	Human, Mouse, Rat
Dilution info	-
Notes	-

IHC-Fr

Not recommended

Species	Rat, Mouse, Human
Dilution info	-
Notes	-

Target data

See full target information IGHD

Function

Constant region of immunoglobulin heavy chains. Immunoglobulins, also known as antibodies, are membrane-bound or secreted glycoproteins produced by B lymphocytes. In the recognition phase of humoral immunity, the membrane-bound immunoglobulins serve as receptors which, upon binding of a specific antigen, trigger the clonal expansion and differentiation of B lymphocytes into immunoglobulins-secreting plasma cells. Secreted immunoglobulins mediate the effector phase of humoral immunity, which results in the elimination of bound antigens (PubMed:20176268, PubMed:22158414). The antigen binding site is formed by the variable domain of one heavy chain, together with that of its associated light chain. Thus, each immunoglobulin has two antigen binding sites with remarkable affinity for a particular antigen. The variable domains are assembled by a process called V-(D)-J rearrangement and can then be subjected to somatic hypermutations which, after exposure to antigen and selection, allow affinity maturation for a particular antigen (PubMed:17576170, PubMed:20176268). IgD is the major antigen receptor isotype on the surface of most peripheral B-cells, where it is coexpressed with IgM. The membrane-bound IgD (mIgD) induces the phosphorylation of CD79A and CD79B by the Src family of protein tyrosine kinases. Soluble IgD (sIgD) concentration in serum below those of IgG, IgA, and IgM but much higher than that of IgE. IgM and IgD molecules present on B cells have identical V regions and antigen-binding sites. After the antigen binds to the B-cell receptor, the secreted form sIgD is shut off. IgD is a potent inducer of TNF, IL1B, and IL1RN. IgD also induces release of IL6, IL10, and LIF from peripheral blood mononuclear cells. Monocytes seem to be the main producers of cytokines in vitro in the presence of IgD (PubMed:10702483, PubMed:11282392, PubMed:8774350).

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	+4°C
Storage information	Do Not Freeze

Notes

ab269972 is the carrier-free version of ab235125.
What are the advantages of a recombinant monoclonal antibody?
This product is a recombinant monoclonal antibody, which offers several advantages including:

- High batch-to-batch consistency and reproducibility
- Improved sensitivity and specificity
- Long-term security of supply
- Animal-free batch production

For more information, read more on recombinant antibodies.

Want a custom formulation?
This antibody clone is manufactured by Abcam. If you require a custom buffer formulation or conjugation for your experiments, please contact orders@abcam.com

Conjugation ready
Our carrier-free antibodies are typically supplied in a PBS-only formulation, purified and free of BSA, sodium azide and glycerol. This conjugation-ready format is designed for use with fluorochromes, metal isotopes, oligonucleotides, and enzymes, which makes them ideal for antibody labelling, functional and cell-based assays, flow-based assays (e.g. mass cytometry) and Multiplex Imaging applications.

Use our conjugation kits for antibody conjugates that are ready-to-use in as little as 20 minutes with 1 minute hands-on-time and 100% antibody recovery: available for fluorescent dyes, HRP, biotin and gold.

Compatibility
This product is compatible with the Maxpar® Antibody Labeling Kit from Fluidigm, without the need for antibody preparation. Maxpar® is a trademark of Fluidigm Canada Inc.

Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary	IgD also known as Immunoglobulin D serves as a distinct antibody isotype expressed primarily on the surface of B cells. It is involved in the initiation of immune responses. IgD has a molecular weight of approximately 180 kDa. The full form of IgD is Immunoglobulin D. It is expressed mainly in the respiratory system the tonsils and lymphoid tissues playing a pivotal role in the early stages of immunity. Researchers often perform IgD tests to study its mechanical aspects and influence on immune cell functionality.
Biological function summary	IgD contributes to the activation and differentiation of B lymphocytes and may influence antibody affinity maturation. This immunoglobulin is not known to form part of a larger complex but acts in conjunction with other immunoglobulins like IgM to regulate immune responses. The presence of IgD on B cells suggests its involvement in signaling processes which help B cells transition from immature to fully functional states impacting how the immune system responds to pathogens.
Pathways	IgD plays roles in immune system signaling and pathogen recognition. It appears in pathways such as B cell receptor signaling and participates in complex interactions with other proteins such as IgM and CD79 which are essential for transmitting activation signals. These pathways are important enabling the immune system to identify and respond to antigens effectively offering a first line of defense against infections.
Associated diseases and disorders	IgD has associations with recurrent respiratory infections and IgD myeloma a rare form of plasma cell neoplasm. The malfunction or dysregulation of IgD can impact B cell development and lead to immune system disorders. In such cases IgD levels often measured through IgD tests may serve as important indicators for monitoring disease progression. Moreover elevated levels of IgD can coexist with proteins such as IgE particularly in allergy-related responses and play roles in certain immunodeficiency conditions.

Product promise

Tested

We have tested this species and application combination and it works. It is covered by our product promise.

Expected

We have not tested this specific species and application combination in-house, but expect it will work. It is covered by our product promise.

Predicted

This species and application combination has not been tested, but we predict it will work based on strong homology. However, this combination is not covered by our product promise.

Not recommended

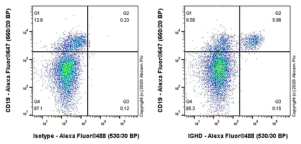
We do not recommend this combination. It is not covered by our product promise.

We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

In the unlikely event of one of our products not working as expected, you are covered by our product promise.

Full details and terms and conditions can be found here:
Terms & Conditions.

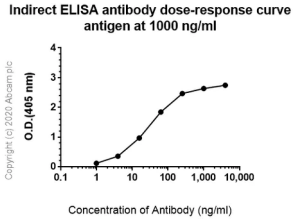
3 product images



Flow Cytometry - Anti-IgD antibody [IA6-2] - BSA and Azide free (ab269972)

IgD Flow Cytometry staining using mouse Anti-IgD antibody

Flow cytometric analysis of human peripheral blood mononuclear cell (PBMC) cells labelling IGHD with ab235125 at 1/500 dilution (2.064µg/ml) (Right panel) compared with a mouse monoclonal IgG isotype control (Left panel). Goat anti mouse IgG (Alexa Fluor® 488, ab150113) at 1/2000 dilution was used as the secondary antibody. Cells were stained with rabbit IgG (Left) or ab235125 (Right). Then stained with anti-CD19 conjugated to Alexa Fluor® 647. Gated on viable cells.
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab235125).



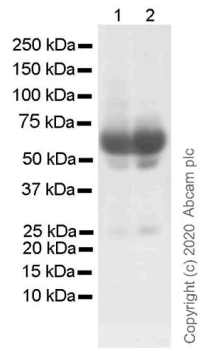
Indirect ELISA - Anti-IgD antibody [IA6-2] - BSA and Azide free (ab269972)

ELISA - Anti-IGHD antibody [IA6-2] (ab235125).
ab235125 used at 0-4000 ng/ml.

Antigen (Human IGD) used at 1000 ng/ml.

Secondary Alkaline Phosphatase-conjugated AffiniPure Goat Anti-Rat IgG (H+L) used at a 1/1000 dilution.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab235125).



Western blot - Anti-IgD antibody [IA6-2] - BSA and Azide free (ab269972)

This antibody recognize the heavy chain (~60 kDa) of IgD.
Blocking/Dilution buffer: 5% NFDM/TBST.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab235125).

All lanes:
Western blot - Anti-IgD antibody [IA6-2] (ab235125) at 1.032 µg/mL

Lane 1:
Human plasma lyaste at 10 µg

Lane 2:
Human serum lyaste at 10 µg

Secondary

All lanes:
Western blot - VeriBlot for IP Detection Reagent (HRP) (ab131366) at 1/1000 dilution

Predicted band size: 47 kDa

Exposure time: 8s

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.