abcam

ab239261

FITC Anti-Kappa light chain antibody [TB28-2]

Anti-Kappa light chain antibody [TB28-2] conjugated to FITC - suitable for flow cytometry, and reacts with human samples. Clone [TB28-2] is a mouse monoclonal antibody cited in 12 publications.

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Key facts

Isotype	IgG1
Host species	Mouse
Conjugation	FITC
Excitation/Emission	Ex: 495nm, Em: 519nm
Storage buffer	pH: 7.4 Preservative: 0.0975% Sodium azide Constituents: PBS
Form	Liquid
Clonality	Monoclonal
Clone number	TB28-2
Purification technique	Size-exclusion chromatography
Specificity	The antibody TB28-2 recognizes human Ig kappa light chains of both secreted and cell surface immunoglobulin. It detects also free kappa light chains.
Purification notes	Purified antibody is conjugated with Fluorescein isothiocyanate (FITC) under optimum conditions. The reagent is free of unconjugated FITC and adjusted for direct use. No reconstitution is necessary.

Reactivity data

Flow Cyt

Tested

Species	Human
Dilution info	4 µL for 10^6 Cells
Notes	(or 100 µl of whole blood).

Target data

See full target information IGKC

Function

Constant region of immunoglobulin light 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).

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	+4°C
Storage information	Store in the dark

Supplementary info

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

Activity summary

The kappa light chain alternatively known as Ig kappa chain is a component of immunoglobulins which are important for immune response. This protein has a molecular mass of roughly 25 kDa. It predominantly expresses in B lymphocytes where it pairs with heavy chains to form antibodies. Its expression is indicative of mature B cell functions serving as a marker for certain types of immune cells. The

	kappa light chain can also be detected outside of cells circulating in the blood and other bodily fluids.
Biological function summary	Kappa light chains are integral to the structure and function of antibodies. As part of the immunoglobulin molecule these chains contribute to antigen specificity by combining with heavy chains. Together they form the antigen-binding site. The kappa light chain is not part of a multiprotein complex; rather it directly participates in the antibody response. The presence of either kappa or lambda light chains can determine the particularities of antibody characteristics.
Pathways	Kappa light chains are elements of the immunological pathways notably the adaptive immune response. They interact with other proteins like immunoglobulin heavy chains to neutralize pathogens. The constant region of the kappa chain plays a role in determining the isotype of immunoglobulins which affects how antibodies mediate immune effector functions. Cross-linking of surface immunoglobulin by antigens can trigger B cell activation an essential step in the adaptive immune system.
Associated diseases and disorders	Kappa light chains associate closely with multiple myeloma and certain types of lymphomas. Overproduction of kappa light chains in these diseases results in high levels detectable in the serum or urine which can be used diagnostically as markers. Also dysregulation of kappa chains correlates with autoimmune disorders whereby the immune system incorrectly targets its tissues. In disorders like these the interplay between kappa and lambda chains often arises showing imbalance between the two as a sign of abnormal B cell activity.

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

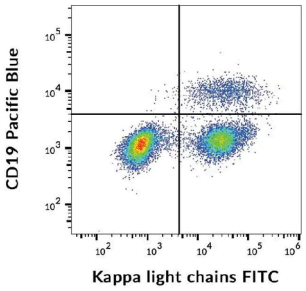
We do not recommend this combination. It is not covered by our product promise.

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1 product image



Flow Cytometry - FITC Anti-Kappa light chain antibody [TB28-2] (ab239261)

Kappa light chain Flow Cytometry staining using mouse Anti-Kappa light chain antibody

Flow cytometric analysis of human peripheral blood cells labeling Kappa light chain with ab239261. Surface staining.

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