abcam

ab238470

Anti-Kappa light chain antibody [OX12]

Key facts

Isotype	IgG2a
Host species	Mouse
Storage buffer	Preservative: 0.02% Sodium azide Constituents: PBS
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Clone number	OX12
Purification technique	Affinity purification
Light chain type	kappa
Concentration	1 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →
Purification notes	Purified from TCS.

Reactivity data

Flow Cyt

Tested

Species	Rat
Dilution info	0.2 µg/mL

Notes	-

Target data

See full target information IGKV1D-16

Function	V region of the variable domain of immunoglobulin light chains that participates in the antigen recognition (PubMed:24600447). 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 duration	1-2 weeks
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	-20°C
Aliquoting information	Upon delivery aliquot
Storage information	Avoid freeze / thaw cycle

Notes

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

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

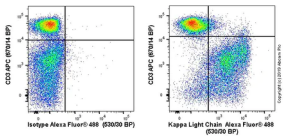
We do not recommend this combination. It is not covered by our product promise.

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.

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1 product image



Flow Cytometry - Anti-Kappa light chain antibody [OX12] (ab238470)

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

Lewis rat splenocytes stained with ab238470 (right) or mouse IgG2aκ (left). Lewis rat splenocytes were incubated for 30 min on ice in 10% rat serum to block FC receptors and non-specific protein-protein interaction followed by the antibody (ab238470) or mouse IgG2aκ Isotype (ab18450) ($1x10^6$ in 100µl at 0.2 µg/ml) for 30 min on ice.
The secondary antibody Goat Anti-Mouse IgG H&L (Alexa Fluor ® 488, pre-adsorbed) (ab150117) was used at 1/2000 dilution for 30 min at 4°C. The cells were simultaneously stained with CD3 APC antibody.

Acquisition of >30,000 events were collected using a 50 mW Blue laser (488nm) and 530/30 bandpass filter. Events were gated on viable lymphocytes.

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