abcam

ab48536

Anti-Human Ig light chain antibody [MHK-49]

Key facts

Isotype	IgG1
Host species	Mouse
Storage buffer	pH: 7.2 Preservative: 0.09% Sodium azide Constituents: PBS
Form	Liquid
Clonality	Monoclonal
Immunogen	Full Length Protein corresponding to Human IGKC. The exact immunogen used to generate this antibody is proprietary information. Database link P01834
Clone number	MHK-49
Purification technique	Affinity purification Protein G
Specificity	This antibody is specific for both soluble and membrane human immunoglobulin light chain kappa. It does not react with human immunoglobulin light chain lambda or heavy chain mu.
Light chain type	kappa
Concentration	0.5 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

Flow Cyt

Expected

Species	Human

Dilution info	-
Notes	ab170190 - Mouse monoclonal IgG1, is suitable for use as an isotype control with this antibody.

ELISA

Expected

Species	Human
Dilution info	-
Notes	This antibody can be used as primary or secondary reagent for immunofluorescent staining or ELISA analysis.

ICC/IF

Expected

Species	Human
Dilution info	Use at an assay dependent concentration.
Notes	-

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 duration	1-2 weeks
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	-20°C
Storage information	Avoid freeze / thaw cycle

Supplementary info

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

Activity summary	The human immunoglobulin light chain often referred to as "Ig light chain" or "IgL" is a component of antibodies. It's an essential part of the adaptive immune system. The light chains combine with heavy chains to form the complete immunoglobulin molecule. It has approximately 25 kDa mass. The light chain can be kappa (κ) or lambda (λ) types depending on the sequence. Expression occurs mainly in B lymphocytes where it plays a critical role in antibody diversity and specificity.
Biological function summary	The light chain contributes to antigen recognition by forming part of the antigen-binding site on an antibody. It's not a standalone entity but part of a larger immunoglobulin complex. This allows antibodies to bind specifically to antigens facilitating the immune response. The light chain also participates in stabilizing the antibody structure and ensuring proper immune function.
Pathways	The Ig light chain functions in the context of the adaptive immune system particularly in the immunoglobulin gene rearrangement and affinity maturation pathways. It works closely with the heavy chain to achieve effective antigen recognition. Additionally it interacts indirectly with proteins like B-cell receptor (BCR) which is important in the B lymphocyte signaling pathway. These interactions allow for the antibody-mediated detection and response to pathogens.
Associated diseases and disorders	Abnormal Ig light chain production correlates with multiple myeloma and light chain amyloidosis. In multiple myeloma malignant plasma cells overproduce light chains often leading to their deposition in tissues and subsequent organ damage. In light chain amyloidosis the excess light chains misfold and deposit as amyloid fibrils causing organ dysfunction. Associations between these conditions and other immunoglobulin proteins highlight the role of Ig light chains in pathological processes.

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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