abcam

ab17931

Anti-C9 antibody [53]

Key facts

Isotype	IgG1
Host species	Mouse
Storage buffer	pH: 7.4 Preservative: 0.097% Sodium azide Constituents: PBS, 0.754% Sodium chloride
Form	Liquid
Clonality	Monoclonal
Immunogen	Native Full Length Protein corresponding to Human C9. Database link P02748
Clone number	53
Purification technique	Affinity purification Protein G
Light chain type	kappa
Concentration	1 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →
Purification notes	Protein A/G purified.

Reactivity data

Flow Cyt

Tested

Species	Human
Dilution info	1 µg for 10^6 Cells

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

ELISA

Expected

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

WB

Expected

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

IHC-P

Tested

Species	Human
Dilution info	2 µg/mL
Notes	-

Target data

See full target information C9

Function	Pore-forming component of the membrane attack complex (MAC), a multiprotein complex activated by the complement cascade, which inserts into a target cell membrane and forms a pore, leading to target cell membrane rupture and cell lysis (PubMed:22832194, PubMed:26841837, PubMed:26841934, PubMed:27052168, PubMed:30552328, PubMed:6177822, PubMed:9212048, PubMed:9634479). The MAC is initiated by proteolytic cleavage of C5 into complement C5b in response to the classical, alternative, lectin and GZMK complement pathways (PubMed:39914456, PubMed:39814882, PubMed:9212048, PubMed:9634479). The complement pathways consist in a cascade of proteins that leads to phagocytosis and breakdown of pathogens and signaling that strengthens

the adaptive immune system (PubMed:9212048, PubMed:9634479). Constitutes the pore-forming subunit of the MAC complex: during MAC assembly, C9 associates with the C5b8 intermediate complex, and polymerizes to complete the pore (PubMed:26841934, PubMed:30111885, PubMed:30552328, PubMed:34752492, PubMed:4055801, PubMed:6177822).

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

Notes

ab17931 recognizes C9 in human serum diluted 1:50 in Tris buffer (20 mM Tris-base, 1 mM MgCl2, 1 mM CaCl2 and 140 mM NaCl) and incubated for 2 hours at 37°C using a human IgM coated (10 µg/mL overnight at 4°C, blocked with PBS 7.2 + 1% BSA for 1 hour).

Supplementary info

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

Activity summary	C9 also known as complement component 9 is a protein that plays an essential mechanical role in the complement system. It typically associates in the formation of the membrane attack complex (MAC). The C9 protein weighing around 71 kDa expresses in the liver and is secreted into the blood plasma. Alternative names like 'Cloud 9 capture' and 'C9 tag' often refer to research tools or motifs derived from the C9 protein rather than the protein itself. Researchers frequently study C9 in mouse models where its physiological roles can be explored.
Biological function summary	C9 participates in defending against pathogens. It joins other complement components like C5b C6 C7 and C8 to form the MAC complex which facilitates cell lysis by forming pores in the membrane of target cells. This action directly results in microbial cell destruction serving a critical immune function. C9 is not only part of the MAC complex but also holds significance due to its unique function as the last step in the formation of the pore influencing the efficacy of pathogen elimination.

Pathways	C9 functions primarily within the complement cascade which includes the classical and alternative pathways. Its role is in the terminal pathway segment that ultimately leads to the formation of the MAC and follows the activation of C5 which cleaves to produce C5b. This connection extends to proteins like C3 which is upstream in the cascade and significantly impacts the cascade's activation highlighting C9's function as an integral terminal component in these pathways.
Associated diseases and disorders	Mutations or deficits in C9 relate to an increased susceptibility to infections particularly those caused by Neisseria species. This association results directly from its important role in the MAC formation. Additionally deficiency of C9 links to autoimmune disorders where the immune response may be improperly regulated due to compromised MAC formation. Other complement components like C6 and C8 may also relate to these diseases due to their collaboration with C9 in forming the MAC illustrating the interconnectedness of these proteins within the immune response framework.

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

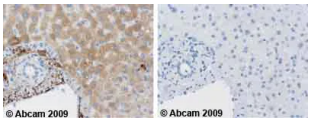
We do not recommend this combination. It is not covered by our product promise.

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:
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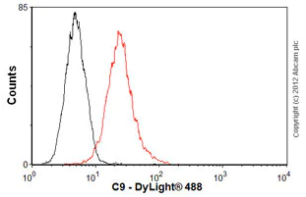
2 product images



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-C9 antibody [53] (ab17931)

C9 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using mouse Anti-C9 antibody

ab17931 staining human normal liver. Staining is localized to the cytoplasm.
Left panel: with primary antibody at 2 ug/ml. Right panel: isotype control.
Sections were stained using an automated system DAKO Autostainer Plus , at room temperature. Sections were rehydrated and antigen retrieved with the Dako 3-in-1 AR buffer, EDTA pH 9.0 in a DAKO PT Link. Slides were peroxidase blocked in 3% H2O2 in methanol for 10 minutes. They were then blocked with Dako Protein block for 10 minutes (containing casein 0.25% in PBS) then incubated with primary antibody for 20 minutes and detected with Dako Envision Flex amplification kit for 30 minutes. Colorimetric detection was completed with Diaminobenzidine for 5 minutes. Slides were counterstained with Haematoxylin and coverslipped under DePeX. Please note that for manual staining we recommend to optimize the primary antibody concentration and incubation time (overnight incubation), and amplification may be required.



Flow Cytometry - Anti-C9 antibody [53] (ab17931)

C9 Flow Cytometry staining using mouse Anti-C9 antibody

Overlay histogram showing HeLa cells stained with ab17931 (red line). The cells were fixed with 80% methanol (5 min) and then permeabilized with 0.1% PBS-Tween for 20 min. The cells were then incubated in 1x PBS / 10% normal goat serum / 0.3M glycine to block non-specific protein-protein interactions followed by the antibody (ab17931, 1µg/1x10^6 cells) for 30 min at 22°C. The secondary antibody used was DyLight® 488 goat anti-mouse IgG (H+L) (ab96879) at 1/500 dilution for 30 min at 22°C. Isotype control antibody (black line) was mouse IgG1 [ICIGG1] (ab91353, 2µg/1x10^6 cells) used under the same conditions. Acquisition of >5,000 events was performed.

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