abcam

ab192847

Anti-CD68 antibody [SP251]

Anti-CD68 antibody [SP251] (ab192847) is a rabbit monoclonal antibody detecting CD68 in **Flow Cytometry, IHC-P, mIHC**. Suitable for **Human**.

- Multiplex IHC validated on the Leica BOND® MAX using Opal reagents
- Biophysical QC for unrivalled batch-batch consistency

Lab Essentials | Recombinant | RabMAb | Advanced Validation | 20ul selling size

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 - 7.4 Preservative: 0.1% Sodium azide Constituents: PBS, 1% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Clone number	SP251
Purification technique	Affinity purification Protein A
Concentration	0.184 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

Flow Cyt

Tested

Species	Human

Dilution info	1/100
Notes	Incubate with primary antibody for 30 minutes at 4 °C.

mIHC

Tested

Species	Human
Dilution info	1/300
Notes	-

IHC-P

Tested

Species	Human
Dilution info	1/100
Notes	Boil tissue section in citrate buffer, pH 6.0 for 10 minutes followed by cooling at room temperature for 20 minutes. Incubate with primary antibody for 10 minutes at room temperature. **Recommend Hu species.** IHC result showed staining on the macrophages in the human tissues such as tonsil, spleen and colon. The mouse and rat tissues showed no staining.

Target data

See full target information CD68

Function	Could play a role in phagocytic activities of tissue macrophages, both in intracellular lysosomal metabolism and extracellular cell-cell and cell-pathogen interactions. Binds to tissue- and organ-specific lectins or selectins, allowing homing of macrophage subsets to particular sites. Rapid recirculation of CD68 from endosomes and lysosomes to the plasma membrane may allow macrophages to crawl over selectin-bearing substrates or other cells.

Storage

Shipped at conditions	Conditional Ambient
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

What is this antibody validated in?
Anti-CD68 antibody [SP251] (ab192847) is a rabbit recombinant monoclonal antibody and is validated for use in Flow Cytometry (Flow Cyt), Immunohistochemistry (IHC-P), Multiplex IHC (mIHC) in Human samples.

Collaboration
Anti-CD68 [SP251] (ab192847) is a clone from the portfolio of Spring Bioscience (Roche) SP clones which have been optimised for immunohistochemistry (IHC).

Other related products
We have a range of other formats of antibody clone [SP251] also available for your convenience: ab192847, Carrier free - ab271959, Oligonucleotide - ab279358, PE - ab303134, APC - ab303135, HRP - ab303136, Alkaline Phosphatase - ab308997, Alexa Fluor® 488 - ab309940, Alexa Fluor® 647 - ab310307, Alexa Fluor® 594 - ab310770, Alexa Fluor® 555 - ab312297, Alexa Fluor® 568 - ab312792, Alexa Fluor® 750 - ab321328

Patented technology
Our RabMAb® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to RabMAb® patents.

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.

Trial sizes available!
Test your antibody or perform pre-screening before committing to a larger quantity. Sold in 20µl. Discover our selection of trial-size antibodies.

Supplementary info

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

Activity summary

	CD68 is a glycoprotein that functions as a scavenger receptor. It plays an important role in the regulation of cellular debris and apoptotic cell clearance. Researchers often refer to it as KP1 or macrosialin in the literature. CD68 with a molecular weight of approximately 110 kDa is highly expressed in macrophages and monocytes. The mucin-like structure of CD68 allows it to be heavily glycosylated which aids in its function. Researchers detect CD68 in tissues through methods like immunohistochemistry (IHC) immunofluorescence and CD68 staining and it is widely used as a macrophage marker in research.
Biological function summary	CD68 facilitates functions associated with the innate immune response. It serves as an important part of macrophages which contribute to immune surveillance and tissue homeostasis. Though it primarily operates on its own in some contexts CD68 might assist in forming complexes with other receptors to modulate phagocytic activity. This target is significant in atherosclerotic plaque stability as macrophages engulf lipids and cell debris through processes facilitated by CD68.
Pathways	CD68 is involved in pathways connected to inflammation and phagocytosis. The CD68 protein works closely with other scavenger receptors like CD36 to mediate uptake of oxidized low-density lipoproteins (oxLDL) in the lipid metabolism pathway. Additionally CD68 engagement can influence the toll-like receptor (TLR) signaling pathways thereby linking innate immunity and inflammatory responses critical for host defense and disease progression.
Associated diseases and disorders	CD68 is associated with atherosclerosis and multiple sclerosis. In atherosclerosis its role becomes evident as it accumulates in macrophages within the plaques making it a marker of disease severity. In multiple sclerosis CD68 expression in macrophages and microglia indicates active demyelination and inflammation. It also relates to proteins such as CD36 in atherosclerosis where both mediate the uptake of modified LDL contributing to foam cell formation in plaques.

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

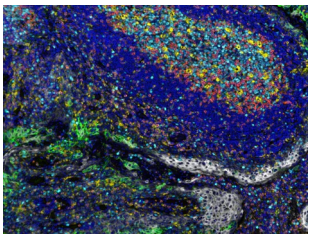
We do not recommend this combination. It is not covered by our product promise.

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.

6 product images



Multiplex immunohistochemistry - Anti-CD68 antibody [SP251] (ab192847)

CD68 Multiplex immunohistochemistry staining of human tonsil tissue using rabbit Anti-CD68 antibody

Fluorescence multiplex immunohistochemical analysis of normal human tonsil tissue (formalin-fixed paraffin-embedded section).
Merged staining of anti-PD1 (ab237728; orange; Opal™520) anti-PDL1 (ab237726; green; Opal™540) anti-CD68 (ab192847; yellow; Opal™570) anti-CD3 epsilon (ab16669; red; Opal™620) anti-Ki67 (ab16667; light blue; Opal™650) and anti-PanCK (ab7753; grey; Opal™690).

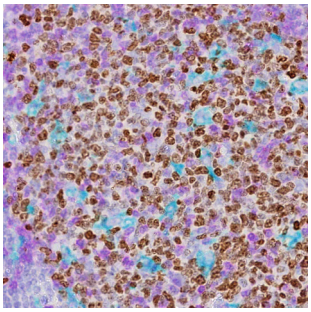
The immunostaining was performed on a Leica Biosystems BOND® RX instrument with an Opal™ 7-color automation IHC kit (NEL821001KT Akoya Biosciences®).

The section was incubated in six rounds of staining; in the order of ab237728 (1/500 dilution), ab237726 (1/500 dilution), ab192847 (1/300 dilution), ab16669 (1/300 dilution), ab16667 (1/200 dilution) and ab7753 (1/200 dilution); each using a separate fluorescent tyramide signal amplification system.

Sodium citrate antigen retrieval (Leica ER1 pH6.0 30 minutes) was used in between rounds of tyramide signal amplification to remove the antibody from the previous round to avoid any cross-reactivity.

DAPI (dark blue) was used as a nuclear counter stain.

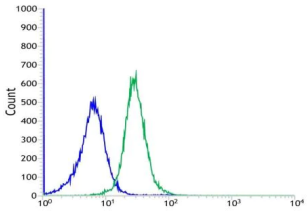
Microscopy and pseudocoloring of individual Opal™ dyes was performed using a Vectra Polaris.



Multiplex immunohistochemistry - Anti-CD68 antibody [SP251] (ab192847)

CD68 Multiplex immunohistochemistry staining of human tonsil tissue using rabbit Anti-CD68 antibody

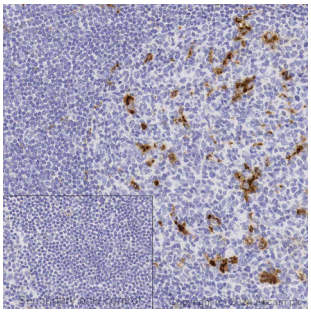
Chromogenic multiplex immunohistochemical staining of FFPE normal human tonsil tissue. ab16667 anti-Ki67 DAB chromogen. ab16669 anti-CD3 epsilon purple chromogen and ab192847 anti-CD68 teal chromogen plus haematoxylin II counterstain. Chromogenic immunostaining was performed on a Roche Ventana Benchmark Ultra instrument. The section was deparaffinised and incubated with CC1 solution for 24min 100°C. Following this with 3 rounds of staining in the order of ab16667 (1/500 dilution), ab192847 (1/4000 dilution) and ab16669 (1/1000 dilution). Between rounds of staining antibody denaturation was conducted using Ultra CC2 solution for 8min at 100oC to avoid cross reactivity. Signal was developed with anti-rabbit HQ followed by anti-HQ HRP coupled with Chromomap DAB kit Discovery purple or Discovery teal chromogens and haematoxylin II counterstain.



Flow Cytometry - Anti-CD68 antibody [SP251] (ab192847)

CD68 Flow Cytometry staining using rabbit Anti-CD68 antibody

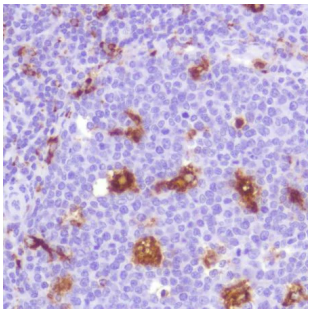
Flow cytometric analysis of Raji (human Burkitt's lymphoma cell line) cells labeling CD68 with ab192847 at 1/100 dilution (green) compared with a negative control rabbit IgG (blue).



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CD68 antibody [SP251] (ab192847)

CD68 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-CD68 antibody

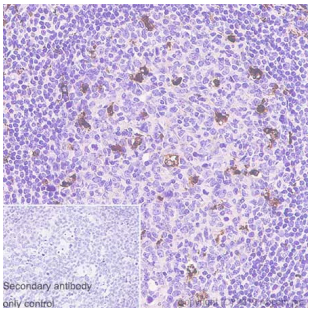
Immunohistochemical analysis of formalin fixed paraffin (FFPE) embedded tonsil labelling CD68 with ab192847 at a dilution of 1/600. The immunostaining was performed on a Ventana DISCOVERY ULTRA (Roche Tissue Diagnostics) instrument with an ChromoMap DAB (RUO) IHC Detection Kit with anti rabbit HQ and anti HQ HRP. Heat mediated antigen retrieval was conducted for 24 min with DISCOVERY cell conditioning solution (CC1) 100°C, pH 8.5. ab192847 was incubated at 37°C for 16 min. Sections were counterstained is with Hematoxylin II. Image inset shows absence of staining in secondary antibody only control.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CD68 antibody [SP251] (ab192847)

CD68 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-CD68 antibody

Formalin-fixed paraffin-embedded human tonsil tissue stained for CD68 using ab192847 at 1/100 dilution in immunohistochemical analysis.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CD68 antibody [SP251] (ab192847)

CD68 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-CD68 antibody

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of human tonsil tissue sections labeling CD68 with ab192847 at 1/100 dilution (0.184 µg/ml) (incubated for 10 minutes at room temperature). Heat mediated antigen retrieval was performed with sodium citrate buffer (pH 6.0 epitope retrieval solution 1) for 20 minutes. Goat Anti-Rabbit & Mouse IgG (HRP) was used as the secondary antibody. Hematoxylin was used as a counterstain. Negative control: PBS instead of the primary antibody.
Positive staining on the macrophages in human tonsil performed on a Leica Biosystems BOND® RX instrument.

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