

PRODUCT INFORMATION

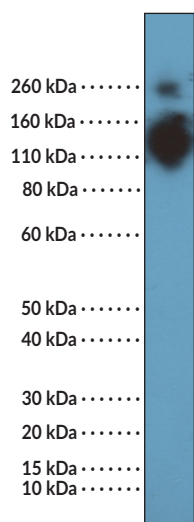
CD68 Rabbit Monoclonal Antibody (Clone RM496)

Item No. 42848

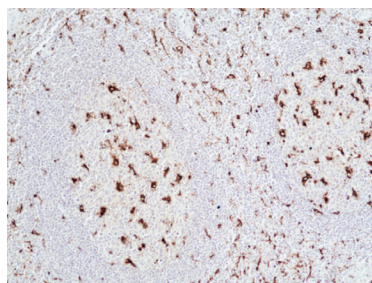
Overview and Properties

Contents:	This vial contains 100 µl of protein A-affinity purified monoclonal antibody.
Synonyms:	LAMP-4, Lysosome-associated Membrane Protein 4, Macrosialin; Gp110
Immunogen:	Recombinant human CD68
Cross Reactivity:	(+) CD68
Species Reactivity:	(+) Human
Form:	Liquid
Storage:	-20°C (as supplied)
Stability:	≥1 year
Storage Buffer:	PBS with 50% glycerol, 1% BSA, and 0.09% sodium azide
Clone:	RM496
Isotype:	IgG
Applications:	immunohistochemistry (IHC) and Western blot (WB); the recommended starting dilution is 1:100-1:500 for IHC and 1:500-1:1,000 for WB. Other applications were not tested, therefore optimal working concentration/dilution should be determined empirically.

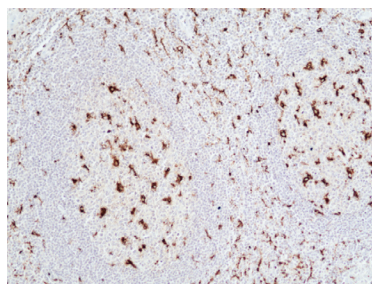
Images



WB of human spleen tissue lysates using CD68 Rabbit Monoclonal Antibody (Clone RM496) at a dilution of 1:500.



Immunohistochemical staining of formalin-fixed and paraffin-embedded human tonsil tissue sections using CD68 Rabbit Monoclonal Antibody (Clone RM496) at a dilution of 1:500.



Immunohistochemical staining of formalin-fixed and paraffin-embedded human brain tissue sections using CD68 Rabbit Monoclonal Antibody (Clone RM496) at a dilution of 1:500.

WARNING
THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA
This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the [complete](#) Safety Data Sheet, which has been sent via email to your institution.

WARRANTY AND LIMITATION OF REMEDY
Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

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Description

CD68, also known as macrophage mannose receptor (LAMP).¹ It is composed of an N-terminal cleavable signal peptide, a mucin-like domain, which is heavily glycosylated, a proline hinge region, a LAMP-like domain, a transmembrane domain, and a C-terminal cytoplasmic tail.² CD68 localizes to endosomal and lysosomal membranes but can also be localized in the plasma membrane.³ It is expressed primarily in mononuclear phagocytes, such as macrophages, microglia, osteoclasts, and myeloid dendritic cells, but can also be expressed to a lesser extent in CD19⁺ B cells and CD4⁺ T cells.² CD68 overexpression in tumor cells is associated with immune evasion through the prevention of immune cell contact. It has been used as a non-specific cell surface marker for macrophages and tumor-associated macrophages (TAMs).^{1,2,4} CD68⁺ macrophages levels are increased in mouse brain in a model of Gaucher's disease, a condition characterized by a lack of the glycolipid-metabolizing enzyme glucosylceramidase.³ High tumor levels of CD68 are correlated with poor prognosis in patients with glioblastoma multiforme (GBM) and thymoma.⁵ Cayman's CD68 Rabbit Monoclonal Antibody (Clone RM496) can be used for immunohistochemistry (IHC) and Western blot (WB) applications.

References

1. Alessandrini, F., Pezzè, L., and Ciribilli, Y. LAMPs: Shedding light on cancer biology. *Semin. Oncol.* **44**(4), 239-253 (2017).
2. Chistiakov, D.A., Killingsworth, M.C., Myasoedova, V.A., *et al.* CD68/macrophage: Not just a histochemical marker. *Lab. Invest.* **97**(1), 4-13 (2017).
3. Marshall, J., Sun, Y., Bangari, D.S., *et al.* CNS-accessible inhibitor of glucosylceramide synthase for substrate reduction therapy of neuronopathic Gaucher disease. *Mol. Ther.* **24**(6), 1019-1029 (2016).
4. Zhao, X., Gao, M., He, J., *et al.* Perilipin 1 deficiency in whole body or bone marrow-derived cells attenuates lesions in atherosclerosis-prone mice. *PLoS One* **10**(4), e0123738 (2015).
5. Zhang, J., Li, S., Liu, F., *et al.* Role of CD68 in tumor immunity and prognosis prediction in pan-cancer. *Sci. Rep.* **12**(1), 7844 (2022).

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