



Peninsula Laboratories, LLC

A Member of the Bachem Group

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Monoclonal Antibody to Rat CD163

Mature Resident Macrophages

Monoclonal antibody ED2 reacts with a membrane antigen (175, 160 and 95kDa) on resident rat macrophages. Monocytes, dendritic cells (spleen and lymph node), peritoneal granulocytes and other cell types are negative. ED2 discriminates between thymic cortical (positive for ED2) and medullary (negative for ED2) macrophages. It is useful to stain synovial lining cells and Kupffer cells in the liver. The antigen has recently been shown to be identical with CD163 (Polfliet, M.M.J. et al [2002], PhD Thesis, Vrije Universiteit, Amsterdam).

Product Number:	T-3011
Clone:	ED2
Host species, isotype:	Mouse IgG1
Quantity:	250µg
Format:	Affinity purified, liquid. Supplied as a 0.25ml solution. This stock solution contains 1mg/ml IgG, phosphate buffered saline pH 7.2 (PBS), no stabilizer and 0.09% sodium azide as a preservative.
Stability: repeated thawing and	Stock solution or aliquots thereof: 1 year at -20°C. Avoid repeated thawing and freezing.
Applications:	Tested for immunohistochemistry (IHC); has been described to work in FACS, immunoprecipitation. Approximate working dilution for IHC: Frozen sections: 2µg/ml (1:500) Paraffin sections: 20µg/ml (1:50 Proteinase K pretreatment for antigen retrieval is recommended Optimal dilutions should be determined by the end user. Suggested positive control: Rat spleen.
Immunogen:	Rat spleen cells.
Antigen, epitope:	The antigen has been described as CD163, epitope not further characterized.
Antigen distribution:	Isolated cells: Monocytes and dendritic cells harvested from spleen and lymph nodes, and granulocytes harvested from the peritoneal cavity are negative with ED 2.
Specificity:	Rat: macrophages. Other species: not tested



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Staining of macrophages by ED1, ED2 and ED3 (Dijkstra et al., 1985, modified):

Monoclonal Antibody	ED1	ED2	ED3
Staining pattern	Granular, patchy cytoplasmic	Diffuse, membrane	Diffuse, membrane
<u>Spleen</u>			
White pulp			
inner PALS	++	-	+ Weakly
outer PALS	++	+	+ Weakly
follicle	+/-	-	-
marg. metallophils	+/- Weakly	-	+++ Branched
marginal zone	+/- Weakly	-	+++ Branched
Red Pulp	+++	+++	+++ Weakly
<u>Lymph node</u>			
Cortex			
outer cortex	+/- Weakly	-	+++ Subsinusoidal
branched			
paracortical area	++	+	-
follicles	+/-	-	-
Medulla	+++	+ 10-20%	+++
Capsule	+	+	-
<u>Peyer's patches</u>			
Interfollicular area	+++	++	+ Small groups 3-4 cells
Dome	+	-	-
Follicle-	-	-	-
Villi	+++ Apex	++ Apex basis	-
<u>Lung</u>			
BALT	++	Periphery of BALT	-
Perivascular/peribronchial	+	+++	-
Alveolar	+++	-	-
<u>Thymus</u>			
Cortex	++	++ Branched	-
Medulla	++	-	-/+ Weakly
Corticomedullary area	+++	+++	-
Capsule	+++ Branched	+++ Branched	++ Branched
<u>Liver</u>			
	+++ Branched	+++ Branched	++ Branched
<u>Bone marrow</u>			
	+++ Monocytes/ macrophages	++ Macrophages	-

+++ = (Almost) all acid phosphatase-positive cells stained with the monoclonal antibody.

++ = A considerable number stained + = Few stained -/+ = Very few stained or none at all

Selected references

- 1) DIJKSTRA, C.D. et al.: The heterogeneity of mononuclear phagocytes in lymphoid organs: distinct macrophage subpopulations in the rat recognised by monoclonal antibodies ED 1, ED 2 and ED 3. *Immunology*: 54, 589 - 599 (1985).
- 2) BEELEN, R.H.J. et al.: Monoclonal Antibodies ED 1, ED 2, and ED 3 Against Rat Macrophages: Expression of Recognized Antigens in Different Stages of Differentiation. *Transplantation Proceedings*: XIX, (3), 3166-3170 (1987).
- 3) WHITELAND, J.L et al.: Immunohistochemical Detection of T-cell subsets and other leucocytes in paraffin-embedded rat and mouse tissues with monoclonal antibodies. *J. Histochem. Cytochem.* 43, 313-320 (1995).

For in vitro research only. Caution: this product contains sodium azide, a poisonous and hazardous substance.