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Monoclonal Antibody to Human CD46

Membrane Cofactor Protein

Monoclonal antibody 13/42 recognizes human CD46 or Membrane Cofactor Protein (MCP). CD46 acts as a cofactor for factor I, a serine protease which is involved in the degradative cleavage of C3b and C4b. Structurally as well as functionally, it is a member of the regulator of complement activation proteins. CD46 is composed of an amino terminus of four short consensus repeating units (SCR), a Serine/Threonine (ST)-rich domain, 13 amino acid residues with unknown function, a transmembrane region, and a cytoplasmic tail. Many isoforms exist. Their heterogeneity stems from varying amounts of O-linked sugars secondary to alternative splicing of mRNA encoding the ST-rich region.

TECHNICAL AND ANALYTICAL CHARACTERISTICS

Product Number:	T-1210 (Lot 04PO1219)
Clone:	13/42
Host species, isotype:	Mouse IgG1
Quantity:	200µg
Format:	Affinity purified, lyophilized. Reconstitute by adding 0.5ml distilled water. This stock solution contains 0.4mg/ml IgG, phosphate buffered saline pH 7.2 (PBS), 10mg/ml bovine serum albumin (BSA) as a stabilizer and 0.1% sodium azide as a preservative.
Stability:	Original vial: 1 year at 4° - 8°C from date of purchase. Stock solution and aliquots thereof: 1 year at -20°C. Avoid freeze-thaw cycles.
Applications:	Tested for immunohistochemistry (IHC); has been described to work in FACS, Western Blots and functional studies. **Approximate working dilution for IHC:** Frozen sections: 1-2µg/ml (1:200 - 1:400) Paraffin sections: 8µg/ml (1:50); pretreatment with Proteinase K for antigen retrieval is recommended Optimal dilutions should be determined by the end user Suggested positive control: Human tonsil Please see **www.bma.ch** for protocols and general information
Immunogen:	Human U-251 cells
Protein database:	human-P15529

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Phone: +41 61 811 6222, Email: info@bma.ch, www.bma.ch

Antigen, epitope: The antigen is CD46, the epitope is localized in the first two short consensus repeats.

Antigen distribution: **Isolated cells:** The antigen is widely expressed on human cells except erythrocytes. It can also be found as a soluble protein in serum and saliva. Many human cell lines express CD46, e.g. U937, HeLa.

Tissue distribution of CD46 (Johnstone et al., modified)

Tissue	Cells	Expression
Salivary gland	Ductal epithelium	++++
	Acinar cells	++++
Pancreas	Exocrine ducts	++++
	Islet of Langerhans	+++
	Acinar cells	++++
Kidney	Glomerular capillaries	+++
	Glomerular epithelial cells	+++
	Proximal &distal tubules	+++
	Collecting ductsl	+++
Liver	Hepatocytes	++ / +++
	Bile duct	++++
	Hepatic artery endothelium	++
	Portal vein endothelium	+
Lung	Bronchi/bronchioli	++
	Alveoli	++
Skin	Distal epithelium	+ / -
	Basal epithelium	+
	Dermal glandular epithelium	
Gastrointestinal tract	Mucosal epithelium	+++
	Submucosal vasc. endothel.	++
	Muscularis myofibres	+
	Adventitia	+ / -
Endocrine glands	Adrenal epithelium	++ / +++
	Thyroid epithelium	++
Spleen	Lymphocytes	+
	Vascular endothelium	++
Brain	Neurons	+ / ++
	Vascular endothelium	++
Muscle	Visceral; cardiac; skeletal	+

Specificity: **Human:** CD46

Other species: positive in African green monkey, other species not tested

Selected references

Schneider-Schaulies J. et al.: Physical association of Moesin and CD 46 as a receptor complex for Measles virus. J Virol 69: 2248-2256 (1995)

Schneider-Schaulies J. et al.: Receptor usage and differential downregulation of CD 46 by measles virus wild-type and vaccine strains. Proc Natl Acad Sci USA 92: 3943-3947 (1995)

Johnstone, R.W. et al. Polymorphic expression of CD46 protein isoforms due to tissue-specific RNA splicing. Molecular Immunol 30: 1231-1241 (1993).

For in vitro research only. This product contains sodium azide as a preservative.

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