

Product datasheet for **BM345**

Complement C4A (C4A) Mouse Monoclonal Antibody [Clone ID: 10-11]

Product data:

Product Type: Primary Antibodies

Clone Name: 10-11

Applications: ELISA, IF, IHC, WB

Recommended Dilution: **ELISA:** 1/5000-1/20000.

Western Blot.

Immunofluorescence: 1/250-1/600.

Immunohistochemistry on Frozen Sections: 1/100-1/750.

Works very well on acetone-fixed, frozen renal biopsies. Strong staining is observed in the glomeruli and in some cases the peritubular capillaries.

Immunohistochemistry on Paraffin Sections.

Clone *10-11* has given variable results on formalin-fixed, paraffin-embedded sections. It has been observed that pre-treatment with 88% formic acid for 20 minutes at room temperature is beneficial (Ref.6).

Reactivity: Human

Host: Mouse

Isotype: IgG1

Clonality: Monoclonal

Immunogen: Native human C4 from plasma



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Specificity:	<p>This antibody recognises the secreted protein complement component 4d (C4d). C4d was accepted in 2003 into the Banff classification for identification of acute AMR (Racusen et al. 2003).</p> <p>Mouse anti Human C4d antibody, clone 10-11 is specific for C4d, a marker that can be used in the detection of acute AMR for kidney, heart, pancreas and lung allografts. C4d is regarded as a key marker of antibody-mediated cell injury and humoral rejection (Sacks and Chowdhury 2002).</p> <p>Complement 1 complex cleaves complement 4 (C4) to form C4b and C4a. C4b levels are strictly regulated. Single site cleavage of the C4b's alpha chain by Factor I forms iC4b and blocks C3 convertase, inhibiting opsonization and activation of the classical pathway. This requires C4 binding protein or CR1 as a cofactor. iC4b is further degraded into C4d and C4c. C4b's short half life means that C4d is present in serum at high enough concentrations to make it a useful marker for classical complement activation (Collins et al. 1999).</p> <p>Mouse anti Human C4d antibody, clone 10-11 is used to detect the biomarker C4d which has been described as a "footprint" of antibody mediated tissue rejection (Sacks and Chowdhury 2002). The internal thioester of C4b becomes exposed during cleavage to C4d and forms a covalent bond with the cell surface. The longer half-life of covalently bound C4d makes it a footprint of complement activation long after weakly bound antibodies have been cleared by the blood stream (Sacks and Chowdhury 2002).</p> <p>C4 has also been linked to susceptibility to systemic lupus erythematosus (Yang et al. 2004) and rheumatoid arthritis (Makinde et al. 1989).</p>
Formulation:	<p>Borate buffered saline State: Purified State: Liquid purified IgG fraction Preservative: 0.09% Sodium Azide</p>
Concentration:	lot specific
Purification:	Affinity Chromatography on Protein A
Conjugation:	Unconjugated
Storage:	<p>Store the antibody undiluted at 2-8°C for one month or (in aliquots) at -20°C for longer. Avoid repeated freezing and thawing.</p>
Stability:	Shelf life: one year from despatch.
Gene Name:	complement component 4A (Rodgers blood group)
Database Link:	<p>Entrez Gene 720 Human POCOL4</p>

Background:

The complement 1 complex cleaves complement 4 (C4) to form C4b and C4a. C4b levels are strictly regulated. Single site cleavage of the C4bs alpha chain by Factor I forms iC4b and blocks C3 convertase, inhibiting opsonisation and activation of the classical pathway. This requires C4 binding protein or CR1 as a cofactor. iC4b is further degraded into C4d and C4c. C4ds short half life means that C4d is present in serum at high enough concentrations to make it a useful marker for classical complement activation. C4 has been linked to susceptibility to systemic lupus erythematosus.

Synonyms:

Complement component 4, CPAMD2, CPAMD3, Acidic complement C4, Basic complement C4

Protein Pathways:

Complement and coagulation cascades, Systemic lupus erythematosus