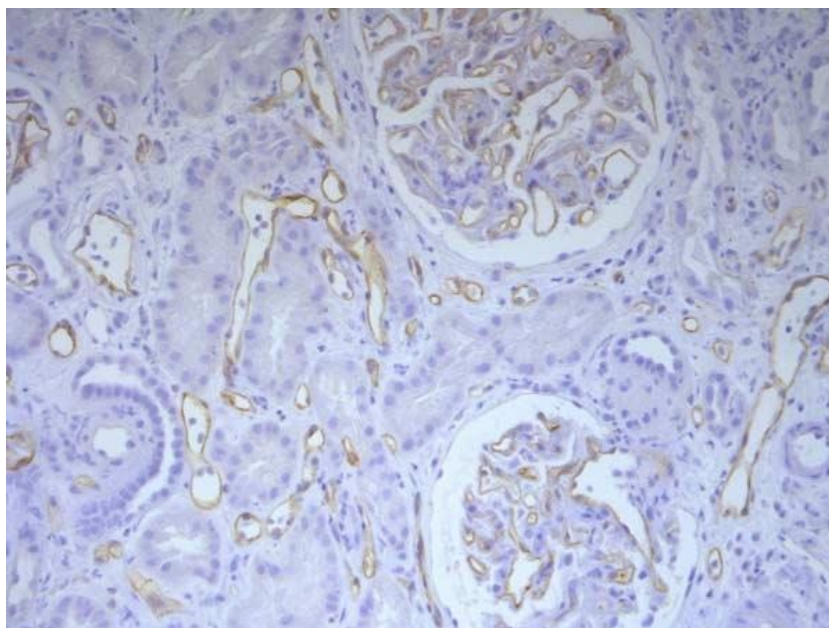


Mouse Anti-Human C4d [Clone 10-11]

Cat # NB-47-00389-100UG size: 100µg



Immunohistochemical analysis of formalin fixed paraffin embedded human renal allograft tissue. Tissue was incubated with mouse anti human C4d following heat mediated antigen retrieval.

Description

Mouse anti Human C4d antibody, clone 10-11 recognizes the secreted protein complement component 4d (C4d). The presence of C4d in renal peritubular capillaries is a key indicator for acute antibody-mediated rejection [AMR] (Collins et al. 1999.).

C4d was accepted in 2003 into the Banff classification for identification of acute AMR (Racusen et al. 2003). 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).

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).

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).

C4 has also been linked to susceptibility to systemic lupus erythematosus (Yang et al. 2004) and rheumatoid arthritis (Makinde et al. 1989).

Product Information

Host:	Mouse
Applications:	ELISA, Immunofluorescence, Immunohistology – Frozen, Immunohistology - Paraffin ¹ , Western Blotting
Reactivity:	Human
Cross-Reactivity:	Does not react with: Mouse, Dog, Bovine, Cat, Rabbit, Rat, Guinea Pig, Sheep
Clonality:	Monoclonal
Clone ID:	10-11
Conjugation:	Unconjugated
Isotype:	IgG1
Formulation:	Borate buffered saline, 0.09% Sodium Azide (NaN ₃)
Purification:	Purified IgG prepared by Fast protein liquid chromatography (FPLC).
Concentration:	1 mg/mL
Dilution Range:	Immunohistology - Frozen 1/100 - 1/750 Immunohistology - Paraffin ¹ ELISA 1/5000 - 1/20000 Western Blotting Immunofluorescence 1/250 - 1/600

¹It has been reported that this antibody works very well on acetone-fixed, frozen renal biopsies. Strong staining is observed in the glomeruli and in some cases the peritubular capillaries.

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 (6).

Storage Instruction: It is recommended to aliquot and store at -20°C on receipt. When thawed, aliquot the sample as needed. Keep aliquots at 2-8°C for short term use (up to 4 weeks) and store the remaining aliquots at -20°C. Avoid repeated freezing and thawing as this may denature the antibody. Storage in frost-free freezers is not recommended.

Target

Protein Name:	Complement Component 4d
Uniprot ID:	POCOL4; POCOL5
Immunogen:	Native, from human plasma

References

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