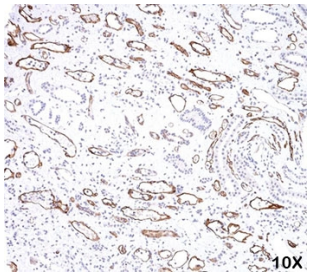
C4d Antibody / Complement 4d [clone C4D204] (V2021)

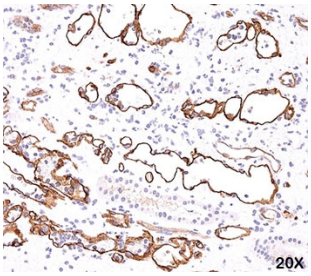
Catalog No.	Formulation	Size
V2021-100UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	100 ug
V2021-20UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	20 ug
V2021SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug
V2021IHC-7ML	Prediluted in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide; *For IHC use only*	7 ml

Bulk quote request

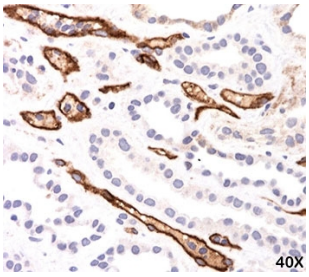
Species Reactivity	Human
Format	Purified
Host	Mouse
Clonality	Monoclonal (mouse origin)
Isotype	Mouse IgG1, kappa
Clone Name	C4D204
Purity	Protein G affinity chromatography
Buffer	1X PBS, pH 7.4
Gene ID	720
Localization	Intracytoplasmic vacuoles of endothelial cells; Secreted
Applications	ELISA : 1-2ug/ml for coating (order BSA/sodium azide-free format) Immunohistochemistry (FFPE) : 1-2ug/ml for 30 min at RT
Limitations	This **C4d antibody** is available for research use only.



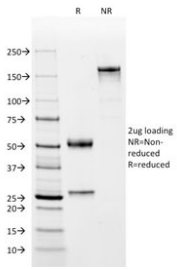
IHC testing of FFPE human kidney transplant tissue (10X) stained with C4d antibody (C4D204).



IHC testing of FFPE human kidney transplant tissue (20X) stained with C4d antibody (C4D204).



IHC testing of FFPE human kidney transplant tissue (40X) stained with Complement 4d / C4d antibody (C4D204).



SDS-PAGE analysis of purified, BSA-free C4d antibody (clone C4D204) as confirmation of integrity and purity.

Description

C4d antibody is a widely used reagent for studying complement activation, immune complex disease, and transplant immunopathology. The encoded protein fragment, complement 4d (C4d), is a stable cleavage product of complement component C4. Generated during classical and lectin pathway activation, C4d covalently attaches to cell surfaces and extracellular structures near sites of complement activity. Because of its stability and deposition pattern, C4d serves as a durable biomarker for complement mediated immune responses.

In transplantation biology, C4d deposition is a key diagnostic marker of antibody mediated rejection. The presence of C4d in peritubular capillaries of renal allografts, for example, strongly indicates complement activation by donor specific antibodies. Pathologists routinely use C4d staining in immunohistochemistry to support rejection diagnoses and guide treatment decisions. This clinical relevance has made C4d one of the most studied complement split products in diagnostic immunology.

Beyond transplantation, C4d has significance in autoimmune and inflammatory diseases. Its deposition has been observed in lupus nephritis, vasculitis, and other conditions driven by immune complex deposition and complement activation. Because C4d remains bound to tissues long after the initiating immune event, it provides a reliable record of complement activity, even when circulating immune complexes are no longer detectable.

At the molecular level, complement component C4 is cleaved by C1s or mannose binding lectin associated serine proteases into C4a and C4b. C4b can covalently attach to nearby surfaces, where it contributes to C3 convertase formation. Further proteolysis of C4b yields C4d, which remains stably attached while losing enzymatic function. This stability underlies its diagnostic utility as a footprint of prior complement activation.

The C4d antibody is commonly used in immunohistochemistry, immunofluorescence, ELISA, and western blotting to detect deposition in tissues and measure complement activity. These applications are central to research in

transplantation, autoimmunity, and innate immune signaling. For scientists studying complement biology or developing therapeutic interventions, the C4d antibody provides a highly specific and reliable detection tool. NSJ Bioreagents offers validated antibodies designed to ensure reproducibility and accuracy in advanced immunological studies.

Application Notes

The concentration stated for each application is a general starting point. Variations in protocols, secondaries and substrates may require the C4d antibody to be titered up or down for optimal performance.

1. Staining of formalin-fixed tissues requires boiling tissue sections in 1mM EDTA, pH 7.5-8.5, for 10-20 min followed by cooling at RT for 20 minutes.
2. The prediluted format is supplied in a dropper bottle and is optimized for use in IHC. After epitope retrieval step (if required), drip mAb solution onto the tissue section and incubate at RT for 30 min.

Immunogen

Recombinant human C4d protein was used as the immunogen for this C4d antibody.

Storage

Store the C4d antibody at 2-8oC.

References (3)