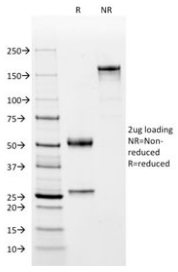
C4d Antibody CF488 Conjugate / Complement 4d [clone C4D204] (V2021CF488)

Catalog No.	Formulation	Size
V2021CF488-100T	500 ul at 0.1 mg/ml with 0.1 mg/ml BSA (US sourced), 0.05% sodium azide	100 Tests

Bulk quote request

Availability	1-3 business days
Species Reactivity	Human
Format	CF488 Conjugate
Host	Mouse
Clonality	Monoclonal (mouse origin)
Isotype	Mouse IgG1, kappa
Clone Name	C4D204
Purity	Protein G affinity chromatography
Localization	Intracytoplasmic vacuoles of endothelial cells; Secreted
Applications	Immunohistochemistry (FFPE) : 1-2ug/ml
Limitations	This C4d antibody is available for research use only.



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

Description

C4d antibody CF488 conjugate is a fluorescently labeled reagent designed for direct detection of complement activation in tissues and cells. The target protein fragment, complement 4d (C4d), is a stable degradation product of complement component C4 generated during activation of the classical and lectin pathways. Once formed, C4d covalently attaches to nearby cell surfaces or extracellular structures, leaving a lasting footprint of complement activity. Because of its persistence and deposition pattern, C4d serves as a highly reliable biomarker in both research and clinical diagnostics.

In transplantation research, C4d is one of the most widely recognized markers of antibody mediated rejection. Deposition of C4d in peritubular capillaries of transplanted kidneys provides strong evidence for donor specific antibody driven complement activation. Immunofluorescence using a conjugated antibody such as this CF488 labeled reagent enables precise visualization of C4d distribution in tissue sections, allowing pathologists and scientists to evaluate graft status and immune mediated injury.

Beyond transplantation, C4d is relevant to autoimmune and inflammatory disorders. It has been observed in lupus nephritis, systemic vasculitis, and other conditions associated with immune complex deposition. Because C4d persists long after the initiating event, its detection serves as a historical marker of complement activity, offering insights even when circulating immune complexes are no longer detectable.

At the molecular level, complement component C4 is cleaved into C4a and C4b. The larger C4b fragment covalently attaches to cellular or extracellular targets, participating in C3 convertase formation. Proteolytic processing of C4b yields C4d, which remains stably bound while losing enzymatic activity. This stability makes C4d an ideal marker for detecting complement activation in tissue based assays.

The C4d antibody CF488 conjugate is especially suited for immunofluorescence microscopy and flow cytometry, where its green fluorescent emission provides sensitive detection without the need for secondary antibodies. Direct conjugation reduces background signal and streamlines staining protocols. This reagent is also applicable in co localization studies with other fluorophore labeled antibodies to map complement activation within complex tissues. For researchers investigating complement biology, transplantation immunology, or autoimmune disease, the C4d antibody CF488 conjugate offers a specific and efficient detection tool. NSJ Bioreagents provides validated conjugated antibodies to ensure reproducibility and accuracy in advanced molecular studies.

Application Notes

Optimal dilution of the C4d antibody should be determined by the researcher.

Immunogen

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

Storage

Store the C4d antibody at 2-8oC, protected from light.