C4d Antibodies

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Setting the standard for clinical research.

C4d ANTIBODIES

Setting the standard for clinical research.
Marker for humoral rejection of kidney transplants

For the identification of human complement split product C4d in paraffin and frozen sections, by flow cytometry, and Luminex® application.

Circulating alloantibodies encounter the grafted endothelium as the first target. Living endothelial cells can rapidly eliminate bound antibodies from the cell surface by "capping", "shedding" or "internalisation". C4d is the degradation product of the activated complement factor C4, a component of the classical complement cascade, which is typically initiated by binding of antibodies to specific target molecules. Detection of C4d is regarded as an indirect sign, a "footprint" of an antibody response against the allograft. The majority of publications describe C4d as an important marker in kidney transplantation but also in heart, liver, and other transplants.

Comparison between Anti C4d, DLS49 (discontinued) and the new Anti C4d, PE.

Serum of a broadly sensitized kidney transplant recipient was incubated with an array of LabScreen® Single Antigen HLA Class I beads (One Lambda, Canoga Park, CA, USA) and C4d deposition on individual HLA antigen-coated microparticles (each HLA-type represented by a green square) was detected after addition of human complement. This figure illustrates a substantial increase in levels of sensitivity (5- to 10-fold increase in MFI values) using the PE-labeled antibody, as compared to the previously released DLS49-conjugate. Final dilution of anti-C4d-PE 1:20.

Assay characteristics

**Anti C4d (BI-RC4D)**
- **Quantity**: 250 μl/vial
- **Form**: liquid IgG fraction, purified by Protein G chromatography
- **Application**: paraffin and frozen sections of human tissue

**Anti C4d, FITC (BI-RC4D-FITC)**
- **Quantity**: 100 μl/vial
- **Form**: liquid IgG fraction, purified by Protein G chromatography
- **Application**: flow cytometry

**Anti C4d, PE (BI-RC4D-PE)**
- **Quantity**: 50 μl/vial
- **Form**: liquid IgG fraction, affinity purified on antigenic peptide
- **Application**: flow cytometry, Luminex®

C4d-fixing capability of low-level donor-specific HLA antibodies is not predictive for early antibody-mediated rejection. Hönger G et al., Transplantation, 2010; 89(12): 1471-1475

Clinical relevance of preformed C4d-fixing and non-C4d-fixing HLA single antigen reactivity in renal allograft recipients. Wahrmann M et al., Transplant Int, 2009; 22(10): 982-989


Pivotal role of complement-fixing HLA alloantibodies in presensitized kidney allograft recipients. Wahrmann M et al., Am J Transplant, 2006; 6(5 Pt 1): 1033-1041


Endothelial C4d deposition is associated with inferior kidney allograft outcome independently of cellular rejection. Regele H et al., Nephrol Dial Transplant, 2001; 16: 2058-2060


Effect of the proteasome inhibitor bortezomib on humoral immunity in two presensitized renal transplant candidates. Wahrmann M et al., Transplantation, 2010; 89(11): 1385-1390.