Setting the **standard** **for** **clinical** research.

C4d ANTIBODIES

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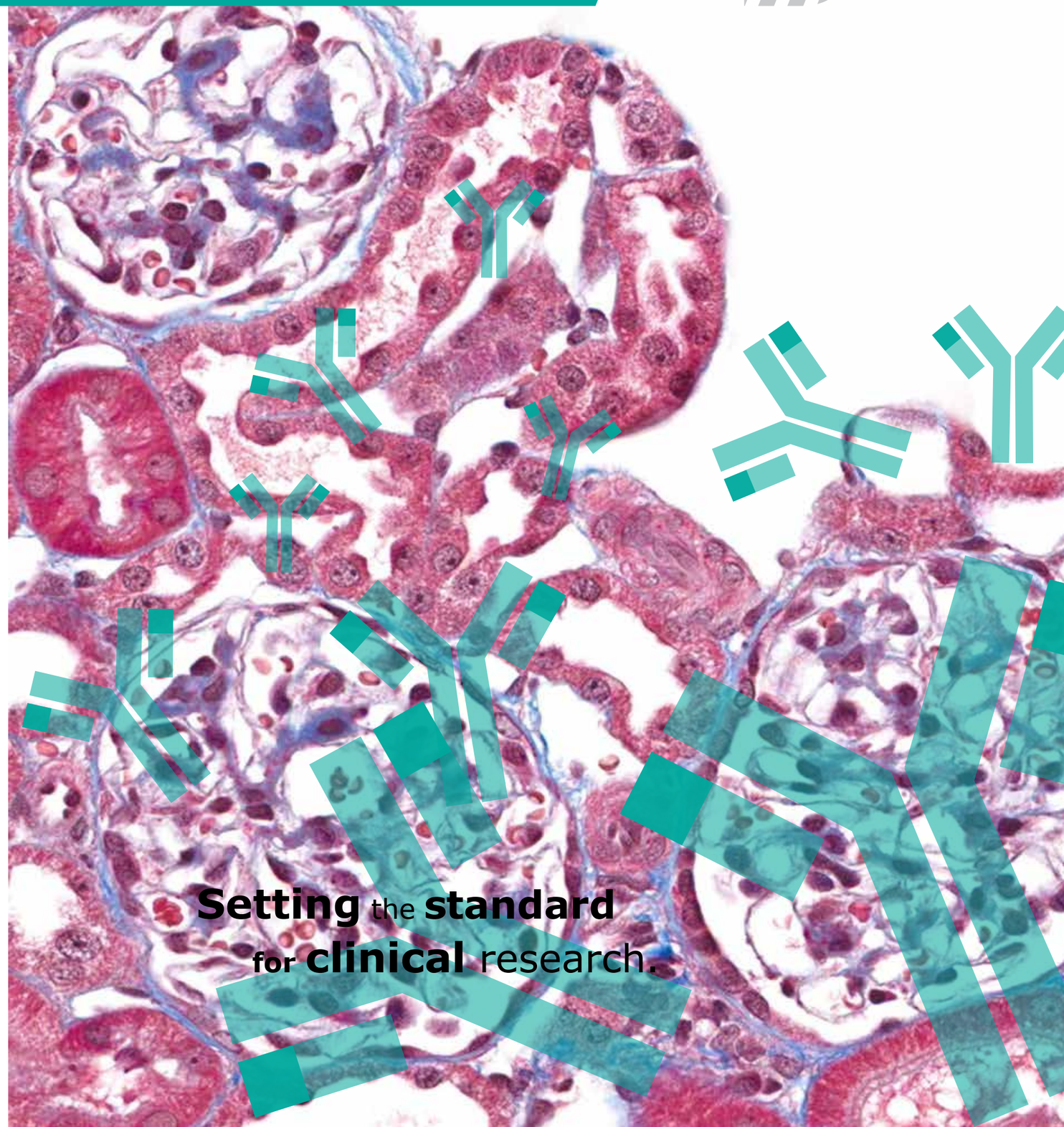

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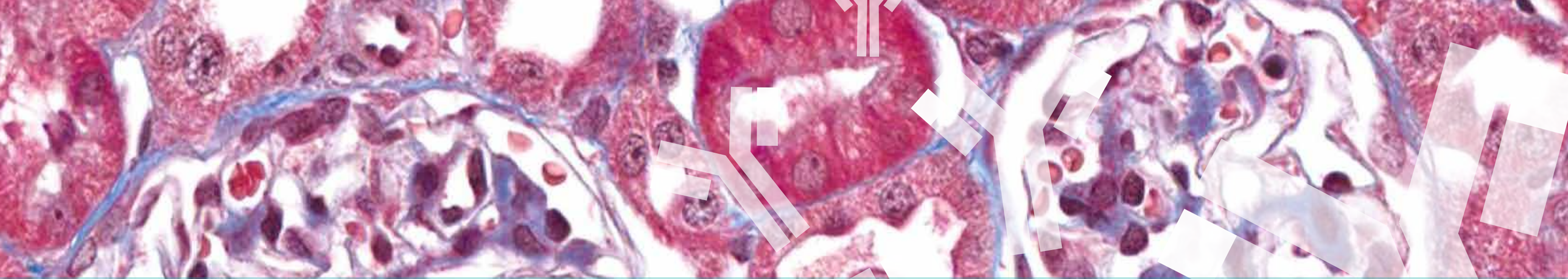


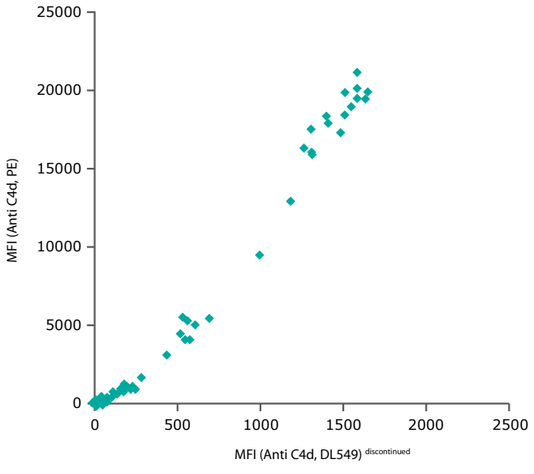
Anti C4d BI-RC4D • Anti C4d, FITC BI-RC4D-FITC • Anti C4d, PE BI-RC4D-PE

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, DL549 (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 (OneLambda, 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 DL549-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®

Literature

Solid phase detection of C4d-fixing HLA antibodies to predict rejection in high immunological risk kidney transplant recipients. *Bartel G et al., Transpl Int, 2013; 26(2): 121-130*

Preformed complement-activating low-level donor-specific antibody predicts early antibody-mediated rejection in renal allografts. *Lawrence C et al., Transplantation, 2013; 95(2): 341-346*

Modified solid-phase alloantibody detection for improved crossmatch prediction. *Wahrmann M et al., Hum Immunol, 2013; 74(1): 32-40*

Prevalence and qualitative properties of circulating anti-human leukocyte antigen alloantibodies after pregnancy: no association with unexplained recurrent miscarriage. *Bartel G et al., Hum Immunol, 2011; 72(2): 187-192*

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.*

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., Transpl Int, 2009; 22(10): 982-989*

In vitro detection of C4d-fixing HLA alloantibodies: associations with capillary C4d deposition in kidney allografts. *Bartel G et al., Am J Transplant, 2008; 8(1): 41-49*

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*

[C4d]FlowPRA screening – a specific assay for selective detection of complement-activating anti-HLA alloantibodies. *Wahrmann M et al., Hum Immunol 2005; 66(5): 526-534*

Capillary deposition of complement split product C4d in renal allografts is associated with basement membrane injury in peritubular and glomerular capillaries: a contribution of humoral immunity to chronic allograft rejection. *Regele H. et al., J. Am. Soc. Nephrol, 2002; 13: 2371-2380*

Capillary C4d deposition in kidney allografts: a specific marker of alloantibody-dependent graft injury. *Böhmig G et al., J Am Soc Nephrol, 2002; 13 (4): 1091-1099*

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*

C4d-201305