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**Role of non-HLA antibodies in organ transplantation.**

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**Source**

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**Abstract**

**PURPOSE OF REVIEW:**

Humoral responses beyond major histocompatibility antigens receive an increased attention of the transplantation community. We aimed to summarize the data on discovery of new antigenic targets, novel experimental findings, recent diagnostic developments, and introduction of new technologies in the field of non-HLA antigens in solid organ transplantation.

**RECENT FINDINGS:**

Non-HLA antibodies can be currently reliably detected by solid-phase assays (MICA, angiotensin type 1 receptor, collagen-V, vimentin), immunofluorescence (antibodies against antigens expressed on umbilical vein endothelial cells), or flow-crossmatch techniques (antibodies against donor endothelial progenitors). Influence of test positivity on transplant outcomes is variable and differs among non-HLA targets. Use of omics approach helped to identify a unique set of antigens in adult and pediatric patients with severe rejections and transplant glomerulopathy.

**SUMMARY:**

Paradigms for effective monitoring of non-HLA humoral responses need to be established in order to utilize advances provided by the rapid diagnostic developments. A systematic longitudinal assessment of pretransplant sensitization together with monitoring of posttransplant changes would represent an important step forward.