

Genesis and Control of Alloimmunity

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A major hurdle to engraftment of kidneys between different individuals stems from the alloimmune response. Alloimmunity gives rise to cellular and humoral rejection and in this way presents a powerful barrier that generally requires life-long treatment with immunosuppression to preserve the function of an organ transplant. The alloimmune response, as powerful as it may be, does not always cause destruction of organ grafts.

This characteristic of alloimmunity is surprising since it can arise through and be manifest through direct or indirect recognition of donor cells by T cells of the recipient.

In contrast, alloimmunity against tissue transplants in which indirect recognition predominates appears always to destroy those transplants. This raises the possibility that organ transplants may have the ability to suppress alloimmunity or to resist the impact of alloimmunity.