Special Issue

New Immunological Therapeutic Strategies in Kidney Disease

Message from the Guest Editor

A new FDA-approved immunotherapy stabilizes kidney function in patients with IgA nephritis by suppressing intestinal immune system overactivity. In addition, targeting the IL-23/IL-17 pathway has shown promise in treating immune-mediated kidney diseases. Blocking IL-23 signaling in renal tubular epithelial cells can create an immune regulatory microenvironment in the kidney, effectively treating renal autoimmune disease. Also, chimeric antigen receptor (CAR) T-cell therapy is being adapted for kidney diseases. This approach can target autoreactive immune cells or restore immune tolerance. Furthermore, mesenchymal stem cells are being investigated for their potential to modulate chronic kidney disease progression through immunomodulatory, anti-fibrotic, anti-inflammatory, antioxidant, anti-apoptotic, and angiogenic properties. These emerging strategies represent a shift towards more targeted and personalized approaches for treating immune-mediated kidney diseases, potentially offering improved outcomes for patients with various renal conditions.

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