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Research Center for Allergy and Immunology
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Progress in Sepsis Therapy Development Based on Immunity Response

- Critical Therapeutic Role of Regulatory Dendritic Cells for Treatment of Sepsis -

Sepsis is one representative type of acute systemic inflammatory response syndrome (SIRS) that is triggered by bacterial infections, and is a major cause of morbidity and mortality in neonatal and medical intensive care units. In addition, sepsis is induced particularly by disorders in connection with pyelitis, pneumonia, acute leukemia, cirrhosis of the liver, or adenocarcinoma under systemic immunity deterioration. Despite continuing progress in the development of antibiotics and other supportive care therapies, there is a lack of effective means of prevention of or therapy for sepsis.
Laboratory for Dendritic Cell Immunobiology in Research Center for Allergy and Immunology (RCAI) elucidated that dendritic cells (DCs) acted as potential regulators of the host inflammatory response, and showed that treatment of mice with the regulatory enhanced DCs protected against the lethality induced by experimental endotoxemia and bacterial peritonitis, even when treatment was started after the onset of the disease.
The results suggest that the use of the regulatory enhanced DCs might have preventive and therapeutic potential for the treatment of sepsis as well as other microbe-mediated systemic and local inflammatory disorders.
The research details are reported in the reference: *Blood*, 107 (9), 3656-3664, 1 May 2006.

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