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Optimization of cell culturing condition and cell quality control is essential for engineered T-cell therapy

Teppei Kitagawa, Tomofumi Nakazaki and Yuichi Sakata
Beckman Coulter, Japan

Immune therapy for cancer has started in 1900's. However the immune system and understanding of their mechanisms were not elucidated so that the therapy could not provide sufficient effect. Recent studies regarding cell biology and immune biology enabled us to design engineered immune cells using gene editing techniques. Chimeric Antigen Receptor T-cell therapy (CAR-T), one of cell therapies, is the therapy specific for cancer. T-cells derived from patient are engineered to express a synthetic receptor against specific cancer cells. The engineered T-cells are infused back into the patient's blood stream. These engineered T-cells recognize cancer cells of the patient and trigger immune response. To operate CAR-T cell therapy, high qualified CAR-T cells are required for effective cancer treatment.

Biography

Teppei Kitagawa has expertise in cell biology, cancer biology and antibody engineering. He acquired the knowledge and technique in research institute of academia and company.

tkitagawa02@beckman.com

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