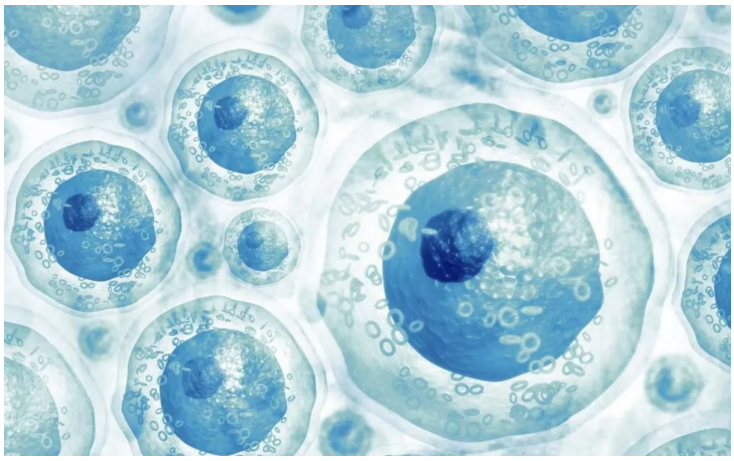
BioSpectrum
the business of Bio & Health Sciences
ASIA EDITION

Korea's Clonell launches Ultimate Regenerative Medicine Platform

06 January 2026 | News

World's first therapy platform simultaneously solving immune rejection and inheritance of cellular ageing



South Korea-based Clonell Therapeutics, Inc. has announced the official launch of the world's first 'Patient-Specific Embryonic Stem Cell (Somatic Cell Nuclear Transfer-derived Embryonic Stem Cell (SCNT-ESC) therapy platform based on Somatic Cell Nuclear Transfer (SCNT) technology. Concurrently, the company has initiated its innovative 'Patient-Initiated Clinical Trial™' to apply this breakthrough technology directly to patients.

This platform launch is evaluated as presenting the true 'Gold Standard' in regenerative medicine by perfectly resolving the inherent challenges—such as immune rejection, incomplete reprogramming, and the inheritance of aging—that have been cited as limitations of existing stem cell therapies.

Clonell's SCNT technology establishes a patient-specific embryonic stem cell line by transferring the nucleus of a patient's somatic cell into a healthy enucleated oocyte. This process ensures a 100% DNA match with the patient, thereby eliminating immune rejection.

Through the powerful reprogramming capability of the oocyte's cytoplasm, the patient's cells are epigenetically reset completely, reborn as pluripotent stem cells with a 'biological age of zero' where even aged mitochondria, ribosomes, and other organelles are replaced with healthy ones.

In contrast, induced pluripotent stem cells (iPSCs) possess inherent limitations such as the 'persistence of epigenetic memory' and the 'inheritance of aged organelles'. For example, iPSCs derived from skin cells may retain memories of being skin cells, exhibiting resistance when differentiating into other cell types (e.g., neurons, cardiomyocytes) or a tendency to revert to their original lineage, which becomes a significant obstacle in stably and efficiently obtaining therapeutic cells. Furthermore, considering mitochondria, one of the intracellular organelles and the cell's energy factory, iPSCs inherit the patient's aged mitochondria as they are. Consequently, they exhibit low energy (ATP) production efficiency and high generation of harmful Reactive Oxygen Species (ROS), leading to significantly reduced functionality as a therapeutic agent when differentiated into neurons or cardiomyocytes that require immense energy.