

Not all stem cells are equally efficient for use in regenerative medicine

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Scientists at the University of Granada and Alcalá de Henares University have found out that not all isolated stem cells are equally valid in regenerative medicine and tissue engineering. In a paper recently published in the prestigious journal *Tissue Engineering* the researchers report that, contrary to what was thought, only a specific group of cord blood stem cells (CB-SC) maintained in culture are useful for therapeutic purposes.

At present, CB-SCs are key to regenerative medicine and tissue engineering. From all types of CB-SC those called "Wharton's jelly stem cells (HWJSC)" are stirring up the interest of specialists in regenerative medicine, due to their accessibility and great ability to develop into several types of tissue and modulate immune responses.

Through a combination of microscopy and microanalysis essays, and the study of the genes involved in [cell viability](#), the researchers discovered that only a specific group of [cord blood stem cells](#) (CB-SC) maintained in culture is useful for therapeutic purposes

The Most Suitable Cells

The relevance of this paper, which was the cover article in the journal *Tissue Engineering*, lies in the possibility to select the most suitable HWJSC for [tissue engineering](#) and regenerative medicine. According to these researchers, the different studies with HWJSC have obtained

contradictory results because researchers failed to previously select the most suitable cell group.

The results of this study also open the possibility to select stem cell subgroups from different tissues, in order to improve the therapeutical efficacy of different regenerative medicine protocols.

More information: Tissue Eng Part C Methods . 2012 Jun;18(6):408-19. Evaluation of the Cell Viability of Human Wharton's Jelly Stem Cells for Use in Cell Therapy.

Provided by University of Granada

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