

# Mother Cells

## Advances in Regenerative Medicine

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### Abstract

Advances in regenerative medicine have been evident in the last years and this has been obtained due to the new knowledge related to stem cells, which use in the replacement therapy has given rise to a new age in medicine. To such effects, a literature review was carried out aimed at spreading its generalities and implementations, as well as everything related to the basic investigations carried out in this field and the main achievements obtained. The possibility of expansion and differentiation of such cells, allow obtaining enough quantity of them, which helps the development of cell therapy.

**Keywords:** Stem cells; Regenerative medicine; Cell therapy

### Introduction

On the other hand, new connections are established between the stem cells and cancer cells, which make the study of these a good way to approach the knowledge and treatment of patients with cancer. Therefore, in the area of research in biomedicine, these cells are increasingly used as a source of cell therapy in people suffering from Parkinson's and Alzheimer's diseases, as well as diabetes mellitus and heart disease, among others. Stem cells have a series of properties that distinguish them from the rest of cells and give them the optimum characteristics for their use in regenerative medicine, among which are: the high rate of proliferation and clonal regeneration through symmetrical divisions (self-renewal) and its high degree of potentiality to differentiate into different cell types through asymmetric divisions (differentiation). Therefore, stem cells are classified as totipotent, pluripotent or multipotent, because they are capable of generating one or more differentiated cell types, and possess the capacity for self-renewal.

In higher animals, these are classified into 2 groups: embryonic stem cells and organ-specific stem cells (adult As it is well stated, cell therapy or regenerative medicine, as new scientific discipline, supports its applicability in stem cells, which not only they have the ability to self-renew, but also to give origin to others, through of a differentiation process, which has allowed to regenerate damaged tissues and stimulate angiogenesis. Basic and clinical research conducted in recent years on cells mother and her therapeutic

possibilities have constituted "a revolution in medicine regenerative". Adult stem cells have marked a new stage of possibilities for the regenerative medicine. These are present in most tissues and

can be mobilized with the application of colony stimulating factors granulocytes, for subsequent collection by proven methods. Its advantages are sustained and the evidence that demonstrates its plasticity, so many recognize them as pluripotent. Obtaining them autologo frees the procedure of its negative bioethical implications, meanwhile, enables the opening of new therapeutic approaches [1-5].

### Conclusion

The possibility of expansion and differentiation of said cells allows obtaining a Enough of these, which helps the development of cell therapy.

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