

## News

# Regenerative medicine

## Evidence for remarkable healing power of adult (somatic) stem cells

There is a little doubt that regenerative medicine primarily based on stem cell-derived therapies would revolutionize health care and prevent thousands, perhaps, millions of human deaths. However, human society is sharply fragmented by the real and imaginary boundaries of social, ethical, political and religious views on how to reach the promise land of future benefits of regenerative medicine. This sharp division to a large degree is arising from the concept that desired therapeutic gains would not be possible to achieve without exploiting unique healing potentials of embryonic stem cells. The paper published in this issue of *Cell Cycle* reports experimental findings which seem to challenge this broadly held view.<sup>1</sup> Robert Hoffman and colleagues describe the proof of principle experiments in mice demonstrating a remarkable healing power of a cell line which was derived from pluripotent adult (somatic) stem cells and maintained in culture for the extended period of time. The paper represents a logical continuation of the multi-year effort of this team and would be recognized as a breakthrough if these unique and truly fascinating findings will be independently replicated and their relevance will be validated for human conditions. I would like to express one general note of caution that should be exercised when considerations are given for therapeutic applications of stem cells. Growing body of evidence supports the concept that stem cells are the seeds of the most clinically deadly form of therapy-resistant human cancers arising in different organs and rapidly spreading across the human body.<sup>2-5</sup> Therefore, potential therapeutic benefits of stem cells should be carefully measured and weighted against the possible side effects for every patient and each disease indication. Our decision making process in disease management should continue to be firmly adhered to the conservative principles of the evidence-based medicine. However, there are circumstances, one example of which is illustrated by this paper,<sup>1</sup> when medical and humanitarian necessities would override these concerns. Even the prospect of developing deadly cancer in the future should not stop us from helping human beings who are deprived of the ability to walk, move, or speak.

### References

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