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Mary Ann Liebert,

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## Toward cell therapy using placenta-derived cells: disease mechanisms, cell biology, preclinical studies, and regulatory aspects at the round table.

[Parolini O](#), [Alviano F](#), [Bergwerf J](#), [Boraschi D](#), [De Bari C](#), [De Waele P](#), [Dominici M](#), [Evangelista M](#), [Falk W](#), [Hennerbichler S](#), [Hess DC](#), [Lanzoni G](#), [Liu B](#), [Marongiu E](#), [McGuckin C](#), [Mohr S](#), [Nolli ML](#), [Ofir R](#), [Ponsaerts P](#), [Romagnoli L](#), [Solomon A](#), [Soncini M](#), [Strom S](#), [Surbek D](#), [Venkatachalam S](#), [Wolbank S](#), [Zeisberger S](#), [Zeitlin A](#), [Zisch A](#), [Borlongan CV](#).

### Author information



### Abstract

Among the many cell types that may prove useful to regenerative medicine, mounting evidence suggests that human term placenta-derived cells will join the list of significant contributors. In making new cell therapy-based strategies a clinical reality, it is fundamental that no a priori claims are made regarding which cell source is preferable for a particular therapeutic application. Rather, ongoing comparisons of the potentiality and characteristics of cells from different sources should be made to promote constant improvement in cell therapies, and such comparisons will likely show that individually tailored cells can address disease-specific clinical needs. The principle underlying such an approach is resistance to the notion that comprehensive characterization of any cell type has been achieved, neither in terms of phenotype nor risks-to-benefits ratio. Tailoring cell therapy approaches to specific conditions also requires an understanding of basic disease mechanisms and close collaboration between translational researchers and clinicians, to identify current needs and shortcomings in existing treatments. To this end, the international workshop entitled "Placenta-derived stem cells for treatment of inflammatory diseases: moving toward clinical application" was held in Brescia, Italy, in March 2009, and aimed to harness an understanding of basic inflammatory mechanisms inherent in human diseases with updated findings regarding biological and therapeutic properties of human placenta-derived cells, with particular emphasis on their potential for treating inflammatory diseases. Finally, steps required to allow their future clinical application according to regulatory aspects including good manufacturing practice (GMP) were also considered. In September 2009, the International Placenta Stem Cell Society (IPLASS) was founded to help strengthen the research network in this field.

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