Patenting Stem Cell and Human Tissue Research: An Enigmatic Ethical and Legal Rights in regenerative science

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ABSTRACT

Stem cell research is an emerging field of interdisciplinary research with clinical implications focused on repair, replacement or regeneration of cells to salvage impaired organ function. Stem cells may be of human and non human origin, of which one quarter relates to the embryonic stem cells. Patent for products of stem cells and processes of human tissue research have created a great deal of controversy and concern regarding ethical and legal rights in the regenerative science. Stem cells are biological materials present in all human beings and animals. Stem cells have two characteristics that distinguish them from other cell types: they are able to differentiate into specialized cell types and they are able to renew themselves. The patenting of inventions involving stem cell technologies is akin to those of human biological material, such as gene sequence, wherein through involvement of the human ingenuity the biological resource matter can be isolated, extracted and purified from its natural form of existence, thereby making a technical contribution to the invention. The stem cell technology however has far reaching consequence which requires careful legal and ethical threading so that societal concern for the embryo, interest of the stakeholders, such as provider of cell, tissue, researcher and the beneficiaries could balance the proprietary interest of the Intellectual property right in the stem cell.

Stem cell research is an emerging field of interdisciplinary research with clinical implications focused on repair, replacement or regeneration of cells to salvage impaired organ function. The recent developments in reprogramming somatic cells into embryonic-like stem cells by expressing a defined set of transcription factors, generating embryonic stem cells from left-over pre-implantation embryos or using somatic cell nuclear transfer generates a potentially limitless source of immune-compatible cells for tissue engineering and transplantation medicine. This technique could ultimately aid in drug development and even therapies for injury or disease. Stem cell therapies have medical and dental applications, as they provide gene to personalized and customized medicines and act as biomarkers for various diseases. They are effective in tissue repair, spinal cord injury, heart damage, Parkinson's disease and autoimmune diseases[1]

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