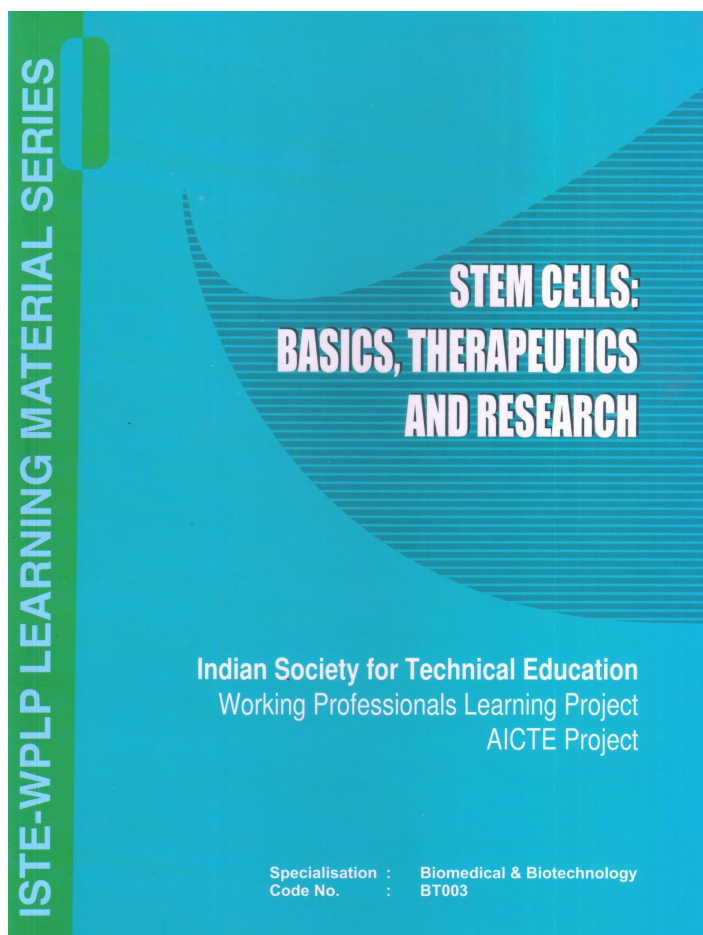




Stem Cells: Basics, Therapeutics and Research

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Product Description

The objective of this book is to provide basic knowledge on types of stem cells, its isolation, and its application in both research and clinical fields, and also to know ethical aspects involved in stem cell culture and application. **Stem cells:** Stem Cells are Master cells. There are three kinds of stem Cells: Totipotent (literally al powerful), a newly fertilized egg, Pluripotent (Pluri-Many), an embryo with 50-100 cells, beings to differentiate, Multipotent (Range of Cell Types), obtained from fetal and mature human. This book covers sources, properties of different types of stem cells. **A Clone:** There are two types of Cloning, derived from nuclear transfer technology. Therapeutic Clone- Production of replacement of cells and tissues genetically compatible with patient. Reproductive clone-this will will produce genetically identical offspring to one of his or her parents (Dolly the sheep). **Embryonic Stem Cells:** These are isolated from inner cell mass (ICM) of the Blastocyst. It proliferates extensively "in-vitro", maintains a normal diploid karyotype over extended culture and differentiates with derivatives of all the three germ layers -ectoderm and mesoderm. Express high levels of Oct 4, a transcription factor specific to ICMs of Blastocyst, show high level of telomerase activity.

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Dr. Peter did his Ph.D. in Human Cytogenetics from University of Bombay in the year 1978, at present known as National Institute for Research in Reproductive Health (NIRRH), Indian Council of Medical Research (ICMR), Mumbai. His initial training was in Human Cytogenetics, at present, he has more than 40 years of experience in the field of cell culture techniques, with a vast knowledge in tissue culture-growing lymphocytes, amniotic cell cultures, organ culture techniques. He is well experienced in making tissue culture media and handling long term fibroblast cultures, which made it possible for him to publish several papers in International journals in Human Genetics on congenital malformation and infertility. He has also presented papers at both National and International Conferences. He has conducted several training programs in Human cytogenetics and guide many students for MSc and PhD degree. He has taught for more than ten years in both Bombay and Bangalore University.

