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Video Presntation

Isolation of adult skin stem cell and clinical acquirement of the human skin substitutes for challenges

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Skin is the primary interface between us and our environment and it serves several distinct functions such as protection, sensation, thermoregulation, communication and self-repairing after injury. The microscopic anatomy of skin reflects this functional complexity. The epidermis has become a model system to study regeneration as it is comprised of at least three major stem cell populations: the basal layer of inter follicular epithelium, the hair follicle bulge and the sebaceous gland. These subpopulations are responsible for regulating epithelial stratification, hair folliculogenesis, and wound repair throughout life. The potential of adult skin stem cells has tremendous power to differentiate and plays important role in healing of wound. Functional stem cell units have been described throughout all layers of human skin. Using differentiated skin cells, different scaffolds were prepared in artificial laboratory conditions. Using co-cultures skin cells on acellular dermal matrix, it would be possible to create a functional skin tissue construct which can implant in the human body. It would eliminate the need of donor skin. To evaluate promising therapy for burn patients and large number of non-healing cutaneous wounds, isolation of skin stem cells and differentiate them to generate human skin constructs would provide a valuable platform for 3D skin constrcts.

Biography

Mamata Mishra has completed her PHD from National Brain Research Centre, INDIA. She has 5 years of post-Doctoral research at Temple University, Philadelphia, PA, USA and IISC., JNCASR, Bangalore, INDIA. She worked as the head of Stem Cell Laboratory, Navi Mumbai, India for 4 years and currently as Senior Research Scientist, at JAI RESEARCH FOUNDATION, Gujarat, India. She has 26 international publications that have been cited over 692 times, and her publication h-index is 19. She has international award from International Society of Neurovirology (ISNV) San Diego, USA as Young-investigator and she has 'Best Paper published" award from Indian Academy of Neuroscience, India. She has been serving as an editorial board member of several peer reviewed reputed journals.

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