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CD34+/CD45- stem cells from diverse lineages and their applicability for cell therapy

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From the perspective of cell therapy and understanding the basic biology of adult stem cells residing in tissues of the different germline origin, we have isolated and characterized $CD34^+/CD45^-$ stem cells from various organs, other than bone marrow. These studies were aimed at establishing a proof of concept for the translational applicability of such cells in pre-clinical animal model system. Till now, in clinical scenario, bone marrow has been the exclusive source for $CD34^+/CD45^-$ for all the therapeutic applications. The advantage of using other cell types for obtaining $CD34^+/CD45^-$ is avoiding the invasive bone marrow collection procedure. The presence of $CD34^+/CD45^-$ cells in liver (endoderm), skin (ectoderm) and muscle (mesoderm) were established using immunofluorescence staining. The $CD34^+/CD45^-$ were isolated from liver, muscle and skin using FACS sorting. Also, $CD34^+/CD45^-$ cells from muscle had proven to ameliorate muscular dystrophy in mouse model of muscular dystrophy.

Biography

Bipasha Bose holds a PhD degree in Cancer Biology from Advanced Centre for Treatment, Research and Education in Cancer, Tata Memorial Centre, Navi Mumbai, India since 2004. She has about 12 years of Post-PhD Research Experience working in Stem Cell Biology, in academia and industry in India, Belgium and Singapore. She holds key skills in the field of clinical, as well as, R&D grade stem cells. She has several international publications and two patents to her credit. Her present focus is basic biology of adult $CD34^+/45^-$ stem cells and also various aspects of ocular stem cells and cancer stem cells.

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