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Large scale good quality mesenchymal stem cell production: Indonesian experience

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Mesenchymal stem cells (MSCs) are widely used in clinical trials for various conditions. We have developed easy methods for the isolation of MSCs from bone marrow, adipose tissue, umbilical cord and developed an in-house platelet lysate processing method for xeno free propagation of MSCs from the three sources. Further, we developed cryopreservation methods and cGMP compliant system for the procurement of MSCs for various clinical trials, including for treatment of large bone defect, non union fracture, spinal cord injury, near blind glaucoma, osteoarthritis of the knee and third degree burn. Our large scale good quality MSC production protocol is called Universitas Indonesia-Cipto Mangunkusumo (UI-CM) method. The aim of this presentation is to summarize the main findings in large scale good quality production of MSCs from the three sources in terms of the yield, their surface marker characteristics, differentiation

capacities, problems in obtaining good quality, unmatched between cell readiness and demand in clinical trials and finally tips and tricks to overcome the problems.

Biography

Jeanne Adiwinata Pawitan pursued her graduation as Medical Doctor from the Faculty of Medicine at Universitas Indonesia (FMUI) and Master's Degree in Medical Biology and started working in the Department of Histology at FMUI. She also pursued her PhD from Osaka University, Osaka, Japan and continued working in the Department of Histology, FMUI and was appointed as Professor in 2005. Currently, she is working at Stem Cell Medical Technology Integrated Service Unit, RSCM-FMUI as GLP Lab Coordinator and at Stem Cell and Tissue Engineering Research Center, Indonesia Medical Education and Research Institute (IMERI), FMUI as Lab Manager.

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