Department of Biotechnology
Ministry of Science and Technology
Government of India
DBT

National Institute of
Advanced Industrial Science
and Technology
AIST

DBT - AIST International Laboratory for Advanced Biomedicine

DAILAB

Classroom for Advanced & Frontier Education

CAFE

DAILAB-CAFE

Series - 30

Date/Time - July 31, 2018 / 3 p.m. ~ (JST)
Venue – AIST Tsukuba, Central 5-41; 2F (Conference Room No. 1)

Speaker - Dr. Akshay ANAND
Affiliation - Neuroscience Research Lab, Department of Neurology,
Post Graduate Institute of Medical Education and Research (PGIMER), Chandigarh, India
E-mail: akshay2anand@gmail.com

Title: Ciliary epithelium-derived stem cell transplantation rescues laser-induced retinal injury in mouse model of age related macular degeneration (AMD)

Lasers have been used for various experiments in retina of fish, rodents and primates. With our expertise in laser photocoagulation, we established a modified animal model, such that the Bruch's membrane and the surrounding retinal pigment epithelium is damaged (sparing CNV). We compared the hUCB derived lineage negative stem cells and Ciliary epithelium stem cells (hCE) isolated from the human fetal eyes for their regenerative capacity using this model of laser injury. About 50,000 cells from each source were transplanted into the subretinal space of the laser injured mouse retina. The mice transplanted with hUCB derived lin^{-ve} stem cells showed better neurotropic responses at shorter time points i.e. 1 week, but the effects were abolished at longer time point of 3 months. The animals transplanted with CE derived neurospheres exhibited better cell survival and functional recovery, consistently at both time points. Our data suggests that the hCE derived cells have a superior homing and therapeutic potential than those of other reported popular sources.

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Speaker: Akshay ANAND

Topic: *Ciliary epithelium-derived stem cell transplantation rescues laser-induced retinal injury in mouse model of Age-related Macular Degeneration (AMD)*

Date: 31st July, 2018
(15:00-16:00 h JST)

Host: DAILAB@AIST
Tsukuba, Japan

Thanks for participation!

National Institute of Advanced Industrial Science & Technology, Japan

Brawijaya Univ., Indonesia

IIT-Delhi, India

University of Sri Jayewardenepura Sri Lanka

Hanyang Univ., Korea

Manipal University, India

Darjeeling Govt. College, India