Infectious Diseases Labs

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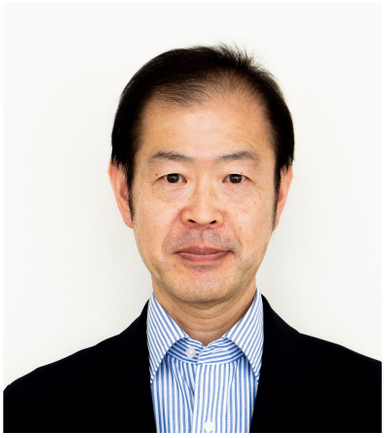

Dr Hiroshi Suemizu

Central Institute for Experimental Medicine and Life Sciences (CIEM)
Kawasaki, Japan

Tuesday 18th February 2025
4:00 PM to 5:00 PM (SGT)

Venue: Codon A & B, Matrix Level 5

HepaSH cells: Experimental human hepatocytes with lesser inter-individual variation are a new research tool for highly reproducible in vitro experiments

Primary human hepatocytes (PHHs) were showing large inter-individual variation arising primarily from genetic polymorphisms, as well as from donor health conditions and processing conditions. To equalize the effects of the latter factors, PHHs were transplanted to quality-controlled mice providing human hepatocyte proliferation niches. Cells were harvested from engrafted livers, and we call this as experimental human hepatocytes (EHH; termed HepaSH cells). Expression levels of acute phase reactant (APR) genes as indicators of a systemic reaction to the environmental/inflammatory insults of liver donors varied widely among PHHs. In contrast, the APR expression in HepaSH cells was found to converge within a narrower range than in donor PHHs. Further, large individual differences in the expression levels of drug metabolism-related genes (28 genes) observed in PHHs were greatly reduced among HepaSH cells. We developed a preservation method that preserves the characteristics of HepaSH cells for 72 hours in a non-cryopreserved state. This makes it possible to ship non-cryopreserved HepaSH cells worldwide as "Ready to Plate" human hepatocytes with reliable plateablity. HepaSH cells which can be used in a variety of study fields, such as toxicology, hepatitis, and lipid metabolism, may potentially substitute for PHH as average hepatocytes in drug discovery research.

Dr Hiroshi Suemizu is the Chair of the Research Division at the Central Institute for Experimental Medicine and Life Science (CIEM). He is an accomplished cellular and molecular biologist and laboratory animal scientist; he enjoys the contribution to human health and welfare of new research tools that he has developed using his skills to facilitate medical and drug discovery research. He graduated from the Faculty of Industrial Health, Kitasato University School of Health Sciences, Sagamihara, Japan, in 1986 and received his Ph.D. degree in Health Sciences from Kitasato University in 1995.

Hosted by: Prof Laurent Renia

Seminar is open to all. No registration required.

Questions? Contact us at **seminars@idlabs.a-star.edu.sg**

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