NUS National University of Singapore | iHealthtech Institute for Health Innovation & Technology

"Innovating Health" Webinar Series

Professor Samir Mitragotri

Hiller Professor of Bioengineering and
Hansjorg Wyss Professor of Biologically Inspired Engineering
Harvard University

12 JAN, TUE, 9 – 10:15 AM (Singapore)
11 JAN, MON, 8 – 9:15 PM (Boston)

Cellular Hitchhiking for Cancer Chemo and Immunotherapy

Nanoparticle-based drug delivery systems are widely studied to improve the biological outcome of chemo and immunotherapy. However, poor vascular circulation, limited targeting and the inability to negotiate many biological barriers impede their clinical translation. Biology has provided many examples of successful “carriers” in the form of circulatory cells, which routinely overcome the hurdles faced by synthetic nanoparticle systems. For this reason, our laboratory has engineered blood-cell inspired drug delivery systems that take advantage of the abilities of red blood cells and macrophages as circulatory cells. We explored the “cellular hitchhiking” mechanism by combining synthetic particles with circulatory cells to alter the synthetic particles' in vivo abilities drastically. This talk will provide an overview of the principles and two examples of hitchhiking-based cancer immunotherapy.

Speaker Biography:
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Register here
https://bit.ly/3hBENKp

Contact ask.iht@nus.edu.sg for more information.