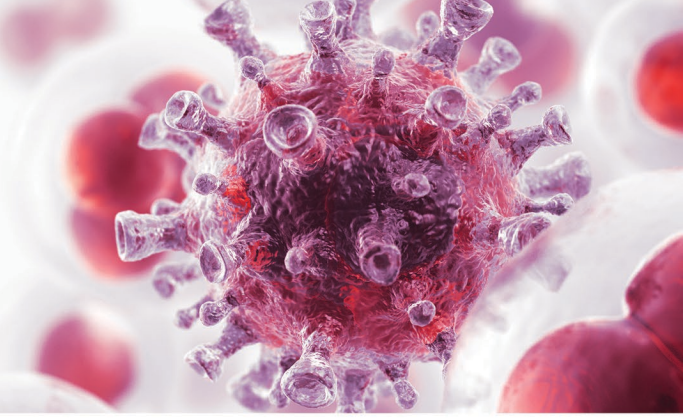
Griffith UNIVERSITY
Institute for Glycomics
Queensland, Australia



2021 Lecture Series

Professor Kevin Morris

School of PAM – Medical Science, School of Pharmacy and Medical Sciences,
Griffith University

will present a seminar entitled

Exosome delivery of HIV targeted therapeutics

Friday 25 June 2021, 11am

Institute for Glycomics
Lecture Theatre (G26 4.09)

(No food or drink allowed in the lecture theatre)

Abstract

Human Immunodeficiency Virus (HIV) produces a persistent latent infection. Control of HIV using combination antiretroviral therapy (cART) comes at the cost of life-shortening side effects and development of drug-resistant HIV. An ideal and safer therapy should be deliverable *in vivo* and target the stable epigenetic repression of the virus, inducing a stable "block and lock" of virus expression. Towards this goal, we developed an HIV promoter-targeting Zinc Finger Protein (ZFP-362) fused to active domains of DNA methyltransferase 3A to induce long-term stable epigenetic repression of HIV. Cells were engineered to produce exosomes packaged with RNAs encoding this HIV repressor protein. We find here that the repressor loaded anti-HIV exosomes suppressed virus expression and that this suppression was mechanistically driven by DNA methylation of HIV in humanized NSG mouse models. The observations presented here pave the way for an exosome-mediated systemic delivery platform of therapeutic cargo to epigenetically repress HIV infection.

For further information, contact

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