



Centre for
Heart Lung Innovation
UBC and St. Paul's Hospital

Centre for Heart Lung Innovation Research in Progress (R.I.P.)



Development of oncolytic coxsackievirus B3 for lung cancer therapy

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Monday Oct 5th 2020
9:00 a.m. – 10:00 a.m.

Zoom Video Conference
(Meeting ID: 624 5651 8412; Passcode: 702628)

"We previously discovered that coxsackievirus B3 (CVB3) is a potent oncolytic virus against KRAS mutant lung adenocarcinoma. Nevertheless, the evident toxicity restricts the use of wild-type CVB3 for cancer therapy. In order to decrease its toxicity, I generated a microRNA-modified CVB3 (miR-CVB3) via inserting multiple copies of tumor-suppressive miR-145/miR-143 target sequences into the viral genome. In vitro experiments revealed that miR-CVB3 retained the ability to kill KRAS-mutant lung adenocarcinoma and TP53/RB1-mutant small cell lung cancer (SCLC) cells, but with a markedly reduced cytotoxicity toward cardiomyocytes. In vivo study using a TP53/RB1-mutant SCLC xenograft mouse model demonstrated that miR-CVB3 via systemic administration resulted in a significant tumor regression along with negligible cardiotoxicity. Collectively, we generated a recombinant CVB3 with therapeutic potential for KRAS mutant lung adenocarcinoma and TP53/RB1-mutant SCLC. Research is ongoing to address the issue of genome instability of miR-CVB3, which was observed in ~40% of mice after a prolonged treatment"

This event is a Self-Approved Group Learning Activity as defined by the Maintenance Certification Program of the Royal College of Physicians and Surgeons of Canada



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