



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

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



Single-cell RNA sequencing of peripheral blood mononuclear cells in interstitial lung disease

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Monday, Jan 9th, 2023
9:00 – 10:00 a.m.

James Hogg Conference Centre RM 103
Zoom Video Conference
(Meeting ID: 693 1997 7044; Passcode: 030679)

“Interstitial lung diseases (ILDs) are a group of over 200 diseases causing inflammation and scarring in the lungs. Molecular biomarkers have not been implemented in the challenging diagnostic process of ILD subtype identification due to heterogeneity and non-specificity of ‘bulk’ molecular samples. Hence, the objective of this project was to identify single-cell blood biomarkers of ILD. We collected blood samples from 12 newly diagnosed, treatment-naïve ILD patients (hypersensitivity pneumonitis [HP] n=4, idiopathic pulmonary fibrosis [IPF] n=7) enrolled in a prospective cohort and isolated peripheral blood mononuclear cells (PBMCs) for scRNA-seq profiling. We found that HP patients had higher numbers of monocyte and natural killer cell subsets compared to IPF patients. In NK cells, IPF patients had decreased expression of MYOM2 (myomesin-2), which may function in cytotoxicity. In IPF monocytes, we identified increased expression of TMEM176B, which is highly expressed in fibrotic lung fibroblasts. To date, this is the first scRNA-seq investigation of the ILD blood transcriptome.”

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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