MOLECULAR MEDICINE PROGRAM, SICKKIDS
&
BHT SYMPOSIUM VIRTUAL SEMINAR

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STRUCTURE-FUNCTION STUDIES OF THE GENE-SILENCING POLYCOMB REPRESSIVE COMPLEX 2

The chromatin modifier PRC2 (polycomb repressive complex 2) is critical for lineage commitment during embryonic development and for maintaining cell type identity post-differentiation. PRC2 has a core of four proteins (EZH2, EED, SUZ12 and RBAP46/48) and catalyzes the mono-, di- and tri-methylation of histone H3 at lysine 27 that ultimately leads to chromatin compaction and gene silencing. Cofactors that associate with the PRC2-core give rise to PRC2 variants with distinct biological functions. Such cofactors have been proposed to have roles in the recruitment of the complex to chromatin via interactions with long non-coding RNAs (lncRNAs), GC-rich DNA, and the histone mark H2AK119ub1, as well as in the allosteric regulation of its enzymatic activity. We are using cryo-EM to structurally characterize how PRC2 containing cofactor JARID2 and AEBP2 engages with nucleosomes containing H2AK119ub1 and other histone modifications, and analyzed how the interplay of modifications and cofactors affects PRC2 function.

HOSTS: DRS. JEAN-PHILIPPE JULIEN & JEFF LEE

FRIDAY NOVEMBER 6, 2020
1:00-2:00 PM
Please register at BHT website https://bht.research.sickkids.ca/
Zoom link will be sent after registration

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