

Testing the effects of Corin on chromatin accessibility in Ewing sarcoma



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Does the small molecule inhibitor, Corin, affect aberrant chromatin accessibility in Ewing sarcoma cells?

- Our group has found that Histone deacetylase inhibitors (HDACi) reverse the Ewing sarcoma-specific chromatin accessibility pattern by suppressing transcription of the EWS-FLI1 protein, which in turn stops cancer cell proliferation.
- Other groups reported that Lysine specific histone demethylase 1 inhibition (LSD1i) reverses Ewing sarcoma-specific transcription programs
- Small molecule inhibitor, Corin, is a dual inhibitor with both HDACi and LSD1i warheads. We hypothesized that treatment of Ewing sarcoma cells with Corin might be more effective than with either HDACi or LSD1i alone.
- To assess chromatin accessibility in Ewing sarcoma cells treated with inhibitors, we used the Assay for Transposase Accessible Chromatin (ATAC)

What were our results ?

- So far, our preliminary results showed that we have made high quality ATAC libraries from Ewing sarcoma cells treated with LSD1 inhibitors. We are working on ATAC libraries from HDACi and Corin treated Ewing sarcoma cells.
- In future, we will use high throughput sequencing of our ATAC libraries to compare the accessible chromatin profile from Ewing sarcoma cells treated with Corin compared to HDACi and LSD1i alone.