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Exploring New Protein Targets for Therapeutic Use

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Proteins often physically interact with other proteins to exert their function. However, when misregulated, the protein-protein interactions (PPIs) can lead to disease progression including cancer, neurodegenerative and infectious diseases. Development of inhibitors to modulate the disease associated PPIs has become an indispensable part of drug discovery programs. Commonly used strategies to develop novel PPI inhibitors include mimicking the structure of one of the protein partners, screening with a library of small molecules or fragments.

My research focuses on exploring novel protein targets by developing PPI inhibitors, identifying the inhibitors' mechanism of action, and establishing assays to determine the inhibitor binding to the target protein. Currently, we are working on two nuclear proteins (i.e., HoxA9 and Pbx) that are overactive in a wide range of cancer patients and required for tumor development, invasion, and resistance to chemotherapy. To exert their function, HoxA9 and Pbx interact with each other while binding to DNA. Therefore, molecules that would block the HoxA9/Pbx interaction might have therapeutic potential in cancer therapy. Starting from crystal structure information of HoxA9/Pbx/DNA complex, we aim to develop PPI inhibitors of the HoxA9 and Pbx.

Students, meet the speaker after the seminar in a student/postdoc session from 1:00-1:30 pm

Date: Fri, Oct. 29, 2021
Time: 12:00-1:00 pm
Location: Virtual Seminar (Zoom)

https://wvu.zoom.us/j/97086787604?pwd=enZaREpXM3hVMnhQVTduT1YzSDd2dz09