

Poster Presentation

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Structural Characterization of PLZF-Corepressor Complexes

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Promyelocytic Leukemia Zinc Finger (PLZF) encodes a transcription factor containing an N-terminal BTB domain as well as 9 C-terminal C2H2 Zinc Finger repeats. PLZF represses genes necessary for the differentiation of haematopoietic progenitors as well as spermatogonia and therefore plays a crucial role in stem cell renewal. It accomplishes this by recruiting large, multi-protein repressor complexes to its target genes. In order to understand the structural behavior of PLZF within the context of these complexes, we are employing a multi-disciplinary approach to identify proteins involved in direct interactions with PLZF, including the use of a loss of function mutation within the BTB domain. Our data identifies known corepressors Sin3A, SMRT, HOXA5 and other members of the HDAC complex family as potential direct interacting partners. Progress towards solving the crystal structure of the PLZF BTB domain bound to its corepressors will be presented.

Keywords: PLZF, Transcription Factor, Protein-Protein interaction