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Centromere protein W (CENP-W) interacts and co-localizes with PRC2 component, EZH2 in the nucleus

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CENP-W (Centromere protein W) is newly identified centromeric component that was originally discovered as an unknown gene commonly overexpressed in various human cancer tissues. As an inner kinetochore component, CENP-W plays a key role during mitosis, especially in the formation of proper kinetochore complex. Furthermore, depletion of CENP-W induces abnormal microtubule formation and aberrant cell division during mitosis. Polycomb repressive complex-2 (PRC2) plays central roles in epigenetic gene silencing such as chromatin compaction and remodeling. The PcG Enhancer of zeste homolog 2 (EZH2), the catalytic subunit of PRC2, is frequently overexpressed in many human tumors. In this study, we identified that CENP-W interacts with EZH2 and the double immunofluorescent staining showed that CENP-W is co-localized with EZH2 in the nucleus. We also identified the EZH2 domains essential for CENP-W binding by performing co-immunoprecipitation with various EZH2 deletion mutant constructs. Collectively, we suggest a centromeric component CENP-W may be involved in the regulation of EZH2 activity and epigenetic gene silencing.

Biography

Saeyi Lim is currently a Master's student in the Department of Microbiology and Molecular Biology at Chungnam National University, South Korea.

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