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Structural mechanisms of histone variant H2A.Z recognition by histone chaperones



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The dynamic structure of chromatin controls the accessibility of DNA in processes of replication, transcription, recombination, and DNA damage repair. While histone serves as one of the fundamental components of chromatin, histone variants introduce a large variety of diversity to nucleosome composition and chromatin structure. Our study focused on the key histone chaperones which assist the selection, incorporation and eviction of histone variant H2A.Z, one of the most studied histone variants in recent years. In these studies, we elucidated the structural mechanisms by which H2A.Z is recognized by a number of H2A.Z-specific histone chaperones (YL1, Anp32e, Chz1) and revealed the critical roles of these histone chaperones in controlling the chromatin dynamics.