

P015 Functional interaction between Citron-k and Anillin in cytokinesis

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Abscission is the final stage of the cytokinetic process, during which the intracellular connection between the postmitotic cells is severed. Recent studies have identified a number of proteins essential for abscission, but it is poorly understood how they interact with each other to accomplish this process.

Citron-k and Anillin play important roles in cytokinesis in several systems. The phenotype of *Drosophila* S2 cells depleted of Citron-k (Dck) and Anillin are extraordinarily similar, suggesting that Dck and Anillin are in the same pathway for the completion of cytokinesis.

We have investigated the functional interaction between Citron-k and Anillin in mammals. We have demonstrated that Citron-k and Anillin colocalize during cytokinesis in HeLa cells; moreover, Citron-k and Anillin coimmunoprecipitate when overexpressed, indicating that these two proteins can be part of the same molecular complex.

We have found that the overexpression of Citron-k affects Anillin localization and that the knockdown of each protein affects the localization at the midbody of the other. Finally, studies in knock out mice suggest that Citron-k could regulate Anillin protein levels. We propose that Citron-k and Anillin are closely interacting partners during cytokinesis and that this interaction is required for the final events of cell division