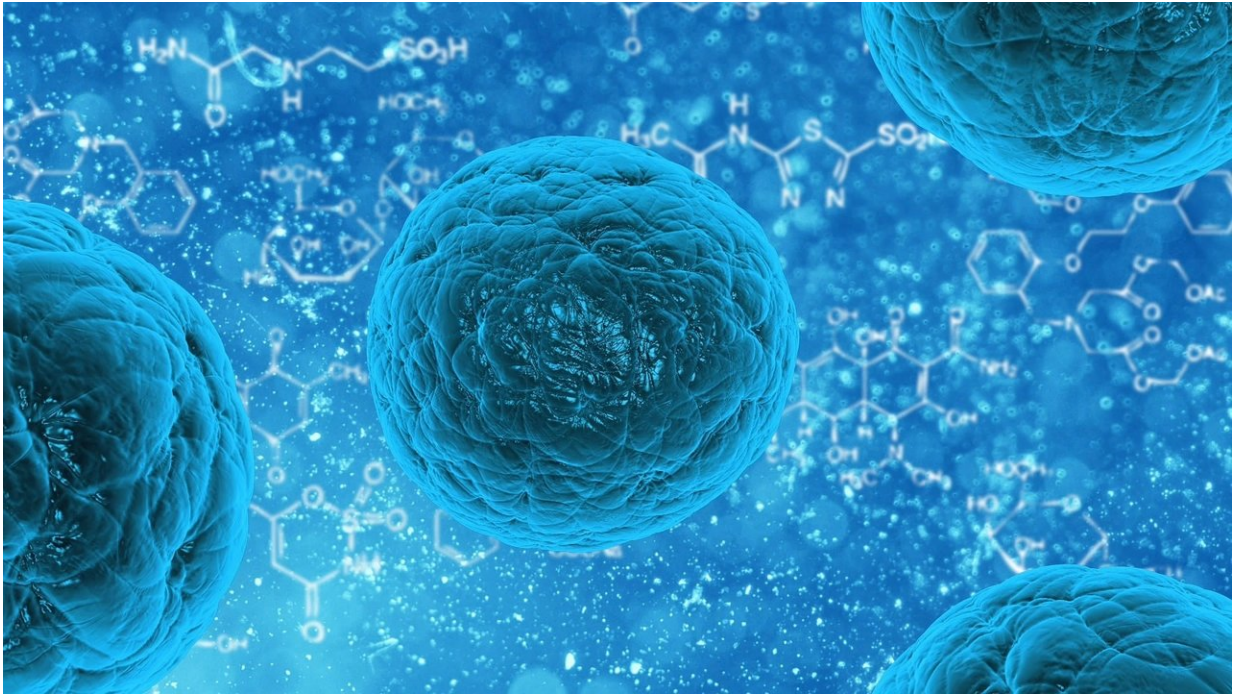


# Understanding cell division

November 25 2019, by Cayetana Arnaiz Yépez

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Cytokinesis is the final step of the process of cell division, by which the two new cells are physically separated. This process relies on a structure called the cytokinetic ring, which needs to be linked to the plasma membrane throughout cell division.

One important linker protein is Cdc15, a membrane-binding protein that recruits other essential components to stabilize the ring.

Using yeast, MariaSanta Mangione, Ph.D., Kathleen Gould, Ph.D., and colleagues identified a region within Cdc15 that is essential for cell viability, proper [cytokinesis](#) dynamics, and cytokinetic ring integrity.

This intrinsically disordered region (IDR) is unique, as defects within it cannot be rescued with an IDR from another protein. The researchers also found that Cdc15's IDR is required for recruitment of the phosphatase calcineurin, an enzyme that is involved in cell cycle regulation.

These findings, published in the journal *Molecular Biology of the Cell*, indicate that the IDR of Cdc15 has a non-redundant and essential regulatory function during cytokinesis.

**More information:** MariaSanta C. Mangione et al. The intrinsically disordered region of the cytokinetic F-BAR protein Cdc15 performs a unique essential function in maintenance of cytokinetic ring integrity, *Molecular Biology of the Cell* (2019). [DOI: 10.1091/mbc.E19-06-0314](https://doi.org/10.1091/mbc.E19-06-0314)

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