

Cell division: **Plant-like properties of animal cell cytokinesis** Bruce Bowerman and Aaron F. Severson

Recent evidence that a syntaxin is required for cytokinesis in *Caenorhabditis elegans* embryos suggests that the mechanism of cell division in plant and animal cells may be more similar than previously imagined.

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Past studies of cytokinesis in plants and animals have suggested that two key processes, contractile ring function and membrane addition at the cell surface, contribute to the partitioning of daughter cells at the end of mitosis [1]. Genetic and molecular studies of cytokinesis in vertebrate, insect, yeast and slime mold systems have provided ample *in vivo* evidence that the actin cytoskeleton and a contractile ring are critical for cell division [2]. Genetic studies in plants have demonstrated a requirement for membrane addition, though not cortical contraction [3]. Now, a study of cytokinesis in the nematode *Caenorhabditis elegans*, published recently in *Current Biology* [4], has shown that a syntaxin — a type of protein known in other contexts to play a part in specific membrane fusion — is necessary for cell division. This new

