

Cell division is one of the most studied topics in the field of cellular and molecular biology. In some cases, cells can exploit diverse mechanisms to alter the basic function of their division machineries to divide asymmetrically. This results in two daughter cells that differ from each other in some manner, which is an essential premise for the development and adult homeostasis of complex multicellular organisms. This work is focused on the division of *Caenorhabditis elegans* zygote, a classic example of asymmetric division. Using this model system, this work highlights the cellular mechanisms used to generate polarity, with emphasis on the purely mechanical aspects present. In recent years, great progress has been made in describing these fundamental pathways, which are at their core highly conserved from nematodes to humans. Deeper knowledge of processes, that are responsible for a successful cell division in general, can be beneficial for a better understanding of organismal development in health and disease.