

Myosin and the PAR proteins polarize microfilament-dependent forces that shape and position mitotic spindles in *Caenorhabditis elegans*

Aaron F. Severson and Bruce Bowerman

Department of Biology, University of California, San Diego, La Jolla, California 92037

Caenorhabditis elegans, a multicellular organism, has a mitotic spindle that is positioned at one end of the cell. This position is determined by the PAR proteins, which are localized to one end of the cell. The PAR proteins are thought to polarize microfilament-dependent forces that shape and position mitotic spindles. In this study, we have investigated the role of myosin in this process. We have found that myosin is required for the proper positioning of the mitotic spindle. Specifically, we have found that myosin is required for the localization of the PAR proteins to one end of the cell. This suggests that myosin and the PAR proteins work together to polarize microfilament-dependent forces that shape and position mitotic spindles in *C. elegans*.

The mitotic spindle is a complex of microtubules that is responsible for the segregation of chromosomes during cell division. In many organisms, the mitotic spindle is positioned at one end of the cell. This position is determined by the PAR proteins, which are localized to one end of the cell. The PAR proteins are thought to polarize microfilament-dependent forces that shape and position mitotic spindles. In this study, we have investigated the role of myosin in this process. We have found that myosin is required for the proper positioning of the mitotic spindle. Specifically, we have found that myosin is required for the localization of the PAR proteins to one end of the cell. This suggests that myosin and the PAR proteins work together to polarize microfilament-dependent forces that shape and position mitotic spindles in *C. elegans*.

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... (1) ... (2) ... (3) ... (4) ... (5) ... (6) ... (7) ... (8) ... (9) ... (10) ... (11) ... (12) ... (13) ... (14) ... (15) ... (16) ... (17) ... (18) ... (19) ... (20) ... (21) ... (22) ... (23) ... (24) ... (25) ... (26) ... (27) ... (28) ... (29) ... (30) ... (31) ... (32) ... (33) ... (34) ... (35) ... (36) ... (37) ... (38) ... (39) ... (40) ... (41) ... (42) ... (43) ... (44) ... (45) ... (46) ... (47) ... (48) ... (49) ... (50) ... (51) ... (52) ... (53) ... (54) ... (55) ... (56) ... (57) ... (58) ... (59) ... (60) ... (61) ... (62) ... (63) ... (64) ... (65) ... (66) ... (67) ... (68) ... (69) ... (70) ... (71) ... (72) ... (73) ... (74) ... (75) ... (76) ... (77) ... (78) ... (79) ... (80) ... (81) ... (82) ... (83) ... (84) ... (85) ... (86) ... (87) ... (88) ... (89) ... (90) ... (91) ... (92) ... (93) ... (94) ... (95) ... (96) ... (97) ... (98) ... (99) ... (100) ...

Concluding remarks

C. elegans ... *par-2* ...

... *par-3* ... *par-2* ... *C. elegans* ...

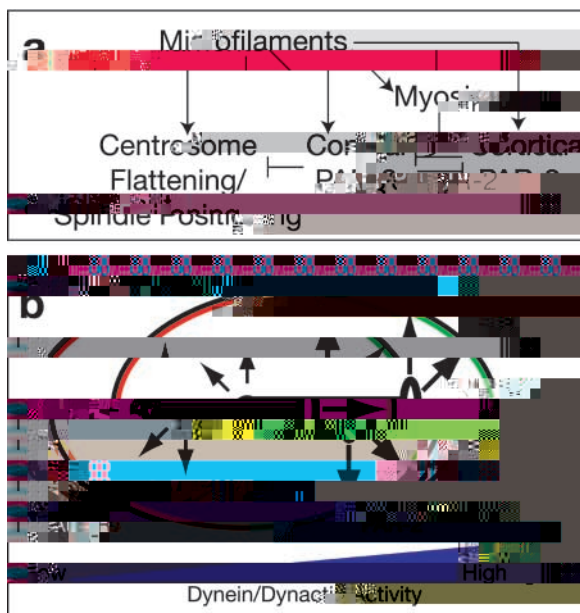


Figure 5. Models of the polarization of the *C. elegans* zygote. (A) ... (B) ... (2002).

