

## Actin bundles in *Amoeba proteus*

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### SUMMARY

The motility of *Amoeba proteus* is well known to depend on the actomyosin system. Although the distribution of actin has been reported based on immunofluorescence microscopy, no report on actin bundles describes microinjection of fluorescently labeled actin, and electron microscopy. In this report, we describe actin bundles in pseudopods of *Amoeba proteus* using an improved method of fixation. Amoebae were attached to a coverslip and quickly sunk in  $-85^{\circ}\text{C}$  methanol for 30 s; then they were transferred to 3.7% formalin in PEM (20 mM PIPES buffer, pH 7.0, 2 mM EGTA and 2 mM  $\text{MgCl}_2$ ). Actin was stained with fluorescently labeled phalloidin. In some pseudopods, bundles of actin filaments oriented parallel to the extending axis of the pseudopod were observed. This finding is expected to provide a new viewpoint on the mechanism of amoeboid movement. Especially, we will discuss the mechanism of the movement of plasmalemma along with the pseudopod movement.