

Analysis of the mechanism for interspecific recognition in *Dictyostelium*

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SUMMARY

The social amoebae *Dictyostelium* multiply as single cells but aggregate upon starvation and form fruiting bodies with viable spores and dead stalk cells. When amoebae of different species are mixed and starved, they eventually recognize the same species each other and form separate fruiting bodies. The purpose of this work is to elucidate the mechanism for this interspecific recognition in *Dictyostelium*. We mixed GFP-labeled *D. discoideum* cells and unlabeled *D. purpureum* cells. After a variable period of starvation, we plated the cells onto agar plates and observed aggregating cells using a confocal laser scanning microscope. Consequently, we observed that the cells of each species tended to adhere mutually lengthways. This tendency was strong when the starvation period was long. The observation results suggest that end-to-end adhesion factors are involved in the interspecific recognition in *Dictyostelium*. Experiments using heterologous expression of *D. purpureum* candidate genes in *D. discoideum* are underway.