

Comparative SDS–PAGE study of peri-algal and food vacuole membranes in the ciliate *Paramecium bursaria*

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SUMMARY

Paramecium bursaria normally harbors several hundred symbiotic *Chlorella* cells. Each symbiotic *Chlorella* is enclosed in a perialgal vacuole membrane that is derived from the host food vacuole membrane. We isolated food vacuoles and perialgal vacuoles from *P. bursaria* to compare proteins in those membranes using SDS–PAGE. The host paramecia were incubated with a mixture of fluorescent and magnetic beads for food-vacuole formation. The paramecia were gently homogenized by passing them through a 30-gauge needle, and the food vacuoles were collected on a magnet. Perialgal vacuoles were isolated using Percoll density gradient centrifugation. Comparative SDS–PAGE showed that the protein constituents of the perialgal vacuoles differ from those of the food vacuoles, but they do have some proteins in common.