Presence of IP39 homologous proteins in the euglenoid flagellate *Peranema trichophorum*

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SUMMARY

The plasma membrane of *Euglena gracilis* possesses an elaborate array of intra-membrane proteins, IP39, which are implicated in the mechanism of euglenoid cell-shape changes. Transmission electron microscopic observation of the predatory euglenoid flagellate *Peranema trichophorum* showed that *P. trichophorum* has a pellicular structure resembling that of *E. gracilis*, consisting of interlocking pellicular strips and associated microtubules. In *P. trichophorum*, the number of microtubules in each pellicular unit is 7–9. An extensive network of endoplasmic reticulum is the most prominent feature of the cell cortex, distinguishing it from *E. gracilis*. Immunoblot analysis using anti-peptide antibodies against IP-39 of *E. gracilis* revealed the existence of polypeptide components in *P. trichophorum* that are recognized by the anti-IP39 antibodies. The PCR analysis using primers specific to *E. gracilis* IP39 amplified DNA fragments of three sizes that are similar to the 0.65 kb DNA fragment from *E. gracilis* IP39 gene. These results suggest the existence of proteins in *P. trichophorum* that are homologous to IP39 of *E. gracilis*.