

Distribution of intermediate filaments in amphibian oxyntic cells

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Abstract

Intermediate filaments of toad oxyntic cells were isolated and analysed by SDS-PAGE. The major proteins of the residue were identified as actin and a 51,000 dalton polypeptide. Immunological crossreactivity between toad oxyntic cell intermediate filament components and anti-prekeratin, was shown by double immunodiffusion tests and indirect immunofluorescence. The immunofluorescent decoration of oxyntic cells and the electron microscope images are coincident in locating the intermediate filaments mainly at the cortical and perinuclear basal zones. Furthermore, the cortical zone appears especially rich in prekeratin-like material at its adluminal third. This results in a cup-like structure that encloses the cell portion occupied by the tubulovesicular system, which does not contain intermediate filaments. The translocation of membranes occurring during the secretory cycle of the oxyntic cell, has been attributed to a system of contractile proteins. The disposition of the prekeratin-like material suggests a role for intermediate filaments in the generation of movement, produced by actin and myosin interaction, by providing a fixed plane for the anchoring of actin microfilaments.

Keywords Oxyntic cells, Intermediate filaments, Immunofluorescence, Prekeratin-like filaments