

Cell renewal in the epidermis of the loach *Misgurnus anguillicaudatus* (Cypriniformes)

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Abstract

Cell kinetics of the epidermal cells of normal juvenile loach (*Misgurnus anguillicaudatus*) were studied with autoradiography. Fish were labelled with single tritiated thymidine injections and killed at regular time intervals. Three cell types are identified by light microscopy, namely the epithelial cells, the club cells and the mucous cells. Epithelial cells are the only cell type that is involved in cell proliferation and, like the epithelial cells in the epidermis of other teleosts, proliferation of these cells occurs at all epidermal layers. The club cells and the mucous cells seem to be differentiated from the epithelial cells. Based on the time-course study of the labelling index and the grain count halving method, the generation time of the epithelial cells is estimated to be 4 days. From the labelling index of double injections, the duration of the S phase is determined as 8.3 h. Significant cell loss from the outermost layer and cell translocation from the lower layer to the upper layer within 4 days are inferred from the fluctuations of the labelling index curve. The renewal of these cells in the tissue seems rapid in comparison to the epidermis of terrestrial vertebrates.

Key words : Cell renewal