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**The teleost rodlet cell: a question of cellular host-pathogen interaction?**

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The rodlet cell (RC) of teleost fishes is a remarkable and enigmatic cell type of still uncertain evolutionary origin and physiological function. Mature RC are characterised by a thick fibrous capsule-like cell border, a round condensed nucleus without a nucleolus, typical cytoplasmic inclusions (the so-called rodlets) and in some cases a highly distended degenerating ER. Since their discovery, the biological role of these cells has been controversially discussed. RCs have been described as protozoan parasites, gland and immune cells, and even as infected or pathologically degenerated cell type with the rodlets acting as a vector of genetic material. Based on the supposed vector function, the ejection of the rodlets in the surrounding environment as a spreading mechanism becomes an important key feature in the life cycle of this cell.

This study aims to re-evaluate the assumed incorporation of DNA and the transport function of the rodlet in two fish model systems, *Danio rerio* (zebrafish) and *Oryzias latipes* (medaka), by standard light microscopy diagnosis. The applied detection techniques are the Feulgen-reaction, ethyl green-pyronine, as well as fluorochrome staining with acridine orange, DAPI, and Hoechst 33258.

The results are discussed in the light of the former stated hypotheses of RC nature to clarify critical points and shed new light on the possible interpretations as a base for future studies in the zebrafish and medaka model by molecular methods.