

Characteristics of G-Protein Coupled Receptors in Fish Taste

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Although fish taste systems are highly sensitive to amino acids, the molecular mechanisms involved in fish taste transduction have been only hardly elucidated. Thus, molecular approaches were primarily attempted in this investigation to know the existence of G-proteins in taste cells of carp, *Cyprinus carpio* L. To identify G-proteins in taste tissues, we used certain primers having sequences of conserved regions of G-protein, -TIVKQM- and -EYQL-. The RT-PCR resulted to amplify DNA fragments of about 300 bp, from which eleven different clones were isolated. Analyses of nucleic acid sequences showed that they are related to partial sequences of two types of G-proteins, rat G_{i1} alpha and G_{olf}. The partial sequence of B11 among the clones mostly resembled to those of rat G_{i1}α, and that of B10 is to G_{olf}.

Therefore, B11 mostly cloned was used with *in situ* hybridization experiments to identify if the partial sequence exactly exists in taste buds.

In conclusion, the B11 clone is definitely derived from the cells in taste buds of the carp. On the other hand, the immunohistochemical experiments using anti-gustducin antibody (rabbit) showed that the suitable partial sequences between rat and carp are widely different.

Key words : G-protein, taste, *in situ* hybridization, fish