

Properties of Glutamate Taste Receptors on Fish

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Gustatory systems of the carp, *Cyprinus carpio* L., are most sensitive to amino acids, and the threshold for L-Glu-Na (L-MSG) is down to 10 nM being lower than that of neurotransmitter in the brain. In mammals, there are a couple of reports concerning the existence of two receptor types for L-MSG, i.e. metabotropic and ionotropic glutamate receptors (mGluRs and iGluRs). It has been tentatively revealed by us with molecular biological techniques that gustatory receptors on carp haven't iGluRs. Neural taste recordings were attempted in the species by applying several ligands for the GluRs of the brain. The gustatory system of the carp were not responsive to D-Ser but antagonists (NBQX and D-AP V), and didn't show the enhancement of taste responses for L-MSG by Gly.

In conclusion, there might be completely different type of gustatory iGluRs from those in the brain, or there is no iGluR in the taste system.

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