

## Effects of 3,5,3'-triiodo-L-thyronine (T<sub>3</sub>) on Growth of GH-transgenic Coho Salmon, *Oncorhynchus Kitsutch*

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GH-transgenic coho salmon (*Oncorhynchus kitsutch*) juveniles in tGH\*T<sub>3</sub> and tGH\*PTU were fed with the diets containing 1 ug/g fish of 3,5,3'-triiodo-L-thyronine (T<sub>3</sub>) and 30 ug/g fish of 6-n-propyl-2-thiouracil (PTU), respectively, to assess the effect of these drugs on the change of physiological activity, growth and survival rate in comparison with normal transgenic (tGH\*C) and nontransgenic coho salmon (Wild) for 90 days. Although the daily food intakes of all transgenic (tGH)-groups were higher than Wild, the amount was reduced by exogenous PTU supply. The feed efficiencies of tGH-groups were lower than Wild, but the efficiency was reduced both by T<sub>3</sub> and PTU. The survival rate of tGH-group was significantly higher than that of Wild, but there was no significant difference among tGH-groups. Although the growth of tGH-coho salmon was faster than Wild, the growth rate of transgenic salmon was increased by exogenous T<sub>3</sub>, but was reduced by PTU. Plasma TT<sub>4</sub> levels of tGH-groups was approximately 2-fold higher relative to Wild, but there were no difference of plasma TT<sub>4</sub> levels among tGH-groups. Plasma TT<sub>3</sub> level of tGH-coho salmon was increased by exogenous T<sub>3</sub> administration, but was reduced by exogenous PTU. In addition, although plasma GH levels of all tGH-groups were higher than that of Wild, the GH level in plasma of transgenic coho salmon was increased by exogenous T<sub>3</sub> and reduced by exogenous PTU. In the meantime, the transgenic fishes also displayed head, jaw and opercular abnormalities typical of the effects of this gene construct in coho salmon, indicating that some imbalance in growth processes has been induced. However, the abnormalities of transgenic coho salmon was reduced following exogenous PTU administration.

Keywords) *transgenic coho salmon, growth hormone, T<sub>3</sub>, thiouracil*