

メダカの各発育段階におけるビテロゲニン量

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S-rR 系メダカの受精卵、孵化当日仔魚、孵化後 2,4,6,8 週令個体のビテロゲニン量を測定した。2 週令以降の個体については雌雄別に測定した。供試魚には孵化直後からアルテミア幼生のみを給餌し、1 週令で雌雄に分け、別々に飼育した。ビテロゲニン濃度測定は ELISA 法により行い、試料は全身ホモジネート上清とした。

その結果、2~8 週令の雄のビテロゲニン量は総じて $1 \mu\text{g/g}$ 未満であり、生長にともなう変動は見られなかった。これに対し雌では、2 週令では定量限界未満の個体も見られたものの、第二次性徴が発現し始めた 4 週令以降では、成熟にともなうビテロゲニン量の上昇が見られた。また、受精卵、孵化仔魚においても見かけ上高いビテロゲニンが検出された。

以上より、人工餌料や雌由来のエストロゲンを排除した環境では、雄のビテロゲニン量は常に低く推移すると考えられた。また雌のビテロゲニン量は発育段階により変動し、さらに卵黄タンパクの影響も受けうる可能性が示唆された。

Measurement of vitellogenin in several developmental stages of medaka

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Concentrations of vitellogenin in embryo, yolk-sac larva, 2, 4, 6 and 8 weeks old medaka S-rR strain were measured. The concentrations in 2-8 weeks old were also measured in both male and female. Test fish were fed only *Artemia* nauplii from just after hatching, and divided into both sexes at 1 week after hatching and bred separately. Measurement of vitellogenin concentration was done by ELISA method and supernatant of whole body homogenate was used as test sample.

In males, the concentrations of vitellogenin were less than $1 \mu\text{g/g}$ and no fluctuation was observed throughout the developmental stages. In females, the concentrations were less than detection limit in a part of 2 weeks old, but rose with maturity in 4-8 weeks old. Apparent high values were observed in embryo and yolk-sac larva.

These results suggest that the concentrations of vitellogenin in males are always low independent on the developmental stages in low contaminated environment with xenoestrogen derived from artificial diet and female. The values in female may be altered dependent on the developmental stages, further influenced by the reaction with other egg yolk protein.