Title: Purification and characterization of a novel incomplete-type vitellogenin protein (VgC) in Sakhalin taimen (Hucho perryi)

Authors: Amano, Haruna
Mochizuki, Machiko
Fujita, Toshiaki
Hiramatsu, Naoshi
Todo, Takashi
Hara, Akihiko

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Abstract: A novel, incomplete-type vitellogenin (VgC) and its derived yolk lipovitellin (LvC) were immunologically detected in female serum and egg extracts, respectively, of Sakhalin taimen (Hucho perryi) using a subtype-specific antiserum against LvC of grey mullet (Mugil cephalus). The taimen VgC was purified from the sera of vitellogenic females by a combination of gel filtration, anion exchange, and immunoadsorbent column chromatography. Gel filtration of the purified VgC revealed that it had an apparent native mass of ~380 kDa, while the mass of the VgC polypeptide that appeared following SDS-PAGE was estimated to be ~140 kDa. An antiserum was raised against the purified VgC and utilized for the development of a subtype-specific immunoassay for VgC. Levels of VgC in the serum of female taimen increased from 25 μg/mL to ~1 mg/mL, with an increase of GSI. Levels of complete-type Vg and estradiol-17β (E2) in the serum of E2-administered juvenile taimen increased and reached peak levels similar to those found in vitellogenic females. Although VgC could be induced in the serum