

International Conference on **Aquaculture & Fisheries** July 20-22, 2015 Brisbane, Australia

The major yolk protein in sea urchin egg yolk granules is a glycoprotein complex

Heng Wang

Hokkaido University, Japan

Major yolk protein (MYP), a glycoprotein identified as the most abundant yolk granule protein in sea urchin eggs. To examine the general or unique structure of the MYP stored in the egg (EGMYP), we purified EGMYP from two different species sea urchins of the genus *Strongylocentrotus intermedius* and *S. nudus* with the same purification process, and decided the protein structures of EGMYP. We assessed the purity of EGMYP by Disc-PAGE and immunoelectrophoresis (IEP) for further experiments. The molecular weights of two native EGMYP on gel filtration were 595 and 625 kDa, respectively. Moreover, under reducing condition, both SDS-PAGE and western blotting analysis revealed EGMYP of *S. intermedius* with four bands (approximately 172, 116, 74 and 68 kDa), as well as for EGMYP of *S. nudus* a set of bands ranging from 175 to 58 kDa (approximately 175, 165, 153, 115, 102, 90, 78, 65 and 58 kDa). We also isolated yolk granules from eggs with sucrose density ultracentrifugation to keep EGMYP intact, and detected the structures of EGMYP in yolk granules of two sea urchin. In conclusion, the general EGMYP stored in the eggs of sea urchin is a glycoprotein complex, however their unique structures are variant in different sea urchins even though that in the same genus.

Biography

Heng Wang completed her Master degree from Dalian Ocean University, China, and now she has her PhD course of Aquaculture Biology in Hokkaido University, Japan. She focuses on the studies of the major yolk protein in sea urchin.

hengwang0422@gmail.com

Notes: