

***Rafting* Signal Transduction Pathways Leading to  
Ca<sup>2+</sup> Release in Fertilized Eggs:  
A Focused Proteomics Approach to *Xenopus*  
Egg Membrane Microdomains**

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Fertilization is a pivotal biological event at the beginning of life that is initiated by species-specific recognition and membrane interaction/fusion of eggs and sperm, followed by dramatic reorganization of the molecular architecture outside and within fertilized embryos. Our research group has been interested in the molecular mechanism of fertilization with a special focus on such questions as '*how do egg and sperm interact and fuse with each other?*' and '*how do fertilized eggs initiate embryonic development after the egg-sperm interaction and fusion?*' So far, we have employed African clawed frog *Xenopus laevis* as a main model organism and have performed several biochemical, cell biological, molecular biological, and pharmacological experiments. In this symposium, I will present our recent research progress on what we have learned from this model system. In particular, the roles played by the tyrosine kinase Src as a key player that connects sperm-egg interaction and egg cytoplasmic signaling, and the egg membrane microdomains as a functional platform for sperm-egg interaction and subsequent Src-dependent signaling in fertilization will be presented and discussed.

References (review articles):

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