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Tubulin mediates *Portunus trituberculatus* reovirus infection

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Reoviruses are widespread and infect a broad range of hosts. To date, no study has been reported on an aquatic reovirus receptor. By using viral overlay protein binding assay (VOPBA), swimming crab *Portunus trituberculatus* reovirus (SCRV) was found to bind to a protein of approximately 550 kDa. MALDI-TOF MS-MS analysis revealed that the protein shares the closest homology with β -tubulin. Mouse membrane proteins were tested by western blot with antibodies against the SCR-binding protein and mouse tubulin, and uniform positive bands were obtained. The results indicated that the SCR-binding protein was tubulin. The interaction between tubulin and SCR was further confirmed with co-immunoprecipitation. SCR infection *in vitro* could be blocked by a tubulin-specific antibody. The role of tubulin as a major cell surface protein has been reported previously. These findings suggest that tubulin mediates SCR infection and may function as a receptor for SCR.

Biography

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