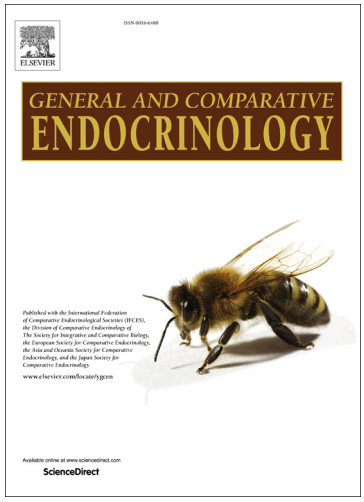

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Divergent evolution and clade-specific duplications of the Insulin-like Receptor in malacostracan crustaceans

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Abstract

The Insulin-like Receptors (IRs) are an important protein family, represented by three members in vertebrates, two of which are well-known for their implication in metabolism (Insulin Receptor) and growth (IGF Receptor). In contrast, little is known about these receptors in invertebrates, in which a single gene generally exists except for a part of insects and other occasional species-specific duplications. In this study, we used publicly available sequences as well as *de novo* assembled transcriptomes to investigate the IR evolution in malacostracan crustaceans, animals in which the Insulin/IGF pathway is known to be implicated in sexual development through the androgenic gland hormone. We described the evolutionary divergence of malacostracan IRs compared to all the other metazoan sequences, including other pancrustaceans. We also demonstrated two well conserved duplications of IRs: