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## G-PROTEIN-COUPLED RECEPTORS IN INVERTEBRATE INNATE IMMUNITY

### Summary

The G-protein-coupled receptors (GPCRs) form the largest and most diverse group of membrane receptors engaged in extracellular signals transduction. GPCRs are involved in almost all aspects of vertebrates and invertebrates' life, including regulation of the immune response mechanisms. The paper describes the general structure and classification of GPCRs. Moreover, it presents the mechanisms of GPCR activation and signal transduction as well as the regulation of GPCR activity. Furthermore, basic information about the mechanisms of pathogen recognition by invertebrates is included. The main part of this review shows the most recent data about the involvement of GPCRs in defense mechanisms of invertebrates such as the horseshoe crab (*Limulus polyphemus*), fruit fly (*Drosophila melanogaster*), and nematode (*Caenorhabditis elegans*).

Key words: G-protein-coupled receptors (GPCRs), innate immunity, invertebrate