

KRZYSZTOF RAKUS, MAGDALENA CHADZIŃSKA

*Department of Evolutionary Immunology, Institute of Zoology and Biomedical Research, Jagiellonian University, Gronostajowa 9, 30-387 Kraków, E-mail: krzysztof.rakus@uj.edu.pl*

## RECEPTORS RECOGNIZING VIRAL NUCLEIC ACIDS DURING IMMUNE RESPONSE OF FISH

### Summary

Recognition of the non-self signature of invading viruses is a crucial step for the initiation of the anti-viral innate immune defense mechanisms including interferon (IFN) type I production. Viral nucleic acids occur the main virus-derived structures to be recognized by the receptors of the innate immune system. There are a number of receptors that recognize viral nucleic acids among which the most important are Toll-like receptors (TLR) and RIG-I-like receptors (RLR). Many of those receptors described in mammals have been also found in fish, although fish possess some specific receptors which have not been characterized in mammals. Teleost fish represent a relevant model for the study of the core immune mechanisms activated by viral infections. In this work we review the current knowledge about the fish receptors for viral nucleic acids and the main adaptor proteins involved in signaling pathways for the activation IFN type I and pro-inflammatory cytokine synthesis.

Key words: interferons, nucleic acids, innate immunity, pattern recognition receptors, RLR, TLR, viral infection