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EXTRACELLULAR TRAPS – GENERAL MECHANISMS OF PATHOGEN ELIMINATION  
IN ANIMAL (AND PLANT ?) KINGDOM

Summary

Extracellular traps (ETs) are an evolutionary old mechanism of defense that functions both in higher vertebrates including mammals, lower vertebrates such as fish, in invertebrates and most probably in plants. ET structures immobilize pathogens, protect the body from their spread and possibly lead to the death of some of them. Traps formation in mammalian leukocytes is a complex process involving several molecular pathways and signaling molecules, such as reactive oxygen species (ROS),  $\text{Ca}^{2+}$ , or protein kinases. Most probably ET formation in immunocompetent cells of non-mamalian species is subjected to similar regulations. In most cases, both in vertebrates and invertebrates, NADPH oxidase activity and consequently ROS production play an important role in this process. ET defense strategy is based on the activity of their specific components such as DNA, histones and bactericidal proteins e.g. different types of proteases. The exact composition of these structures may be slightly different in organisms belonging to different taxa, as well as depends on the type of immunocompetent cells producing the traps.

Key words: DNA, ET, extracellular traps, histones, leukocytes