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The Antimicrobial peptides as immune system boosters

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Recently increased the use of antibiotics, due to which the resistance of pathogens to newly synthesized chemical compounds is constantly rising. Recent experience with COVID-19 infection has shown an urgent need in finding new compounds to combat pathogenic strains of microorganisms derived from naturally available agents, which include Antimicrobial peptides (AMPs). AMPs are produced in almost all living organisms and are responsible for self-defense against foreign presenters. AMPs comprise part of the innate non-specific immunity produced mainly in granulocytes (neutrophils), monocytes, and differ from chemical compounds in their high selectivity for pathogens: they damage foreign cells without harming their own. They are helped in this by the amazing structure of the peptide chain, which is distinguished by amphiphilicity, as well as by the unique folding of the peptide in the alpha chain, which helps AMP to easily slip through the bacterial cell membrane, forming pores in it, ultimately leading to the death of the pathogen. The scientists around the world are striving to create new unique AMPs with desirable activities, for which they take into account the AMP charge, its chain length, and mechanism of action. In the paper we present the world leading laboratories AMP study directions and their achievements.

Biography

Amirova M.F. has many years of experience in the field of biochemistry, both as an educator, consultant, and in the most diverse facets of research in medicine. Her broad knowledge allows her to express the most unexpected, sometimes very courageous in the most diverse fields of science. Now Dr. Amirova is focusing on a project to develop new liposomes.