

The Importance of Optimal Cell Communication to Protect Your Body against Infectious Diseases

Marjolijn Rooy*

Department of Infectious Diseases, University Medical Center Utrecht, Utrecht, Netherlands

Corresponding author: Rooy M, Department of Infectious Diseases, University Medical Center Utrecht, Utrecht, Netherlands, E-mail: marjolijnrooy@gmail.com

Citation: Rooy M (2021) The Importance of Optimal Cell Communication to Protect Your Body against Infectious Diseases. J Clin Mol Pathol Vol.5 No. 2:35.

Received date: May 10, 2021; **Accepted date:** May 20, 2021; **Published date:** May 30, 2021

Description

The immune system orchestrates a potent defense which involves the production of some specific antibody molecules and lymphocytes capable of reacting with and also inactivating the foreign agents, either directly or indirectly through the involvement of some molecular and cellular inflammatory processes. Immune system plays a key role in our survival in the face of the wide variety of diseases-causing agents is tragically demonstrated by the devastating consequences of the immunological impairment of the acquired immune deficiency syndrome (AIDS) and of the congenital immunological deficiencies such as a severe combined immunodeficiency (SCID) in the infants. On the other hand, the enormous power of the immune system acts as a protection against pathogenic agents carries with it the price that the action of the system may lead to or exacerbate or makes a worse series of some immunological infections or diseases, including the systemic lupus erythematosus, rheumatoid arthritis, and the type I diabetes (juvenile onset).

Discussion

Have you ever wondered how 30 trillion cells live together harmoniously as one human being? The answer is communication! Communication is important in maintaining physiological stable state in the human body. Some important pathways are hormones, neurotransmitters and other signaling pathways, one of which include Redox. Recent research has shown that redox molecules are responsible for some very important communication at cellular level, for example to facilitate immune system interaction Redox signaling molecules are produced, as a chemical by-product, when the e

mitochondria produce ATP. The mitochondria generally produces two different kinds of Redox Signaling Molecules. Reduced species (RS) and reduced oxygen species (ROS). ROS can donate an OXYGEN atom to some reaction in the body attack viruses, bacteria and other pathogens. Studies have shown that they lethal for pathogens. Whereas the RS perform the opposite function. They activate antioxidants such as glutathione, which in turn neutralize oxidation. For the whole system to work right, both types are needed to maintain in balance. Various studies suggest that oxidative stress can play an important role in viral infections, including SARS-CoV and SARS CoV-2. The reduction oxidative stress has a beneficial effect on the occurrence of viral protein binding to host cells, while the RS activate the antioxidants, who prevent or reverse the oxidative damage, so that the cellular damage will be reversed or prevented.

Conclusion

The applications of the molecular biology, monoclonal antibodies, flow cytometric analysis, modern methods of cell culture, and some powerful new techniques of protein chemistry have led to many of the insights described in this work. Proteins are one of the most important biomolecules, involved in any biological process of all living beings, playing useful as well as harmful roles in their survival. It is necessary to investigate these proteins, and to develop new biomedical tools and technologies, which will play a key role in evasion of various diseases, thus, saving and improving quality of lives. The central role of the immune system in the resistance to the infectious diseases, in the elimination of some tumor cells, and in the pathogenesis of many chronic disease makes it an obvious target for the clinical efforts.