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Commentary

# Viruses: Origin, Hypothesis and Its Activities

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## ABSTRACT

Viruses are simple biological particles, consisting of a genome, a protein capsid and, in the case of enveloped Viruses, an exterior lipidic envelope. Due to the presence of envelope, most enveloped Viruses are delicate although a few special exceptions might be observed. Viruses act as complete intracellular parasites. They increase results from the replication and self-gathering of viral components, this process being coordinated by the viral genome after it has been released inside a infected cell. Virus classified depends on molecular properties, concerning both the structure and replication plan of viruses. These nomenclatures, sequential order levels are family, subfamily, genus and species.

**Keywords:** Virus; Virion; Virus-specific genes; Foodborne viruses

## DESCRIPTION

Viruses originated either prior to or from cells. A pre-cellular scenario is incompatible with the proposed generic definition of virus propagation inside cells. In turn, the origin of archaeoviruses from Archaea, bacterioviruses from Bacteria, and eukaryoviruses from Eukarya also seems less likely as these viruses share several conserved protein folds involved in virion synthesis and other functions, indicating that they may have evolved prior to the diversification of LUCA into modern cells. These considerations support an intermediate timing for the origin of viruses, that is, from ancient cells that existed prior to LUCA (Last Universal Common Ancestor). Since all modern-day viruses strictly parasitize cells (with the exception of virophages that parasitize the viral factory of other viruses), we can assume that virus-mediated parasitism and propagation originated only after cells appeared in evolution as cells would provide both the resources to parasitize upon and the means for genome dissemination (e.g., capsids/vesicles). Viruses contaminating cells from the three dominions of life, Archaea, Bacteria and Eukarya, share homologous topographies, signifying that viruses created early in the development of life. The three current theories for virus origin, for example the virus first, the escape and the decrease theories are reconsidered to in this new structure. Hypothetical considerations propose that RNA viruses might have created in the nucleoprotein world by departure or decrease from RNA-cells, while DNA viruses (at least some of them) may have evolved directly from RNA viruses. The antiquity of viruses can clarify why most viral proteins have no cellular homologues or only distantly related ones. Viral proteins have changed the inherited bacterial RNA/DNA polymerases and primase during mitochondrial development. It has been recommended that replacement of cellular proteins by viral ones likewise happened in early fruition of the DNA replication contraption and that some DNA replication proteins started directly in the virosphere and was later on moved to cellular organisms. As per these new theories, viruses shows a critical role in major developmental transitions, for example, the innovation of DNA and DNA replication mechanisms, the foundation of the three domain of life, or else, the beginning of the eukaryotic nucleus. Transmission ways for enteric viruses may be mixed, for example, through person-to-person, fomites, and food or waterborne pathways related with lacking cleanliness and sanitation. It was expressed that in more than of 100 kinds of pathogenic infections are discharged in human and animal wastes. As well as causing acute diseases, they are of community concern on account of their low infectious part. Diseases don't grow in food, since they need living cells to replicate. When a virus infects a person (host), it invades the cells of its host in order to survive and replicate. Once inside, the cells of the immune system can't 'see' the virus and in this manner don't realize that the host cell is tainted. To conquer this, cells utilize a framework that permits them to show different cells what is inside them – they use molecules called class I major histocompatibility complex proteins (or MHC class I, for short) to show bits of protein from inside the cell upon the cell surface. Assuming the cell is tainted with a virus, these pieces of peptide will incorporate fragments of proteins made by the virus.

A special cell of the immune system called a T cell flows searching for infections. One sort of T cell is known as a cytotoxic T cell since it kills cells that are contaminated with infections with viruses with toxic mediators. Cytotoxic T cells have specialized proteins on their surface that assist them recognize virally-infected cells. These proteins are called T cell

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receptors (TCRs). Each cytotoxic T cell has a TCR that can explicitly perceive a antigenic peptide bound to a MHC molecule. Assuming that the T cell receptor identifies a peptide from an infection, it cautions its T cell of a contamination. The T cell releases cytotoxic factors to kill the infected cell and, therefore, prevent survival of the invading virus.

# CONCLUSION

Virologists today should study Viruses multilaterally. With the help of different trained professionals if essential, they are needed to examine Viruses and their connections with host comprehensively and foundationally. Just with such a multi-disciplinary experimental approach, we can see how better viruses work and in the situation to teach and inform the lay public with regards to the importance of science to the well-being of mankind.