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**Article Review**

The concept of viruses about what are they, how they enter the human body and how they survive inside the body and what kind of diseases they cause inside the body was a mystery. Until some 25 years ago the full mechanism of viruses and the diseases they cause in the human body was reported, after that certain point, the scientists began to investigate about viruses about how they enter the body and what diseases they cause. Although viruses are the smallest creature among all the living organisms even then, they are poisonous and are the cause of several deadly diseases. The viruses are considered one of the most neatly organized packed with genetic material, and they can be round or spherical shaped. The entire mechanism on how viruses hunt down and stick to the host cell is not fully known, but there are some small extensions on the outer side of the cell which is called antigens, which help the virus to attach with the host cell and enter their body. The main concern behind the full investigation of viruses is due to the high prevalence of HIV AIDS which is hunting down thousands of people each year around the world, and the fact that this disease is incurable maks the situation even more serious (*Inside Look: How Viruses Invade Us*).

The main focus of scientists is to find out how the spikes that are present on the outer surface of the virus help them to fuse with the T-cells thus the immune system does not recognize them and they spread in the body, if the mechanism behind the fusion is found then it will become easy to design vaccines for the virus. Even after doing proper research it is still unknown that how these spikes are distributed on the surface and what mechanism they use to enter the host cell without being triggered by the human immune system. The viruses do not have their mechanism they need a host cell to replicate by using the enzymes of the host cell due to this reason they are referred to as well organized parasites. The one unique characteristic about HIV is that it can replicate itself inside the human body without being detected and once it produces enough copies and the symptoms gets severe only then it gets detected but till then the situation becomes uncontrollable (*Top 10 Mysterious Diseases*). The mechanism that the viruses use to get stick to cells is mind-blowing, some proteins are present to recognize the type of cell, and once they find the cell then they get attached to them and start producing the cells (*Inside Look: How Viruses Invade Us*).

The type of protein that helps the virus to recognize the cell which in some cases is the GP120, which binds with two different proteins on the host cell and start producing its copies. The type of genetic material the viruses have, also varies, some viruses contain double-stranded DNA while others have single RNA strand; this genetic material type determines the process of replication inside the cell. The replication process is so rapid that once the HIV attaches itself to the host cell, then it only takes one to two days to produce thousands of its copies inside the host cell. Viruses are linked with a different simple like flu and other complicated diseases like cancer. Each year millions of people in the US and around the world become the prey of flu even after get vaccinated, and the reason behind this is viruses can mutate itself, they can change the arrangement of their surface proteins rapidly; therefore, they can easily enter the host cell without being detected.

In case of HIV since its inception, many facts about the virus have been found, but some factors are still missing due to which each year's thousands of people lost their battle to HIV AIDS. The basic thing that is lacking in this scenario is the binding of HIV with the human immune cell if that is known then it will be easy to design an effective vaccine for the virus. Although many diseases that are caused by viruses are effectively being treated by using vaccines the main concern is HIV AIDS because still, this disease is incurable. The article provides a better understanding of how the virus propagates inside the host cell and spread disease but the main question is still not discussed here that how to inhibit the virus inside the cell and even if it enters the cell then what can be done to strengthen the host immune cell so that it can be washout from the body without doing much harm.

**Work Cited**

*Inside Look: How Viruses Invade Us*. https://www.livescience.com/10510-viruses-invade.html. Accessed 9 Mar. 2019.

*Top 10 Mysterious Diseases*. https://www.livescience.com/11333-top-10-mysterious-diseases.html. Accessed 9 Mar. 2019.