

# Epstein Barr Virus (EBV)

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**In news**– Recently, researchers at the Indian Institute of Technology (IIT) Indore have found how Epstein Barr Virus (EBV) affects brain cells and could lead to neurological disorders.

**What does the study say?**

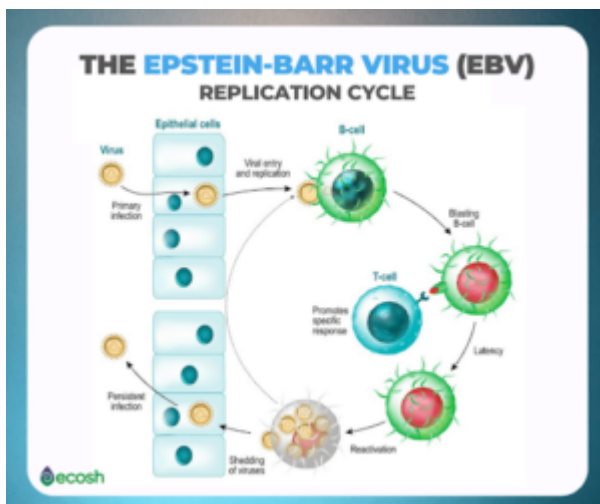
- **Using the Raman micro-spectroscopy technique**, the research team **explored the possible impacts of a cancer-causing virus on brain cells and found that it drives various changes in biomolecules** such as fatty acids, carbohydrates, and protein components, leading to diseases of the central nervous system as well as brain cancer.
- However, scientists are yet to understand how this virus affects the cells of the brain and manipulates them.
- The study showed that **there could be timely and gradual changes in various biomolecules** in the neuronal cells **under the viral influence**.
- The team observed that the **lipid, cholesterol, proline, and glucose molecules increased in the cells under the viral influence**. These biomolecular entities could ultimately play pivotal roles in the viral usurpation of cells.
- Meanwhile, they also had insights into whether these biomolecular changes can be correlated to virus-associated impacts and linked to neurological complications.
- This study aids in the understanding of EBV-mediated biomolecular changes in the various compartments of the central nervous system leading to a better understanding of nervous system diseases.
- **The study is also helpful in establishing the advantages of Raman micro-spectroscopy, a cost-effective and non-invasive technique**, in carrying out studies on virus-

associated cellular complications in clinical settings.

- It could provide an upper hand in analysing clinical samples in comparison to other techniques, which require advanced setups for studying the virus-associated changes in cells, tissues, and organs.

### What is Epstein Barr Virus (EBV)?

- Epstein-Barr virus (EBV), **also known as human herpesvirus 4, is a member of the herpes virus family.**
- It is one of the most common human viruses. EBV is **found all over the world.**
- **It spreads most commonly through bodily fluids, primarily saliva.**
- It **can cause infectious mononucleosis, also called mono,** and other illnesses.



- While it **usually does not cause any harm, the virus gets reactivated inside the body** in some unusual conditions like immunological stress or immunocompetence.
- **Symptoms of EBV infection can include-** fatigue, fever, inflamed throat, swollen lymph nodes in the neck, enlarged spleen, swollen liver, rash.
- Many people become infected with EBV in childhood. EBV infections in children usually do not cause symptoms, or the symptoms are not distinguishable from other mild, brief childhood illnesses.

- **There is no vaccine to protect against EBV infection.**