

Cell receptor could allow measles virus to target tumors

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Canadian researchers have discovered that a tumor cell marker is a receptor for measles virus, suggesting the possible use of measles virus to help fight cancer. Their findings appear in the Open Access journal *PLoS Pathogens* on August 25th.

Viruses cause infection by attaching to specific proteins on cell surfaces called receptors. Dr. Chris Richardson of Dalhousie Medical School in Halifax, Nova Scotia, Canada and colleagues found that the tumor cell marker, PVRL4 (Nectin 4), is a receptor for measles virus.

The PVRL4 receptor is found in airway cells, and measles virus infects tissue in the respiratory tract and lungs. Large amounts of PVRL4 are also present in many cancers that originate from cells of the lung, breast, colon, and ovaries.

The receptor was discovered by comparing the proteins made in virus-susceptible cancer cells to those present in cells resistant to the virus. Because PVRL4 is found in many types of human cancers, the measles virus could potentially be used to specifically infect cancer cells and turn the immune system against tumors.

The cancer killing properties of measles virus have previously been reported by researchers at the Mayo Clinic, but this is the first time that the virus has been shown to target a common receptor that is highly expressed on the surfaces of lung, breast, colon, and [ovarian cancer cells](#). The approach could be used to fight many different types of cancer.

Ongoing experiments are being performed to test the approach in mouse tumor models.

Provided by Public Library of Science

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