

# MOOC Viruses and Human Cancers

**FREE ONLINE COURSE**  
Second edition

Created by the Institut Pasteur

About 20% of human cancers are directly or indirectly related to a viral infection or to the presence of viral genes in the organism. This rate is higher in low- and middle-income countries. The mechanisms of virus-induced oncogenesis are multiple: encoding of proteins by the intracellular virus that reprograms host cellular signaling pathways controlling cell death, proliferation, differentiation, genomic integrity, and recognition by the immune system, and also induction of inflammation and immunological alterations by viral infection.

This MOOC is a full immersion into relationship between viruses and cancers. It describes the mechanisms of cancer induction by viral infection at the cellular and at the tissue levels. Four chapters of the MOOC are dedicated to different viral species/families/groups most frequently associated with cancers in humans: retroviruses, papillomaviruses, merkel cell polyoma virus, hepatitis viruses, Epstein-Barr virus and human herpesvirus-8 (HHV8). Epidemiology of viral infection and associated cancers are explained. A last chapter is devoted to innovative prevention measures which might help to decrease the high rate of virus-induced human cancers worldwide.



Starts on September 7, 2021



FREE



Certificates available



English with French and English subtitles



Estimated effort: 2h30/week



Forum to exchange opinions, etc.

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