

Oncogenic sabotage by tumor viruses

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Viral infection accounts for nearly 15% of the cancer burden worldwide. Till date eight viruses that infect humans have been identified as causative agents of various cancers. These viruses induce malignancies after a prolonged latency and in conjunction with other host and environmental factors. The study of viral oncogenes and different strategies employed by tumor viruses to subvert the growth-suppressive and pro-apoptotic functions of host tumor suppressor genes has laid the foundation of cancer biology. Advancements in research on virus-related cancers offer a plethora of opportunities to fight cancer by preventing viral spread through vaccination and use of antivirals. Besides, recent developments on viral oncogenic mechanisms should allow development of novel and targeted approaches for control and treatment of virus-associated human cancers.

This talk intends to cover the vast repertoire of viral strategies including chromosomal integration, inactivation of tumor suppressor genes, deregulation of cell cycle and oncogenic cooperation between virus-host proteins that cumulatively contribute towards initiation and establishment of malignant phenotype in the host cell.