

chicken killer but human saviour

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The most common strain of Newcastle Disease Virus (NDV) that can be found in Malaysia is Velogenic Viscerotropic Newcastle Disease Virus AF2240 (VVNDV AF2440). It belongs to the NDV type 1 Paramyxoviridae family. It can cause 100% mortality in chicken and causes severe economic impact on the world of poultry industry, ranging from losses due to disease and the expense of vaccination to the significant cost of diagnostic laboratory investigations. Its viscerotropic effect causes inflammation of respiratory tract, brain and gastrointestinal tract in chicken. While, in human, NDV causes mild flu and conjunctivitis. However, in the recent era, research regarding the usage of local strain NDV as an anti-cancer agent has been actively carried out. The ability of VVNDV AF2240 to replicate efficiently in cancer cells has been demonstrated in both in vivo and in vitro. Unlike other lytic strain of NDV such as Roakin which kill not only cancerous cell, but also normal proliferating cells NDV AF2240 has been shown to selectively kill tumour cell namely MCF-7, MDA-MB-231, 4T1, CEM-SS, HT-29 and HL60 but leaving the 3T3 normal fibroblast intact making it an ideal candidate as an anti-cancer agent. It has been reported that VVNDV AF2240 is capable of stimulating apoptosis of breast cancer cells and the apoptotic effects are correlated with the production of cytokine by NDV virus in tumour cells. These effects are the first steps of immunotherapeutic of many crucial cytokine that helps in combating breast tumour cells.

