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(54) Title: ONCOLYTIC VIRUSES AS PHENOTYPING AGENTS FOR NEOPLASMS

(57) Abstract: The present invention provides a method of diagnosing neoplasms having a particular phenotype by using oncolytic viruses that selectively replicate in neoplasms having the particular phenotype. For example, reovirus does not replicate in normal cells. However, reovirus selectively replicate in cells with an activated ras pathway, which leads to death of these cells. Therefore, a cell which becomes neoplastic due to, at least in part, elevated ras pathway activities can be diagnosed by its susceptibility to reovirus replication. This invention can further be applied, using other oncolytic viruses, to the diagnosis and/or treatment of other tumors, such as interferon-sensitive tumors, p53-deficient tumors and Rb-deficient tumors. Kits useful in the diagnosis or treatment disclosed herein are also provided.