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Oncolytic Measles Virus Encoding Thyroidal Sodium Iodide Symporter

National Cancer Institute

Source

National Cancer Institute. *Oncolytic Measles Virus Encoding Thyroidal Sodium Iodide Symporter*. NCI Thesaurus. Code C66942.

An attenuated oncolytic Edmonston (Ed) strain of measles virus encoding the human thyroidal sodium iodide symporter (MV-NIS) with potential antineoplastic activity. The cellular receptor of MV is human CD46 antigen, a type 1 integral membrane glycoprotein found on nearly all human tissues and overexpressed on many cancer cell types. After attachment to and fusion of host cell membranes, MV-NIS induces syncytia and cell lysis. When combined with radioiodine 123 (I-123), expressed NIS facilitates uptake of I-123 into MV-infected cells, thereby allowing for noninvasive imaging of viral gene expression. MV-NIS also enhances the oncolytic activity of MV against radiosensitive tumor cells by additional destruction of the MV-infected cells when using iodine-131.