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Ad5-CMV-NIS

National Cancer Institute

Source

National Cancer Institute. *Ad5-CMV-NIS*. NCI Thesaurus. Code C79800.

A recombinant type 5 adenovirus (Ad5), encoding the gene for the human sodium-iodide symporter (NIS) linked to the cytomegalovirus (CMV) promoter, with potential gene transfection activity. Upon intratumoral injection, Ad5-CMV-NIS is taken up by tumor cells, resulting in the cellular expression of NIS. Subsequently, orally administered iodine 131 is taken up by NIS-expressing tumor cells, which may result in the selective accumulation of a cytotoxic dose of beta and gamma radiation in non-thyroidal tumor cells, sparing adjacent normal tissue. NIS, an intrinsic membrane glycoprotein, is an ion pump that actively transports iodide into cells which concentrate iodine; in addition to thyroid epithelial cells, it is found in non-thyroidal tissues including the salivary glands, the gastric mucosa, and lactating mammary glands.