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(54) Title: M2-DEFECTIVE POXVIRUS

(57) Abstract: The present invention is in the field of oncolytic viruses. The invention provides new poxviruses which are engineered to be defective for the function encoded by the M2L locus (i.e., m2 function). Such poxviruses lack a functional m2 binding activity to at least one or both of CD80 and CD86 co-stimulatory antigens. Said oncolytic poxviruses are preferably vaccinia virus having a total or partial deletion of the M2L locus. The present invention also relates to cells and compositions comprising such poxviruses and their use for treating proliferative diseases such as cancers and for preventing diseases (vaccination, especially in veterinary field). More precisely, the invention provides an alternative to the existing oncolytic viruses which are largely used in virotherapy. The m2-defective poxviruses are particularly useful for the expression of immunomodulatory polypeptides such as anti-CTLA-4 antibodies with the purposes of stimulating or improve immune response.



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