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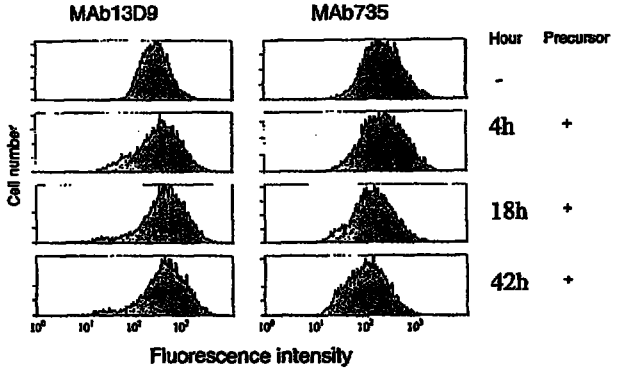
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(54) Title: NOVEL STRATEGY FOR CARBOHYDRATE-BASED THERAPEUTIC VACCINES



(57) Abstract: The sialic acid component of a sialic acid unit-containing cell surface marker characteristic of cancerous mammalian cells, such as α2-8 polysialic acid, is modified, so that cells normally expressing such a marker express instead a modified sialic acid unit-containing cell surface marker which is strongly immunogenic. For example, the present invention enables, in a portion of patient cells which regularly express α2-8 polysialic acid (i.e. various types of cancer cells), the expression of a highly immunogenic surface antigen namely, modified α2-8 polysialic acid. The modification is suitably N-acylation of a precursor of the sialic acid, so that the N-acylated precursor becomes chemically incorporated in the polysialic acid during its intracellular biochemical synthesis. Antibodies specific for the modified antigen, which can be induced using a conjugate of a suitable portion of the modified sialic acid unit-containing marker (such as α2-8 polysialic acid) and a protein, can then be used to eliminate cells which express α2-8 polysialic acid. Vaccines can be prepared utilizing conjugates of the modified sialic acid-containing marker, or utilizing antibodies produced in response to exposure of a suitable subject to the modified sialic acid-containing marker, for managing cancer conditions which involve cancer cells characterized, at least in part, by expression of modified sialic acid unit containing marker.

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