

GD3 Peptide Mimics

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Summary:

The invention provides peptide mimics for GD3 ganglioside. The peptide mimics were identified by panning phage display peptide libraries with an anti-GD3 monoclonal antibody. The peptide mimics inhibit the binding of an anti-GD3 antibody to GD3 positive cells and also elicit antibodies which can bind to GD3 positive cells. The identified peptide mimics can be used as immunogens for cancer therapy.

Detail:

The invention provides peptide mimics of the ganglioside GD3 and a method for producing same. This invention also provides a method of using the peptides to elicit an immune response against a tumor associated antigen that is not normally immunogenic. Accordingly, in one aspect, the invention provides methods for identifying peptide mimics. The method comprises the steps of screening phage display peptide libraries with antibodies to GD3. The identified peptides are then tested for their ability to elicit an immune response and the reactivity of those antibodies against GD3 bearing cells. In another aspect, the invention provides a method for eliciting an immune response in patients with GD3 positive tumors. The method comprises administering a composition effective in stimulating a specific immunological response against the GD3 antigen. These composition(s) comprise a peptide that shares immunological characteristics of GD3. While a detectable immunological response is likely to be beneficial, efficacy can also be deduced by an improvement in symptoms or control of growth of the tumor. Other aspects include methods for treating GD3 bearing tumors in an individual by eliciting an anti GD3 immunological response in the subject. The immunological response can be elicited using any of the peptide mimics to the GD3. Still other embodiment include preparing a composition for use in the generation of an immune response and in the treatment of tumors bearing GD3. The composition comprises the peptide mimics disclosed herein.