

GD2 Peptide Mimics

Internal Case/Ref #: 809051-01 (Maintain on Website)

Patent(s): Issued
U.S. Patent Number: 6,939,948
Issue Date: September 6, 2005

Summary:

The invention provides peptide mimics for GD2 ganglioside. The peptide mimics were identified by panning phage display peptide libraries with an anti-GD2 monoclonal antibody. The identified peptide mimics can be used as immunogens for cancer therapy such as for melanoma and neuroblastoma.

Detail:

The invention provides methods of using compositions which elicit an immune response against a tumor associated antigen that is not normally immunogenic. The method comprises using peptide mimics to a ganglioside, GD2, to elicit an immune response.

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 GD2. The identified peptides are then tested for their ability to elicit an immune response and the ability of those antibodies to against GD2 bearing cells. In another embodiment, the invention provides a method for eliciting an immune response in patients with GD2 positive tumors. The method comprises administering a composition effective in stimulating a specific immunological response against the GD2 antigen. These composition(s) comprise a peptide that shares immunological characteristics of GD2.

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 embodiments include include methods for treating GD2 bearing tumors in an individual by eliciting an antiGD2 immunological response in the subject. The immunological response can be elicited using any of the peptide mimics to the GD2. Still other embodiment include preparing a composition for use in the generation of an immune response and in the treatment of tumors bearing GD2. The composition comprises the peptide mimics disclosed herein.