

FIGURE 12.7

Representative synthetic monomeric anticancer vaccines.

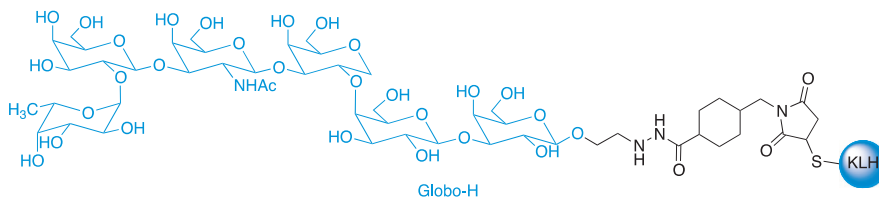


FIGURE 12.8

The structure of Globo-H-KLH.

The realization of these pitfalls led to the introduction of *unimolecular multivalent vaccines*, in which several carbohydrate antigens are incorporated into a single peptide backbone. Some of these have entered phase I clinical trials. Two examples of such constructs are shown in Figure 12.10.

Racotumomab (Vaxira[®]) is a therapeutic cancer vaccine that is being clinically studied for the treatment of solid tumors and induces an immune response against *N*-glycolyl-GM3 (NGcGM3), a ganglioside found on the cell surface in a variety of tumors, including lung, breast, and melanoma.