CHIMERIC ANTIGEN RECEPTOR SPACERS

ABSTRACT

The present disclosure related to chimeric antigen receptors (CARs) comprising immunoglobulin (Ig) derived spacers, e.g., hinge or loop regions, fragments thereof, or combinations thereof. Ig derived spacer confers improved properties to the CARs, *e.g.*, increased cytokine release with respect the CARs with spacers not derived from hinge regions and fragments thereof, loop regions from constant domains and fragments thereof, and combinations thereof. Also provided are cells expressing CARs comprising Ig derived spacers regions and methods to use the CARs to treat diseases or disorders, *e.g.*, cancer. Some of the disclosed Ig derived spacers are fragments from, *e.g.*, IgA1, IgA2, IgD, IgE, IgG1, IgG2, IgG3, IgG4, or IgM. In some aspects, the disclosed Ig derived spacers are derived from non-human immunoglobulins, e.g., mouse immunoglobulins such IgG2A. Other Ig derived spacer disclosed are modular constructs comprising several concatenated Ig hinges or fragments thereof.

Figure 1