

Abstract

Chimeric antigen receptor (CAR) is an artificial T-lymphocyte receptor consisting of extracellular single chain antibody serving as antigen binding site, transmembrane part and intracellular part which activates the cell. Therefore, it has the advantage of targeted specificity of monoclonal antibody and artificially strengthened activation of the T-lymphocyte by activation and costimulation domains. T-lymphocyte with CAR is able to locate and eliminate target cell with given surface antigen and also activate other compartments of the immune system by cytokine production. CAR T-lymphocytes have a huge potential for treatment of hematological malignancies and research also comes with new achievements in CAR modification for elimination of solid tumors.