

**TITLE OF INVENTION: [A NOVEL MINIATURIZED CAR MOLECULE, PREPARATION
METHOD AND APPLICATION THEREFOR]
ABSTRACT**

The present invention relates to a novel miniaturized CAR molecule design, a preparation method and an application therefor. The novel miniaturized chimeric antigen receptor comprising an extracellular segment, a transmembrane region and an intracellular segment. The extracellular segment comprises an antigen-binding region and a hinge region; the intracellular segment comprises a portion of CD3 ζ in tandem with a co-stimulatory molecule. The chimeric antigen receptor has a length of equal to or less than 300 amino acids; the antigen-binding region of the extracellular segment has a length of equal to or less than 150 amino acids; the hinge region and the transmembrane region have a combined length of equal to or less than 70 amino acids; and the intracellular segment has a length of equal to or less than 100 amino acids.

[Fig. 1]