

CARRIER PROTEIN WITH SITE-DIRECTED MUTATION AND USE THEREOF IN PREPARATION OF VACCINE

ABSTRACT

The present invention relates to a carrier protein with site-directed mutation and use thereof in preparation of a vaccine, wherein the carrier protein is selected from fusion proteins formed by one, two or more of diphtheria toxoid, a non-toxic mutant of diphtheria toxin, a bacterial outer membrane protein and a bacterially expressed protein, wherein an amino acid at at least one site on the carrier protein is mutated into an unnatural amino acid, and the unnatural amino acid contains an azido or alkynyl terminal group. In a mutual reaction process of the carrier protein with site-directed mutation of the present invention and a polysaccharide antigen, a covalent bond is formed, and meanwhile a formed conjugate is in a bead-string state, so that the carrier protein and the polysaccharide antigen can be effectively prevented from being excessively crosslinked. Further, particle size distribution of the conjugate is significantly uniform and controllable, which provides an effective means for improving quality of a polysaccharide-protein conjugate vaccine.

[Figure 1]