N-GLYCOSYLATION AFFECTS HUMORAL IMMUNE RESPONSE OF HER1 CANCER VACCINE

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Vaccine preparations based on the extracellular domain of Her1 protein (Her1-ECD) have demonstrated, in vitro and in vivo, a potent antimetastatic effect on $EGFR^+$ Lewis lung carcinoma model, while associated side effects were absent. The Her1-ECD is a glycoprotein with a molecular weight of 105 kDa and has 11 potencial sites for N-glycosylation. Glycosylation is a post-translational modification that can affect the protein folding, stability, regulates protein half-life, immunogenecity, biological activity and other functions. In this work, the N-glycosylation Her1-ECD was preliminarily characterized by SDS-PAGE, glycan differentiation by lectin and normal phase chromatography. Finally, the biological activity of the glycosylated and totally deglycosylated Her1-ECD protein was compared. As results were obtained that N-glycosylation profile of Her1-ECD is composed of high mannose, hybrid and complex N-glycans types, and Her1-ECD glycosylation modifies the humoral immune response, measured as antibody titers, recognition of EGFR in A431 cell line and cell cycle arrest.