Dynamics of the bacterially expressed conserved immunogenic region of the human respiratory syncytial virus G protein.

ABSTRACT

Despite all efforts, there is still no effective vaccine available against the human respiratory syncytial virus (HRSV) that is a major cause of severe lower respiratory tract disease in infants and the elderly. In this review, we examined the potential of the conserved immunogenic region (residues 122-226) of the HRSV glycoprotein G alone as the inducer of neutralizing antibodies against this virus. The Escherichia coli produced recombinant conserved region of G (designated as G domain), which was used for rabbit immunization. Although rabbit is a semipermissive host for HRSV, our result showed that the polyclonal antibodies against the G domain protein could strongly neutralize the virus (69.3%), suggesting that the G immunogenic region of HRSV alone has a great potential in vaccine development. To our knowledge, this is the first report in which neutralizing antibodies to respiratory syncytial virus have been evoked using bacterially expressed G immunogenic domain protein without any adjuvant.

Keyword: Protein expression; Respiratory syncytial virus;G immunogenic domain.