A prime-boost vaccination protocol optimizes immune responses against the nucleocapsid protein of the SARS coronavirus.

Severe acute respiratory syndrome (SARS) is a serious infectious disease caused by the SARS coronavirus. We assessed the potential of prime-boost vaccination protocols based on the nucleocapsid (NC) protein co-administered with a derivative of the mucosal adjuvant MALP-2 or expressed by modified Vaccinia virus Ankara (MVA-NC) to stimulate humoral and cellular immune responses at systemic and mucosal levels. The obtained results demonstrated that strong immune responses can be elicited both at systemic and mucosal levels following a heterologous prime-boost vaccination protocol consisting in priming with NC protein add-mixed with MALP-2 by intranasal route and boosting with MVA-NC by intramuscular route.