ABSTRACT

Our previous work has shown that Saffold virus (SAFV) induced several rodent and primate cell lines to undergo apoptosis (Xu Y. *et al.*, 2014), but the essential viral proteins of SAFV involved in apoptotic activity lack study. In this study, we individually transfected the viral proteins of SAFV into HEp-2 and Vero cells to assess their ability to induce apoptosis, and found that the 2B and 3C proteins are proapoptotic. Further investigation indicated the transmembrane domain of the 2B protein is essential for the apoptotic activity and tetramer formation of the 2B protein. Our research provides clues for the possible mechanisms of apoptosis induced by SAFV in different cell lines. It also opens up new directions to study viral proteins (the 2B, 3C protein), and sets the stage for future exploration of any possible link between SAFV, inclusive of its related uncultivable genotypes, and multiple sclerosis.