ABSTRACT

Salmonella have been demonstrated to inhibit tumor growth. However, the mechanism of *Salmonella*-induced tumor cell death is less defined. Autophagy is a cellular process that mediates the degradation of long-lived proteins and unwanted organelles in the cytosol. Tumor cells frequently display lower levels of basal autophagic activity than their normal counterparts and fail to increase autophagic activity in response to stresses. Autophagy is involved in the cell defense elimination of bacteria. The signaling pathways leading to activation of *Salmonella*-induced autophagy in tumor cells remain to be elucidated. We used autophagy inhibitor (3-Methyladenine) and apoptosis inhibitor (Z-VAD-FMK) to demonstrate that *Salmonella* may induce cell death via apoptosis and autophagic pathway. Meanwhile, we suggested that *Salmonella* induce autophagy in a dose- and time- dependent manner. The autophagic markers were increased after tumor cell infected with *Salmonella*. In addition, the protein express levels of phosph-protein kinase B (P-AKT), phosph-mammalian targets of rapamycin (P-mTOR), phosph-p70 ribosomal s6 kinase (P-p70s6K) in tumor cells were decreased by western analysis after *Salmonella* infection. In conclusion, our results point out that *Salmonella* induce the autophagic signaling pathway via downregulation AKT/mTOR pathway. Herein, our findings that *Salmonella* in controlling tumor growth may induce autophagic signal pathway.