CHAPTER VII

CONCLUSION

In this study, expression level of livin and survivin in tissue of lung cancer patients were determined by Western blot analysis and found that their expression were undetectable in normal tissues, but become overexpressed in almost all of tumor tissues. This suggested the crucial role of these two anti-apoptotic proteins at the early stage of malignant transformation and thus potentially an ideal marker for identifying the type of cancer in which tumor cells can be readily isolated from body fluid, such bladder cancer and lung cancer.

In order to detect autoantibodies specific to livin and survivin, the expression vector pET-15b harboring livin and survivin encoding DNA were constructed and used to produce $(His)_6$ -livin and $(His)_6$ -survivin fusion proteins in respective successfully. An ELISA was optimized and set up by directly and selectively immobilized $(His)_6$ -livin and $(His)_6$ -survivin from crude cell lysate onto Ni^{2+}-coated microtiter plate. After obtaining optimal ELISA conditions, a set of human sera from 250 lung cancer patients were assayed. Our results showed that only 10.8% of lung cancer patients developed autoantibody against livin and 17.6% developed autoantibody against survivin. When the positivity of autoantibodies against livin and survivin in relation with the pathological feature of the corresponding tumor tissue was analyzed, it was found that although with a low frequency, anti-livin antibody was detected in lung cancer patients with all stage of

tumors, interestingly anti-survivin antibody was only detected in patients with stage I tumors (p=0.005). Although our results indicated that anti-survivin autoantibody may potentially possesses an early diagnostic value, further investigation of autoantibody response against larger number of tumor antigens in order to identify an appropriate panel of TAAs is needed to reach levels of sensitivity which could become routinely useful in diagnosis.