5 CHAPTER 5: CONCLUSION

An aspect of cancer research is to understand the complexities of the disease in terms of underlying principles, which, although they may be applied differentially in individual tumours, are still broadly applicable to all cancers. The ability of cancer cells to evade apoptosis is a fundamental trait, and provides tumour cells with a pathway by which they may avoid drug-induced apoptosis (Chandele et al., 2004).

The increased understanding of the mechanisms of apoptosis has led to novel therapeutic approaches that may be used to enhance apoptosis in tumour cells. Therefore modulation of apoptosis and apoptotic regulatory factors in the development of cervical cancer are of scientific interest. Studies investigating whether these molecular pathways could be the target of novel therapies for the prevention and treatment of cervical cancer are promising (Makin and Dives, 2001). Carcinogenesis results from imbalance between cell proliferation and cell elimination, whereby cells proliferation is uncontrolled. A balance between these two processes is found in the normal, in order to maintain tissue homeostasis.

DWNN-200 kDa has a similar sequence to RBBP6 and P2P-R on its downstream; these two proteins were found to be involved in apoptosis. DWNN is also associated with tumour suppressor proteins p53 and Rb; this raised a notion that it is involved in apoptosis. DWNN was highly expressed at the sites with high apoptosis levels, which suggests that DWNN is a pro-apoptotic protein. Bcl-2 protein was down-regulated at the sites where DWNN was highly expressed. The DWNN mRNA levels were confirmed by
LightCycler PCR, which indicated high expression of the transcripts. This confirms the postulate of DWNN involvement in apoptosis.

Nuclear localization indicated that this gene was transcribed for a specific function whilst the cytoplasmic staining indicated that the protein was in high demand, therefore mRNA was translocated into the cytoplasm for the protein to be synthesized. Its predicted ligase activity also supports the notion that DWNN is involved in the pathogenesis of cervical cancer and has a vital role in apoptosis.

Therefore, this work suggests that DWNN gene may be involved in apoptosis in cervical carcinoma.