CHAPTER 2

OBJECTIVES OF THE STUDY
Objectives of the study

Tumorigenesis is characterized by uncontrolled growth, invasion to surrounding tissues and metastasis to distant sites. Designing novel therapeutic strategies for treatment of tumors is possible with better understanding of the molecular mechanisms involved in tumor progression and survival. TNF-α is a potent inducer of NF-κB and PI3K/Akt pathway that are important in glioma survival. Malignant gliomas constitutively express high levels of activated Akt and NF-κB that correlate with aggressive nature and resistance of these tumors. The molecular events regulating Akt/PKB and NF-κB are not clearly understood. Identification of the downstream targets of these proteins is critical to develop inhibitors against them for anti-cancer therapy.

The present study aims at elucidating the molecular mechanisms contributing to survival, proliferation and invasion in gliomas, with the following objectives –

1. To identify the downstream pathways involved in the NF-κB and Akt activation important in resistance of gliomas.
2. To study the interrelationship between the prosurvival pathways -NF-κB and Akt.
3. To study the macrophage-tumor interactions in progression to gliomas.