Aims & Objectives
This thesis has been divided into three chapters;

I. In the first chapter, we transfected medulloblastoma and astrocytoma cell lines with GLI1 siRNA and in turn after efficient GLI1 knockdown (70-80%) we checked comparative expression of other downstream target genes including PTCH1, Cyclin D2, Plakoglobin, PAX6, NKX.2.2 and Bmi-1 and then also checked epigenetic regulation of PTCH1 and Cyclin D2 in these major brain tumours of cell lines and samples.

II. We further checked the expression of other involved genes of the Shh pathways including SMO, HHIP, SUFU, SFRP1 and GLI3 and thereafter determined the promoter hypermethylation of putative TSGs (tumour suppressor genes) namely HHIP, SUFU and SFRP1 in medulloblastoma and astrocytoma cell lines and primary tumor samples.

III. In third chapter, we have treated the medulloblastoma and astrocytoma cell lines with different concentration of Shh signaling specific inhibitor Cyclopamine and did MTT assay, Cell Cycle and Apoptosis analysis to estimate the cytotoxic and antiproliferative effects of this inhibitor on the treated cell lines.