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## Mutation detection of RB1 tumor suppressor gene (exon 18 & 19) and expression assay of FGF2 oncogene in patients with brain tumors including meningioma and astrocytoma

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Most studies have shown that there are association between the development and malignancy of brain tumors and tumor suppressor genes and oncogenes. The aim of this project is to investigate the *RB1* gene mutations in exon 18 and 19 and *FGF2* oncogene expression in patients with Astrocytoma and Meningioma type's brain tumor. This is an *in vitro* study in which the extraction of DNA from 20 samples of fresh brain tissue was performed by phenol-chloroform protocols. After PCR amplification of exon 18 and 19 of *RB1* gene, screening by SSCP (Single-Strand Conformation Polymorphism) was performed to detect the possible shifts. Those shifts were sequenced. Then the cells were extracted from fresh brain tissue for analysis of FGF2 gene expression by flow cytometry. In this study was detected two unknown variation (Heterozygote Substitution) in intronic regions including c.1815-170T>G and c.1960+107T>G; and one insertion mutation in intronic region c.1960+108\_1960+109insT. It was observed that FGF2 gene expression in astrocytoma samples was increased. Findings from this study were indicated that mutations in *RB1* gene mostly was in malignant astrocytoma brain tumor type; also, since the FGF2 gene expression in astrocytoma brain tumors was higher than benign meningioma type of brain tumors. Overexpression of FGF2 gene may play an essential role in malignant brain tumor and this may be important in diagnosis and new therapeutic methods of brain tumors treatment.

### Biography

Ali Hosseini Bereshneh has completed his Bsc in Clinical Laboratory Sciences (Medical Technology) from Mashhad University of Medical Sciences and he is currently pursuing MSc in Human Genetics, Department of Medical Genetics, School of Medicine, Tehran University of Medical Sciences. He has published more than 15 national and international papers in Iranian and international journals. He has published 5 national books in the area of Medical Genetics, Genetics of Dentistry and Prenatal Diagnosis & Genetic Counseling. He is a Member of Iranian Medical Genetics Society and Medical Laboratory Society.

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