Abstract No.234

Mutation Analysis of Tumor Suppressor Gene PTEN in a Random Population of Iranian Patients with Gastric Cancer

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PTEN (phosphatase and tensin homolog deleted on chromosome 10) is a tumor suppressor gene that encodes a dual-specificity protein phosphatase which contributes to regulation and propagation of signal transduction through the PI3K/AKT signaling pathway.The defects in this gene, for example mutations and deletions, are responsible for the development of some advanced cancers including endometrial cancers, ovarian cancers, and glioblastomas.The aim of this study is to investigate the significance of PTEN gene mutations on occurrence and development of gastric cancer.Exon 5 and 7 of PTEN gene were screened for mutations by " PCR-SSCP-DNA sequencing" followed by silver staining in 94 and 50 patients respectively with pathologically proven gastric carcinoma.No mutations were found in the regions mentioned. Our initial results suggest that there is no significant correlation between mutation in exon 5 and 7 of PTEN gene and occurrence and development of gastric cancer in Iranian patients. But, the exact results need further analysis.

Keywords: PTEN, Tumor Suppressor Gene, Gene Mutation, Gastric Cancer.

Abstract No.235

Studying of ATBF1 Mutations in a Random Population of Iranian Gastric Cancer Patients

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AT motif-binding factor 1 (ATBF1) is a transcription factor on 16q22 region with tumor suppressor activity that contains 4 homeodomains and 23 zinc-finger motifs . ATBF1 was identified as a transcription factor that binds to an AT-rich region, known as the AT motif in the α-fetoprotein gene promoter region.This transcription factor, down regulates AFP gene expression through binding to the AT motif competitively with hepatocyte nuclear factor 1(HNF1) .ATBF1 protein is known to interact with various proteins including c-Myb and PIAS3. ATBF1 represses c-Myb transcription activity through protein–protein interactions, which may in turn result in the suppression of cell growth and differentiation. Moreover, ATBF1 cooperates with p53 to activate the p21Waf1/Cip1 promoter and trigger cell cycle arrest. α-Fetoprotein (AFP) producing gastric cancers are aggressive tumors with venous and lymphatic invasion and hepatic metastasis. The goal of the present study is to investigate whether somatic changes in the AT motif binding factor-1(ATBF1) gene in exon 9 and 10 and LOH analysis with two microsatellite markers D16S3066 and D16S3139 in the development or progression of gastric cancer. Until now we have searched for allelic loss (LOH) with the microsatellite marker D16S3066 at the ATBF1locus by single-strand conformational polymorphism (SSCP) and sequencing methods in tumor and blood samples of 14 different patients with gastric cancer. We haven't found any LOH in tumor samples yet. However, we need to study more samples to investigate the correlation between progression of gastric cancer and allelic loss in this region in Iranian patients.Methods: DNA extraction from blood and tumor tissues, PCR of DNA samples, SSCP of PCR products and sequencing of DNA samples.

Keywords: AT motif-binding factor 1(ATBF1), D16S3066, D16S3139, Gastric Cancer.

Abstract No.236

Erlotinib-Protein Binding: HPLC Method Development and Validation

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Lung cancer is the leading cause of cancer-related mortality worldwide, for both men and women. Erlotinib a reversible tyrosine kinase inhibitor, which acts on the epidermal growth factor receptor (EGFR) is almost a new drug used for the treatment of non-small cell lung cancer after the failure of more than one or two courses of previous chemotherapy. The binding of drug to plasma proteins can influence its action and pharmacologic response. Therefore protein binding studies would be of great importance from the clinical point of view. In the present study a simple and rapid reversed-phase high performance