

7th Middle East - Global Summit and Expo on **Vaccines & Vaccination**

September 28-29, 2015 Dubai, UAE

Deregulation and mutation in proto-oncogene is EGFR

Noveen

University of Veterinary and Animal Sciences, Pakistan

The deregulation and mutation in proto-oncogene is EGFR (Epidermal growth factor receptor), whose translated protein act as a transcription factor and regulates the expression of various gene. EGFR proteins bind DNA at specific sites i.e., e-box sequence and initiates the transcription of other gene and control their expression. EGFR is assumed to regulate 15% of all cellular genes. EGFR is spotted in about 70% of all cancer. DNA was extracted from tissue by using Trizol Method and quantity was checked by Nano-Drop Spectrophotometer. Four Primer sets were designed to amplify protein coding region of EGFR gene. After amplification through PCR, DNA Sequencing was done. Data interpretation was done by using different software like BLAST alignment tool, chromas Lite, Mega 5.2, Phyre 2, VMD 1.9.1 and PYMOL. A polymorphic change was detected in protein coding region of EGFR gene which causes an amino acid substitution at Lys 355 by arginine thus changing the EGFR protein sequence. But this change might not affect protein structure much as in some bHLH proteins Arg 355 resides normally. Some changes in the 3' UTR which might play crucial part in stabilizing the EGFR protein by altering silencer box or mi-RNA binding sites. Thus high level of stable EGFR protein causes increase cell division leading to tumor production. I tried to find out the novel mutations in EGFR (Epidermal growth factor receptor) and also doing comparative study (human/dog). This Study will make available the genetic data and contribute substantial addition in the existing information in animal genetic resources. It would also aid in future to access the possibility whether EGFR can serve as a useful marker for diagnosis and prognosis of these malignancies. The need for today is to develop valid biomarkers which can be incorporated in ongoing in vivo and in vitro clinical mechanistic and improve the diagnosis and prognosis of this dreadful disease. Cancer preventive vaccines target infectious agents that cause or contribute to the development of cancer. They are similar to traditional vaccines which help to prevent infectious diseases such as measles or polio by protecting the body against infection. Both cancer preventive vaccines and traditional vaccines are based on antigens that are carried by infectious agents and that are relatively easy for the immune system to recognize as foreign. Cancer treatment vaccines are designed to work by activating B cells and killer T cells and directing them to recognize and act against specific types of cancer. They do this by introducing one or more molecules known as antigens into the body usually by injection. An antigen is a substance that stimulates a specific immune response. An antigen can be a protein or another type of molecule found on the surface of or inside a cell. Vaccine is used for early diagnosis as prophylactic and therapeutic vaccines.

noveennawaz@gmail.com

Notes: