

# **MUHAMMAD AKRAM**

*Research Officer*

*DNA Core Facility*

*Centre for Applied Molecular Biology*

*University of the Punjab, Lahore.*

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## **OBJECTIVE**

To work in a team-oriented R&D environment leveraging my expertise in molecular biology and to seek challenging assignment and responsibility, with an opportunity for growth and career advancement as successful achievements.

## **POSTAL ADDRESS**

**Office:** Centre for Applied Molecular Biology, 87-West Canal Bank, Thokar Niaz Baig, Lahore-53700, Pakistan

## **EDUCATION**

M.Phil in Molecular Biology and Forensic Science  
University of the Punjab Lahore

M.Sc. Chemistry (Specialization Organic Chemistry)  
University of the Punjab Lahore

## **AREAS OF INTEREST**

- Molecular Genetics, Genome wide Association Studies
- Bioinformatics
- DNA Sequencing and Genotyping
- Human Recombinant Proteins

## **SCIENTIFIC AND RESEARCH EXPERIENCE**

- Worked on “*Some Enzymatic Reactions of Carbonyl compounds*” in GC University Lahore as my M.Sc research work in 2005.
- I joined Centre for Applied Molecular Biology as Research Officer in 2008. Group wise scientific and research activities are

### ***BIOPHARMACEUTICAL LAB (2008-2014)***

My scientific and research activities in Biopharmaceutical Lab as a group member are

- Recombinant protein purification using AKTA Explorer and AKTA Pilot purification systems.
- Expression studies, fermentation and purification of different human recombinant proteins.
- Optimizing reaction conditions for PEGylation of human recombinant proteins and purification of mono PEGylated proteins at lab scale.
- Different quality control tests for recombinant proteins.

### ***DNA Core Facility (2014 to date)***

#### **1) Research and Development**

Working as team member in Asthma Genetics Research Group on **“genetic association of different SNP variants of different genes with asthma in Pakistani Population”**

Worked on **“Asthma susceptible variants in vascular endothelial growth factor-A and Transforming growth factor- $\beta$ 1 genes”** as my M.Phil research work.

#### **2) Commercial Services**

Providing commercial services for DNA Sequencing analysis and DNA Genotyping to almost all the Universities and R&D organizations of Pakistan.

### ***INSTRUMENTATION SKILLS AND MOLECULAR BIOLOGY TECHNIQUES***

Good command on following scientific equipments and molecular biology techniques

- AKTA PILOT Protein Purification System
- AKTA Explorer Protein Purification System
- Genetic Analyzers (ABI-3730 and ABI 3130)

- High Performance Liquid Chromatography (HPLC)
- Gas Chromatograph (GC)
- UV-Vis Spectrophotometer
- PCR
- Peptide Mapping
- SDS-PAGE
- Agarose Gel Electrophoresis
- Iso-electric Focusing
- Western Blotting
- Sequencing PCR
- Genotyping and DNA Fragment Analysis
- DNA/RNA extraction both using commercial kits as well as manual methods
- And other basic molecular biology techniques.

## ***BIOINFORMATICS SKILLS***

Good command on different bioinformatics tools used for DNA sequencing analysis and DNA fragment analysis and primer designing such as

- Sequencing Analysis
- GeneMapper
- Chromas
- Primer3

Also have a good command on different software used for basic statistics, LD & Haplotype Structure determination, statistical analysis of genetic markers including microsatellite data, single nucleotide polymorphism (SNP) data, and genetic association analysis

- IBM SPSS Statistics 20
- Haploview 4.2
- Power Marker v 3.25
- SHEsis

## ***WORKSHOPS, TRAININGS AND CONFERENCES***

- Participated in an international conference on “ Trends and Prospects in Molecular Biosciences ” organized by Institute of Biochemistry and Biotechnology, University of the Punjab, Lahore, Pakistan on October 23-24, 2017.
- Participated in a conference on “ Emerging trends in Bioinformatics and Biosciences” organized by Department of Bioinformatics, Hazara University, Mansehra, KP, Pakistan on July 20-22, 2017.

- Participated in a seminar on “Advances in PCR Technology” jointly organized by CAMB and Chemical House Lahore Pakistan on April 5, 2017.
- Organized an “Awareness seminar on Lungs and Bronchial Diseases” conducted by Centre for Applied Molecular Biology (CAMB), University of the Punjab in collaboration with Pakistan Chest Society and Gull’s Association on November 17, 2016.
- Participated in a conference on “DNA Day & NAYS Emerging Ideas Conference” organized by National Academy of Young Scientists (NAYS) and Centre of Excellence in Molecular Biology with sponsorship of The Emerging Nations Science Foundation (ENSF) on 25<sup>th</sup> April 2013.

## PUBLICATIONS

- Muhammad Farooq Sabar, Mariam Shahid , Iqbal Bano, Muhammad Usman Ghani, **Muhammad Akram**, Farheena Iqbal, Samra Kousar, Zafar Iqbal, Saba Altaf & Tayyab Husnain , “**rs12603332 is associated with male asthma patients specifically in urban areas of Lahore, Pakistan**”, Journal of Asthma (2017), 54:9, 887-892  
<http://dx.doi.org/10.1080/02770903.2016.1277539>
- Muhammad Usman Ghani, Muhammad Farooq Sabar, Mariam Shahid, Farheena Iqbal Awan, **Muhammad Akram**, “**A report on asthma genetics studies in Pakistani population**”, Advancements in Life Sciences (2017), Feb;4(2):33-38. ISSN 2310-5380.
- Muhammad Farooq Sabar, Muhammad Usman Ghani, Mariam Shahid, Aleena Sumrin

## ABSTRACTS PUBLISHED

- **variants of ADAM33 are associated with asthma susceptibility in the Punjabi population of Pakistan**, Journal of Asthma (2016), DOI: 10.3109/02770903.2015.1124441
- Muhammad Farooq Sabar, Muhammad Usman Ghani, Mariam Shahid, Aleena Sumrin, Amjad Ali, Farheena Iqbal, **Muhammad Akram**, Muhammad Akram Tariq, Muhammad Iqbal “**Genetic association of ADAM33’s SNP variants with Asthma in the Population of Lahore Region, Pakistan**” (*Asian J Agri Biol Special Issue-2015*)  
➤ Ahmed, N.; H. Bashir, A. U. Zafar, M. A. Khan, S. Tahir, F. Khan, M. I. Khan, **M. Akram** and T. Husnain. “**Optimization of conditions for high-level expression and purification of human recombinant consensus interferon (rh-CIFN) and its characterization.**”  
➤ Muhammad Farooq Sabar, Muhammad Usman Ghani, Farheena Iqbal Awan, Mariam Shahid, **Muhammad Akram** and Iqbal Bano “**Role of Genomic Variants in Predisposition of Asthma in Pakistani Patients**” 3<sup>rd</sup> International Conference on Biotechnology 8-9 February 2017(USA Journal of R&D)  
Biotechnol Appl Biochem (2015) Sep;62(5):699-708. doi: 10.1002/bab.1520. Epub 2015 Jan 30.
- Muhammad Usman Ghani, Muhammad Farooq Sabar, Iqbal Bano, Mariam Shahid, **Muhammad Akram** and Nadeem Sheikh “**ADAM33 gene variants rs2280089, rs2280090, rs2280091 are not associated with asthma in local Patients**” 2nd International Biennial CardioRespiratory Conference-2017” 03-05 March, 2017.

- Muhammad Farooq Sabar, Muhammad Usman Ghani, Farheena Iqbal Awan, Mariam Shahid, **Muhammad Akram** and Iqbal Bano “**Significance of Vitamin-D Receptor Gene Polymorphism as a Biomarker for Asthma in Punjabi Population of Pakistan**” ICAFS2017&7th ICBB