From: Bandana [mailto:dhimanb1@rediffmail.com]
Sent: Wednesday, April 12, 2006 9:44 AM
To: Biocomplexity Institute
Subject: Application for post doc Research Fellow Position

Hi

This is in response to advertisement in Sciencejobs.com for Post Doc Fellow position in your laboratory. I am forwarding my CV for your kind consideration. I have extensive experience in molecular biology during my Ph.D. Apart from that I also have an experience in microbiology and handling of HPLC, LC/MS/MS which I used while working in the R&D of one of the pharmaceutical company. I have an exposure on protein purification and protein assay. The details are in the CV. If you need any other information, I would be happy to provide that. I have given the name of my references in the CV itself and you can contact them directly.

Moreover, I am in position to start working immediately if provided with the opportunity.

Looking forward to your reply

Thanks and regards
Bandana Ph.D.

[LL] Taken from CV:

Research experience:

Projects in GVKBiosciences Pvt. Ltd.: Worked as a Senior Research Associate in pharmaceutical company. There I was doing **histological** study of Mycobacterium tuberculosis and **pDNA isolation** from various clinical samples like CSF, sputum, blood, urine and tissues. During this period, I standardized a new set of **PCR amplification parameters**, for the diagnosis of Mycobacterium Tuberculosis in patients.

In other project, I was working on method development, validation and bioequivalence studies of drugs, metabolites and endogenous compounds from biological matrices using **HPLC and LC/MS/MS techniques**. Apart from this, I also had the responsibility of designing the SOPs, analysis & interpretation of data and report generation.

Doctoral Research Work: Ph.D. Research work was focused on the development of species-specific primers/molecular markers for the detection of biological adulterants in tea (black tea). Tea is adulterated with material which looks similar to it. It gets subjected to various conditions during processing i.e. crushing, enzymatic oxidation and enzyme inactivation at high temperature. It is difficult to identify the adulterants in tea by visual inspection and biochemical analysis. For the development of molecular markers, DNA was the prime requirement which is suitable for further experiments. Hence, the protocol was developed for DNA isolation from processed tea and their

adulterants. The isolated DNA was efficiently amplified by using random and specific primers. Spacer regions of 5S rRNA gene were targeted and selected fragments were cloned and sequenced. Sequences were aligned by using PC gene software and species specific primers were designed. Specific PCR amplification parameters (magnesium Ion conc, primer conc, annealing time and temperature and extension time) were optimized for each plant by using their respective species specific designed primers. Checked the specificity of the designed primers by analyzing them across a wide spectrum of DNA. The species specific amplified fragments were used as a probe for dot blotting and southern hybridization. An attempt was also made to develop gene specific molecular markers by using differential display gene isolation technique. This study is useful in identification of specific species of biological sample even in a processed material.
Various molecular techniques employed for the above mentioned work includes isolation of **RNA** and **DNA**, **RT-PCR, differential display, gene isolation**, **cDNA library screening**, **cloning, transformation, sequencing, northern** and **southern hybridization.** From the above mentioned work, two US patents were filed.

Other Projects at IHBT, Palampur, India:

***DNA Fingerprinting of Tea germplasm*:** Tea genomic library was screened for the development of tea specific probes. The various techniques employed for this study were cloning, sequencing, PCR amplification, SSCP, dot blotting, northern and southern hybridization. Identified the genetic relatedness among various species of the same genus and prepared phylogenetic tree using Ntsys software. We found a highly repeated region in tea and the same sequences have been submitted in gene bank.
***Characterization of transgenic plants*:** Characterized the transgenic plants (Tea) for stable transformation of genes with standardized PCR amplification and southern hybridization conditions.
Characterization of chloroplast transformation Vector: Studies were carried out to check the universality of chloroplast vector in wide number of plant species. The constructed vector can be useful for the transformation in different types of plant species.

M.Sc. Projects: During my M.Sc. I have worked on two different projects. The first project, *"Biological decolourization of Methyl Blue by Phanerochaete Chrysosporium and Kurthia sp."* was done at the Institute of Microbial Technology Chandigarh (India). There, I worked on decolorization of dyes with bacteria and fungus at different temperature and cell stage, biochemical analysis of dyes by using TLC, isolation of active proteins, protein purification and separation of proteins using native PAGE and SDS-PAGE. In the second project entitled *"Isolation and selection of cellulase producing microbes and applications of cellulase in juice clarification"* in the Dept. of Biotechnology Himachal Pradesh University Shimla (India), I isolated the cellulase producing microorganisms (Bacterial and fungul) from various sources**.** The selected clones were grown and assayed for enzyme (cellulase) activity. Further the desired protein was purified with the help of column chromatography and was applied for the juice clarification at different enzyme units.