

PROJECT REPORT
ON

**Identification of Common Differentially Expressed Genes in Multiple
Cancer Disease Using Microarray Data analysis**

Work carried out
at
Department of Biotechnology
Siddaganga Institute of Technology, TUMKUR

Submitted in partial fulfillment of the requirement for the award of

**Bachelor of Engineering
in
BIOTECHNOLOGY**

**Visvesvaraya Technological University, Belgaum
By**

Manish Kumar Sinha	1SI07BT017
Rahul Kumar	1SI07BT026
Siddhartha Pandey	1SI06BT022
Yashvanth Kumar.N	1SI06BT024

Under the guidance of
Internal Guide:
Mr.Manjunath Dammalli
Assistant Professor, Department of Biotechnology



**DEPARTMENT OF BIOTECHNOLOGY
SIDDAGANGA INSTITUTE OF TECHNOLOGY
TUMKUR-572103**

2010 - 2011

ABSTRACT

Cancer is a generic term for a large group of diseases that can affect any part of the body. Other terms used are malignant tumours and neoplasms. One defining feature of cancer is the rapid creation of abnormal cells that grow beyond their usual boundaries, and which can then invade adjoining parts of the body and spread to other organs.

DNA microarray is providing an unprecedented amount of information about the genetic changes. From the analysis of the data, we can get insights into various diseases such as cancer whose information is difficult to be obtained and it also provides a bimodality index for identifying and scoring transcript expression profiles as biomarker candidates with the benefit of having a direct relation to expression level of the gene and sample size.

Only data sets containing values for tumors and normal tissues were selected. Data sets for gene expression profiles were obtained by downloading the expression values in tabular form from Gene Expression Omnibus (GEO) and the supplementary information of published manuscripts. Then the datasets were screened.

We identified a set of genes which are common and differentially expressed in multiple cancers those might be useful in the further analysis of fundamental signal transduction pathways that lead to carcinomas, so that these genes can act as biomarkers for drug design.

Keywords: Cancer, Microarray, Data analysis, Gene expression.