

Biointerpreter

Biological significance of gene list in one click

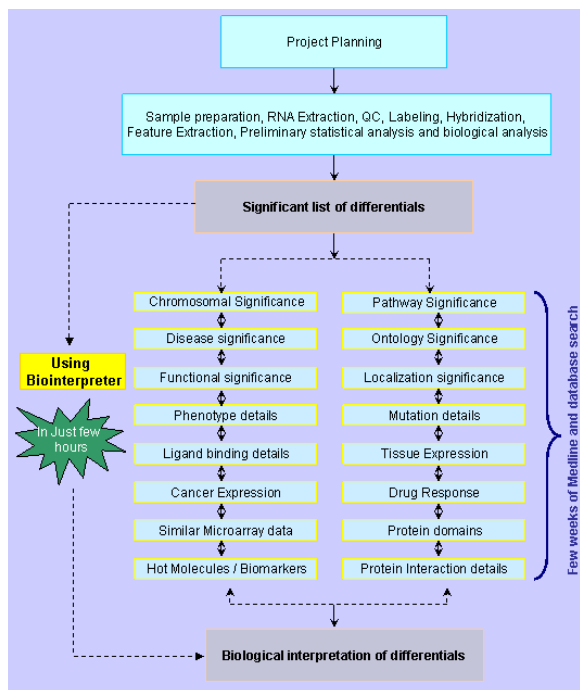
Highlights

- ❖ Comes from India's first Microarray company
- ❖ Helps derive full value of your microarray study
- ❖ Quick and comprehensive: saves weeks without compromising on depth of information
- ❖ Web-based, easy to use tool
- ❖ Only tool providing curated gene expression data
- ❖ Biologist friendly: Advanced Excel and database skills not required

Overview

Your microarray projects generate clusters of hundreds to thousands of differentially expressed genes. Even with the help of comprehensive information resources and specialized skills, you could spend weeks to derive biological significance from these gene clusters. Finally, in the interest of time, the most interesting biological significances are picked up, often missing the subtle and not so obvious ones. You might worry that you may not have fully realized the value of your microarray data.

Microarray & Biointerpreter workflow



Alternatives

There are a number of open source and commercial tools available that help us analyze biological data a little more meaningfully. However, each of these tools provides answers to different pieces of the puzzle. Combining the answers to make sense of the whole becomes a new puzzle. Second, understanding how to use these tools can be a time consuming task. *The biggest part of the puzzle - deriving biological significance using curated and comprehensive gene expression and literature data from other studies - is still not available from any other source/tool.*

Biointerpreter

Genotypic Biointerpreter allows you to confidently analyze your micro array data without the issues that you face today:

- ✓ Provides 15 different biological views using different parameters like genomic location, pathways, diseases, drug response, and so on. This makes Biointerpreter a truly comprehensive resource that would definitely work the best for you.
- ✓ Can decipher the significance of a gene list in minutes. This saves you enormous amounts of time and effort.
- ✓ Allows you to query using diverse gene identifiers (17 different gene ids like Affymetrix, Agilent, Genbank, Unigene etc). Biointerpreter combines the facilities provided by multiple tools using any ID type.
- ✓ Allows you to drill down to the source of information, allowing you to quickly validate the reliability of the information.
- ✓ Allows you to switch between organisms at will ... a unique feature of Biointerpreter. For example, for a list of mouse genes, you can view the biological significance of homologs genes in human database.
- ✓ Helps you to readily identify hot molecules like cancer markers, drug targets etc hidden in your list. You will not miss important genes that control key processes.

Biointerpreter design and contents

Biointerpreter is designed based on Genotypic's experience in microarray analysis services. The suggestions and requirements of microarray users worldwide have been translated to a user friendly product. It contains comprehensive and verified annotations from sequence and annotation databases. Contains microarray data tables from over hundreds of publications and is constantly growing. Data curated from over 500,000 Pubmed abstracts and topic specific databases are used to index genes for Disease, function, drug associations and other 150 classes. The database is updated every month.

Trial Offer

Genotypic is currently offering free, time-limited, full-functionality access to Biointerpreter to users who have significant research interests.

Write to biointerpreter@genotypic.co.in or register at <http://www.biointerpreter.com/>



Expression Condition	Up	Down	Both	P value
<input type="checkbox"/> Asthma[11]	1	0	0	0.0002
<input type="checkbox"/> Metabolism[40]	2	0	0	0.0002
<input type="checkbox"/> Wildtype Vs Mutant[94]	3	0	0	0.0005
<input type="checkbox"/> Atherosclerosis[164]	3	1	0	0.001
<input type="checkbox"/> Gene mutation over expression[14]	1	0	0	0.0011
<input type="checkbox"/> Cell Line Vs Tumor[705]	10	0	0	0.0012
<input type="checkbox"/> Lupus[51]	1	1	0	0.0012

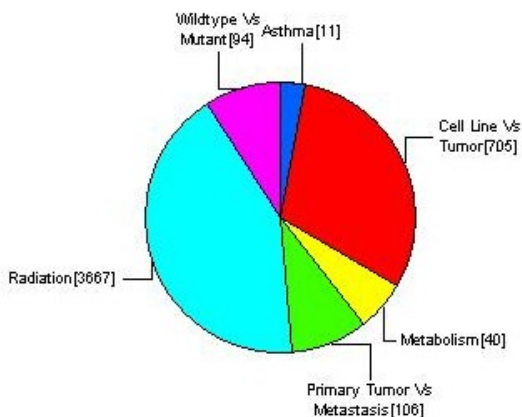
- Biological significance of your genelist in pathways, functions, diseases and many more...
- Find similar gene expression study
- Create table, charts for publications

And
 Or(Default)

Gene list for Selected Gene Expression

Description (Click on Unigene to view detail annotation of the gene)

Query id	Unigene ID	Gene Symbol	Gene Name	Metabolism	Cell Line Vs Tumor	Inflammation	Radiation
BCL3	Hs.31210	BCL3	B-cell CLL/lymphoma 3	None	None	Up-1	None
PYGL	Hs.282417	PYGL	Phosphorylase, glycogen, liver	Up-1	None	None	None
CTS2	Hs.252549	CTS2	Cathepsin Z	Up-1	None	None	Up-1
HIST1H2BK	Hs.437275	HIST1H2BK	Histone cluster 1, H2bk	None	None	None	Down-1
SPARC	Hs.111779	SPARC	Secreted protein, acidic, cysteine-rich (osteonectin)	None	None	None	Up-2
PDXK	Hs.284491	PDXK	Pyridoxal (pyridoxine, vitamin B6) kinase	None	None	None	Down-1
RRM2	Hs.226390	RRM2	Ribonucleotide reductase M2 polypeptide	None	None	None	Down-1



Save results, make reports
Drill down to the source of information

GeneName	Count
Cell Line Vs Tumor[705]	10
Primary Tumor Vs Metastasis[106]	3
Asthma[11]	1
Metabolism[40]	2
Radiation[3667]	14
Wildtype Vs Mutant[94]	3

Pathway

Pathway	No of genes	P value
<input type="checkbox"/> Systemic lupus erythematosus[139]	6	1E-09
<input type="checkbox"/> Chemokine signaling pathway[195]	6	1E-09
<input type="checkbox"/> Fc gamma R-mediated phagocytosis[100]	3	1E-09
<input type="checkbox"/> Hematopoietic cell lineage[85]	6	0.0019
<input type="checkbox"/> Vitamin B6 metabolism[5]	1	0.0111

Biointerpreter Detailed Annotation

Description

Detailed Annotation For- Hs.31210	
Gene Name	B-cell CLL/lymphoma 3
Gene Symbol	BCL3
SwissPort ID	BCL3_HUMAN
Unigene ID	Hs.31210
Functional Annotation	Activation;Antigen Processing And Presentation;Apoptosis;Cell Cycle;Cell Proliferation;Gene Regulation;Growth Factors And Regulators;Immune Response;Infection;Inflammation;Metabolism;Negative Gene Regulation;
Genotypic Curation	Signal Transduction [1];Transcription Regulation [2];Activation [1];Antigen Processing And Presentation [2];Apoptosis [2];Cell Proliferation [1];Growth Factors And Regulators [1];Immune Response [5];Inflammation [2];Lymphoma [5];Myeloma [1];Oncogenesis [5];Receptors Ligand Mediation [1]
Gene Expression Data	In Mutant -In mouse;Immunosuppression -In mouse;Stimulated response;Growth factor treatment;Cell specific expression;Cancer specific;Other Infection;Bacterial Infection;Viral Infection;Stress;Inflammation;
Gene Summary	B-cell CLL/lymphoma 3
	C: Bcl3-Bcl10 complexGO:0032996 P: defense response to protozoanGO:0042832 P: T-helper 1 type immune responseGO:0042088 P: regulation of NF-kappaB import into nucleusGO:0042345 P: negative regulation of tumor necrosis factor biosynthetic processGO:0042536 P: defense response to bacteriumGO:0042742 P: DNA damage response, signal transduction by p53 class mediator resulting in induction of apoptosisGO:0042771 C: Bcl3/NF-kappaB2 complexGO:0033257 P: negative regulation of apoptosisGO:0043066 P: T-helper 2 cell differentiationGO:0045064 P: positive regulation of interleukin-10 biosynthetic processGO:0045082 P: negative regulation of interleukin-8 biosynthetic processGO:0045415 P: positive regulation of transcriptionGO:0045941 P: spleen developmentGO:0048536 P: regulation of DNA bindingGO:0051101

About Genotypic Technology

Genotypic was founded by PhDs in Biotechnology, who have been working with Microarrays since its inception in 1996. Established in 2000, Genotypic is the first Microarray company in India. An Agilent Certified microarray service provider and a distributor for Genespring, Genotypic has run several microarray projects for both Academia and Industries worldwide. Genotypic is a trusted Genomics and Bioinformatics partner for academia, pharmaceuticals and Biotech companies worldwide.

Bio-IT @ Genotypic

Bio-IT @ Genotypic have proven capability in designing bioinformatics solutions for genomics research. Our major focus is on Microarray analysis, Sequence analysis, constructing annotation databases and customized Bioinformatics solutions. Bio-IT @ Genotypic has successfully developed Sequence based diagnostics application (SADA), and MedRuner – a biomedical literature mining tool.

Contact Genotypic today for special pricing

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