

Biointerpreter

Biological significance of gene list in one click

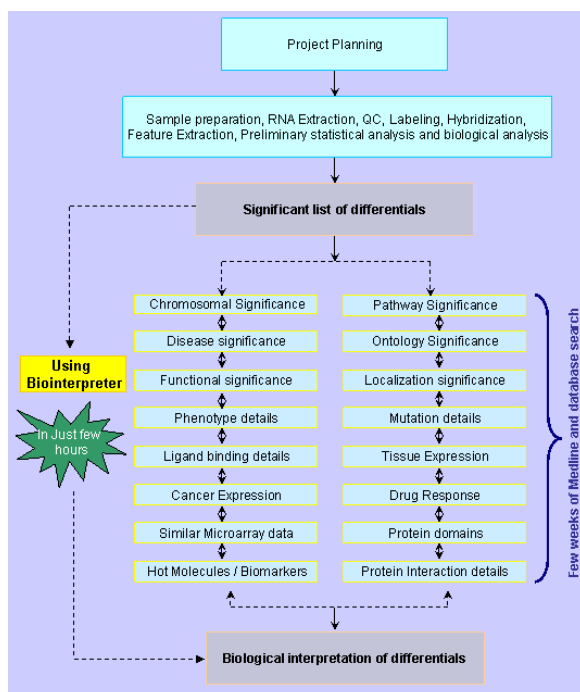
Highlights

- ❖ 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

Currently, a comprehensive analysis requires the use of multiple tools and multiple sources of information, each providing information on one aspect of the biological question. Compiling information from various sources and using the information to make biological interpretation becomes a time consuming and challenging task requiring expertise of multiple disciplines.

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.
- ✓ Can decipher the significance of a gene list in minutes saving enormous amount 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 typ.
- ✓ 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 homologous 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

Over a decade of experience in Analysis of microarray data has gone into the design of Biointerpreter. 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 and microarray data tables from over hundreds of publications. 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://genotypic.co.in/biointerpreter.html>



Expression Condition	Up	Down	Both	P value
Deafness[56]	1	0	0	1E-09
Gene Activation response[1285]	7	0	4	0.0012
Gene regulation[107]	1	0	0	1E-09
Growth factor treatment[1348]	8	0	1	0.0254
Immunomodulation[100]	0	1	0	0.0021
Obesity[354]	2	0	0	0.0123
Senescence[2942]	2	2	1	0.039
Stimulated response[3844]	3	0	6	0.042

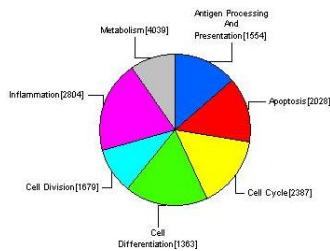
Create tables, charts for publication

Biological significance of your gene list in Pathways, Functions, Diseases, Gene Ontology and many more..

Biological significance

Make comparison tables & Charts

Gene Annotation Report



Pathway	No of genes	P value
Cytokine-cytokine receptor interaction[261]	3	0.003
Jak-STAT signaling pathway[159]	3	0.254
TGF-beta signaling pathway[90]	1	1E-09
Hematopoietic cell lineage[91]	3	0.00012
Focal adhesion[210]	1	0.0421
Prion disease[17]	1	1E-09

Detailed Annotation For- Hs.171825	
Gene Name	Basic helix-loop-helix domain containing, class B, 2
Gene Symbol	BHLHB2
SwissPort ID	BHLH2_HUMAN
UniGene ID	Hs.171825
Functional Annotation	Apoptosis;Cell Differentiation;Gene Regulation;Metabolism;Negative Gene Regulation; Transcription Regulation [2];Transcription [3];Cell Proliferation [1];Neuronal [1];RNA Machinery [3];Stress [1];Apoptosis [1];Cell Differentiation [1];Lung Cancer [1];Activation [3];Aging [1];Antigen Processing And Presentation [4];Cell Division [1];Gene Regulation [2];Homeostasis [1];Immune Response [1];Inflammation [5];Pancreatic Cancer [1];Prognosis & Diagnosis [4];Receptors Ligand Mediation [2]
Gene Expression Data	Stimulated response;Hormone treatment;Growth factor treatment;Gene Activation response;Cell specific expression;Alzheimers;Bacterial Infection;Viral Infection;Stress;
Gene Summary	DEC1 encodes a basic helix-loop-helix protein expressed in various tissues. Expression in the chondrocytes is responsive to the addition of Bt2cAMP. Differentiated embryo chondrocyte expressed gene 1 is believed to be involved in the control of cell differentiation.
Gene Ontology	transcription factor activity (F) GO:0003700 protein binding (F) GO:003515 nucleus (C) GO:0005634 transcriptional repressor activity (F) GO:0016564 negative regulation of transcription, DNA-dependent (P) GO:0045892
Protein Ontology	C1nucleus ; F:transcription factor activity ; P:regulation of transcription, DNA-dependent NAS:UniProtKB.
Protein Function	May function as a transcriptional factor to modulate chondrogenesis in response to the cAMP pathway. Findings suggest that the basic region of DEC1 participates in the transcriptional regulation through a protein-protein interaction with BMAL1 and DNA binding to the E-box_15560782. DEC1-mediated repression on the expression of DEC2 provides an important mechanism that these transcription factors regulate the cellular function of members within the same class 12624110. DEC1 is the first transcription factor that can promote both chondrogenic differentiation and terminal differentiation 12384505
GeneRIF	

Save Results & Make Reports

Drill down to the source of information

Query id	UniGene ID	Gene Symbol	Gene Name	Angiogenesis	Angiogenesis
205992_s_at	Hs.169132	IL15	Interleukin 15	1	2
201170_s_at	Hs.171825	BHLHB2	Basic helix-loop-helix domain containing, class B, 2	0	0
35414_s_at	Hs.224912	JAG1	Jagged 1 (Alagille syndrome)	0	0
31485_s_at	Hs.183815	MNI1	Meningioma (disrupted in balanced translocation) 1	0	0
202628_s_at	Hs.414795	SERPINE1	Serpin peptidase inhibitor, clade E (nexin, plasminogen activator inhibitor type 1), member 1	0	9
204790_at	Hs.465087	SMAD7	SMAD family member 7	1	0
35464_at	Hs.467304	IL11	Interleukin 11	0	0
237728_at	Hs.482077	ITGA2	Integrin, alpha 2 (CD49B, alpha 2 subunit of VLA-2 receptor)	0	5
205207_at	Hs.512234	IL6	Interleukin 6 (interferon, beta 2)	2	9
209101_at	Hs.581346	CTGF	Connective tissue growth factor	1	9
37283_at	Hs.268515	MNI1	Meningioma (disrupted in balanced translocation) 1	0	0
38125_at	Hs.414795	SERPINE1	Serpin peptidase inhibitor, clade E (nexin, plasminogen activator inhibitor type 1), member 1	0	9
38299_at	Hs.512234	IL6	Interleukin 6 (interferon, beta 2)	2	9

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. The 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 MedRunner – a biomedical literature mining tool.

Genotypic Technology Private Limited

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