



**CONFIDENTLY
BETTER
BIOINFORMATICS
SOLUTIONS**



CONFIDENTLY BETTER **Integrated Software**

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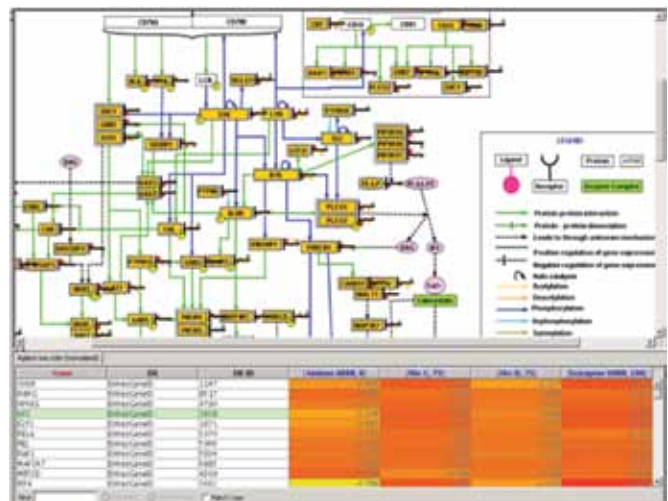


Turning Measurement *Into Discovery*

Software for Discovery; Solutions for Biologists

GeneSpring provides powerful, workflow-driven statistical tools for intuitive visualization and data analysis. Designed specifically for the needs of biologists, GeneSpring offers an interactive computing environment that promotes investigation and enables understanding of data within a biological context.

Regarded as the gold standard in expression analysis, GeneSpring allows you to quickly and reliably identify targets of interest that are both statistically and biologically meaningful. As a biological analysis tool, more than 400 technology types—from microarray annotation to NGS genomes—are prepackaged for use, along with Gene Ontologies, variant databases, and curated pathways. GeneSpring receives over 100 references per month in Google Scholar, and has enabled thousands of researchers to turn biological measurement into biological insight.



Integrated Analysis with GeneSpring's Pathway Tools

By integrating multiple comprehensive analyses from genomics, transcriptomics, proteomics, and metabolomics studies, researchers can generate a better depiction of the biological system, leading to a more accurate and detailed understanding of the molecular pathways that underlie their system's emergent properties.

GeneSpring includes curated, canonical, and machine-generated pathways for intuitive biological contextualization as well as network capabilities to allow researchers to quickly generate and dynamically explore phenotypic networks.

CONFIDENTLY BETTER **Microarray Analysis**

GeneSpring GX

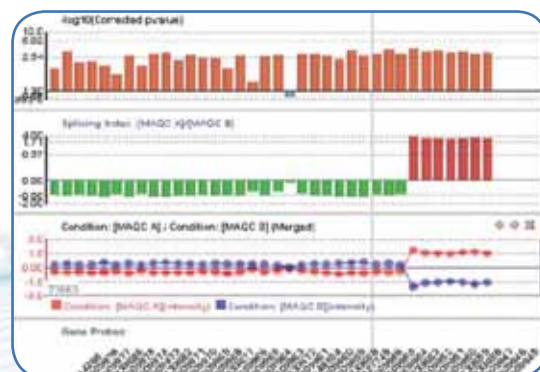
The Gold Standard For Microarray Analysis



With easy to use wizard-driven workflows, intuitive and interactive visualizations, and built-in pathway analysis, GeneSpring provides powerful statistical tools to put your data into a biological context.

With GeneSpring GX, researchers can quickly and reliably identify statistically significant differentially expressed genes, alternative splicing events, miRNA expression and effects, and genotype variants using GeneSpring's built-in Gene Set Enrichment Analysis, miRNA target prediction databases, sample classifications, and a fully integrated analytical pathway module.

- A broad spectrum of data pre-processing, linear and non-linear normalization methods
- Probe- or gene-level expression analysis on all major microarray platforms, including Agilent, Affymetrix, and Illumina
- microRNA analysis and identification of gene targets using integrated TargetScan information
- The ability to do correlative analysis on mRNA expression and miRNA data, (or splicing, QPCR, CN)
- Exon splicing analysis using t-tests or multivariate splicing ANOVA and filtering for transcripts on splicing index
- Genotyping, GWAS, and Copy Number experiment analysis
- NCBI Gene Expression Omnibus Importer tool for expression datasets



CONFIDENTLY BETTER **Sequencing Analysis**

GeneSpring NGS

Easily Analyze
Your NGS Data



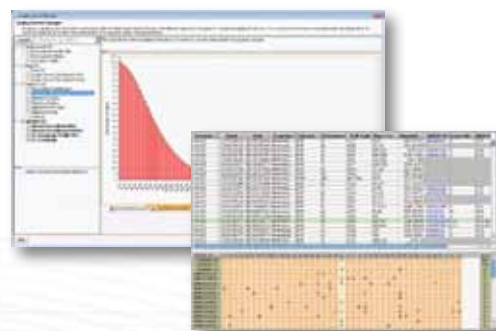
You don't have to be a bioinformatics expert

With GeneSpring NGS, you can perform quality assessment of SureSelect targeted DNA and RNA enrichment protocols with quality metrics, plots and reports specially designed for the SureSelect platform.

Quickly and reliably identify genomic targets of interest including SNPs, InDels, and chromosomal variations and translocations. Perform comparative gene expression and gene structure interrogation, including splicing analysis, gene fusion events, and novel gene identification.

Created for NGS. Optimized for SureSelect.

GeneSpring NGS is specifically engineered for the large scale data analysis that is typical of NGS experiments including data management, interactive data exploration, and intuitive data visualizations. The quality metrics, visualizations, and reporting mechanisms in GeneSpring NGS have been developed and optimized with SureSelect in mind. In fact, the same analysis routines available in GeneSpring NGS are those used by Agilent's SureSelect team, providing you with the best analysis solution for your sequencing data.



Best-in-class analysis for NGS

GeneSpring NGS is built upon the industry gold-standard platform for bioanalytical analysis, bringing the same powerful statistics, rich visualizations and biological contextualizations to your NGS data that have enabled thousands of microarray researchers around the world.

GeneSpring MPP *Intuitive and Integrated Metabolomics and Proteomics*

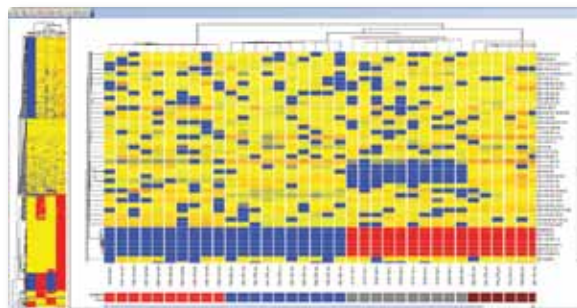


GeneSpring can analyze many different types of mass spectral data through integration with the Mass Profiler Professional (MPP) module, including GC/MS, LC/MS, CE/MS, and ICP-MS. Recursive analysis—a unique feature of GeneSpring MPP—lets users easily re-mine data sets, based on preliminary data, to improve the quality of statistical analysis results. It's also easy to export an inclusion list for Q-TOF MS/MS analysis and re-import the results into GeneSpring MPP.

Machine Learning for your data

With functionality for unsupervised (classification without prior group assignments) or supervised (using pre-classified groups) analysis, the software lets you:

- Quickly and easily discover differences between sample groups
- Plot changing patterns of compound abundances over time
- Develop useful multivariate models for class prediction



Built-in ID Browser for automated spectral library searches

Converting entities into actual chemical compounds using Mass Profiler Professional is made easy, using comparative techniques against public or private databases. The software automatically annotates the entity list and projects the compound names onto any of the various visualization and pathway analysis tools. Mass Profiler Professional includes an integrated ID Browser that mirrors MassHunter's qualitative analysis functionality to allow identification using:

- LC/MS Personal Compound Database (METLIN, pesticides, forensics)
- GC/MS libraries (NIST and Fiehn library)
- Empirical Formula Calculation using Agilent's Molecular Formula Generator (MFG) algorithm

Ordering Information

GeneSpring offers best-in-class analysis for any type of research. Available in four fully compatible versions, GeneSpring allows endless data comparisons and validations.

- **GeneSpring NGS** for RNA-Seq, DNA-Seq, and SureSelect Target Enrichment
- **GeneSpring GX** for micorarray gene expression, exon, miRNA, CNV and GWAS
- **GeneSpring MPP** for mass-spec based protein profiling and metabolite abundance
- **GeneSpring PA** for canonical pathway analysis and machine-generated network modeling

The same powerful statistics, rich visualizations and biological contextualizations are all available in every version, including normalizations, data quality control, built-in gene ontology and gene set analysis, sample classifications, and a fully integrated analytical pathway module. Most importantly, GeneSpring delivers a full suite of applications built and designed especially for biologists allowing you to directly interact with your data.

www.genespring.com

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