

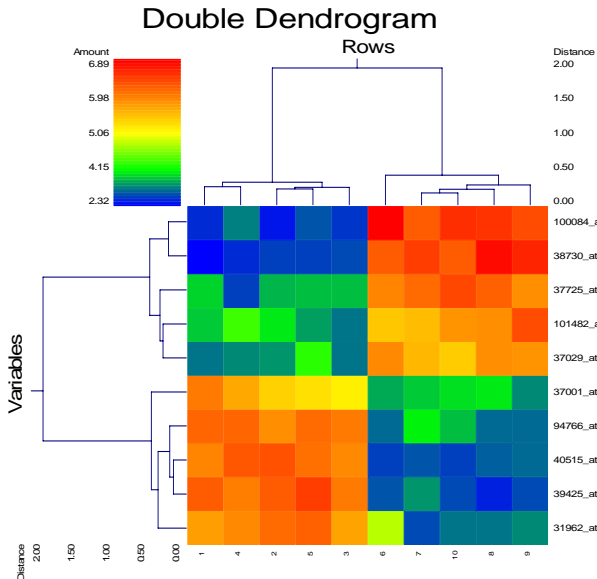
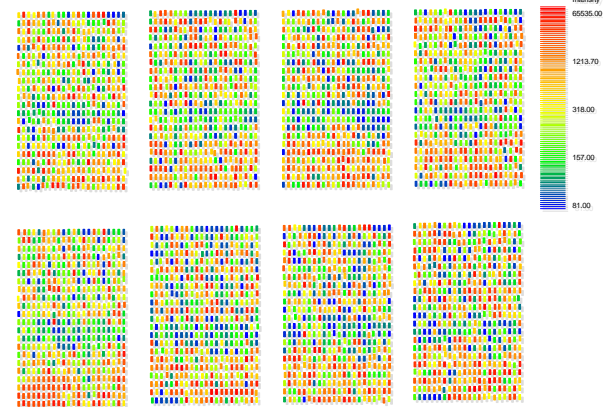
GESS

Gene Expression Statistical System for *Microarrays*

What is GESS?

GESS software is a statistical tool for analyzing data from microarray studies. Array files from multiple platforms may be imported, corrected, and normalized using GESS's simple spreadsheet and menu interface. In a systematic, elegant manner, GESS software computes the desired statistical test for each gene, and reports the results with appropriate Bonferroni or false discovery rate adjusted significance. GESS produces scatter plots, dendrograms, and histograms to visualize gene expression results. GESS may also be used for screening or filtering arrays.

Spatial Anomaly Plot of Cy3 from Array 1



Why Purchase GESS?

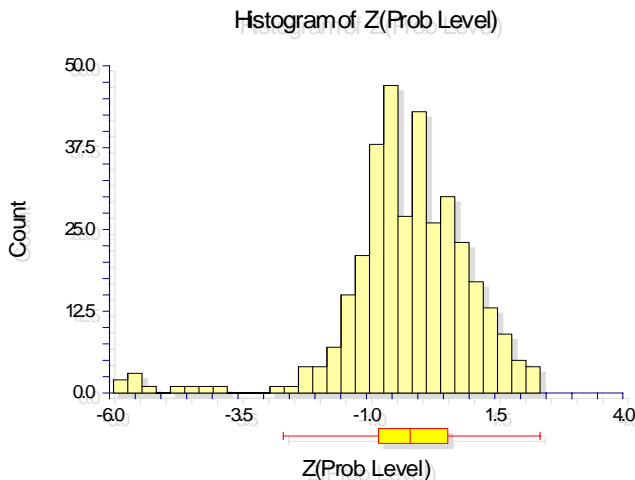
GESS makes statistical analysis of microarray gene expression data fast and easy. With this well-documented package, you will not have to worry about complex programming or confusing statistical output. Because this software was developed by a company with over 25 years of experience creating commercial statistical software, you will be confident with your results.

Simple File Organization

Expression files are organized using the built-in spreadsheet, making it simple to specify and analyze related factors.

Statistical Analysis

A wide variety of statistical analyses is available. Each technique is well-documented and described in easy-to-understand terms. Graphical summaries of statistical output help interpret the results. Follow-up statistical analyses are obtained with over 200 statistical procedures in *NCSS*.



InputFile	Channel1	Channel2	OutputFile	Group
1 C:\Data\Slide1.gpr	Target	Reference	C:\Data\Slide1.ges	A
2 C:\Data\Slide2.gpr	Target	Reference	C:\Data\Slide2.ges	A
3 C:\Data\Slide3.gpr	Target	Reference	C:\Data\Slide3.ges	A
4 C:\Data\Slide4.gpr	Target	Reference	C:\Data\Slide4.ges	A
5 C:\Data\Slide5.gpr	Target	Reference	C:\Data\Slide5.ges	B
6 C:\Data\Slide6.gpr	Target	Reference	C:\Data\Slide6.ges	B
7 C:\Data\Slide7.gpr	Target	Reference	C:\Data\Slide7.ges	B
8 C:\Data\Slide8.gpr	Target	Reference	C:\Data\Slide8.ges	B
9 C:\Data\Slide9.gpr	Target	Reference	C:\Data\Slide9.ges	C
10 C:\Data\Slide10.gpr	Target	Reference	C:\Data\Slide10.ges	C
11 C:\Data\Slide11.gpr	Target	Reference	C:\Data\Slide11.ges	C
12 C:\Data\Slide12.gpr	Target	Reference	C:\Data\Slide12.ges	C

Array Quality and Filtering

Graphical and numeric summaries, designed to quickly alert the user to artifacts, bad spots, spatial anomalies, or poor arrays, are easily obtained for each array. Expression values may be filtered according to well-described criteria. Several normalization procedures are also available.

GESS Features

Below is a list of many of the procedures available in GESS

Supported Platforms

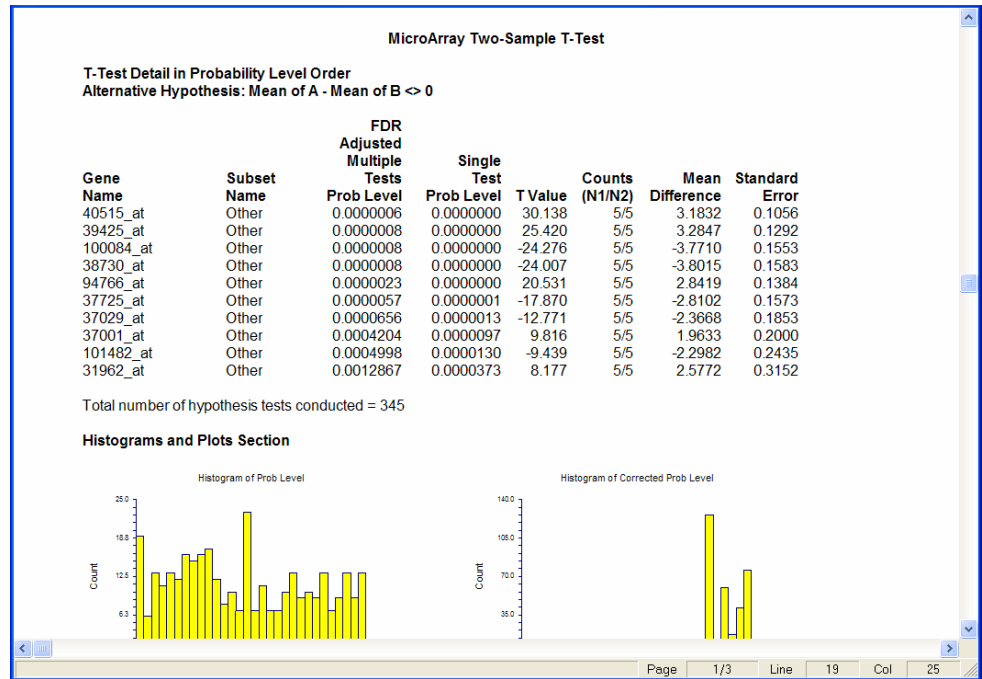
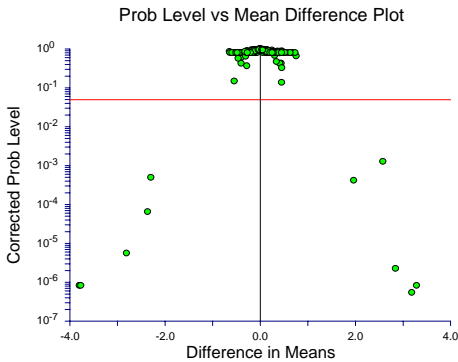
Affymetrix®
GenePix®
Agilent®
Two-Channel Files
Expression Data Files

Two-Channel Arrays

Whole Array Box Plots
Print-tip Box Plots
MA Loess Plots
Spatial Anomaly Plots
Spot QC Summaries
Array QC Summaries
Weak Signal Filters
Background Filters
Loess Normalization
Gene List Subsets
Subset Box Plots
Dye-Swap Compatible

Data Utilities

Save Data to Spreadsheet
File Description
Export to TXT File



Hierarchical Clustering

Eight Clustering Methods
Three Scaling Methods
Double Dendrograms
Custom Heat Maps

Affymetrix® Arrays

RMA Expression Algorithm
Gene List Subsets
Chip Quality Summaries
Background Correction
Quantile Normalization
Comparative Box Plots
Spatial Anomaly Plots

Multiple Testing Correction

Bonferroni
False Discovery Rate

Statistical Analyses

Fold-Change Analysis
Paired T-Tests
One-Group T-Tests
Two-Group T-Tests
One-Factor ANOVA
Two-Factor ANOVA
Repeated Measures ANOVA
GLM ANOVA
Analysis of Covariance
Multiple Regression
Cox Regression
Logistic Regression
Principal Components Analysis
Hierarchical Cluster Analysis

NCSS Statistical Software

329 North 1000 East, Kaysville, Utah 84037, USA

www.ncss.com • sales@ncss.com • support@ncss.com

Toll Free: (800) 898-6109 • Tel: (801) 546-0445 • Fax: (801) 546-3907