

BioExpress® Oncology Suite

Navigate the complexities of cancer.

While great strides have been made in cancer research, the heterogeneity of this disease continues to challenge scientists. And although the increasing quantity of information currently available presents untapped opportunities, it also adds layers of complexity. Today, understanding the mechanisms of this difficult group of diseases requires that a major focus of research in cancer treatment and prevention include the study of altered gene expression and the identification and targeting of dysregulated genes and pathways.

Gene Logic developed the BioExpress® Oncology Suite specifically for this purpose. This interactive information database provides gene expression profiles of human cancers, benign neoplasms, and normal tissues. Gene expression data generated with Affymetrix GeneChip® arrays are analyzed with the visualization tools in the Genesis Enterprise System® Software, enabling researchers to pursue a variety of cancer-related investigations.

Identify, Prioritize, and Validate

The BioExpress® Oncology Suite allows researchers to:

- Rapidly and accurately compare gene expression profiles between normal and tumor tissues.
- Compare gene expression between different types and stages of cancer.
- Identify potential drug targets.
- Validate target gene expression in clinical disease populations.
- Identify biomarkers for cancer diagnosis, progression, and prognosis.
- Investigate expression of genes in pathways associated with cancer.
- Prioritize target compounds.

Broad Representation, High Quality

The BioExpress® Oncology Suite includes a representative cross-section of primary, metastatic, and benign tumors, diseased tissues associated with increased cancer risk, and normal samples, which include matched adjacent controls. Researchers can

conduct in silico experiments using expression levels with associated clinical information from over 3,700 normal and malignant samples representing the major cancer types which account for over two-thirds of the expected incidences of cancer in the U.S. for 2005. The BioExpress® Oncology Suite also includes in vitro cancer models from the NCI 60 panel of cell lines, as well as human tumor xenografts grown in murine hosts.

All samples are subject to stringent quality control standards, applied at all levels of tissue acquisition and handling. Importantly, no data are integrated into the system for gene expression analysis until the pathology diagnosis is confirmed by board-certified pathologists.

Detailed Donor Clinical Data

Samples in the BioExpress® Oncology Suite are accompanied by extensive information from patient records of donors, including demographics, medication history, specific diagnoses, clinical chemistries, complete blood count, Gene Logic's

Site of Origin of Tissues in the BioExpress® Oncology Suite include:

- | | |
|------------------|---------------|
| • Bladder | • Lymph Node |
| • Bone | • Ovary |
| • Brain | • Pancreas |
| • Breast | • Placenta |
| • Bronchus | • Prostate |
| • Cervix | • Rectum |
| • Colon | • Skin |
| • Endometrium | • Soft Tissue |
| • Esophagus | • Spleen |
| • Fallopian Tube | • Stomach |
| • Gall Bladder | • Testis |
| • Intestine | • Thymus |
| • Kidney | • Thyroid |
| • Larynx | • Trachea |
| • Liver | • Tonsils |
| • Lung | • Uterus |

pathology report, and percent tumor assessment. Examples of other types of information include anesthesia used during specimen collection, time from surgery to specimen freezing, clinical staging information, microscopic pathological descriptions, and sample photomicrographs.

Robust, Reliable, and Reproducible Analysis

Gene expression data are generated using Affymetrix GeneChip® arrays using multiple GeneChip® array types. Standard Affymetrix processing protocols ensure that the final data are comparable with those generated in the scientist's environment. Gene Logic's proprietary processes and numerous quality control standards ensure that only the highest quality data are contained in the Oncology Suite. The result is robust, reliable and reproducible analysis, fully capable of comparative measurements between samples.

Powerful Tools for Precise, Customized Results

The BioExpress® Oncology Suite is enhanced by the Genesis Enterprise System® Software. This software enables researchers to quickly identify key regulated genes that may play crucial roles in oncogenesis, cancer progression, and response to therapy in clinically-relevant populations. The Genesis Enterprise System® Software enables:

- Creation of sample sets based on linked donor characteristics and laboratory data.
- Analysis and visualization of expression levels of genes and ESTs across normal tissues.



Figure 1. Donor Information and Histopathology Slide Image for Infiltrating Ductal Carcinoma



Figure 2. Pathway Viewer Analysis Tool-Visualization of BioCarta™ Pathway for Changing Genes.

- Incorporation of signal transduction and metabolic pathway maps from KEGG and BioCarta™ databases with linkage to more detailed information about specific genes of interest.
- Seamless integration with additional tools from other suppliers for clustering, statistical analysis and graphic display.
- Identification of genes that discriminate patterns of regulation between classes of samples.

Flexible Solutions

Gene Logic offers a wide selection of gene expression information solutions in a variety of configurations to meet your scientific and budgetary needs. Customers may gain access to data from individual samples, to the entire BioExpress® System, or to a subset of the BioExpress® System, via one of our therapeutic area-specific database suites:

- Atlas Reference (Normal Healthy Tissues)
- Cardiovascular
- Central Nervous System
- Inflammation
- Metabolic
- Oncology

Our information products may be licensed on an annual subscription basis or may be licensed on a perpetual basis, depending on your needs.

For more information about Gene Logic's flexible BioExpress® System solutions, including a product demonstration, call 1-800-GENELOGIC.



www.genelogic.com

134 Vintage Park Blvd , Houston . TX 77070 . United States of America . Telephone:(281) 606 4633 . Fax: (281) 606 4634

Email: info@ocimumbio.com

Copyright Ocimum Biosolutions Inc. 2006. All rights reserved. These rights include but are not limited to all derivative works. The Gene Logic logo and the trademarks Gene Logic, GeneExpress, Genesis Enterprise System, BioExpress, ToxExpress, Ascenta, ToxShield, ToxScreen, and GX are the exclusive property of Ocimum Biosolutions Inc.

All other trademarks are the property of their respective owners.