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BECKMAN COULTER
Capillary Electrophoresis

# Automated Multiplexed Gene Expression Profiling

## *Process Solutions*


*Multiplex*
*Quantitative*
*High-throughput*

| | | | | | |
|---|---|---|---|---|---|
| | | | | 1.594 | 0.109 |
| Allyl Isothiocyanate 050 uM | 1.787 | 1.69 | 1.658 | 1.712 | 0.067 |
| Allyl Isothiocyanate 100 uM | 1.999 | 1.82 | 1.624 | 1.814 | 0.188 |
| Butylated hydroxytoluene 010 uM | 1.555 | 1.582 | 1.513 | 1.55 | 0.035 |
| Butylated hydroxytoluene 050 uM | 1.994 | 1.876 | N/A | 1.935 | 0.084 |
| Butylated hydroxytoluene 100 uM | 1.576 | 1.854 | 1.736 | 1.722 | 0.14 |
| Chloro-1,3-pheylenediamine (4) 010 uM | 1.552 | 1.719 | 1.516 | 1.596 | 0.108 |
| Chloro-1,3-pheylenediamine (4) 050 uM | 1.622 | 2.05 | 1.591 | 1.754 | 0.257 |
| Chloro-1,3-pheylenediamine (4) 100 uM | 1.821 | 1.486 | 1.482 | 1.596 | 0.195 |
| Chlorophenoxymethylpropionic acid 010 uM | 1.308 | 1.494 | 1.434 | 1.412 | 0.095 |
| Chlorophenoxymethylpropionic acid 050 uM | 1.733 | 1.558 | 1.566 | 1.619 | 0.099 |
| Chlorophenoxymethylpropionic acid 100 uM | 1.671 | 1.621 | 1.863 | 1.718 | 0.128 |
| | | | | | |

As a scientist, you understand the challenges of working with limited amounts of sample, tight deadlines and complex studies.

# Beckman Coulter has a better way… *a complete solution.*

Our integrated GenomeLab™ solutions and team of experts will help you to deliver the high throughput and quantitation needed for downstream applications. Whether it be qPCR, microarray or multiplex gene expression profiling, we help take you from samples to signatures. Simply put, our systems help eliminate the bottlenecks and put you on the fast track to getting the results you need.

- **A complete solution for the entire process that is designed and validated to seamlessly work together**
- **Flexible and expandable to meet your needs—from preparation to data analysis**

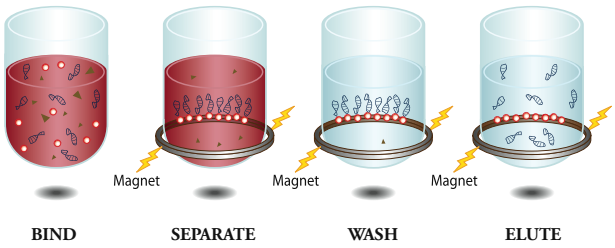
# Automated Multiplexed Gene Expression Profiling

*from samples to signatures.*

ISOLATE • PRE

## Isolate and Purify Total RNA

The process begins with Agencourt® Solid Phase Reversible Immobilization (SPRI®) paramagnetic bead-based chemistries from Beckman Coulter. Isolate and purify total RNA from a variety of sample types ranging from cultured cells, tissues, formalin-fixed paraffin embedded (FFPE) tissues, or blood. Agencourt chemistries deliver a high yield and purity of total RNA for downstream applications such as microarray, RT-PCR, qPCR and multiplex gene expression analysis. More consistent recovery of high yield and high quality total RNA is efficiently obtained whether it is manually extracted from a single tube or fully automated in 96-well plate formats on the Biomek® Series automated laboratory workstations.




## Automated Nucleic Acid Sample and Target Preparation

Automate gene expression sample preparation and reaction setup reliably, accurately, and efficiently with the Biomek® Series automated laboratory workstations. A suite of validated methods automate: total RNA isolation and purification using SPRI® technology, sample normalization and reaction setup.

Whichever way you measure gene expression, Beckman Coulter has a complete solution. GeXP methods automate sample preparation and reaction set up for multiplexed gene specific XP-PCR amplification. Multiplexed gene fragments are now ready for expression analysis and evaluation on the GenomeLab™ GeXP. Or you can use the ArrayPLEX automated application to provide target RNA preparation for the Affymetrix GeneChip* Arrays.

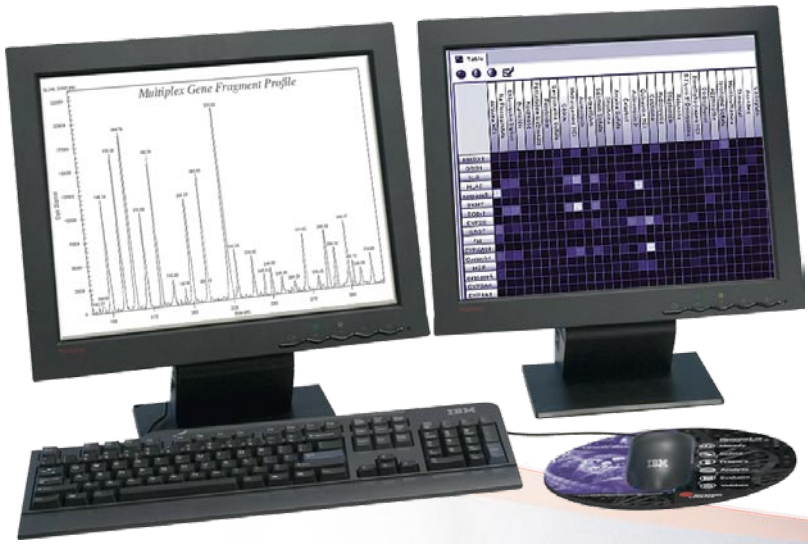
## Quantitate and Normalize Total RNA

Purified total RNA is quantitated on the DTX Multimode Plate reader, using absorbance or fluorescence, then normalized on a Biomek® Series automated laboratory workstation. The DTX Series also provides multiple detection modes to address the needs of most genomics, proteomics or cellular analysis applications. This detector's intuitive software platform delivers instrument control and easy protocol development, as well as integration with the Biomek.

PARE • ANALYZE •

## Complete Process Solutions

Designed and validated to work together, SPRI® magnetic beads, DTX Plate Reader, Biomek® Liquid Handler, GeXP Methods, and GenomeLab™ GeXP with eXpress Profiler deliver a complete solution for gene expression analysis.


## Automated Assay Design and Analysis Tools

Take the uncertainty out of assay design with the GenomeLab™ eXpress Profiler software. This all inclusive package provides fast, automated primer design and multiplex development at your fingertips. Automatically confirm gene fragments, calculate relative gene expression values, and complete first pass data analysis and evaluation.

# EVALUATE

## Separate and quantitate 30 genes in a single reaction and up to 5,760 genes per run.

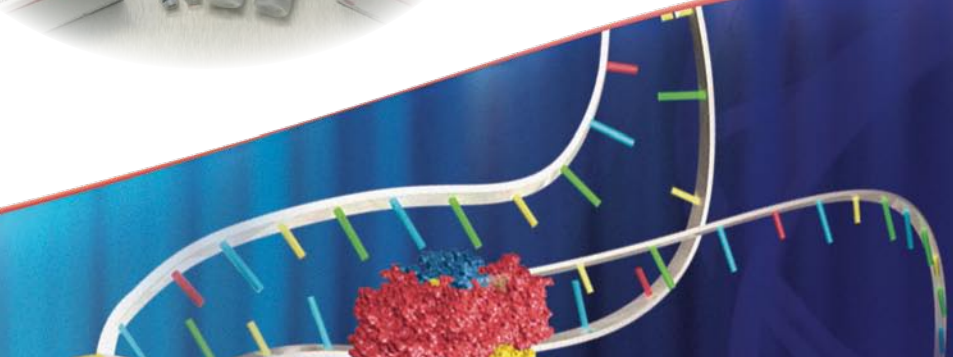

**Preformulated, ready-to-use reagent kits**

## Multiplexed Gene Expression Analysis

Cost effectively separate and quantitate the expression of up to 30 genes in a single reaction and up to 5,760 genes per run. Fill the gap between whole genome arrays and single gene qPCR with the GenomeLab™ GeXP and remove bottlenecks in your gene expression studies today. By using scalable, multiplexed XP-PCR, you can analyze more genes per reaction and more samples per run than with qPCR, achieving higher throughput and significantly lower costs. The GeXP is ideal for evaluating candidate and signature gene sets that can provide key information relating to biological state, induced response or drug toxicity.

### Multiple applications for gene expression

- ✔ Discovery of Gene Targets
- ✔ Pathway Analysis
- ✔ Biomarker Discovery
- ✔ Microarray Data Validation
- ✔ RNAi Studies
- ✔ Drug Characterization
- ✔ Development of Signatures
- ✔ Monitor Gene Regulation



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Simplify • Automate • Innovate

Beckman Coulter…
advancing discoveries that
will help reshape tomorrow.

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