



## Breast Cancer Xpress Chip™

Breast cancer is one of the most common types of cancer among women in the United States. Reports indicate that nearly one in every three cancers diagnosed in US women is breast cancer. An understanding of the molecular basis of breast cancer can lead to better cancer control through novel and scientifically-based cancer risk assessments, diagnostics, prognostics, and therapeutics. Focused gene expression analysis is a powerful approach for the validation of molecular biomarkers of disease, particularly in human cancers. Axela's Breast Cancer Xpress Chip is aimed at the development of improved disease biomarkers with the goal of improved diagnostics and therapeutics.

The Breast Cancer Xpress Chip from Axela Inc. enables differential gene expression analysis of breast cancer-related genes. The Breast Cancer Xpress Chip is a representation of genes differentially expressed in breast cancer tumors or cells, and is a powerful tool to compare gene expression profiles in human breast carcinomas and normal breast tissue.

The Breast Cancer Xpress Chip genes were identified using the Cancer Genome Anatomy Project (CGAP) database, SAGE Genie, and the SAGE Differential Gene Expression Displayer (a SAGE Genie tool for distinguishing significant differences in gene expression between sample sets). These datasets were used to identify those genes that are differentially expressed in breast cancer when compared to normal tissue. The Breast Cancer Xpress Chip includes 123 genes that are commonly cited by investigators performing clinical investigations in breast cancer, such as BRCA1 and BRCA2. In addition, the gene list includes estrogen-receptor (ER), p53, cyclin D1, growth-promoting target CDC25A, oncoprotein MDM2 (a negative feedback regulator of p53), BCL2, and pS2-regulated that are involved in methylation.

The Breast Cancer Xpress Chip exploits the Flow-Thru Chip® technology to perform assays with speed, accuracy, and reliability. The Breast Cancer Xpress Chip contains 123 gene probes printed in triplicate. The probes are 3' biased and are approximately 50 bases in length. The Xpress Chip includes hybridization controls, negative controls spike controls, 3'/5' ratio controls and gridding fiducials. All controls are printed in triplicate.

### Ziplex Features

**Flow-Thru Chip Technology** - Enables fast hybridization times of less than 1.5 hours

**Integrated system** - Produces results in ~ 3 hours (start of hybridization to report)

**Complete automation** - Requires total hands-on time of only 20 minutes

**Built-in image capture and analysis software** - Delivers easy-to-interpret reports

**High throughput processing** - Processes up to 8 samples per run and 3 runs per day

The Breast Cancer Xpress Chip is designed for use with the Zplex System, which includes the Zplex Automated Workstation and Assay Reagent Kit. Axela provides comprehensive customer support.

## Breast Cancer Xpress Chip Gene List

|            |          |          |             |          |         |
|------------|----------|----------|-------------|----------|---------|
| ACP2       | ACPP     | ACTB     | ACTG1       | ACVRL1   | ADCK1   |
| ALDH1A3    | ANKS6    | APOD     | AQP7        | CALCOCO1 | CALM2   |
| CAPNS1     | CASP3    | CCL2     | CCND1       | CCT7     | CD74    |
| CPB1       | CRYAB    | CSN1S1   | CSN2        | CSN3     | CXCL12  |
| CYP24A1    | CYP4F2   | CYP4Z1   | DCD         | DLK1     | DOPEY1  |
| EEF1A1     | EEF1A2   | EEF2     | EGR1        | EHD2     | EIF3S6  |
| FABP3      | FLJ35024 | FMOD     | FOSB        | FSTL3    | GNB2L1  |
| GPD1       | GPX3     | HBA2     | Hcg_1988300 | HSP90AA1 | HSPA8   |
| ICAM1      | IGHA1    | IGHG1    | IGKC        | IL8      | IMPDH2  |
| ITGB4      | ITM2A    | KIAA1881 | KLF8        | KLK3     | KRT14   |
| KRT17      | KRT18    | KRT6A    | KRT7        | KRT8     | LALBA   |
| LAMC1      | LAMC2    | LDHA     | LRP1        | LTBP4    | MARCO   |
| MMP13      | MMP7     | MMP9     | MYL9        | MYO18A   | PLTP    |
| PNPLA2     | POSTN    | PPP1R16B | PPP1R2      | PRLR     | RAD23B  |
| RBP4       | RNASE1   | ROGDI    | RPL14       | RPL26    | RPL3    |
| RPL36A     | RPL5     | RPL6     | RPL7        | RPL7A    | RPL8    |
| RPLP0-like | RPS17    | RPS18    | RPS2        | RPS24    | RPS3    |
| RPS3A      | RPS6     | S100A7   | SCD         | SERPING1 | SLC12A4 |
| SLC35A2    | SLC39A13 | SLC6A14  | SNX19       | SOD2     | STBD1   |
| TAGLN      | TF       | TMEM17   | TNFAIP2     | TRAF1    | TRIM2   |
| VIPR1      | VTN      | ZNF131   |             |          |         |

### Ziplex Performance Specifications

Dynamic range – 10<sup>3</sup> (3 logs)

Repeatability – Median CV on all probes <17%

Reproducibility – CV <20% (normalized)

Detection Sensitivity = 1:300,000 ratio of RNA spikes to mRNA

Differential Expression Sensitivity = 2-fold difference

### Ordering Information:

Product Name: Breast Cancer Xpress Chip™

Description: Focused content TipChip with 123 Breast Cancer-related genes including controls.

Size: 48 TipChips / package.

Catalog Number: 26301-01

### Related Products:

26300-01 Metabolic Xpress Chip™  
 26302-01 Colon Cancer Xpress Chip™  
 26303-01 Inflammation Xpress Chip™