



## Colon Cancer Xpress Chip™

Colon cancer is the second leading cause of cancer-related deaths in the United States. An understanding of the molecular basis of colon cancer can lead to better cancer control through novel and scientifically based cancer risk assessment, diagnostics, prognostics, and therapeutics. Focused gene expression analysis is a powerful tool for the validation of molecular biomarkers of disease, particularly in human cancers. Axela's Colon Cancer Xpress Chip is designed to support the development of improved disease biomarkers with the goal of improved diagnostics and therapeutics.

The Colon Cancer Xpress Chip for use with the Ziplex® System enables differential gene expression analysis of colon cancer-related genes. The Colon Cancer Xpress Chip is a representation of genes differentially expressed in colon tumors, and is a powerful tool to compare gene expression profiles in human colon carcinomas and normal colon tissue.

The Colon Cancer Xpress Chip content was identified using the Cancer Genome Anatomy Project (CGAP), 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 and tools were used to identify those genes that are differentially expressed in colon cancer when compared to normal tissue. The Colon Cancer Xpress Chip includes 111 genes that are commonly cited by investigators performing clinical investigations in colon cancer. These genes include: Vimentin, which has been described as an early genetic marker of colon cancer (*Markowitz, SD, et. al., J Natl Cancer Inst, Aug 2005; 97: 1124 – 1132*); IL8, which may have a role in colon cancer tumor development and metastasis; and myosin light chain kinase, which may also be linked to the metastatic potential of colon cancer.

The Colon Cancer Xpress Chip exploits the Flow-Thru Chip® technology to perform assays with speed, accuracy, and reliability. The Colon Cancer Xpress Chip contains 111 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 Colon 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.

## Colon Cancer Xpress Chip Gene List

ACTA2	ACTG1	ACTG2	ADH1B	ADH1C	AGR3
APOBEC1	ATP5A1	ATP5G2	ATP5L	BSG	BTNL3
BTNL8	C1RL	CA1	CA2	CEACAM1	CEACAM5
CEACAM7	CHRD2	CKB	CLCA1	CLCA4	CLDN3
CLDN4	CNN1	COPE	CS	CSR1	DEFA6
DES	DHRS9	DPEP1	DUSP1	EEF1A1	EEF1G
EMP1	FOS	FUCA1	FXYD3	FZD4	GCNT3
GDF15	GPA33	GPT	GSN	GSS	GUCA2A
H19	HBA2	HBB	HLA-A	HLA-B	HLA-C
IGF2	IGHA1	IGKC	IL8	ITM2C	KRT18
KRT19	KRT20	KRT8	LDHA	LGALS3	LGALS4
MAPKAPK5	MEP1A	MGLL	MS4A12	MT2A	MUC12
MUC13	MYH11	MYL6	MYL9	OLFM4	PCLKC
PDLIM3	PDSS1	PIGR	PKM2	RPL23A	RPL30
RPL37	RPL38	RPL41	RPLP1	RPS11	RPS19
RPS2	RPS26	RPSA	S100A10	S100A6	SECTM1
SELENBP1	SEPP1	SKAP2	SLC26A3	SLC39A13	SMCR8
SMTN	TGFBI	TMSB10	TMSB4X	TSPAN3	UTRN
VIL2	VIM	ZFP36			

### Zplex Performance Specifications

Dynamic range –  $10^3$  (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: Colon Cancer Xpress Chip™  
 Description: Focused content TipChip with 111 Colon Cancer-related genes including controls.  
 Size: 48 TipChips / package.  
 Catalog Number: 26302-01

### Related Products:

26300-01 Metabolic Xpress Chip™  
 26301-01 Breast Cancer Xpress Chip™  
 26303-01 Inflammation Xpress Chip™