



Metabolic Xpress Chip™

A rise in obesity represents a very high risk to human health, with contributing factors in several diseases such as diabetes, heart disease, stroke, hypertension, and some cancers. These health problems only cover a few of the components of the overall metabolic disease risk and other related metabolic disorders. Differences in gene expression between normals and affected provide valuable insights into the biology pertaining to obesity-related morbidities. Axela's Metabolic Xpress Chip is a tool to enable investigators to study gene expression pathways and drug discovery.

Axela's Metabolic Xpress Chip offers genes of interest for investigators exploring metabolic pathways and can be used to investigate differential expression associated with diseases of the metabolic system, such as obesity, muscle disorders, and other metabolic disorders.

The genes on the Metabolic Xpress Chip were identified from scientific reports of genes differentially expressed in common metabolic disorders. The Metabolic Xpress Chip features genes that emphasizes the role played by adipose tissue with some overlap between liver and skeletal muscles. The probes on the Metabolic Xpress Chip have been designed and screened for optimal performance by standard Axela array design protocols.

The Metabolic Xpress Chip exploits the Flow-Thru Chip® technology to perform assays with speed, accuracy and reliability. The Metabolic Xpress Chip contains 154 genes printed in replicate. 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 Metabolic 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.

Metabolic Xpress Chip Gene List

ACACA	ACTB	ADFP	Adpn	ADRB2	ADRB3	AGRP	AGT	AGTR2/AT2	AGTRL1
AKT1	ANGPTL4	APM1	ARK5	BF	CAV1	CAV2	CAV3	CD36	CEBPA
CEBPB	CEBPD	CETP	COL1A1	COL1A2	COL4A1	COL4A2	COL4A3	COL4A4	COL5A1
COL5A2	COL5A3	COL6A1	CPT1A	CPT2	CRP	CSF1	CSF2	DBI	DCTN2
DF	DGAT1	DLK1	EDN1	EPHB2	FABP3	FABP4	FABP5	FASN	FGA
FGB	FN1	FOS	FOXO1A	FXR1	GAPD	GCG	GDF8	GRIP1	GSN
HMGCR	HMGCS1	HNF4A	HPRT1	HSD11B1	IAPP	ICAM1	IFNG	IGF1	IGF1R
IGFBP1	IGFBP2	IGFBP3	IL11	IL18	IL6	IL8	INPPL1	INSR	IRS1
K-ALPHA-1	LAMA1	LAMB1	LAMC1	LEP	LIPA	LIPE	LPL	MC4R	MMP13
MMP2	MMP3	MMP9	NCOA1	PCK2	PDHA1	PDHA2	PDHB	PIK3R1	PLIN
PPARA	PPARD	PPARG	PPARGC1A	PPIA	PRKCZ	PTPN1	PTX3	RETN	RETNLB
ROPN1L	RPS5	RXRA	RXRG	SCD	SCYA2	SELE	SERPINE1	SLC2A1	SLC2A2
SLC2A4	SMAD3	SNAP23	SPARC	SPP1	SRC	SREBF1	STAT1	STAT3	STAT5A
STAT5B	STAT6	STXBP1	STXBP2	STXBP3	STXBP4	TGFB1	Thr	TIMP1	TIMP2
TIMP3	TIMP4	TNF	TNF1B	TNFRSF1A	TRIB3	UBC	UCP1	UCP2	UCP3
VAMP2	VDR	WNT1	WNT10B						

Performance Specifications

Dynamic range – 10³ (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: Metabolic Xpress Chip™

Description: Focused content TipChip with 154 metabolic-related genes including controls.

Size: 48 TipChips / package.

Catalog Number: 26300-01

Related Products:

26301-01 Breast Cancer Xpress Chip™

26302-01 Colon Cancer Xpress Chip™

26303-01 Inflammation Xpress Chip™