



Inflammation Xpress Chip

Inflammation is a complex biological response to a wide range of tissue injuries, harmful pathogens, and disorders. This response is usually associated with increased levels of cytokines, cytokine receptors, adhesion molecules, and other immunoregulatory factors. Axela's Inflammation Xpress Chip is a tool to enable investigators to discover and characterize molecular profiles associated with inflammatory responses, to study the effects of therapeutics in mitigating immune responses, and to study auto-immune diseases.

The Ziplex® Inflammation Xpress Chip from Axela Inc. is a powerful tool for the detection and quantification of inflammatory markers. Expression changes in specific genes and pathways represented on the Inflammation Xpress Chip may help in monitoring patient responses to therapy or in predicting the ability of a therapeutic (e.g. Methotrexate, a TNF α inhibitor, or a novel monoclonal antibody-based compound) to block disease-related inflammation events such as those associated with auto-immune disorders.

The Inflammation Xpress Chip gene list was identified from scientific reports of genes differentially expressed in common inflammatory conditions. The Inflammation Xpress Chip includes genes that are commonly involved in inflammation, such as adhesion molecules, cytokines and receptors, and T-cell activation markers and signalling molecules. The probes on the Inflammation Xpress Chip have been designed to hybridize to sequences of curated mRNA accession numbers in the NCBI RefSeq database. Genes are annotated with the Official Symbols from Entrez Gene. Gene symbol aliases and known sequence variants that will be quantified by the probes are also identified. The probes have been designed and screened for optimal performance by standard Axela array design protocols.

The Inflammation Xpress Chip exploits the Flow-Thru Chip® technology to perform assays with speed, accuracy and reliability. The Inflammation Xpress Chip contains 122 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 Inflammation 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.

Inflammation-related Gene List

Interleukin 1R	Toll-like Receptors	Fc Receptor	CC chemokine Receptor	Tumor Necrosis Factor Receptor	Interferon Receptor	Killer-cell Ig-like Receptor	T-cell Receptor	Co-stimulation Receptor	B-cell Receptor	Other	Other
IL1R1	CD14	FCGR1	CCR1	TNFR1	IFNAR	CD1D	CD3Z	CD80	CD19	A3AR	IL6R
IL18R1	TLR2	FCGR2	CCR2	TNFR2	IFNGR	KIR3D	CD4	CD86	CD20	C1QA	HO1
IL1RA	TLR4	SYK	CCR5	TNFA	TYK2	SOCS	CD8A	CTLA4	CD22	C3	IL10
IL18BP	IRAKM	INOS	CXCR2	LTA	IRF1	FASL	CD11a	CD28	BAFF	F3	FoxP3
IL1A	MKK3	COX2	CXCR3	LIGHT	IFI16	PIM1	CD25	CD45	TACI	HSP70	TGFB1
IL1B	CYBB	TIMP1	CXCL1	TACE	MXA	IL2	CD69	CD70	CD27	PLA	TGFBR
IL18	MPO	MMP3	CXCL2	CD40L	CSF2	IL7	IL7R	ICAM1	IL4	SELE	VEGF
CD18	NGAL	MMP9	CXCL5	CD40		IL12	MCL1	IL17R	IL5	PAI1	
S100A	ELA2	CatK	CX3CR	RANKL		IL12R	DHFR	IL23R	IL13	UPA	
IFNB			IL8	OPG		IL15	IFNG	IL17R		IL6	

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: Inflammation Xpress Chip
 Description: Focused content TipChip with 122 inflammation-related genes including controls.
 Size: 48 TipChips / package.
 Catalog Number: 26303-01

Related Products:

26300-01 Metabolic Xpress Chip
 26301-01 Breast Cancer Xpress Chip
 26302-01 Colon Cancer Xpress Chip