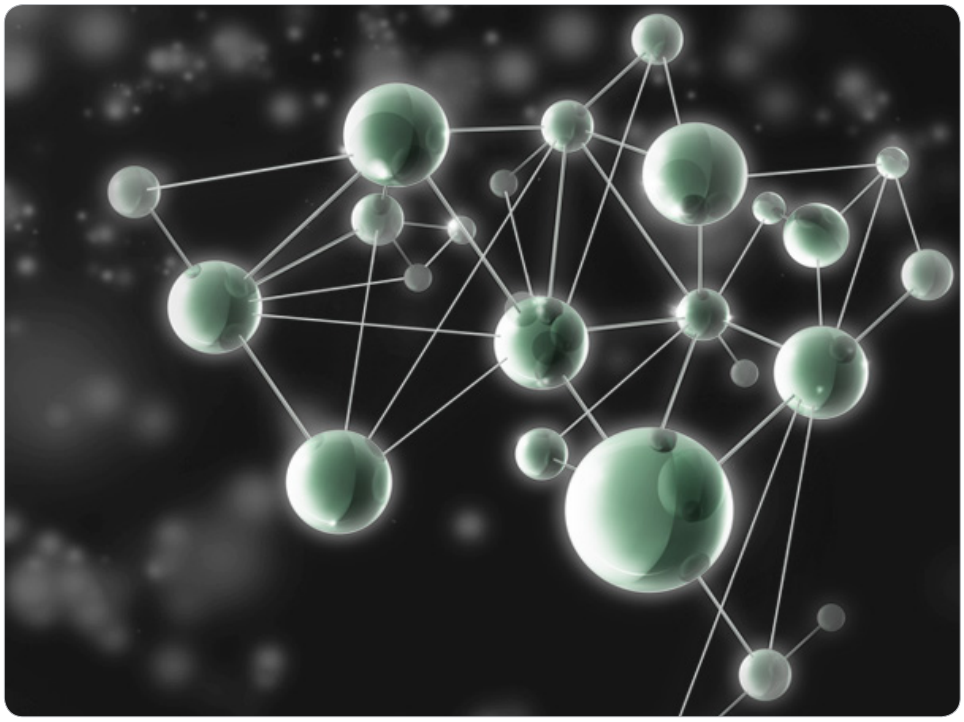
nanoString® TECHNOLOGIES

nCounter®
GX Human Inflammation Kit



Product Highlights

Simple

- No need for cross-referencing databases

Highly Curated

- Our expert bio-informaticists use a very rigorous process in selecting the most meaningful set of genes

Efficient

- Multiplexed assay profiles 184 human inflammation-related genes in a single reaction

Cost-effective

- Gold-standard data at a fraction of the cost

Quick Turnaround Time

- Complete kit with all consumables ready to ship next-day

A Gene Set You Can Count On

The **nCounter® GX Human Inflammation Kit** is a comprehensive list of 184 human genes known to be differentially expressed in inflammation. The gene list represents a broad range of inflammation-related pathways, including:

- **Chemokine**
- **Cytokine**
- **Interleukin**
- **Toll receptor**
- **Integrin signaling**
- **Oxidative stress response**
- **B cell activation**
- **T cell activiation**

With the nCounter GX Human Inflammation Kit, scientists can leverage a pre-designed panel to accelerate their research and quickly generate expression data for a large panel of inflammation-related genes.

The gene list was compiled by querying several public databases for inflammation-related genes. This list was refined using multiple criteria, including scoring each gene for relevance in inflammation-related pathways using IPA (by Ingenuity® Systems, Inc). Each gene was also verified to be differentially expressed under conditions leading to inflammation. The verification was done using MSigDB, a repository of gene expression data developed by researchers at the Massachusetts Institute of Technology and the Broad Institute Inc. (Subramanian, Tamayo, *et al.*, 2005, PNAS 102, 15545-15550.). Other public databases were used to obtain functional gene expression information for each gene.

The final nCounter GX Human Inflammation Kit consists of 184 inflammation-related genes and six internal reference genes. For the gene list and additional information about this gene set, visit the nCounter Pre-built Panels product page at: www.nanostring.com.

Nanostring acknowledges Ingenuity® Systems, Inc. (www.ingenuity.com) pathway tools used in the development of the gene list and supporting biological and chemical content.

nCounter® Analysis System Overview

The nCounter Analysis System from NanoString offers a cost-effective way to easily profile hundreds of gene transcripts simultaneously with high sensitivity and precision. The digital detection of target molecules and high levels of multiplexing eliminate the compromise between data quality and data quantity, bringing better sensitivity, reproducibility, and linearity to your results. It is ideal for studying defined gene sets across a large sample set, e.g., microarray validation, pathway analysis, biomarker validation, and splice variation analysis.

The system utilizes a novel digital technology that is based on direct multiplexed measurement of gene expression and offers high levels of precision and sensitivity (<1 copy per cell). The technology uses molecular "barcodes" and single molecule imaging to detect and count hundreds of unique transcripts in a single reaction.

Included

Genes List					
ATF2	CCR2	GNAQ	IL23A	MAPK3	RAPGEF2
BCL6	CCR3	GNAS	IL23R	MAPK8	RHOA
C1QA	CCR4	GNB1	IL3	MAPKAPK2	RIPK1
C1QB	CCR7	GNGT1	IL4	MAPKAPK5	RIPK2
C1R	CD4	GRB2	IL5	MASP1	ROCK2
C1S	CD40	HDAC4	IL6	MASP2	RPS6KA5
C2	CD40LG	HLA-DRA	IL6R	MAX	SHC1
C3	CD55	HLA-DRB1	IL7	MBL2	STAT1
C3AR1	CDC42	HMGN1	IL8	MEF2A	TGFB1
C4A	CEBPB	HRAS	IL8RA	MEF2B	TGFB2
C5	CFB	HSPB1	IL8RB	MEF2C	TGFB3
C6	CFD	HSPB2	IL9	MEF2D	TGFBR1
C7	CFL1	IFNA1	ITGB2	MKNK1	TLR1
C8A	CREB1	IFNB1	JUN	MYC	TLR2
C8B	CRP	IFNG	KEAP1	MYD88	TLR3
C9	CSF1	IL10	KNG1	MYL2	TLR4
CCL11	CSF2	IL10RB	LIMK1	NFATC3	TLR5
CCL13	CSF3	IL11	LTA	NFE2L2	TLR6
CCL16	CXCL1	IL12A	LTB	NFKB1	TLR7
CCL17	CXCL10	IL12B	LY96	NOS2	TNF
CCL19	CXCL2	IL13	MAFF	NOX1	TNFSF14
CCL2	CXCL3	IL15	MAFG	NR3C1	TOLLIP
CCL21	CXCL5	IL18	MAFK	PDGFA	TRADD
CCL22	CXCL6	IL18RAP	MAP2K1	PIK3C2G	TRAF2
CCL23	CXCL9	IL1A	MAP2K4	PLA2G4A	
CCL24	CXCR4	IL1B	MAP2K6	PLCB1	
CCL3	DAXX	IL1R1	MAP3K1	PPP1R12B	CLTC*
CCL4	DDIT3	IL1RAP	MAP3K5	PRKCA	GAPDH*
CCL5	ELK1	IL1RN	MAP3K7	PRKCB	GUSB*
CCL7	FASLG	IL2	MAP3K9	PTK2	HPRT1*
CCL8	FOS	IL22	MAPK1	RAC1	PGK1*
CCR1	FXYD2	IL22RA2	MAPK14	RAF1	TUBB*

*Internal Reference Genes

System Performance

Description	Specifications
Level of multiplexing	184 genes known to be differentially expressed in human inflammation
Recommended amount of starting material	100ng of total RNA, or lysate from ~10,000 cells
Sample types supported	Total RNA, cell lysates in GITC, FFPE-derived total RNA and PAXgene lysed whole blood, amplified RNA
Reaction volume	30 µL
Limit of detection	0.5fM spike-in control (~1 copy per cell); 90% of the time
Fold change sensitivity	> 1.5 fold (> 5 copies per cell) > 2 fold change (> 1 copy per cell)
Spike correlation	$R^2 \geq 0.95$
Linear dynamic range	7×10^5 total counts
Controls	6 positive and 8 negative in each reaction

Ordering Information

Description	Quantity / Use	Part Number (P/N)
nCounter GX Human Inflammation Kit	12 assays	GXA-IN1-12
	24 assays	GXA-IN1-24
	48 assays	GXA-IN1-48
	96 assays	GXA-IN1-96

Powered By INGENUITY® SYSTEMS

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