nanoString®

nCounter® Human Inflammation Panel
A Gene Set You Can Count On

The nCounter Human Inflammation Panel is a comprehensive assay of 249 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

This gene list was compiled by querying several public databases for inflammation-related genes. Each gene was verified to be differentially expressed under conditions leading to inflammation.
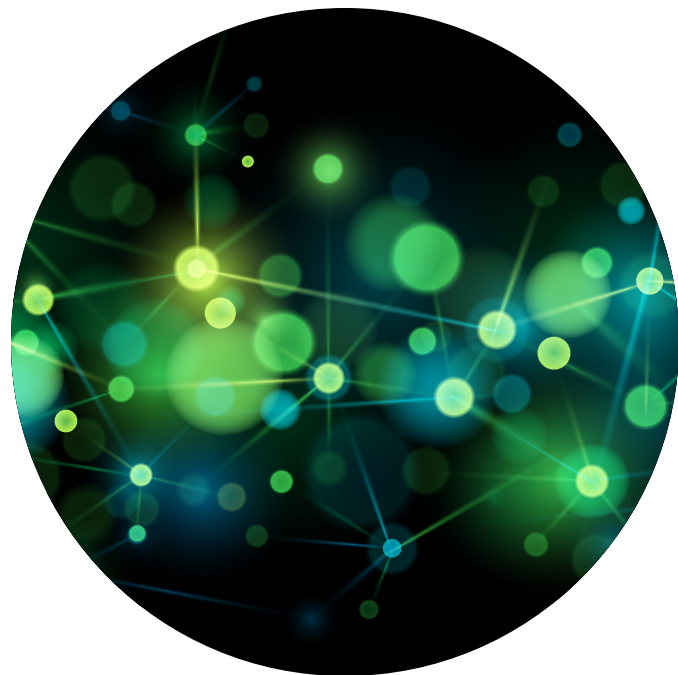
Verification was performed using MSigDB, a repository of gene expression data developed by researchers at the Massachusetts Institute of Technology and the Broad Institute1. Other public databases were used to obtain functional gene expression information for each gene. The final nCounter Human Inflammation Panel consists of 249 inflammation-related genes and six internal reference genes.

For the gene list and additional information about this panel, visit the nCounter Pre-built Panels product page at nanostring.com.

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.

1. Subramanian A, Tamayo P, et al. (2a005) Gene set enrichment analysis: a knowledge-based approach for interpreting genome-wide expression profiles. Proc Natl Acad Sci USA 102(43):15545-15550.

Product Highlights

- **Simple**
  No need for cross-referencing databases

- **Highly Curated**
  Our expert bioinformaticists use a very rigorous process in selecting the most meaningful set of genes

- **Efficient**
  Multiplexed assay profiles 249 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

FOR RESEARCH USE ONLY. Not for use in diagnostic procedures.

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Included

Gene List

AGER	CCL22	CXCL3	HSPB2	IL6	MAPK8	PDGFA	TBXA2R
ALOX12	CCL23	CXCL5	IFI44	IL6R	MAPKAPK2	PIK3C2G	TCF4
ALOX15	CCL24	CXCL6	IFIT1	IL7	MAPKAPK5	PLA2G4A	TGFB1
ALOX5	CCL3	CXCL9	IFIT2	IL8	MASP1	PLCB1	TGFB2
AREG	CCL4	CXCR1	IFIT3	IL9	MASP2	PPP1R12B	TGFB3
ARG1	CCL5	CXCR2	IFNA1	IRF1	MAX	PRKCA	TGFBR1
ATF2	CCL7	CXCR4	IFNB1	IRF3	MBL2	PRKCB	TLR1
BCL2L1	CCL8	CYSLTR1	IFNG	IRF5	MEF2A	PTGDR2	TLR2
BCL6	CCR1	CYSLTR2	IL10	IRF7	MEF2B	PTGER1	TLR3
BIRC2	CCR2	DAXX	IL10RB	ITGB2	MEF2C	PTGER2	TLR4
C1QA	CCR3	DDIT3	IL11	JUN	MEF2D	PTGER3	TLR5
C1QB	CCR4	DEFA1	IL12A	KEAP1	MKNK1	PTGER4	TLR6
C1R	CCR7	ELK1	IL12B	KNG1	MMP3	PTGFR	TLR7
C1S	CD163	FASLG	IL13	LIMK1	MMP9	PTGIR	TLR8
C2	CD4	FLT1	IL15	LTA	MRC1	PTGS1	TLR9
C3	CD40	FOS	IL17A	LTB	MX1	PTGS2	TNF
C3AR1	CD40LG	FXYD2	IL18	LTB4R	MX2	PTK2	TNFAIP3
C4A	CD55	GNAQ	IL18RAP	LTB4R2	MYC	RAC1	TNFSF14
C5	CD86	GNAS	IL1A	LY96	MYD88	RAF1	TOLLIP
C6	CDC42	GNB1	IL1B	MAFF	MYL2	RAPGEF2	TRADD
C7	CEBPB	GNGT1	IL1R1	MAFG	NFATC3	RELA	TRAF2
C8A	CFB	GRB2	IL1RAP	MAFK	NFE2L2	RELB	TREM2
C8B	CFD	HDAC4	IL1RN	MAP2K1	NFKB1	RHOA	TSLP
C9	CFL1	HIF1A	IL2	MAP2K4	NLRP3	RIPK1	TWIST2
CCL11	CREB1	HLA-DRA	IL21	MAP2K6	NOD1	RIPK2	TYROBP
CCL13	CRP	HLA-DRB1	IL22	MAP3K1	NOD2	ROCK2	
CCL16	CSF1	HMGB1	IL22RA2	MAP3K5	NOS2	RPS6KA5	CLTC*
CCL17	CSF2	HMGB2	IL23A	MAP3K7	NOX1	SHC1	GAPDH*
CCL19	CSF3	HMGN1	IL23R	MAP3K9	NR3C1	SMAD7	GUSB*
CCL2	CXCL1	HRAS	IL3	MAPK1	OAS2	STAT1	HPRT1*
CCL20	CXCL10	HSH2D	IL4	MAPK14	OASL	STAT2	PGK1*
CCL21	CXCL2	HSPB1	IL5	MAPK3	OXER1	STAT3	TUBB*

* Internal reference genes

Assay Performance

Description	
Level of multiplexing	249 genes known to be differentially expressed in human inflammation
Recommended amount of starting material	100 ng or less 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
Limit of detection	15 zeptomole 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	Part #
nCounter Human Inflammation Panel	12 assays	XT-CSO-HIM2-12
nCounter Analysis System Master Kit	12 Reactions	NAA-AKIT-012
nCounter SPRINT Cartridge	1 Cartridge with 12 lanes	SPRINT-CAR-1.0
nCounter SPRINT Reagent Pack	192 Reactions	SPRINT-REAG-KIT

For more information, please visit nanostring.com

APR 2022 MK3633-2

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