

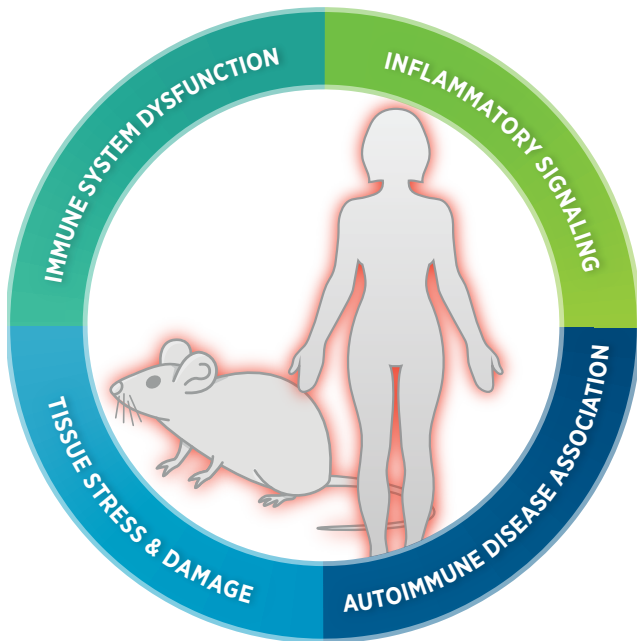


nCounter® Autoimmune Profiling Panel

Gene Expression Panel

Autoimmune Disease • Chronic Inflammatory Disease • Immune-Related Adverse Events

The nCounter Autoimmune Profiling panels are designed to rapidly analyze prominent aspects of autoimmune disease and an aberrant immune response. Each human and mouse panel allows for a comprehensive evaluation of pathways, processes, and cell types that are involved in autoimmune disease and chronic inflammatory disease.



Applications

- Therapeutic mechanism of action (MOA) studies
- Immuno-therapy induced adverse event investigations
- Discovery and validation of disease and therapeutic specific biomarkers
- Development of predictive signatures of drug response

Product Highlights

- Comprehensive assessment of 35 pathways and processes associated with autoimmune disease and chronic inflammatory disease
- Unique cell typing analysis feature measures the relative abundance of immune cell subsets
- Customizable with Panel Plus option – add up to 55 genes of your choosing
- Streamlined workflow with just 15 minutes total hands-on time

Feature	Specifications
Number of Targets	770 (Human), 770 (Mouse) including internal reference genes
Sample Input - Standard (No amplification required)	25 ng - 300 ng
Sample Input - Low Input	As little as 1 ng with nCounter Low Input Kit (sold separately)
Sample Type(s)	PBMC, FFPE-derived RNA, total RNA, fragmented RNA, cell lysate, sorted cells, whole blood/plasma
Customizable	Add up to 55 unique genes with Panel Plus
Time to Results	Approximately 24 hours
Data Analysis	nSolver™ Analysis Software (RUO) and the ROSALIND® Platform

Autoimmune Profiling Panel Functional Annotations

The 35 pathways and processes in this panel provide a comprehensive view into immune system dysfunction in autoimmune disease and treatment-induced adverse immune events.

Autoantigens	Apoptosis	Autophagy	B-Cell Receptor Signaling	Chemokine Signaling	Complement System
Cytosolic DNA Sensing	Cytotoxicity	Endothelial Activation	Epigenetics and Transcriptional regulation	Fc Receptors and Phagocytosis	Growth Factor Signaling
Immunometabolism	Inflammasomes	Interleukin-12 Signaling	Other Interleukin Signaling	Lymphocyte Trafficking	MHC Class I Antigen Presentation
MHC Class II Antigen Presentation	mTOR	NF-κB Signaling	NLR Signaling	Oxidative Stress	T-cell Checkpoint Signaling
T-cell Receptor Signaling	TGF-Beta Signaling	Th1 Differentiation	Th2 Differentiation	Th17 Differentiation	Th17 Mediated Biology
TNF Family Signaling	Toll Like Receptor Signaling	Treg Differentiation	Type I Interferon Signaling	Type II Interferon Signaling	

Immune Cell Profiling

The Autoimmune Profiling Panels provide unique cell profiling data to measure the relative abundance of immune cell types¹. The table below summarizes each cell type represented by gene content in the panel, as qualified through biostatistical approaches and selected literature in the field of immunology.

Relative Cell Type Abundance

Cell Type	Associated Human Genes	Associated Mouse Genes
B cells	9	8
CD45	1	1
CD8 T cells	2	2
Cytotoxic Cells	10	9
Dendritic Cells	3	3
Exhausted CD8	4	4
Macrophages	4	4
Mast cells	4	3
Neutrophils	6	5
NK CD56dim cells	3	2
NK Cells	2	1
T cells	6	6
Th1 Cells	1	1
Treg	1	1

To view the complete gene lists for either the Human or Mouse Autoimmune Profiling Panels, visit:

<https://nanosttring.com/autoimmune-profiling/>

¹Danaher P. et al. Gene expression markers of Tumor Infiltrating Leukocytes JITC 2017

Autoimmune Disease and Chronic Inflammatory Disease

The Autoimmune Profiling Panel is designed to encompass adaptive and innate immune system dysfunction associated with six of the most common and debilitating autoimmune diseases. The table below describes the six conditions that were emphasized in creating this panel, along with induced adverse immune events. While this panel was designed around these six diseases, it will provide powerful immune system information for the research of any autoimmune or chronic inflammatory disease.

Condition	Description
Rheumatoid Arthritis	Chronic inflammatory disorder that impacts the lining of joints
Inflammatory Bowel Disease	Chronic inflammation of the digestive tract
Type 1 Diabetes	Autoimmune disease where the immune system mistakenly attacks the insulin-producing cells of the pancreas
Multiple Sclerosis	Demyelinating disease that disrupts communication within the nervous system
Systemic Lupus Erythematosus	Chronic inflammatory disease that manifests systemically throughout the body
Psoriasis	Immune-mediated disease that causes skin cells to rapidly build up on the surface of the skin
Induced Adverse Immune Events	Certain treatments and infections have been reported to interfere with the immune system and induce a series of autoimmune disease or adverse immune-related events.

Targets for Approved and Investigational Therapies

Content in the Autoimmune Profiling Panel includes targets for more than 30 approved and investigational therapies for autoimmune and chronic inflammatory diseases.

Therapeutic Target Categories	
Type I and II Interferons	Innate and Adaptive Immune-Related Interleukins
Tumor Necrosis Factor (TNF)	Toll-like Receptors
B cell Targets	Immune Cell Signaling
Immune Checkpoint and Co-Stimulatory Targets	Other Immunomodulatory Agents

Ordering Information

Gene Expression Panels arrive ready-to-use and generally ship within 24 hours following purchase.

Product	Product Description	Quantity	Catalog Number
nCounter Human Autoimmune Profiling Panel	Includes 770 genes, including 20 internal reference genes for data normalization	12 Reactions	XT-CSO-HAIP1-12
nCounter Mouse Autoimmune Profiling Panel	Includes 770 genes, including 20 internal reference genes for data normalization	12 Reactions	XT-CSO-MAIP1-12
nCounter Analysis System Master Kit Reagents and Cartridges	Reagents, cartridges, and consumables necessary for sample processing on the nCounter Analysis System	12 Reactions	NAA-AKIT-012
nCounter SPRINT Cartridge 1 Cartridge, 12 lanes	Sample Cartridge for nCounter SPRINT System	12 Reactions	SPRINT-CAR-1.0
nCounter SPRINT Reagent Pack	nCounter SPRINT Reagent Pack containing Reagents A, B, C, and Hybridization Buffer	192 Reactions	SPRINT-REAG-KIT
Low Input RNA Reagent Kit	48rxn kit for profiling from low sample input amounts	48 Reactions	LOW-RNA-48
nCounter Human Autoimmune Profiling Panel Primer Pools	MTE primer pools for Low Input RNA profiling (770 genes) 750 autoimmune disease related human genes + 20 internal reference controls. Master Kit, RNA Low Input Kit, and Panel CodeSet Required	12 Reactions	PP-HAIP1-12
nCounter Mouse Autoimmune Profiling Panel Primer Pools	MTE primer pools for Low Input RNA profiling (770 genes) 750 autoimmune disease related mouse genes + 20 internal reference controls. Master Kit, RNA Low Input Kit, and Panel CodeSet Required	12 Reactions	PP-MAIP1-12

Selected Panel References

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12. Urrutia, A., et al. (2016). Standardized Whole-Blood Transcriptional Profiling Enables the Deconvolution of Complex Induced Immune Responses. *Cell Reports*, 16(10), 2777-2791.

For more information, please visit nanosttring.com/autoimmune-profiling/

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