

# Advanta Immuno-Oncology Gene Expression Assay

Reveal the molecular signatures of tumor immune response



The Advanta™ Immuno-Oncology Gene Expression Assay is a 170-gene expression qPCR assay that enables profiling of tumor immunobiology and new biomarker identification.

Designed to meet the rigorous demands of human checkpoint research programs, the Advanta Immuno-Oncology Gene Expression Assay includes 91 key markers of tumor immune response that were shown in a multicenter international clinical trial to inform tumor progression and checkpoint therapeutic response (1,2). In collaboration with leading researchers and biopharma, this panel was further expanded to include 74 additional immuno-oncology markers.

The complete panel set includes genes for identification and functional analysis of immune and cancer cells including markers found in defined T cell subsets, cytokines and chemokines and markers of immune regulation, immune cell fate and more.

## Highlights

**Optimized** — Screen high-value markers of the tumor immune response.

**Flexible** — Easily add new markers over time, customizing for your own research needs.

**Efficient** — Run up to 96 samples at a time using the proven Biomark HD automated qPCR system.

## Immuno-Oncology Expression Assay

### Panel A

ARG1	CLEC4C	IL12A	PDCD1LG2 (PD-L2)
BTLA	CSF2	IL13	PRF1
CCL2	CTLA4	IL17A	PTGER2
CCL22	CX3CL1	IL17F	PTGER4
CCL28	CXCL10	IL1B	PTGS2
CCR5	CXCL8	IL2	PTPRC
CCR7	CXCL9	IL2RA	RORC
CD1C	CXCR3	IL4	SDHA
CD244	EOMES	IL6	SP2
CD27	EPCAM	IL7	TBX21
CD274 (PD-L1)	FOXP3	IL7R	TGFB1
CD276	GZMA	ITGAM	TMEM55B
CD28	GZMB	ITGAX	TNF
CD3E	HAVCR2	ITGB2	TNFRSF14
CD4	HLA-A	KLRK1	TNFRSF4
CD40	HLA-B	LAG3	TNFRSF9
CD40LG	HLA-C	LGALS9	TNFSF4
CD48	HMOX1	MAP4K1	TNFSF9
CD69	ICAM1	MICA	VCAM1
CD70	ICOS	MICB	VEGFA
CD80	IDO1	MS4A1	VPS33B
CD86	IFNG	NCAM1	VTCN1
CD8A	IL10	PDCD1 (PD-1)	

### Panel B

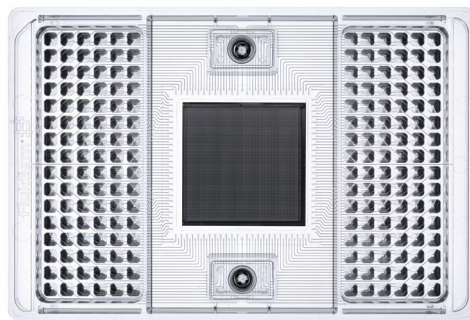
APOBEC3A	CXCR4	IFNA2	NKG7
APOBEC3B	CYBB	IGHA1	NRAS
ARG2	DGAT2	IGHG1	NT5E
CA4	EBI3	IGHM	PYGL
CCL18	ERBB2	JCHAIN (IGJ)	SLAMF7
CCL21	FASLG	IGKC	SLAMF8
CCL3	FCER1G	IGLJ3	STAT1
CCL4	FCRLA	IGSF6	STAT2
CCL5	FYB	IL10RA	STAT3
CD160	GATA3	IL12B	STAT5A
CD19	GNLY	IL15	STAT5B
CD1D	GZMH	IL2RG	STAT6
CD2	GZMK	IRF9	TLR7
CD22	HLA-DMB	ISG15	TLR8
CD37	HLA-DPB1	JAK2	TNFAIP8
CD52	HLA-DQB1	KREMEN1	TNFRSF18
CD53	HLA-DRB1	LAPTM5	TNFSF18
CD63	IFI27	LCK	
CTSS	IFIT2	LRG1	

**Housekeeping genes for panels A and B:**  
B2M, ACTB, GAPDH, GUSB, TFRC

**Table 1. The Advanta Immuno-Oncology Gene Expression Assay panels A and B.** This two panel set includes 91 target genes and 5 housekeeping genes on Panel A and 74 target genes and the same 5 housekeeping genes on Panel B. Panel B reserves 17 open assay inlets, so you have the added flexibility to add new assays over time for customization. Each panel will be available in packs of 2 or 10 (192 or 960 samples, respectively).

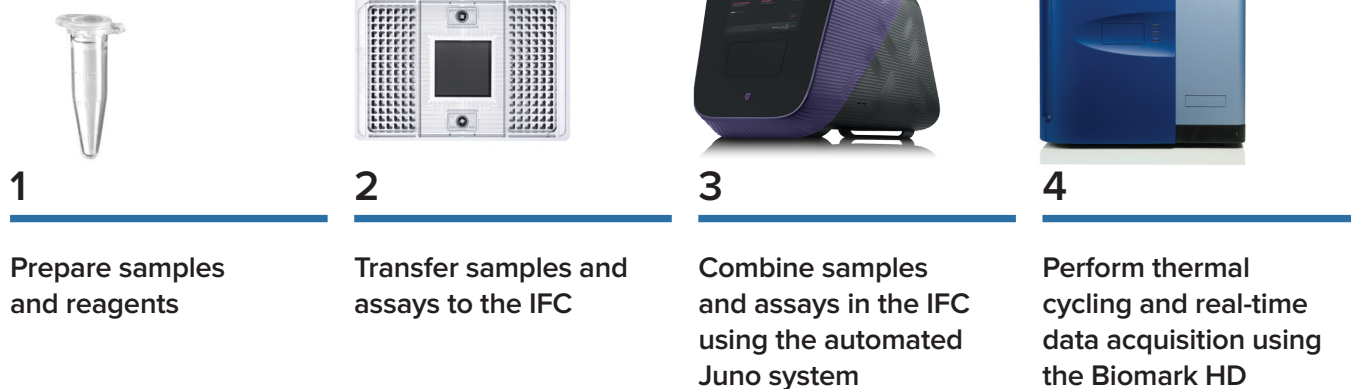
## The Biomark HD advantage

The Advanta Immuno-Oncology Gene Expression Assay is optimized to run on the industry-proven Biomark HD system. This system utilizes integrated fluidic circuits (IFCs) to precisely combine multiple reactions at nanoliter volumes. Enabling you to easily run up to 96 samples at a time with the Advanta Immuno-Oncology Gene Expression Assay, the Biomark HD automated gene expression workflow delivers performance you can trust with limited hands-on time.



**Figure 1. Integrated fluidic circuit (IFC).** The Gene Expression 96.96 IFC accommodates up to 96 samples per run, with a total of 9,216 parallel reactions. This is the equivalent reaction number of 24 total 384-well plates.

## Assay workflow



**Figure 2. Assay workflow.** The gene expression assay workflow uses the Juno™ system for IFC preparation and Biomark HD for qPCR thermal cycling and data acquisition. With only 30 minutes of hands-on time and four hours of total workflow time, you can run up to 96 samples using the GE 96.96 IFC, generating results for up to 9,216 PCR reactions.

## Advanta Immuno-Oncology Gene Expression Assay ordering info

Part Number	Part Description	Content
101-6082	Advanta™ Immuno-Oncology Gene Expression Assay Panel A – 2 IFCs	Reagents, assay, syringes, IFCs
101-6083	Advanta™ Immuno-Oncology Gene Expression Assay Panel B – 2 IFCs	Reagents, assay, syringes, IFCs
101-6084	Advanta™ Immuno-Oncology Gene Expression Assay Panels A & B – 4 IFCs	Reagents, assay, syringes, IFCs
101-6086	Advanta™ Immuno-Oncology Gene Expression Assay Panel A – 10 IFC	Reagents, assay, syringes, IFCs
101-6087	Advanta™ Immuno-Oncology Gene Expression Assay Panel B – 10 IFC	Reagents, assay, syringes, IFCs
101-6088	Advanta™ Immuno-Oncology Gene Expression Assay Panels A & B – 20 IFCs	Reagents, assay, syringes, IFCs

© 2016 Fluidigm Corporation. All rights reserved. Fluidigm, the Fluidigm logo, Biomark and Juno are trademarks or registered trademarks of Fluidigm Corporation in the United States and/or other countries.

Panel availability subject to confirmation.

For Research Use Only. Not for use in diagnostic procedures.

PN 101-5440 B1

### References

1. Herbst, R.S. et al. *Nature* 515 (2014): 563–567
2. Fehrenbacher, L. et al. *The Lancet* 387 (2016): 1837–1846