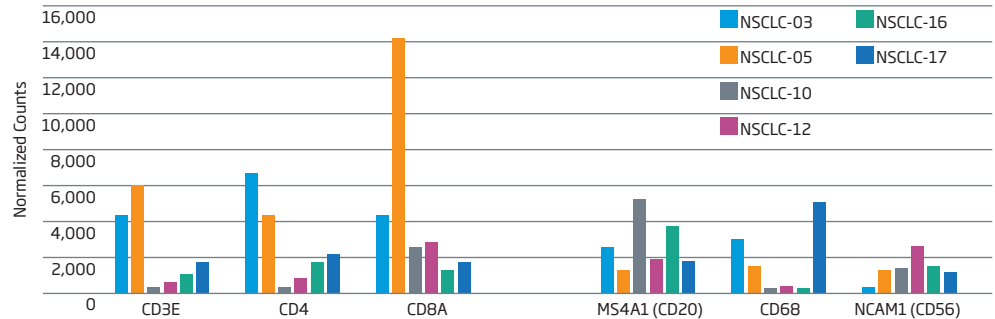


Other applications:

- Assessing tumor inflammation
- Cytokine profiling
- Immunoresistance pathways
- Immunosuppression phenotyping
- DNA repair mechanisms
- Drug target assessment
- TCGA tumor subtyping

The type and relative abundance of immune cells in a tumor or its periphery may influence tumor behavior and progression. While the role of CD8(+) cytotoxic T cells in these processes is relatively well understood, there is less certainty around the roles of other immune cell types – especially when they are co-located with T cells – in these processes. The composition and functional roles of these other immune cell types may lead to insights into the anti-tumor activities of the immune system.

Expression of Immunophenotyping Markers



Infiltrating T cells within a tumor sample can be detected using the canonical T cell markers CD3E, CD4, and CD8A, most clearly seen in tumors NSCLC-03 and 05 (see chart above), which have higher T cells levels. However, canonical markers for other immune cell types show that tumors with lower T cell levels also have a range of immune responses. For instance, tumors NSCLC-10 and 16 are enriched for B cells (measured by CD20), NSCLC-17 has higher macrophage levels (measured by CD68), and NSCLC-12 is more enriched for NK cells (measured by NCAM1/CD56).

Selected Immunophenotyping Markers

General T Cell Markers	Cytotoxic CD8 T Cells	CD4 T Cell Helper	Regulatory T cells	Memory T Cells	NK Cells	B Cell Markers	Macrophage Markers	Neutrophil Markers
CD14	CD27	ASF1A	FOXP3	ATM	CD160	BLK	APOE	ALOX15B
CD2	CD8A	ATF2	IL2RA	CASP8	FOXJ1	BLNK	ATG7	ALOX5
CD247	CD8B	B3GAT1	KLF2	CYLD	FUT5	CD19	CCL7	CA4
CD3D	EOMES	BATF		DOCK9	GTF3C1	CD22	CD163	CREB5
CD3E	FLT3LG	BORA		FOXP1	GZMB	CD72	CD68	CSF3R
CD3G	GNLY	CD28		MAP3K1	IL21R	CD79A	CD84	CXCR1
CD5	GZMA	CD4		NEFL	KIR2DL1	CD79B	CHIT1	CXCR2
CD6	GZMB	CXCL13		NFATC1	KIR2DL3	COCH	CLEC5A	FCAR
CD96	GZMH	CXCR5		NFATC3	KIR2DL4	CR2	CXCL5	FPR1
IL2RB	GZMK	FYRL		REPS1	KIR3DL1	FCRL2	CYBB	FPR2
LAMP1	GZMM	HEY1		TCF7	KIR3DL2	HLA-DQB	EMP1	LILRB2
LCK	IFNG	ICOS		USP9Y	KIR3DL3	HLA-DQA1	FN1	MME
SH2D1A	KLRB1	KCNK5			KIR3DS1	MEF2C	MARCO	S100A12
TNFRSF25	KLRD1	LRBA			LAMP1	MS4A1	MS4A4A	SIGLEC5
TRAT1	KLRF1	MAF			MPPED1	PAX5	MSR1	TNFRSF10C
ZAP70	KLRK1	NUP107			NCAM1	TCL1A	PPBP	
					NCR3LG1	TNFRSF17		

About the HTG EdgeSeq Precision Immuno-Oncology Panel

The next-generation sequencing (NGS)-based HTG EdgeSeq Precision Immuno-Oncology Panel is designed to measure the immune response both inside the tumor and the surrounding microenvironment. HTG's quantitative nuclease protection assay does not require nucleic acid extraction and is automated using the HTG EdgeSeq processor. By leveraging the high sensitivity and dynamic range of NGS instrumentation, this powerful tool interrogates 1,392 genes from a single section of formalin-fixed, paraffin-embedded (FFPE) tissue, RNA samples that have previously been extracted, or PAXgene samples.

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

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