Tumor-Infiltrating Immune Cell Markers (Human)

**Myeloid Cells**
- CD11b+

**Lymphoid Cells**
- CD45+

**Leukocytes**
- CD45+

**Granulocytes**
- Neutrophils:
  - CD16+ and CD66b+/hi or CD15/SSEA1
  - CD16
  - Siglec-H and CD317
  - Activated

- Eosinophils:
  - CD193+ and Siglec-8- and CD16

- Basophils:
  - FcεR1α+ and CD117
  - Activated
  - CD63+ and CD203c

- Mast cells:
  - FcεR1α+ and CD117- and Tryptase
  - Activated
  - CD203c

**Myeloid-Derived Suppressor Cells (MDSCs)**
- Monocytic (M) MDSCs
  - CD15+ and CD14+ and HLA-DR

- Polymorphonuclear (PMN) MDSCs
  - CD15- and CD14+ and HLA-DR

**Plasmacytoid Dendritic Cells**
- Siglec-H and CD317
  - Activated

**Conventional Dendritic Cells**
- CD1c+ DCs
  - CD103+ and CLEC9A
  - Activated

**Macrophages**
- CD14+ and HLA-DR
  - M1-like
  - CD86+ or CD80+ or iNOS

- CD14- and CLEC9A+ or XCR1- or CD141+ or CD206- or CD163+ or CD206
  - M2-like

**Monocytes**
- CD11c+ and HLA-DR
  - M1-like
  - CD86+ or CD80+ or iNOS

- CD68+ and HLA-DR+ and CD14- and CD206- and CD66b
  - M2-like

**T Cells**
- Helper T Cells (Th)
  - CD4+
  - CD45RO+ and CD62L+ or CCR7+

- Cytotoxic T Cells
  - CD8+
  - CD69+ or PD-1+ and TIM-3+ and LAG3+
  - Activated

- Effector Memory
  - CD45RO+ and CD62L- or CCR7-

**NKT Cells**
- Type I NKT (iNKT)
  - CD4
  - TCR Vα24 Vβ11+

- Type II NKT
  - CD3

**NK Cells**
- PB Cytotoxic NK Cells
  - CD56+ and CD3+

- Type I NK (NKT)
  - TCR Vα24 Vβ11+

**B Cells**
- PB Immature / Regulatory NK Cells
  - CD56+ and CD16- and NCR

**Plasma Cells**
- BCMA
  - CD138

**Granulocytes**
- FcεR1α+ and CD117
  - Activated
  - CD63+ and CD203c

**Myeloid Cells**
- CD11b+

**Functional State Markers**
- Activated
  - CD83+

- Cytotoxic
  - Granzyme+ or Perforin+
  - Effector

- Naive
  - CD45RA+

- Exhausted
  - PD-1+

- Central Memory
  - CD45RO+ and CD62L+ or CCR7+

- Effector Memory
  - CD45RO+ and CD62L- or CCR7-

- Exhausted
  - PD-1+ and TIM-3+ and LAG3+

**Key**
- +: positive/high expression
- -: negative/low expression
- Functional State Markers

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