



Miltenyi Biotec

# Are you finding the markers you are looking for?

Cancer Stem Cells			
Bladder			
	Human	Mouse	E/I
CK5	•		I
CD44	•	•	E
CD47	•		E
Breast			
ALDH	•		I
CD24	•		E
CD44	•	•	E
CD49f (ITGA6)	•		E
CD326 (EpCAM)	•		E
CD184 (CXCR4)	•		E
CD340 (ErbB2, Her2/Neu)	•		E
Colon			
ALDH	•		I
CD26 (DPP4)	•	•	E
CD44	•	•	E
CD133	•		E
CD166 (ALCAM)	•	•	E
CD326 (EpCAM)	•		E
LGR5	•		E
Endometrium			
CD133	•		E
Stomach			
CD44	•	•	E
DLL4	•	•	E
Glioma/Medulloblastoma			
ABC G2	•		E
CD133	•		E
CD184 (CXCR4)	•		E
Nestin	•		I
CD15 (SSEA1)	•		E
Head and Neck			
ABC G2	•		E
ALDH1A1	•		I
CD44	•	•	E
Liver			
ABC B5	•		E
CD90 (Thy1)	•		E
CD133	•		E
CD326 (EpCAM)	•		E
Lung			
ABC G2	•		E
ALDH	•		I
CD90 (Thy1)	•		E
CD133	•		E
CD326 (EpCAM)	•		E
Melanoma			
ABC B5	•		E
ABC G2	•		E
CD20	•		E
CD117 (c-kit/SCF R)	•		E
CD133	•		E
CD166 (ALCAM)	•	•	E
CD271 (LNGFR, p75)	•	•	E
Osteosarcoma			
ABC G2	•		E
STRO-1	•		E
Ovary			
CD24	•		E
CD44	•	•	E
CD117 (c-kit)	•		E
CD133	•		E
Pancreas			
CD24	•		E
CD44	•	•	E
CD133	•		E
CD326 (EpCAM)	•		E
CD184 (CXCR4)	•		E
Prostate			
ABC G2	•		E
CD44	•	•	E
CD133	•		E
CD184 (CXCR4)	•		E
Integrin α2β1	•		E

Epithelial Cells			
	Human	Mouse	E/I
CD326 (EpCAM)	•		E
CD324 (E-Cadherin)	•	•	E
Claudin 1	•		E
Claudin 3	•		E
Claudin 4	•		E
Cytokeratin 8	•		I
Cytokeratin 14	•		I
Cytokeratin 19	•		I
Desmocollin 1	•		E
Desmocollin 2	•	•	E
Desmocollin 3	•	•	E
Desmoglein 1	•		E
Desmoglein 2	•		E
Desmoglein 3	•		E
JAM-A	•	•	E
JAM-B/VE-JAM	•	•	E
JAB-C	•	•	E
Laminin 1	•		I
Nectin 1	•		E
Nectin 2	•	•	E
Nectin 3	•	•	E
Occludin	•		I

Epithelial-Mesenchymal Transition (EMT)			
	Human	Mouse	E/I
Decreasing Expression			
CD324 (E-Cadherin)	•	•	E
CD326 (EpCAM)	•		E
Cytokeratin	•		I
Increasing Expression			
β-catenin	•	•	E
CD325 (N-Cadherin)	•	•	E
Fibronectin	•	•	I
FOXC2	•	•	I
MMP2	•	•	E
MMP3	•	•	E
MMP9	•	•	E
Snail	•	•	I
Slug	•	•	I
Twist	•	•	I
Vimentin	•	•	I

Circulating Tumor Cells (CTCs)			
	Human	Mouse	E/I
CD326 (EpCAM)	•		E
CD340 (ErbB2, Her2/Neu)	•		E
Cytokeratin 8	•		I
Cytokeratin 18	•		I
Cytokeratin 19	•		I
Cytokeratin 7	•		I
MCSP (NG2)	•		E

Tumor Vascularization			
	Human	Mouse	E/I
Endothelial Cells			
CD31 (PECAM)	•	•	E
CD105 (Endoglin)	•	•	E
CD143 (ACE)	•		E
CD144 (VE-Cadherin)	•		E
CD146 (MCAM)	•	•	E
CD309 (VEGFR2, KDR)	•		E

Tumor Immunology			
	Human	Mouse	E/I
B Cells			
CD20	•		E
IgG	•		E
Eosinophils			
H&E	•	•	I
CD15	•		E
CD193	•	•	E
MBP	•	•	I
Siglec-F	•	•	I
Myeloid Dendritic Cells (conventional DC cDC)			
Lineage (CD3/CD14/CD19/CD56) negative	•		E
CD1c	•		E
CD11c	•	•	E
MHC-II	•	•	E
Plasmacytoid Dendritic Cells			
B220	•		E
CD11c	•	•	E
CD303	•		E
Mast Cells			
FcεRI	•	•	E
CD117 (c-kit)	•	•	E
Trypase	•	•	I
Macrophages/TAM (tumor-associated macrophages)			
CD11b	•		E
CD14	•		E
CD68	•		E
F4/80	•	•	E
Macrophage-M1 Subtype			
CD86	•	•	E
HLA-DR	•		E
IL-12	•	•	I
iNOS	•	•	I
MHCII	•		E
Macrophage-M2 Subtype			
Arg1	•	•	I
CD163	•	•	E
CD206	•	•	E
CD274 (PDL1)	•	•	E
IL-10	•	•	I
TGF-β	•	•	I

Tumor Immunology			
	Human	Mouse	E/I
TEM (Tie2-expressing macrophages)			
CD202b	•	•	E
CD274 (PDL1)	•	•	E
CD309 (VEGFR2, KDR)	•		E
MMP9	•		E
MDSC (myeloid-derived suppressor cells)			
CD11b	•	•	E
CD33	•		E
M-MDSC (monocytic)			
CD14	•		E
CD49d	•	•	E
HLA-DR	•		E
iNOS	•		I
Ly6C	•		E
Ly6G	•		E
G-MDSC (granulocytic)			
CD15	•		E
CD182	•		E
Ly6Cdim	•		E
Ly6G	•		E
ROS	•		I
NK Cells			
CD56	•		E
NK 1.1	•		E
NKp46	•		E
NKT Cells			
CD3	•		E
CD56	•		E
NK 1.1	•		E
iNKT Cells			
Anti-iNKT (6B11)	•		E
NK 1.1	•		E
Neutrophils/TAN (tumor-associated neutrophils)			
CD11b	•		E
CD15	•		E
CD16	•		E
CD66b	•		E
Ly6G	•		E
Treg Cells			
CD3	•		E
CD4	•		E
CD25	•		E
CD127low	•		E
FoxP3	•		I
Neuropilin1	•		E
GITR	•		E
TIL (tumor-infiltrating lymphocytes)			
BTLA	•		E
CD3	•		E
CD4	•		E
CD8	•		E
CD44	•		E
CD45	•		E
CD45-RO	•		E
CD45-RA	•		E
CD57	•		E
CD152 (CTLA-4)	•		E
CD279 (PD-1)	•		E
KLRG1	•		E
Lag3	•		E
Tim-3	•		E

► [macscancer.com](http://macscancer.com)

## Keep your epitopes intact for downstream analysis

### Tumor dissociation

Effective tumor dissociation keeps cells and their surface epitopes intact for reliable downstream experiments.

Mouse melanoma was dissociated with the gentleMACS Dissociator, gentleMACS C Tubes, and the Tumor Dissociation Kit, mouse. The analysis of epitope stability showed that even sensitive epitopes, such as CD11b and CD31, were conserved.

### Cell isolation or depletion

Easily isolate your target cells or remove unwanted populations from tumor samples with MACS® Technology.

Breast cancer stem cells CD44+/CD24-/CD45- were isolated from primary tumors samples. Magnetic cell separation technology enriched CSCs from 5% in the original fraction to a purity of over 94%. (Hardt *et al.*, Cancer Letters, 2012)

### Tumor characterization

Analyze your tumors or blood samples with the MACSQuant® Flow Cytometers and antibodies, including unique Vio™ Dye conjugates.

MACSQuant Flow Cytometers include a magnetic enrichment column that enables sensitive analysis of even low-frequency cells. The figure above shows analysis of CTCs enriched with EpCAM, MicroBeads and analyzed on the MACSQuant Flow Cytometer.

### Molecular applications

Discover the molecular mechanisms that drive tumor formation and metastasis, even from very small samples.

Rare cell gene expression analysis of breast cancer stem cells using SuperAmp™ RNA amplification and gene expression profiling. The figure shows the regulation of stem cell- and epithelial-related genes that would not have been detectable if only the bulk tumor mass had been assessed. (Hardt *et al.*, Cancer Letters, 2012)

### Small animal imaging

Viscover™ Imaging Agents are optimized for small animal *in vivo* imaging by MRI, CT, ultrasound, and optical imaging.

Optical imaging of tumor and metastases in a PC-3 tumor-bearing mouse 6 hours after injection with Viscover™ NiraWave™ M. (Data courtesy of Michael Hess, Jochen Stritzker, and Aladar A. Szalay, Würzburg, Germany)





  
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