



Tumor Dissociation Kit, human

Preservation of cell surface epitopes

Background

The Tumor Dissociation Kit, human enables the gentle dissociation of tumor tissue, resulting in viable, functional single cells. The dissociation process involves enzymatic digestion steps. Here we tested whether the three enzymes used for enzymatic digestion affect the integrity of cell surface epitopes on the treated cells. Our results show that the vast majority of more than 200 epitopes tested is well preserved during enzymatic treatment.

Method

Tumor cell lines mixed with PBMCs (ratio 1:1) were either treated with the Tumor Dissociation Kit enzymes or incubated in buffer without enzymes (2x30 min at 37 °C). The cells that were incubated without enzymes were stained with a cell trace dye. The enzymatically treated and untreated samples were then mixed and stained with each of the fluorochrome-conjugated MACS® Antibodies detecting cell surface epitopes and analyzed by flow cytometry. The cell trace dye enabled the distinction between treated and untreated cells. A decrease in fluorescence signal intensity of the fluorochrome conjugates in the treated cells indicated effects on epitope integrity.

Results

Antibody detecting cell surface epitope	Antibody clone	Antibody detecting cell surface epitope	Antibody clone	Antibody detecting cell surface epitope	Antibody clone	Antibody detecting cell surface epitope	Antibody clone
Anti-CLA	HECA-452	Anti-LGR5	DA03-22H2.8	CD4	VIT4	CD27	M-T271
Anti-CLIP	REA296	Anti-MICA/MICB	6D4	CD5	UCHT2	CD28	15E8
Anti-CX3CR1	2A9-1	Anti-NKp80	4A4.D10	CD6	M-T411	CD29	TS2/16
Anti-DCIR	REA329	Anti-Notch2	MHN2-25	CD8	BW135/80	CD31	AC128
Anti-DLL1	MHD1-314	Anti-PTK7 (CCK-4)	188B	CD9	SN4 C3-3A2	CD32	2E1
Anti-DR-3	JD3	Anti-ROR-1	2A2	CD10	97C5	CD33	AC104.3E3
Anti-FcεR1α	CRA1	Anti-SSEA-1	REA321	CD11a (ITGAL)	REA378	CD35	E11
Anti-Fibroblast	REA165	Anti-SSEA-4	REA101	CD11b	M1/70.15.11.5	CD36	AC106
Anti-fMLP receptor	REA169	Anti-TCR-Va7.2	REA179	CD11c	MJ4-27G12	CD38	IB6
Anti-Galectin-3	M3/38	Anti-TCR-Vδ1	REA173	CD13	REA263	CD39	MZ18-23C8
Anti-HLA Class I B8	REA145	Anti-TCR-Vδ2	123R3	CD14	TÜK4	CD40	HB14
Anti-HLA Class I Bw6	REA143	Anti-TCRα/β	BW242/412	CD15	VIMC6	CD41b	REA336
Anti-HLA-ABC	REA230	Anti-TCRγ/δ	11F2	CD16	VEP13	CD42a	REA209
Anti-HLA-B12	REA138	Anti-TSPAN8	REA443	CD18	TS1/18	CD43	DF-T1
Anti-HLA-DQ	REA303	CD1a	HI149	CD19	LT19	CD44	DB105
Anti-HLA-DR	AC122	CD1c (BDCA-1)	AD5-8E7	CD20	LT20	CD45	5B1
Anti-HLA-DR, DP, DQ	REA332	CD1d	51,1	CD21	HB5	CD45RA	T6D11
Anti-HLA-E	3D12	CD2	LT2	CD22	REA340	CD45RB	REA119
Anti-Jagged2	MHJ2-523	CD3	BW264/56	CD24	32D12	CD45RO	UCHL1
Anti-KLRG1	REA261	CD4	M-T466	CD25	4E3	CD46	REA312

Antibody detecting cell surface epitope	Antibody clone	Antibody detecting cell surface epitope	Antibody clone	Antibody detecting cell surface epitope	Antibody clone	Antibody detecting cell surface epitope	Antibody clone
CD47	REA220	CD90	DG3	CD158b (KIR2DL2/DL3)	DX27	CD240DCE	REA327
CD49a	TS2/7	CD95 (FAS)	DX2	CD158e (KIR3DL1)	DX9	CD244 (2B4)	REA112
CD49b	REA188	CD96 (TACTILE)	REA195	CD158e/k	5.133	CD258 (LIGHT)	REA244
CD49d	MZ18-24A9	CD97	VIM3b	CD161	191B8	CD262	DJR2-4
CD49e	NKI-SAM1	CD99	3B2/TA8	CD162	REA319	CD266 (FN14)	ITEM-4
CD49f	GoH3	CD101	BB27	CD163	GHI/61.1	CD268	11C1
CD51	REA181	CD103	Ber-ACT 8	CD171 (L1CAM)	REA163	CD270 (HVEM)	REA247
CD52	REA164	CD104 (Integrin β 4)	REA236	CD172a (SIRPa)	REA144	CD271 (LNGFR)	ME20.4-1.H4
CD53	REA259	CD105	43A4E1	CD172b	B4B6	CD276	FM276
CD54 (ICAM-1)	REA266	CD106 (VCAM-1)	REA269	CD177	REA258	CD282 (TLR2)	REA109
CD55 (DAF)	JS11	CD107a (LAMP-1)	H4A3	CD180 (RP105)	MHR73-11	CD284	HTA125
CD56	AF12-7H3	CD107b	H4B4	CD181 (CXCR1)	8F1	CD294	BM16
CD57	TB03	CD111	R1.302	CD182 (CXCR2)	REA208	CD298	REA217
CD58 (LFA-3)	TS2/9	CD116	REA211	CD184	12G5	CD300e (IREM-2)	UP-H2
CD61	Y2/51	CD119	REA161	CD185 (CXCR5)	REA103	CD300f (IREM-1)	UP-D2
CD62E (E-Selectin)	REA280	CD122 (IL-2R β)	REA167	CD192 (CCR2)	REA264	CD303 (BDCA-2)	AC144
CD62P	REA389	CD123	AC145	CD193 (CCR3)	5E8.4	CD312 (EMR2)	REA302
CD63	H5C6	CD127	MB15-18C9	CD194 (CCR4)	REA279	CD314 (NKG2D)	BAT221
CD64	10.1.1	CD132	REA313	CD196 (CCR6)	REA190	CD317 (PDCA-1)	REA202
CD66abce	TET2	CD133/1	AC133	CD197 (CCR7)	FR 11-11E8	CD318 (CDCP1)	REA194
CD66b	REA306	CD133/2	293C3	CD197 (CCR7)	REA546	CD324 (E-Cadherin)	67A4
CD66c	REA414	CD137L (4-1BBL)	REA254	CD200	OX-104	CD326 (EpCAM)	HEA-125
CD68	Y1/82A	CD138	REA104	CD202b (TIE-2)	REA198	CD328 (Siglec-7)	REA214
CD71	AC102	CD138	B-B4	CD205 (DEC205)	HD30	CD337 (NKp30)	AF29-4D12
CD72	REA231	CD140b	REA363	CD208 (DC-LAMP)	REA295	CD352	REA339
CD73	AD2	CD141 (BDCA-3)	AD5-14H12	CD209 (DC-SIGN)	DCN47.5	CD354 (TREM-1)	REA213
CD74	5-329	CD142	HTF-1	CD217 (IL-17RA)	REA290	DCIR	REA329
CD79a	HM47	CD144 (VE-Cadherin)	REA199	CD218 (IL-18Ra)	H44		
CD82	REA221	CD146	541-10B2	CD220	REA260		
CD84	MZ18-21F6	CD147	REA282	CD221 (IGF-1R)	REA271		
CD85a (ILT5)	REA207	CD148	REA204	CD222	REA187		
CD85j (ILT2)	GHI/75	CD151	REA265	CD226 (DNAM-1)	DX11		
CD85k (ILT3)	REA141	CD156a (ADAM8)	REA331	CD229 (Ly-9)	Hly9.1.25		
CD87	VIM5	CD156c (ADAM10)	REA309	CD230 (PrP)	REA203		
CD88 (C5AR)	S5/1	CD158a (KIR2DL1)	REA284	CD235a (Glycophorin A)	REA175		
CD89	REA234	CD158a/h (KIR2DL1/DS1)	11PB6	CD239 (BCAM)	REA276		

Legend
■ Stable
■ Moderate sensitivity*
■ Strong sensitivity*

Table 1: Stability of cell surface epitopes towards treatment with the Tumor Dissociation Kit, human.

* Adjusting the concentration of one of the kit components (enzymes) can aid in preserving sensitive epitopes. For more information please contact us.

► miltenyibiotec.com



Miltenyi Biotec

Miltenyi Biotec provides products and services worldwide. Visit www.miltenyibiotec.com/local to find your nearest Miltenyi Biotec contact.

Unless otherwise specifically indicated, Miltenyi Biotec products and services are for research use only and not for therapeutic or diagnostic use. MACS and the MACS logo are registered trademarks or trademarks of Miltenyi Biotec GmbH and/or its affiliates in various countries worldwide. Copyright © 2017 Miltenyi Biotec GmbH and/or its affiliates. All rights reserved.