

AS1 Adhesion structures: section report

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The Adhesion Structure Workshop was organized for the first time in the Fifth International Workshop. This reflects the increasing emphasis in these Workshops on function and the large number of cell surface molecules that are important in adhesion to other cells or to the extracellular matrix [1]. Altogether, 267 monoclonal antibodies (mAb) were studied, which were sent blinded to 177 different laboratories for evaluation. Because of the massive scale of the organizational effort, because many of the participants did not wish to study all of the antibodies, and because there were not enough aliquots of the antibodies to send them to all participants, subpanels were organized. The make-up of the subpanels, and their chairs, are summarized in Table 1. These chairs and Mary Zutter (immunohistochemistry) and Ed Luther (flow cytometry) contributed immeasurably to the success of the Adhesion Structure Workshop.

The Adhesion Structure Section had primary responsibility for analysis of the focus mAb listed in Table 1, except for CD2 and E2, which were also studied by the T-cell Section. As a result of the Workshop, nine new cluster designations were assigned (Table 2).

The mAb in the Adhesion Structure Workshop were obtained through several mechanisms. In response to advertisements and mailings from the central Workshop committee, many laboratories sent in 'antibody submission forms' directly to the Adhesion Structure Chair. Contributors were asked to provide data on mAb characterization including species and subclass, cellular and molecular specificity, functional effects, and citations in the literature. Too many mAb were submitted for some CD; only the better characterized and more functionally active mAb could be accepted. In many other cases, insufficient mAb were volunteered for studies on surface molecules that were previously assigned a CD designation or for which we wished to obtain a new CD designation. On the basis of mAb published in the literature and discussions with subpanel chairs, a wish list of mAb was put together and letters were sent in March 1992 to the originators of the mAb soliciting their contribution and asking that an 'antibody submission form' be filled out and sent back. About half of the mAb in the Workshop were obtained in this way.

Final acceptances of mAb were sent in July 1992. Donors were asked to send 15 ml of 1 mg/ml purified

Table 1 The Workshop Adhesion Structure Section subpanels

Subpanel	Description	Chair	Focus mAb	Reference mAb
1	E-rosetting/GPI-anchored	Lloyd Klickstein	CD2, CD48, CD50, CD55, CD58, CD59, E2 (MIC2), novel GPI	CD44, CD16
2	Selectins	Tom Diacovo	CD62, E-selectin, L-selectin	Sialyl Lewis ^x
3	Selectin ligands/ carbohydrates	John Magnani	Sialyl Lewis ^x , sialyl Lewis ^a	
4	CAMs	Lloyd Klickstein	CD54 (ICAM-1), ICAM-2, CDw50 (ICAM-3)	VCAM-1, CD31
5	Leucocyte integrins	John Luk/Lilli Petruzzelli	CD11a, CD11b, CD11c, CD18	CD41, CD43, CD44, CD56, HML-1
6	β_1 integrins/VLA	Martin Hemler	CD29, CDw49b, CDw49d, CDw49f, VLA-1, VLA-3, VLA-5	CD41, HML-1
7	Other and novel integrins	Dennis Wong	CD51, CD61, HML-1, β_4 , β_7 , novel integrins	
8	Novel stimulatory or function-blocking mAb	Dennis Wong	Function-defined mAb	
9	CD43	Eileen Remold- O'Donnell	CD43	
10	CD44	Steve Denning/ Bart Haynes	CD44	

Table 2 Established and new adhesion structure clusters**Previous CD**

CD11a, CD11b, CD11c, CD18, CD29, CD43, CD44, CD48, CD51, CD54, CD55, CD58, CD59, CD61

Revision of CD (old: revised)

CDw49b: CD49b, CDw49d: CD49d, CDw49f: CD49f, CDw50: CD50, CD62: CD62P

New CDSialyl Le^x: CD15s, CD44R, VLA-1: CD49a, VLA-3: CD49c, VLA-5: CD49e, CD51/CD61 complex, E-selectin: CD62E, L-selectin: CD62L, ICAM-2: CD102, HML-1 α : CD103, integrin β_4 : CD104, CDw108

mAb or ascites with titre > 1:1000, in 200 aliquots of 75 μ l in 500- μ l microtubes. In October and November, mAb were organized, and labels (courtesy of Endogen, Inc) were applied. mAb were pre-evaluated by subpanel chairs, and those with insufficient titre or that were obviously microbially contaminated were eliminated.

Laboratories wishing to study the mAb filled out an antibody evaluation application, stating which studies they would perform, and an adhesion panel application, requesting specific subpanels. Due to limited supplies, priority was assigned to laboratories that had donated mAb or had submitted specific proposals for studies that furthered clustering, or would advance scientific understanding of cell surface molecules.

The Adhesion Structure Workshop sent out the antibody subpanels to 177 different laboratories in early December 1992, and an additional 30 sets of mAb were contributed to the Blind Panel. All antibodies were sent blinded, but evaluators were given the species and subclass of each mAb and the information in Table 1 concerning composition of the subpanels. Laboratories performing flow cytometric analysis were provided with calibration beads (courtesy of Flow Cytometry Standards, Inc), and fluoresceinated anti-Ig (courtesy of Caltag, Inc), so that the flow results could be standardized and clustered by Wally Gilks. The protocol was similar to that for the Blind Panel.

Laboratories evaluating the mAb were asked to return data by 1 June, both in hard copy and in spreadsheets on diskette, and to return abstracts by 15 July 1993 to the central Workshop. Specific

spreadsheets were developed for functional, biochemical, immunohistochemical, and flow cytometric data. The submitted data and abstracts were utilized by the subpanel chairs, together with much data generated by the chairs themselves, to assign CD specificities and prepare subpanel reports. The submitted abstracts revealed that much interesting science had been done with the mAb.

The mAb studied in the Adhesion Structure Workshop, the CD assignments, previous and current Workshop codes, and references to the mAb in the literature are summarized in Table 3.

The important contributions of the antibody submitters and evaluators to the Workshop are gratefully acknowledged in Table 4.

The results of the studies on each subpanel, with tables of the antibodies grouped by specificity, are separately summarized in the following chapters. Reports on individual CDs and short reports chosen from among the submitted abstracts are also organized by subpanel.

Acknowledgements

This work was supported by NIH grants CA31798, CA31799, and HL48675 (TAS) and a Merck-AFCR award (LBK).

Reference

1. Springer, T. A. *Nature* **354**, 415 (1991).

Table 3 Adhesion Structure Section mAb

Workshop mAb		Other Workshop*/Blind			References†	
Code	Clone name	Donor	Species	Isotype		Panel codes
Controls						
S032	IgG1 control	Coulter	Mouse	IgG1	(V) NC2/BP005	Negative control
S034	IgG2a control	Coulter	Mouse	IgG2a	(V) NC3/BP006	Negative control
S277	IgM control	Coulter	Mouse	IgM	(V) NC1/BP004	Negative control
Subpanel 1						
S001	BRIC214	Anstee/Judson	Mouse	IgG1	(IV) NO64	CD44
S002	BRIC5	Anstee/Judson	Mouse	IgG2a		CD58
S003	BRIC229	Anstee/Judson	Mouse	IgG2b		CD59
S004	D66	Bernard	Mouse	IgM	(IV) T086	CD2
S005	GT2	Bernard	Mouse	IgG1	(IV) T087	CD2
S006	p282	Bernard	Mouse	IgG1		CD59
S007	D44	Bernard	Mouse	IgG2b	(V) T065/TE2.03	CD99R
S008	L129	Bernard	Mouse	IgM		CD99R
S009	0662	Bernard	Mouse	IgG3	(IV) T046; (V) BP344	CD99
S010	BRA10G	Chorvath	Mouse	IgG2b	(IV) N36; (V) T159	CD59
S011	YTH53.1	Hale/Waldmann	Rat	IgG2b		CD59
S012	MEM-43/5	Hořejší	Mouse	IgG2b	(IV) N705; (V) T103/BP345	CD59
S013	MEM-43	Hořejší	Mouse	IgG2a		CD48
S014	MEM-102	Hořejší	Mouse	IgG1	(V) BP346	CDw108
S015	MEM-121	Hořejší	Mouse	IgM		CD55
S016	MEM-118	Hořejší	Mouse	IgM	(V) BP347	CDw108
S017	MEM-150	Hořejší	Mouse	IgM		CD48
S018	MEM-124	Hořejší	Mouse	IgM		CD59
S019	MEM-125	Hořejší	Mouse	IgM		CD99
S020	MEM-131	Hořejší	Mouse	IgM	(V) T017/TE2.02	CD59
S022	C2G4	Klickstein/Springer	Mouse	IgM _x		CD99
S023	12E7	Levy	Mouse	IgG1	(V) BP348	CD99
S024	TS2/9	Springer	Mouse	IgG1	(IV) N102; (V) BP349	CD58
S025	TS1/8	Springer	Mouse	IgG1		CD2
S026	TS2/18	Springer	Mouse	IgG1		CD2
S027	O13	Rettig	Mouse	IgG1		CD99
S028	6.28	Thorley-Lawson	Mouse	IgG3	(V) P350	CD48
S029	AICD58	van Agthoven	Mouse	IgG2a		CD58
S030	148-2D12	Vilella	Mouse	IgG1	(V) BP351	CD100
S031	IA10	Whitlow	Mouse	IgG2a	(V) BP352	CD55
S033	2/1A4.1	Klickstein/Springer	Mouse	IgG1 _x		CD16
S041	Withdrawn					

(Continued)

Table 3 (Continued)

Workshop mAb		Other Workshop*/Blind				References†
Code	Clone name	Donor	Species	Isotype	Panel codes	
Subpanel 2						
S042	CL-2	D. Anderson	Mouse	IgG2a	(V) E022	29-31
S043	4D10	Burmeister	Rat	IgG2a		32
S044	AK-6	Favaloro/Berndt	Mouse	IgG1		33-35
S045	H18/7	Kawahara/Bevilacqua	Mouse	IgG2ax	(V) E049/BP212	36, 37
S046	ENA 2	Leeuwenberg/Buurman	Mouse	IgG1	(V) BP353	38-40
S047	ENA 1	Leeuwenberg/Buurman	Mouse	IgG1		39-41
S048	G2	McEver	Mouse	IgG1		42
S049	G3	McEver	Mouse	IgG1	(V) E019	42
S050	G1	McEver	Mouse	IgG1	(V) E018/P057/BP200	42-44
S051	S12	McEver	Mouse	IgG1	(V) E020/P058	42, 45-48
S052	W40	McEver	Mouse	IgG1		42, 47
S053	SZ-51	Ruan	Mouse	IgG1		49, 50
S054	LAM1-3	Tedder/Spertini	Mouse	IgG1	(V) BP354	51
S055	HAE-1a	Tedder/Coulter	Mouse	IgG1		52
S056	Dreg 56	van Aghoven/Butcher	Mouse	IgG1	(IV) P74	53, 54
S057	CLB-thromb/6	von dem Borne/Bruijne-Admiraal	Mouse	IgG1		55, 56
S058	AC 1.2	Warner/Furie	Mouse	IgG1		57, 58
S059	SK11	Warner/Evans	Mouse	IgG2a		59, 60
S060	KC 4.1	Yeo	Mouse	IgG1x		61
S061	FMC46	Zola/Pilarski	Mouse	IgG2b	(V) BP355	53, 54
S062	CLB-thromb/5	von dem Borne/Bruijne-Admiraal	Mouse	IgG1	(IV) P75	
S063	CSLEX-1	Terasaki	Mouse	IgM	(V) BP359	62
S064	H4/18	Bevilacqua	Mouse	IgG2ax	(V) BP356	36, 37, 63, 64
S065	CL-3	D. Anderson	Mouse	IgG1	(V) S041	31, 65, 66
Subpanel 3						
S071	2D3	Kannagi	Mouse	IgM	(V) BP357	67
S072	1H4	Kannagi	Mouse	IgG3	(V) BP358	67
S073	CSLEX-1	Kawahara/Terasaki	Mouse	IgMx	(V) S063/BP359	62, 68, 69
S074	HEA 164	Möller/Moldenhauer	Mouse	IgM	(V) BP360	70
S075	HECA-452	Picker	Rat	IgM	(V) A122/BP075/BP478	65, 71-74
S076	CSLEA-1	Terasaki	Mouse	IgG1	(V) BP361	69
Subpanel 4						
S081	BRIC79	Anstee/Judson	Mouse	IgG2a		75
S082	F10.2	Bloem	Mouse	IgG1		

S083	1304.100.4	Burmeister	Mouse	IgG2a		CD54	
S084	CG106	Cordell/Mason	Mouse	IgG		CD50	
S085	CBR-IC2/1	de Fougérolles/Springer	Mouse	IgG2ax	(V) BP362	CD102	76, 77
S086	CBR-IC2/2	de Fougérolles/Springer	Mouse	IgG2ax	(V) BP363	CD102	76, 77
S087	CBR-IC3/1	de Fougérolles/Springer	Mouse	IgG1x	(V) BP364	CD50	77-79
S088	CBR-IC3/2	de Fougérolles/Springer	Mouse	IgG2ax	(V) BP365	CD50	78, 79
S089	CBR-IC3/3	de Fougérolles/Springer	Mouse	IgG2ax		CD50	78
S090	CBR-IC3/4	de Fougérolles/Springer	Mouse	IgMx		CD50	78
S091	CBR-IC3/5	de Fougérolles/Springer	Mouse	IgG2ax		CD50	78
S092	CBR-IC3/6	de Fougérolles/Springer	Mouse	IgEx		CD50	78
S093	WDS 3.A9	Smet	Mouse	IgG1		CD50	
S094	CBR-IC1/3	Diamond/Springer	Mouse	IgG2ax		CD54	80
S095	CBR-IC1/4	Diamond/Springer	Mouse	IgG1x		CD54	80
S096	CBR-IC1/11	Diamond/Springer	Mouse	IgG1		CD54	
S097	CBR-IC1/12	Diamond/Springer	Mouse	IgG1		CD54	
S098	7F7	Dierich/Most	Mouse	Ig2a	(IV) A016/N072	CD54	81, 82
S099	6D5	Gahmberg	Mouse	IgG1		CD102	83
S100	8-4A6	Haskard	Mouse	IgG1x		CD54	
S101	E1/6	Kawahara/Bevillacqua	Mouse	IgG1x		CD106	84-86
S102	4A11	Koch	Mouse	IgM	(V) E030/E031/BP205	Le ⁷	87, 88
S103	G19-1	Ledbetter	Mouse	IgG1		CD43	89
S104	G10-2	Ledbetter	Mouse	IgG1		CD43	89, 90
S105	MAY.029	Ohashi	Mouse	IgG1		CD54	
S106	BY44	Pulford	Mouse	IgG		CD50	
S107	RR1/1	Springer	Mouse	IgG1	(IV) M144/B112; (V) BP366	CD54	91, 92
S108	TP1/24	Sánchez-Madrid	Mouse	IgG1		CD50	93-95
S109	HP2/19	Sánchez-Madrid	Mouse	IgG2a		CD50	93-95
S110	TP1/15	Sánchez-Madrid	Mouse	IgG2		CD31	95
S111	HAE-2a	Tedder/Coulter	Mouse	IgG1		CD106	96
S112	KS128	Turley/Pulford/Jones	Mouse	IgG1	(V) BP367	CD50	97
S113	152-2D11	Vilella	Mouse	IgG1	(IV) N121; (V) T121	CD30	79, 98
S114	140-11	Vilella	Mouse	IgG1	(IV) N1	CD50	79, 98
S115	101-1D2	Vilella	Mouse	IgG1		CD50	79, 98
S116	YH370	A. Yamada	Mouse	IgG1		CD54	
Subpanel 5							
S121	ICO-60	Anatoly	Mouse	IgG1		CD50	
S122	BRIC235	Anstee/Judson	Mouse	IgG2b		(CD44)	
S123	6.7	Bensussan/Boumsell	Mouse	IgG1	(V) BP368	CD18	99
S124	HC1/1	Bernabéu	Mouse	IgG1		CD11c	100-102
S125	F8.8	Bloem	Mouse	IgG1		CD11a	103
S126	7E3	Coller/Centocor	Mouse	IgG1		CC61	104
S127	CBRM1/13	Diamond/Springer	Mouse	IgG1		CD11b	

(Continued)

Table 3 (Continued)

Workshop mAb		Other Workshop*/Blind			References†		
Code	Clone name	Donor	Species	Isotype		Panel codes	Characterization†
S128	CBRM1/1	Diamond/Springer	Mouse	IgG2b		CD11b	104
S129	CBRM1/20	Diamond/Springer	Mouse	IgG1		CD11b	104
S130	CBRM1/23	Diamond/Springer	Mouse	IgG2a		CD11b	104
S131	CBRM1/29	Diamond/Springer	Mouse	IgG1	(V) BP369	CD11b	104
S132	CBRM1/34	Diamond/Springer	Mouse	IgG1		CD11b	104
S133	CBRp150/2C1	Diamond/Springer	Mouse	IgG2a		CD11c	
S134	CBRp150/3C1	Diamond/Springer	Mouse	IgG1		CD11c	
S135	CBRp150/2E1	Diamond/Springer	Mouse	IgG2b		CD11c	
S136	CBRp150/4G1	Diamond/Springer	Mouse	IgG2a	(V) BP370	CD11c	104, 105
S137	CBRM1/19	Diamond/Springer	Mouse	IgG2a		CD18	
S138	BL-4H4	Fiebig	Mouse	IgG1	(V) T090	CD11c	
S139	In subgroup 9						
S140	NK1-L16	Figdor/van Kooyk	Mouse	IgG2a		CD11a	106
S141	Bear-1	Figdor	Mouse	IgG1		Negative	107
S142	NCAM	Figdor	Mouse	IgG1		(CD56)	108
S143	BU15	Hardie/Johnson	Mouse	IgG1	(III) 256	CD11c	
S144	3-9	Hogg	Mouse	IgG1	(III) 278; (IV) M066	CD11c	109, 110
S145	S6F1	Morimoto/Raynor	Mouse	IgG1	(V) T044	CD11a	111
S146	MAY.035	Ohashi	Mouse	IgG1		CD11a	112
S147	MAY.017	Ohashi	Mouse	IgG1		CD18	112
S148	25-3-1	Olive	Mouse	IgG1	(IV) N213	CD11a	113
S149	CBR LFA-1/10	Petruzzelli/Springer	Mouse	IgM		CD11a	
S150	CBR LFA-1/9	Petruzzelli/Springer	Mouse	IgM		CD11a	
S151	CBR LFA-1/1	Petruzzelli/Springer	Mouse	IgG1	(V) BP371	CD11a	
S152	CBR LFA-1/4	Petruzzelli/Springer	Mouse	IgM		CD11a	
S153	CBR LFA-1/7	Petruzzelli/Springer	Mouse	IgG1		CD18	
S154	CBR LFA-1/3	Petruzzelli/Springer	Mouse	IgG1		CD11a	
S155	CBR LFA-1/2	Petruzzelli/Springer	Mouse	IgG1	(III) 729	CD18	114, 115
S156	KB90	Pulford	Mouse	IgG1	(III) 277/730	CD11c	
S157	KB23	Pulford	Mouse	IgG		CD11c	
S158	TS2/14	Springer	Mouse	IgG1		CD11a	21, 116
S159	TS1/22	Springer	Mouse	IgG1		CD11a	21, 116
S160	TS2/4	Springer	Mouse	IgG1		CD11a	21, 116
S161	TS2/6	Springer	Mouse	IgG1		CD11a	21, 116
S162	TS1/18	Springer	Mouse	IgG1		CD18	21, 116
S163	BL5	van Aghoven/Brochier	Mouse	IgG1		CD11a	
S164	CLB-LFA1/1	van Lier	Mouse	IgG1	(IV) T83	CD18	117
S166	L130	Warner/Lanier	Mouse	IgG1x	(V) NK18	CD18	
S167	G-25.2	Warner/Clayberger/Krensky	Mouse	IgG2a		CD11a	
S168	DH12.8F5/L129	Warner/Buck	Mouse	IgG2ax	(V) A092/BP063	(CD44)	

S169	YTA-1	Yodoi	Mouse IgG1	(V) S238	CD11a	118
S170	F4F1	Cerf-Bensussan	Mouse IgG1	(IV) N123; (V) NK17	CD103	119
S171	S-HCL3/LeuM5	Schwartzing	Mouse IgG2b	(III) 658	CD11c	120-122
S172	CC1.7	Ando	Mouse IgG1	(IV) N41	CD11b	123
S173	TMM1	Ando	Mouse IgG1	(IV) N307	Negative	
S174	TMG6-5	Ando	Mouse IgG1		CD11b	
Subpanel 6						
S181	11	Akiyama	Rat IgG	(V) BP372	CD49e	124
S182	J143	Albino	Mouse IgG		CD49c	125
S183	IB3.1	Bank/Chess	Mouse IgA		CD49a	126
S184	5E8	Bankert/Chen	Mouse IgG1 _x		CD49b	127-129
S185	5D9	Bankert/Chen	Mouse IgA _x		CD29	
S186	3D3	Bankert/Chen	Mouse IgG1 _x		CD49e	
S187	K20	Bernard	Mouse IgG2a	(IV) P104; (V) T084/ CD29.04 BP462	CD29	130
S188	DH12	Cassiman	Mouse IgG2b	(V) BP373	CD29 weak	131-133
S189	6F1	Coller	Mouse IgG1	(V) BP374	CD49b	134
S190	AK-7	Favaloro/Berndt	Mouse IgG1		CD49b	135
S191	SAM-1	Figdor	Mouse IgG2b	(V) S211	CD49e	136
S192	5D5	Gaudernack	Mouse IgG2a	(III) 189	CD49d	
S193	P1E6	Kawahara/Wayner	Mouse IgG _x		CD49b	137, 138
S195	450-30A1	Kennel	Mouse IgG1		CD49f	139
S196	135-13C	Kennel	Rat IgG2a	(V) BP375	CD49f	140, 141
S198	BQ16	Liebert/Grossman	Mouse IgG1		CD49f	142-144
S199	8F2	Morimoto	Mouse IgG1		CD49d	145-147
S200	2H6	Morimoto	Mouse IgG1		CD49e	146, 147
S201	4B4	Morimoto	Mouse IgG1	(V) NK08/BP376	CD29	145, 148
S202	TS2/16	Springer	Mouse IgG1		CD29	21, 149
S203	Withdrawn					
S204	S3-41	Quaranta	Mouse IgG1		CD49f	150
S205	AA3	Quaranta	Mouse IgG1		CD104	151
S206	F3F7	Cerf-Bensussan	Mouse IgG1	(V) S237	CD103	119
S207	HP2/1	Sánchez-Madrid	Mouse IgG1	(IV) P91	CD49d	152-154
S209	HP1/7	Sánchez-Madrid	Mouse IgG1	(IV) P92	CD49d	152-154
S210	G14	Santoso	Mouse IgG1	(IV) P44; (V) T097	CD49b	155
S211	SAM-1	van Aghthoven/de Vries	Mouse IgG2b	(V) S191	CD49e	136
S212	G19	van Aghthoven/Santoso	Mouse IgG1		CD49b	
S213	J8H	van der Schoot/Bruijne-Admiraal	Mouse IgG1		CD49f	
S214	158-2B3	Vilella	Mouse IgG1		Not CD29	
S215	9F10	Vonderheide/Springer	Mouse IgG1		CD49d	156, 157
S216	L25	Warner/Evans	Mouse IgG2b _x	(V) BP378	CD49d	

(Continued)

Table 3 (Continued)

Workshop mAb		Other Workshop*/Blind			References [†]
Code	Clone name	Donor	Species	Isotype	
S217	HAS3	Watt	Mouse	IgG2a	CD49b 158
S218	JB1	Wilkins	Mouse	IgG	CD29 159
S219	JBS5	Wilkins	Mouse	IgG	CD29 159
S220	12F1	Woods	Mouse	IgG2a	CD49b 160
S221	13	K. Yamada	Rat	IgG2a	CD29 161, 162
S222	16	K. Yamada	Rat	IgG2a	CD49e 145, 161, 162
S223	SR84	Rettig	Mouse	IgG1	CD49a 163
S224	A3-IIF5	Hemler/Weitzman	Mouse	IgG	CD49c 164
Subpanel 7					
S231	PEN3	P. Anderson/Vivier	Mouse	IgG1	CD11b
S232	PEN2	P. Anderson/Vivier	Mouse	IgG2a	CD11b
S233	A8	Aversa	Mouse	IgG1	CD100
S234	7G2	Brown	Mouse	IgG1	CD61 weak 165-167
S235	UM-A9	Carey	Mouse	IgG2a	CD104 168-170
S236	AMIF7	van Agthoven/de Vries	Mouse	IgG1	CD51
S237	F3F7	Cerf-Bensussan	Mouse	IgG1	CD103 119
S238	F4F1	Cerf-Bensussan	Mouse	IgG1	CD103 119
S239	CLB-thromb/1	von dem Borne/Admiraal	Mouse	IgG1	CD61
S240	FB12	Zocchi	Mouse	IgG1	Weak or negative 171
S241	10.1.2	Corte/Giunta	Mouse	IgG1	CD49c 172
S242	LF61	Falini	Mouse	IgG1	CD103 173, 174
S244	GRV1	Garrido	Mouse	IgG1 _x	CD98
S245	13C2	Horton	Mouse	IgG1	CD51 175
S246	23C6	Horton	Mouse	IgG1	CD51/CD61 complex 175
S247	439-9B	Kennel/Falcioni	Rat	IgG2b	CD104 141, 176
S248	450-11A1	Kennel	Mouse	IgG1	CD104 139
S249	AP5	Kunicki	Mouse	IgG1 _x	CD61 weak 177
S250	AP6	Kunicki	Mouse	IgM _x	CD61 weak
S251	J3-119	Pesando	Mouse	IgG2a	105-kDa single chain 178
S252	J4-81	Pesando	Mouse	IgG1	(non-reduced) 105-kDa single chain 178
S253	BP6	Pulford	Mouse	IgG	(non-reduced) 179
S254	ACT-1	Shaw/Lazarovits	Mouse	IgG1	β ₇ integrin 180, 181
S255	LAM2	Stahel/Lehmann	Mouse	IgM	β ₇ (α ₄) integrin 182
S256	Ber-ACT-8	Stein/Dürkop/Schwartzing	Mouse	IgG1 _x	Negative 183, 184
S257	HML-1	van Agthoven/Cerf-Bensussan	Mouse	IgG2a	CD103 119

Panel	Strain	Butcher	Rat	Antigen	CD	Notes
S258	C5-1	Butcher	Rat	IgG1	CD61 weak	
	LM142	Cheresh	Mouse	IgG1	CD51	185
	LM609	Cheresh	Mouse	IgG1	CD51/CD61 complex	186
Subpanel 8						
S271	B6H12	Brown	Mouse	IgG1	CD47	166, 187
S272	CBR5D.1	Diamond/Springer	Mouse	IgG1	CD43	
S273	1D6	Levy	Mouse	IgG1	CD81	188
S274	5A6	Levy	Mouse	IgG1	CD81	189-191
S275	G28-8	Clark/Ledbetter	Mouse	IgG1		
S276	Mo2PT501	Navarrete/Pathan	Mouse	Ig1x	CD8	
Subpanel 9						
S139	BL-GCE/G3	Fiebig	Mouse	IgG1	CD43	
S281	L10	Remold-O'Donnell	Mouse	IgG1	CD43	192-195
S283	L14	Remold-O'Donnell	Mouse	IgG1	CD43	
S284	T2/53	Ando	Mouse	IgG1	CD43	
S285	B1-B6	Axelsson	Mouse	IgG1x	CD43	196, 197
S286	BRA7G	Chorvath	Mouse	IgM	CD43	14
S287	WDS1.C1	De Smet	Mouse	IgG1	CD43	198
S288	DFT1	Flavell	Mouse	IgG1	CD43	199
S289	BS1	Harlan/Schwartz	Mouse	IgG1	CD43	200
S290	MEM-59	Hofejši	Mouse	IgG1	CD43	201
S291	6E5	Knapp	Mouse	IgG1	CD43	
S292	6F5	Knapp	Mouse	IgG1	CD43	
S293	10G7	Knapp	Mouse	IgG1	CD43	
S294	G10-2	Ledbetter	Mouse	IgG1	CD43	
S295	G19-1	Ledbetter	Mouse	IgG1	CD43	
S297	L60	Warner/Buck	Mouse	IgG1x	CD43	199, 202-204
S298	L66	Warner/Buck	Mouse	IgG2a	CD43	204
Subpanel 10						
S311	KZ1	Anstee/Judson	Mouse	IgG1	CD44	1
S312	BRIC214	Anstee/Judson	Mouse	IgG1	CD44	1
S313	BRIC222	Anstee/Judson	Mouse	IgG1	CD44	1
S314	BRIC235	Anstee/Judson	Mouse	IgG2b	CD44	1
S315	212.3	Aune/Rothman	Mouse	IgG2a	CD44	205
S316	4.C3	de Smet	Mouse	IgG1	CD44	
S317	3F12	de Smet	Mouse	IgG1	CD44	
S318	BU75	Hardie	Mouse	IgG2a	CD44	
S319	A1G3	Haynes	Mouse	IgG2	CD44	206

Table 3 (Continued)

Workshop mAb		Other Workshop*/Blind			References†		
Code	Clone name	Donor	Species	Isotype		Panel codes	Characterization†
S320	A3D8	Haynes/Telen	Mouse	IgG1	(V) BP406	CD44	207
S321	CD44-9F5	Knapp	Mouse	IgG1		CD44	
S322	CD44-6B6	Knapp	Mouse	IgG1		CD44	
S323	50B4	Le Tarte	Mouse	IgG2b		CD44	208
S324	HP2/9	Sanchez-Madrid/De La Hera	Mouse	IgG1		CD44	209
S325	NIH44-1	Shaw/Shimizu	Mouse	IgG1		CD44	1, 210, 211
S326	156-3C11	Vilella	Mouse	IgG		CD44	
S327	MP30-1	Vallera	Mouse	IgG2		CD47	
S328	HERMES-3	Butcher/Jalkanen	Mouse	IgG2a		CD44	212
S329	L178	Warner	Mouse	IgG1 \times	(V) NK14	CD44	
S330	F10-44-2	Dalchau	Mouse	IgG2a	(IV) B51/M157/N95/N709	CD44	213
S331	FW11.24	Mackay/Gunthert	Mouse			CD44R	214

*III, Third Workshop; IV, Fourth Workshop; V, Fifth Workshop.

†All specificities were confirmed in the Workshop except for those in brackets where the specificity was provided by the donor or those followed by '?' where the specificity was suggested by Blind Panel clustering.

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Table 4 Donors and evaluators of Adhesion Structure Section mAb

Evaluator/ mAb donor*	Institution	City	Country	mAb code (clone name)	Data submitted to subpanel (data type) [†]
Adams	Brigham & Women's Hospital, Dept. Pathol.	Boston, MA	USA		6, 7, 10(b)
Akiyama	Natl Institute Dental Research, Natl Institutes of Health	Bethesda, MD	USA	S181 (I11)	
Albino	Memorial Sloan-Kettering Center, Lab. Mammalian Cell Transformation	New York, NY	USA	S182 (J143)	
Alcover	Inst. Pasteur, Unité Biolog. Interactions Cellulaires	Paris	France		1, 4, 5, 7, 8(f)
Alfinito	Univ. Studi Napoli, Fac. Med. e Chirurgia	Naples	Italy		1(c)
Amiot	Inst. Biologie, Fac. Med.	Nantes	France		1, 4, 6(c)
Anatoly	Cancer Research Center	Moscow	Russia		
D. Anderson	Upjohn Laboratories	Kalamazoo, MI	USA	S121 (ICO-60)	
P. Anderson/ Vivier	Dana-Farber Cancer Inst., Div. Tumor Immunol.	Boston, MA	USA	S042 (CL-2), S065 (CL-3) S231 (PEN 3), S232 (PEN 2)	2, 3-6, 8, 10(c)
Ando	Biology Research Center, Hungarian Acad. Sci., Inst. Genetics	Szeged	Hungary	S172 (CC1.7), S173 (TMM1), S174 (TMG6-5), S284 (T2/53)	
Anstee/ Judson	Int. Blood Group Reference Laboratory, SW Regional Blood Transfusion Centre	Bristol	UK	S001 (BRIC214), S122 (BRIC235), S002 (BRIC5), S003 (BRIC229), S081 (BRIC79), S311 (KZ1), S312 (BRIC214), S313 (BRIC222), S314 (BRIC235)	1(c, b, & f); 10(b & f)
Ardman	New England Medical Center	Boston, MA	USA		9(c)
Armitage	Immunex Corp. Dept. Cell Immunol.	Seattle, WA	USA		
Athanasou	John Radcliffe Hospital, Nuffield Orthopaedic Centre	Oxford	UK		3, 4, 6-8(h)
Aune/Rothman Miles	German Cancer Research Centre, Applied Immunol.	West Haven, CT Heidelberg	USA Germany	S315 (212.3)	2-4(h)
Autschbach	DNAX Research Institute	Palo Alto, CA	USA	S233 (A8)	
Aversa	Stockholm Univ., Dept. Immunol.	Stockholm	Sweden	S285 (B1-B6)	9(b & h)
Axelsson	Harvard Medical School	Boston, MA	USA		
Bach	Chaim Sheba Medical Centre	Tel Hashomer	Israel	S183 (IB3.1)	
Bank/Chess	Roswell Park Cancer Inst.	Buffalo, NY	USA	S184 (5E8), S185 (5D9), S186 (3D3)	
Bankert/Chen					
Ben	Kunming Inst. Zool., Academia Sinica	Yunnan	China		
Benczur	Natl Inst. Haematol. & Blood Transfusion, Cellular Immunol.	Budapest	Hungary	4, 5(c)	
Bensussan/ Boumsell	Unité INSERM U93, Hôpital Saint-Louis	Paris	France	S123 (6, 7)	

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Table 4 (Continued)

Evaluator/ mAb donor*	Institution	City	Country	mAb code (clone name)	Data submitted to subpanel (data type) [†]
Berendi Bernabéu Bernard	John Radcliffe Hospital, Inst. Mol. Med. Centro Investigaciones Biológicas INSERM U343	Oxford Madrid Nice	UK Spain France	S124 (HC1/1) S187 (K20), S004 (D66), S005 (GT2), S006 (p282), S007 (D44), S008 (L129), S009 (662)	4-8, 10(c)
Berti	Univ. Milano, 1st Dept. Dermatol. & IRCCS	Milan	Italy		
Bevilacqua	Univ. California at San Diego, Howard Hughes Medical Inst.	La Jolla, CA	USA	S064 (H4/18)	2(c)
Bierer	Dana-Farber Cancer Inst., Div. Ped. Oncol.	Boston, MA	USA		1(c & f); 8, 9(f)
Bierling	CDTS du Val Marne, Hôpital Henri Mondor	Creteil	France		
Bigler	Hahnemann Univ., Dept. Neoplastic Diseases	Philadelphia, PA	USA		2, 3, 5-7(c)
Bloem	Univ. Hospital Utrecht, Dept. Clin. Immunol.	Utrecht	Netherlands	S082 (F10.2), S125 (F8.8)	3(c)
Bovin	Acad. Sci. Russian Fed., Inst. Bioorganic Chem.	Moscow	Russian Federation		3(c)
Brown	Washington Univ. School Med., Dept. Infectious Diseases	St Louis, MO	USA	S271 (B6H12), S234 (7G2)	
Burakoff	Dana-Farber Cancer Inst., Div. Ped. Oncol.	Boston, MA	USA		9(c & f)
Burmeister	BMA Biomedicals AG	Augst	Switzerland	S043 (4D10), S083 (I304.100.4)	
Butcher/ Jalkanen	Stanford Univ. Med. Centre, Dept. Pathol	Stanford, CA	USA	S258 (C5-1), S328 (HERMES-3)	3, 4, 7, 8(c)
Camerini Campos	UCLA School Med. Div. Hematol./Oncol. Centre Transfusion Sanguinif, Lab Cryobiol.	Los Angeles, CA Lyons	USA France		6, 7(c)
Cannistra	Dana-Farber Cancer Inst., Dept. Gyn. Oncol.	Boston, MA	USA		2-4, 7(c)
Carey	Univ. Michigan	Ann Arbor, MI	USA	S235 (UM-A9)	
Cassiman	Univ. Leuven, Centre Human Genetics	Leuven	Belgium	S188 (DH12)	
Cepek	Brigham & Women's Hosp., Lymph. Biol. Section	Boston, MA	USA		7(b & c)
Cerf- Bensussan	INSERM U132, Hôpital Enfants Malades	Paris	France	S206/S237 (F3F7), S170/S238 (F4F1)	3, 4(h)
Cheresh Chorvath	Scripps Research Inst. Cancer Research Inst., Slovak Acad. Sci.	La Jolla, CA Bratislava	USA Slovakia	S262 (LM142), S263 (LM609) S010 (BRA10G), S286 (BRA7G)	2, 9(b & c)

Clark/ Ledbetter	Univ. Washington, Dept. Microbiol.	Seattle, WA	USA	S275 (G28-8)	
Coller/ Centocor	SUNY Stony Brook, Div. Hematol.	Stony Brook, NY	USA	S126 (7E3), S189 (6F1)	
Cordell/ Mason	Leukaemia Res. Fund, Immunodiagnosics Unit	Oxford	UK	S084 (CG106)	
Corte/Giunta	Istituto Nazionale per Ricerca sul Cancro	Genoa	Italy	S241 (10.1.2)	4, 6(h)
Dagdeviren	Hacettepe Univ., Fac. Med., Dept. Microbiol.	Ankara	Turkey		
Dalchau	Queen Victoria Hospital	West Sussex	UK	S330 (F10-44-2)	
de Fougères/ Springer	Center for Blood Research	Boston, MA	USA	S085 (CBR-IC2/1), S086 (CBR-IC2/2), S087 (CBR-IC3/1), S088 (CBR-IC3/2), S089 (CBR-IC3/3), S090 (CBR-IC3/4), S091 (CBR-IC3/5), S092 (CBR-IC3/6)	
Degrassi	Univ. di Udine, 1st Patologia Clinica	Udine	Italy		2(f & h); 6-8(c & h); 3, 4, 9(h)
De Vecchio	A. Cardarelli Hosp., Immunohaematol.	Naples	Italy		1, 2, 4, 6, 10(c)
De Smet	Free Univ. Brussels, Inst. Mol. Biol.	St. Genesius Rode	Belgium	S093 (WDS 3A9), S316 (4.C3), S317 (3F12), S287 (WDS1.C1)	4-7(c)
Dezutter- Dambuyant	INSERM Unité 346, Hôpital Edouard Herriot	Lyons	France		4, 5(h); 6, 7(b & h)
Diamond/ Springer	Center for Blood Research	Boston, MA	USA	S127 (CBRM1/13), S128 (CBRM1/1), S129 (CBRM1/20), S130 (CBRM1/23), S131 (CBRM1/29), S132 (CBRM1/34), S133 (CBRp150/2C1), S134 (CBRp150/3C1), S135 (CBRp150/2E1), S136 (CBRp150/4G1), S137 (CBRM1/19), S094 (CBR-IC1/3), S095 (CBR-IC1/4), S096 (CBR-IC1/11), S097 (CBR-IC1/12), S272 (CBR5D.1)	
Dierich/Most	Inst. Hygiene	Innsbruck	Austria	S098 (7F7)	
Ernst	Biotest AG	Dreieich	Germany		1, 3, 10(c)
Fainboim	Univ. Buenos Aires	Buenos Aires	Argentina		1, 4, 5, 10(c)

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Table 4 (Continued)

Evaluator/ mAb donor*	Institution	City	Country	mAb code (clone name)	Data submitted to subpanel (data type) [†]
Falini	Univ. Perugia, Inst. Ematologia	Perugia	Italy	S242 (LF61)	4(h)
Faure	GRIP Lab. d'Immunol., Fac. Med.	Van doeuve	France		2-4, 10(f)
Favaloro/ Berndt	Westmead Hosp., Dept. Haematol	Westmead	Australia	S190 (AK-7), S044 (AK-6)	
Feizi	Clinical Research Centre, Glycoconjugates Sect.	Harrow, Middlesex	UK		
Fiebig	Univ. Leipzig, Section Biosciences	Leipzig	Germany	S138 (BL-4H4), S139 (BL-GCE/G3)	
Figdor/ van Kooyk	Netherlands Cancer Inst.	Amsterdam	Netherlands	S140 (NKI-L16), S141 (Bear-1), S142 (NCAM), S191 (SAM-1)	4, 5, 7(c & f); 6, 8(c)
Finberg	Dana-Farber Cancer Inst., Dept. Med.	Boston, MA	USA		
Flavell	Southampton General Hosp., Dept. Pathol.	Southampton	UK	S288 (DFT1)	1(b, c, & f); 10(c & f)
Fletcher	NSW Red Cross Blood Transfusion	Sydney, NSW	Australia		1, 4-7, 10(c)
Franklin	Queen Elizabeth Hosp., Dept. Immunol.	Birmingham	UK		4-8 (h); 4-6, 8 (f)
Freedman	Dana-Farber Cancer Inst., Div. Tumor Immunol	Boston, MA	USA		
Gaggl	Univ. Hospital, Dept. Med.	Innsbruck	Austria		2(c)
Gahmberg	Univ. Helsinki, Dept. Biochem.	Helsinki	Finland	S099 (6D5)	6, 7(c); 8(c, f, & h); 10(c & h)
Gailit	SUNY Stony Brook, Dept. Dermatol.	Stony Brook, NY	USA		6(c); 7(h)
Garrido	Hosp. Virgen Nieves, Dept. Analis Clinicos y Immunol.	Granada	Spain	S244 (GRV1)	4-7(c)
Gaudernack	Natl Hosp., Transplant. Immunol.	Oslo	Norway		
Giovanna	Univ. Modena, Dept. Dermatol.	Modena	Italy	S192 (5D5)	
Gorski	Warsaw Med. School, Transplantation Inst.	Warsaw	Poland		
Gregory	Univ. Birmingham Med. School, Dept. Immunol.	Birmingham	UK		1-9(c & f)
Greil	Univ. Innsbruck, Lab. Mol. Cytol.	Innsbruck	Austria		2, 6, 7(h)
Gutierrez- Ramos	Center for Blood Research	Boston, MA	USA		
Hale/ Waldmann	Univ. Cambridge, Dept. Pathol.	Cambridge	UK	S011 (YTH53.1)	
Hardie/ Johnson	Univ. Birmingham Med. School, Dept. Immunol.	Birmingham	UK	S143 (BU15), S318 (BU75)	
Harlan/ Schwartz	Univ. Washington, Dept. Hematol.	Seattle, WA	USA	S289 (BS1)	9(f)
Haskard	Hammersmith Hosp., Royal Postgraduate Med. School, Dept. Med.	London	UK	S100 (8-4A6), S320 (A3D8)	1(c & h); 10 (h)
Haynes/Telen	Duke Univ., Dept. Med.	Durham, NC	USA	S319 (A1G3), S320 (A3D8)	
Hemler/ Weitzman	Dana-Farber Cancer Inst., Dept. Tumor Virol.	Boston, MA	USA	S224 (A3-IIF5)	

Hemperly	Becton Dickinson Research Center	Research Triangle Park, NC	USA	
Henniker	Westmead Hosp., Dept. Hematol.	Westmead	Australia	
Hildreth	Johns Hopkins Med. School, Dept. Biophys.	Baltimore, MD	USA	
Hogg	Imperial Cancer Research Fund	London	UK	4, 5, 8(h)
Hofejší	Czechoslovak Acad. Sci., Inst. Mol. Genet.	Prague	Czech Republic	1, 8(b & f); 2, 5, 6(f)
Horton	St Bartholomew's Hosp., Dept. Haematol.	London	UK	
Howard	AFRC, Inst. for Animal Health	Berkshire	UK	
Ida	Nagasaki Univ. School Med., 1st Dept. Internal Med.	Nagasaki	Japan	
Ikewaki	Kitasato Univ., Dept. Microbiol.	Kanagawa	Japan	
Jonker	Inst. Applied Radiobiol. & Immunol.	Rijswijk	Netherlands	
Kacinski	Yale Univ. School Med., Dept. Therapeutic Radiology	New Haven, CT	USA	4(f)
Kamoun	Univ. Pennsylvania Hosp., Dept. Pathol.	Philadelphia, PA	USA	1, 8(f)
Kannagi	Aichi Cancer Center Research Inst.	Nagoya	Japan	
Kaplotis	Univ. Vienna, 1st Med. Dept.	Vienna	Austria	2-4, 6(c)
Katz	Univ. College/Middlesex School Med., Bland-Sutton Inst., Dept. Histopathol.	London	UK	4-8, 10(c)
Kawahara/ Wayner/ Bevilacqua/ Terasaki	Becton Dickinson Advanced Cellular Biol.	San Jose, CA	USA	
Kennel/ Falconi	Oak Ridge Natl Laboratory, Biol. Div.	Oak Ridge, TN	USA	S193 (P1E6), S101 (E1/6), S045 (H18/7), S073 (GSLEX-1)
Kenney	Center for Blood Research	Boston, MA	USA	S195 (450-30A1), S196 (135-13C), S247 (439-9B), S248 (450-11A1)
Klein	Univ. Med. Clinic, Dept. II	Tübingen	Germany	
Klickstein/ Springer	Center for Blood Research	Boston, MA	USA	S022 (C2G4), S033 (2/1A4.1)
Knapp	Univ. Vienna, Inst. Immunol.	Vienna	Austria	S321 (CD44-9F5), S322 (CD44-6B6), S291 (6E5), S292 (6F5), S293 (10G7)
Knip	Inst. for Biotechnical Research	Braunschweig	Germany	1, 9(c & f)
Koch	Northwestern Univ. Med. School	Chicago, IL	USA	3, 8(f)

(Continued)

Table 4 (Continued)

Evaluator/ mAb donor*	Institution	City	Country	mAb code (clone name)	Data submitted to subpanel (data type) [†]
Koretz Koubek	Univ. Heidelberg, Inst. Pathol Inst. Hematol. & Blood Transfusion	Heidelberg Prague	Germany Czech Republic		3, 4, 7, 10(c & h)
Krajewski Krissansen	Univ. Edinburgh, Dept. Pathol. Univ. Auckland School Med., Dept. Mol. Med.	Edinburgh Auckland	UK New Zealand		3, 4, 6, 10(h) 4-8(b)
Kunicki Landay	Blood Center Wisconsin Rush-Presbyterian, St Luke's Med. Center, Chicago, IL Dept. Immunol./Microbiol.	Milwaukee, WI Chicago, IL	USA USA	S249 (AP5), S250 (AP6)	
Lansdorp	British Columbia Cancer Research Center, Terry Fox Laboratory	Vancouver, BC	Canada		1-4, 6-8(c)
LeBien	Univ. Minnesota, Dept. Lab. Med./Pathol.	Minneapolis, MN	USA		4, 7, 10(c & f); 6, 8(c)
Ledbetter	Oncogen	Seattle, WA	USA	S103/S295 (G19-1), S104/S294 (G10-2)	
Leeuwenberg/ Buurman	Univ. Limburg, Dept. Surgery	Maastricht	Netherlands	S046 (ENA 2), S047 (ENA 1)	2(c)
LeTarte	Hosp. Sick Children, Div. Immunol. Cancer Res.	Toronto, Ontario	Canada	S323 (50B4)	
Levy	Stanford Univ. Med. Center, Dept. Med./ Oncol.	Stanford, CA	USA	S273 (ID6), S274 (5A6), S023 (12E7)	
Liebert/ Grossman	Univ. Michigan	Ann Arbor, MI	USA	S198 (BQ16)	
Lögberg Lopez-Beltran	Sandoz Pharmaceuticals, Research Inst. Univ. Cordoba, Unidad Anatom. Patolog., Cordoba Fac. Med.	East Hanover, NJ Cordoba	USA Spain		
Lotsová	M.D. Anderson Cancer Center, Dept. Gen. Surg.	Houston, TX	USA		
Lund- Johansen	Becton Dickinson Immunocytometry Systems	San Jose, CA	USA		1, 3-8, 10(c)
Macey/ Mackay/ Gunthert	Royal London Hosp., Dept. Haematol. Basel Inst. for Immunol.	London Basel	UK Switzerland	S331 (FW11.24)	2, 3, 5-8(c)
Magnani Mai Malo	GlycoTech Dept. Neuroanatomy Centro Riferimento Oncolog., Immunol.	Rockville, MD Düsseldorf Aviano	USA Germany Italy		3(f) 2(h) 1, 3, 4, 6-9(c)
Maley Malizia Matsuo	Royal London Hosp., Dept. Haematol Ospedale 'V. Cervello', Div. Med. Fujisaki Cell Center, Hayashibara	London Palermo Okayama	UK Italy Japan		1-7, 10(h)
McEver	Biochem. Labs Inc Univ. Oklahoma Health Sci. Center, Dept. Med.	Oklahoma, City, OK	USA	S048 (G2), S049 (G3), S050 (G1), S051 (S12), S052 (W40)	2(f)

Merrill	Columbia Univ.	New York, NY	USA		
Mollica	Ospedale 'A. Pugliese', Div. Ematologia	Catanzaro	Italy		
Moller/ Moldenhauer	Univ. Heidelberg, Inst. Pathol.	Heidelberg	Germany	S074 (HEA 164)	4, 6(c)
Morimoto/ Raynor	Dana-Farber Cancer Inst., Dept. Tumor Immunol.	Boston, MA	USA	S199 (8F2), S200 (2H6), S201 (4B4), S145 (S6F1)	4-8(c)
Mosher	Univ. Wisconsin	Madison, WI	USA		
Most	Univ. Innsbruck, Inst. Hygiene	Innsbruck	Austria		
Nara	Natl Cancer Inst., FCRDC	Frederick, MD	USA		4, 7, 8(c)
Navarrete/ Pathan	London Hosp. Med. College, Dept. Immunol.	London	UK	S276 (Mo2PT501)	
Niedobitek	Univ. Birmingham, Dept. Pathol.	Birmingham	UK		
Ohashi	Tohoku Univ., Dept. Pediatrics	Sendai	Japan	S146 (MAY.035), S105 (MAY.029), S147 (MAY.017)	
Olive	INSERM	Marseilles	France	S148 (25-3-1)	1(c)
Paloczi	Natl Inst. Haematol. & Blood Transfusion	Budapest	Hungary		
Papa	Istituto Sci. Morfologiche	Urbino	Italy		1, 4, 8(c)
Pardi	Sci. Inst. San Raffaele	Milan	Italy		
Patarroyo	Karolinska Inst., Immunologen	Stockholm	Sweden		4(c & f); 7, 8(c); 5(f)
Paulli	Univ. Pavia, Dept. Pathol.	Pavia	Italy		
Pesando	Oncomembrane	Seattle, WA	USA	S251 (J3-119), S252 (J4-81)	
Petrucelli/de Fougerolles/ Springer	Center for Blood Research	Boston, MA	USA	S151 (CBR LFA-1/1), S149 (CBR LFA-1/10), S150 (CBR LFA-1/9), S152 (CBR LFA-1/4), S153 (CBR LFA-1/7), S154 (CBR LFA-1/3), S155 (CBR LFA-1/2)	
Pichler	Inselspital, Inst. Clinical Immunol.	Berne	Switzerland		4, 7-9(f)
Picker	Univ. Texas Southwestern Med. Center, Dept. Pathol	Dallas, TX	USA	S075 (HECA-452)	
Pinto	Centro Riferimento Oncolog., Leukaemia Unit	Aviano	Italy		1-4, 6, 7, 10(c)
Pirruccello	Univ. Nebraska Med. Center, Dept. Pathol./Microbiol.	Omaha, NE	USA		6(c)
Pulford	Leukaemia Res. Fund Immunodiagnosics Unit	Oxford	UK	S156 (KB90), S157 (KB23), S253 (BP6), S106 (BY44)	
Quaranta	Scripps Res. Inst., Dept. Immunol.	La Jolla, CA	USA	S204 (S3-41), S205 (AA3)	
Racz	Bernhard-Nocht Inst. for Tropical Med., Dept. Pathol.	Hamburg	Germany		

Table 4 (Continued)

Evaluator/ mAb donor*	Institution	City	Country	mAb code (clone name)	Data submitted to subpanel (data type) [†]
Raynor	Coulter Corp.	Hialeah, FL	USA	S032 (IgG1 control), S034 (IgG2a control), S277 (IgM control)	9(c)
Remold- O'Donnell	Center for Blood Research	Boston, MA	USA	S281 (L10), S283 (L14)	9(c)
Rettig	Memorial Sloan-Kettering Inst., Immunol. Program	New York, NY	USA	S027 (013), S223 (SR84)	2, 4-7, 10(c)
Rieber	Univ. Munich, Inst. Immunol.	Munich	Germany		2, 4-7, 10(c)
Ross	Univ. Edinburgh, Lister Research Lab.	Edinburgh	UK		2(f)
Ruan	Suzhou Med. College, Jiangsu Inst. Hematol.	Suzhou, Jiangsu	China	S053 (SZ-51)	2(f)
Sagawa	Kurume Univ. School Med., Dept. Immunol.	Kurume	Japan		
Salup	Univ. Pittsburgh, Div. Virol.	Pittsburgh, PA	USA		
Sánchez- Madrid/ De La Hera	Hosp. Princesa, Ser. Immunol.	Madrid	Spain	S109 (HP2/19), S207 (HP2/1), S209 (HP1/7), S324 (HP2/9), S110 (TP1/15), S108 (TP1/24)	4, 6, 7(c)
Santoni	Univ. Rome 'La Sapienza', Dept. Exp. Med.	Rome	Italy		4, 6, 7(c)
Santoso	Inst. Clin. Immunol., Transfusion Med.	Giessen	Germany	S210 (Gi14)	1-10(h)
Sattentau	Centre d'Immunol. Marseille-Luminy	Marseilles	France		2, 4-6(c & h); 3(c)
Schacter	BioTransplant	Charlestown, MA	USA		
Schmidt	Med. Hochschule Hannover, Dept. Immunol.	Hannover	Germany		1, 5, 9(c)
Schmitz	Univ. Regensburg, Inst. Klinische Chemie	Regensburg	Germany		
Schriever	Univ. Hosp. Rudolf Virchow	Berlin	Germany		
Schwartzing	Thomas Jefferson Univ.	Philadelphia, PA	USA	S171 (S-HCL3/LeuM5)	
Selvaraj	Emory Univ., Dept. Pathol.	Atlanta, GA	USA		1, 2-4, 6-8(c)
Shaw/ Lazarovits/ Shimizu	Natl Inst. Health, NCI	Bethesda, MD	USA	S254 (ACT-1), S325 (NIH44-1)	
Shimizu	Univ. Michigan Med. School, Dept. Microbiol. & Immunol.	Ann Arbor, MI	USA		4-8(f)
Silverstein	Cornell Univ. Med. College, Dept. Hematol.	New York, NY	USA		
Skubitiz	Univ. Minnesota Health Center, Dept. Lab. Med./Pathol.	Minneapolis, MN	USA		2, 4-6, 8, 9(b)
Soligo	Univ. Milano, Inst. Sci. Med.	Milan	Italy		2, 3, 6(h)

Springer	Center for Blood Research	Boston, MA	USA	S158 (TS2/14), S159 (TS1/22), S160 (TS2/4), S161 (TS2/6), S162 (TS1/18), S202 (TS2/16), S024 (TS2/9), S025 (TS1/8), S026 (TS2/18), S107 (RR1/1) S255 (LAM2)
Stahel/ Lehmann Stamenkovic	Universitätsspital Zurich, Dept. Innere Med. Massachusetts Gen. Hosp. East, Pathol. Res.	Zurich Charlestown, MA	USA USA	
Stark Stauder	Heinrich-Heine Univ. Univ. Innsbruck Hosp., Div. Immunohaematol. & Oncol.	Düsseldorf Innsbruck	Germany Austria	2, 3(h)
Stein/ Dürkop/ Schwartzing	Frete Univ. Berlin, Steglitz Clinic	Berlin	Germany	S256 (BER-ACT-8)
Sun Sunder- Plassmann	Inst. Basic Med. Sci. Univ. Vienna, Klinik Innere Med., III	Beijing Vienna	China Austria	5(c) 2, 3, 5, 7, 8(c)
Tedder/ Spertini/ Coulter Co Terasaki	Dana-Farber Cancer Inst., Dept. Tumor Immunol. UCLA Tissue Typing Lab.	Boston, MA Los Angeles, CA	USA USA	S111 (HAE-2a), S055 (HAE-1a), S054 (LAM1-3) S076 (CSLEA-1), S063 (CSLEX-1)
Thaler Thompson	Univ. Hospital, Dept. Internal Med. Oklahoma Med. Res. Foundation	Innsbruck Oklahoma City, OK	Austria USA	4-7(c) 1(h)
Thorley- Lawson	Tufts Univ. School Med., Dept. Pathol.	Boston, MA	USA	S028 (6.28)
Timens Turley/ Pulford	Univ. Hospital, Dept. Pathol. Leukaemia Immunodiagnosics Unit	Groningen Oxford	Netherlands UK	S112 (KSI28)
Valent Vallera Van Riet	Univ. Vienna, Dept. Internal Med. Univ. Minnesota Academic Hosp., Free Univ. Brussels, Dept. Haematol./Immunol.	Vienna Minneapolis, MN Brussels	Austria USA Belgium	S327 (MP30-1)
van Aghoven/ Cerf- Bensussan/ Butcher/ de Vries/ Santoso/ Brochier	Immunotech SA	Marseilles	France	S257 (HML-1), S056 (Dreg 56), S029 (AICD58), S211 (SAM-1), S212 (Gi9), S163 (BL5), S236 (AMF7)

(Continued)

Table 4 (Continued)

Evaluator/ mAb donor*	Institution	City	Country	mAb code (clone name)	Data submitted to subpanel (data type) [†]
van den Oord	Univ. Hosp., St. Rafael, Dept. Pathol.	Leuven	Belgium		5, 6(h)
van den Tweel	Univ. Hosp., Dept. Pathol.	Utrecht	Netherlands		2, 3, 6, 7(c)
van der Schoot/ Bruijne- Admiraal	CLB Netherlands Red Cross	Amsterdam	Netherlands	S213 (J8H)	
van Lier	CLB Netherlands Red Cross	Amsterdam	Netherlands	S164 (CLB-LFA1/1)	1, 9(c)
van Severter	Univ. Chicago, Dept. Pathol., Div. Biol. Sci.	Chicago, IL	USA		6(h)
Vanderkerckhove	Univ. Gent, Laboratorium Bacteriol. en Virol.	Ghent	Belgium		1, 4-6, 8(c)
Vestweber	Max-Planck Inst. for Immunol.	Freiburg	Germany		
Vilella	Hosp. Clinic, Ser. Immunol.	Barcelona	Spain	S030 (148-2D12), S113 (152-2D11), S114 (140-11), S115 (101-1D2), S214 (158-2B3), S326 (156-3C11)	1, 4(c)
Volpes	V. Cervello Hosp., Dept. Internal Med.	Palermo	Italy		
von dem Borne/ Bruijne- Admiraal	CLB Netherlands Red Cross	Amsterdam	Netherlands	S057 (CLB-thromb/6), S239 (CLB-thromb/1), S062 (CLB-thromb/5)	2, 3, 6, 7(c)
Vonderheide/ Springer	Center for Blood Research	Boston, MA	USA	S215 (9F10)	
Wardlaw	Univ. Leicester School Med., Dept. Resp. Med.	Leicester	UK		2, 3(c & h); 6, 7(c)
Warner/Furie/ Lanier/ Clayberger/ Krensky/ Evans/Buck	Becton Dickinson Immunocytometry Systems	San Jose, CA	USA	S058 (AC 1.2), S166 (L130), S167 (G-25.2), S059 (SK11), S168 (DH12.8F5/L129), S297 (L60), S298 (L66), S329 (L178), S216 (L25)	
Warren	Woden Valley Hosp., Cancer Research Unit	Woden Act	Australia		1(f)
Watt	Imperial Cancer Research Fund	London	UK	S217 (HAS3)	8(f & h); 6, 7, 10(h)
Werfel	Hautklinik Linden MHH, Exp. Dermatol.	Hannover	Germany		2-4, 6, 10(c)
Whitlow	NYU Med. Center	New York, NY	USA	S031 (IA10)	
Wijdenes	Centr. Recherche Med., Innotherapie Labs.	Besançon	France		2, 4, 10(c)
Wilkins	Univ. Manitoba, RDU Res. Lab.	Winnipeg, Manitoba	Canada	S218 (JB1), S219 (JB55)	

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Woods	Univ. California San Diego Med. Center, Dept. Med.	San Diego, CA	USA	S220 (12F1)	
A. Yamada	Kurume Univ. School Med., Dept. Immunol.	Fukuoka	Japan	S116 (YH370)	5, 6(f)
K. Yamada	Natl Inst. Dental Res./NIH	Bethesda, MD	USA	S221 (13), S222 (16)	
Yeo	Univ. Toronto (Western Div.), Haemostasis & Thrombosis Res.	Toronto, Ontario	Canada	S060 (KC4.1)	2(c, b, & f); 3(c)
Yodoi	Kyoto Univ., Inst. for Virus Res.	Kyoto	Japan	S169 (YTA-1)	
Zocchi	Inst. Scientifico San Raffaele, Immunol. Lab.	Milan	Italy	S240 (FB12)	
Zola/Pilarski	Flinders Med. Centre, Dept. Clin. Immunol.	Bedford Park, SA	Australia	S061 (FMC46)	2, 3(c & f)
Zutter	Washington Univ. School Med.	St Louis, MO	USA		3, 6-8(h)

*All laboratories that submitted mAb or received mAb for evaluation are listed.

[†]The return of spreadsheets with flow cytometric (c), biochemical (b), functional (f), and histochemical (h) data on specific subpanels is acknowledged. Laboratories submitted 650 spreadsheets, distributed as follows: flow cytometric, 532; biochemical, 23; functional, 52; and histochemical, 44. Most of the spreadsheets contained data for multiple subpanels, and many of them contained data for several sets of experiments.