AS2 Adhesion Structure Subpanel 2, selectins: CD62E, CD62L, and CD62P

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The selectins are a family of adhesion receptors that recognize specific carbohydrate ligands and mediate an early step in the interaction of leucocytes with endothelium and platelets. Details of their molecular structure and function can be found within each specific CD report. The selectin subpanel included monoclonal antibodies (mAb) to CD62 (P-selectin) and to the previously unclustered selectins, E-selectin and L-selectin. These mAb were clustered in this workshop as CD62P (P-selectin), CD62E (E-selectin), and CD62L (L-selectin). Literature references to the mAb are listed in Table 3 of the Adhesion Structure Section report [Springer *et al.*, AS1]. All mAb submitted to Subpanel 2 were prescreened by flow cytometry on activated platelets and on transfected cell lines prior to distribution to evaluators. Twenty-three mAb to selectins and one to sialyl Lewis^X (sLe^X) were included in Subpanel 2. In addition, six antibodies submitted only to the Endothelial Panel and one mAb submitted only to the Platelet Panel also clustered as selectin mAb. Techniques used in the analysis of the antibodies included immunofluorescent flow cytometry, immunohistochemistry, and functional assays. Details for the assays performed are described within each cluster report. Studies by six laboratories on transfectants expressing either E-selectin, P-selectin, or L-selectin particularly facilitated clustering. These data, together with the results obtained on activated platelets, are included in Table 1. Results pertaining to tissue and cellular expression and other details are included in separate reports on each cluster.

Table 1 Specificities of the Adhesion Structures Subpanel 2 mAb

Workshop mAb				Transfectants*						Activated platelets*								
Code	Clone name	Donor	Isotype	1	2	3	4	5	6	2	3	4	7	8	Specificity	Functional blocking†	Epitope localization‡	Epitope protease sensitivity§
CD62P																		
S044	AK-6	Favaloro/Berndt	IgG1	P	ND	ND	ND	P	P	P	P	P	P	P	CD62P	–	SCR	–
S048	G2	McEver	IgG1	P	ND	ND	ND	P	P	P	P	P	P	P	CD62P	3+	Lectin	+
S049	G3	McEver	IgG1	P	ND	ND	ND	P	P	P	P	P	P	P	CD62P	3+	EGF	+
S050	G1	McEver	IgG1	P	ND	ND	ND	P	P	P	P	P	P	P	CD62P	3+	Lectin	+
S051	S12	McEver	IgG1	P	ND	ND	ND	P	P	P	P	P	P	P	CD62P	2+	SCR	–
S052	W40	McEver	IgG1	P	ND	ND	ND	P	P	P	P	P	P	P	CD62P	–	SCR	–
S053	SZ-51	Ruan	IgG1	P	ND	ND	ND	P	P	P	P	P	P	P	CD62P	–	SCR	–
S057	CLB-thromb/6	von dem Borne/ Bruijne-Admiraal	IgG1	P	ND	ND	ND	P	P	P	P	P	P	P	CD62P	3+	Lectin/EGF	+
S058	AC 1.2	Warner/Furie	IgG1	P	ND	ND	ND	P	P	P	P	P	P	P	CD62P	–	SCR	–
S060	KC 4.1	Yeo	IgG1κ	P	ND	ND	ND	P	P	P	P	P	P	P	CD62P	–	SCR	–
S062	CLB-thromb/5	von dem Borne/ Bruijne-Admiraal	IgG1	P	ND	ND	ND	P	P	P	P	P	P	P	CD62P	2+	Lectin/EGF	+
CD62E																		
S042	CL-2	D. Anderson	IgG2a	E	E	E	E	ND	E	0	0	0	0	0	CD62E	+	ND	
S043	4D10	Burmeister	IgG2a	0	E	E	0	ND	E	0	0	0	0	0	CD62E	–	ND	
S045	H18/7	Kawahara/Bevilacqua	IgG2aκ	E	E	E	E	E	E	0	0	0	0	0	CD62E	+	Lectin	
S046	ENA 2	Leeuwenberg/Buurman	IgG1	E	E	E	E	E	E	0	0	0	0	0	CD62E	+	Lectin	
S047	ENA 1	Leeuwenberg/Buurman	IgG1	E	E	E	E	E	E	0	0	0	0	0	CD62E	+	Lectin	
S055	HAE-1a	Tedder/Coulter	IgG1	E	E	E	E	E	E	0	0	0	0	0	CD62E	–	Lectin/EGF	
S064	H4/18	Bevilacqua	IgG2aκ	E	E	E	E	E	E	0	0	0	0	0	CD62E	–	EGF	
S065	CL-3	D. Anderson	IgG1	E	E	E	E	E	E	0	0	0	0	0	CD62E	+	Lectin/EGF	
CD62L																		
S054	LAM1-3	Tedder/Spertini	IgG1	L	L	ND	ND	L	L	0	0	0	0	0	CD62L	+	Lectin	
S056	Dreg 56	van Agthoven/Butcher	IgG1	L	L	ND	ND	L	L	0	0	0	0	0	CD62L	+	Lectin	
S059	SK11	Warner/Evans	IgG2a	L	L	ND	ND	L	L	0	0	0	0	0	CD62L	+	Lectin	
S061	FMC46	Zola/Pilarski	IgG2b	L	L	ND	ND	L	L	0	0	0	0	0	CD62L	+	Lectin	
sLe^x																		
S063	CSLEX-1	Terasaki	IgM	0	0	0	0	0	0	0	0	0	0	0	CD15s			

*Transfectant and activated platelet staining was reported by the following laboratories: 1, Bevilacqua; 2, Diacovo/Springer; 3, Nguyen/Anderson; 4, Bruijne-Admiraal/von dem Borne; 5, Saunders/Tedder; 6, Andrew/Butcher; 7, Yeo; 8, Ruan. 0, No binding; ND, not determined.

†Functional blocking studies as reported by Andrew/Butcher (CD62L) and Bruijne-Admiraal/von dem Borne (CD62P). For CD62P; –, no; 1+, 0–35%: 2+, 36–65%; 3+, >65% inhibition of platelet–neutrophil interactions. The results for CD62E mAb are as reported by the donors.

‡Epitope analysis as reported by Saunders/Tedder. EGF, Epidermal growth factor; SCR, short consensus repeat.

§Protease sensitivity as reported by Bruijne-Admiraal/von dem Borne.