

# THE CAM FAMILY

## A NEW TARGET FOR MONITORING OR TREATING CANCERS?

*The cell adhesion molecules (CAMs) family includes more than 50 proteins with four main groups: immunoglobulin (Ig)-like CAMs, cadherins, selectins, and integrins.*

Many cellular functions are directly linked to cell adhesion such as signal transduction, cellular communication and recognition, embryogenesis, inflammatory and immune responses, apoptosis and some of them also act as viral receptors.  
[Cohen MB, Am J Clin Pathol. 1997, 107(1):56-63].


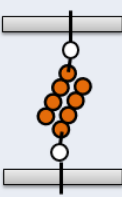

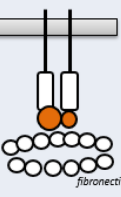
The metastatic dissemination of tumor cells is the leading cause of morbidity and mortality in patients with cancer since it designates the transition from a localized, potentially curable to a generalized, usually incurable disease.

[Makrilia N, Cancer Invest. 2009, 27(10)].

Across the years, it has become evident that the adhesion properties of neoplastic cells play a pivotal role in the development and progression of cancer.

[Okegawa T, Acta Biochim Pol. 2004;51(2):445-57]

[Windisch R, Cancers 2019, 11(3), 311].

	A	B	C	D
family	cadherins	Ig-superfamily CAMs	mucin-like CAMs	integrins
type				
members	E-cadherin P-cadherin N-cadherin	VCAM NCAM ICAM Nectins Nectin-like (Necl)	E-selectin P-selectin L-selectin	VLA-4 ( $\alpha 4/\beta 1$ ) VLA-5 ( $\alpha 5/\beta 1$ ) LFA-1 ( $\alpha L/\beta 2$ ) etc.
interaction	homophilic heterophilic	homophilic heterophilic	heterophilic	heterophilic
regulation/ relation to cancer	E-cadherin: hypermethylated in leukemia	NCAM: regulated by RUNX1	P-selectin: overexpressed in multiple myeloma	VLA-4: activation via SDF1 $\alpha$ /CXCR4
experimental targeting strategy	anti-P-cadherin in mammary cancer	anti-NCAM radio- immuno- conjugates	anti-PSGL1 in multiple myeloma; GMI-1271 in E- selectin+ AML	anti-VLA4 in ALL and AML

[Windisch R, Cancers 2019, 11(3), 311]

Changes in the expression or function of CAMs have been associated with alterations in the adhesive or signalling status of tumor cells, allowing them to acquire a more motile and invasive phenotype prognostic biomarkers or as potential therapeutic targets in malignancies.

Additionally, many of CAMs can be cleaved and released by proteolytic cleavage activity, and their soluble forms were found to be increased in serum levels of cancer patients. Even if elevated levels of soluble CAM are also observed in bacterial and viral infections or in acute inflammation, some of them have been identified to be interesting prognostic markers of cancer progression, such as EpCAM, described to be upregulated in colorectal cancer with clinical relevance.

[Han S, Ebiomedicine 2017; 20:61–69].

**Diaclone has been interested for many years in the adhesion molecules and can provide antibodies against all of the selectin and integrin families, most of IgSF CAM family and against EpCAM, H-CAM, M-CAM, and BL-CAM.**

**Knowing that the soluble form levels could become an innovative tool of cancer monitoring, Diaclone has also developed ELISA kits for measuring serum levels of a wide range of sCAMs.**

## DIACLONE PRODUCTS AVAILABLE FOR THE ANALYSIS OF CAM MARKERS



### ELISA KITS

#### IGSF CAM CALCIUM-INDEPENDENT

Specificity (Anti-human)	Antigen Synonym	ELISA Kit	ELISA Set
ICAM-1	CD54	•	•
ICAM-2	CD102	•	
ICAM-3	CD50	•	
VCAM-1	CD106	•	•
PECAM-1	CD31	•	

#### IGSF CAM CALCIUM-INDEPENDENT

Specificity (Anti-human)	Antigen Synonym	ELISA Kit	ELISA Set
E-selectin	CD62E	•	•
L-selectin	CD62L	•	
P-selectin	CD62P	•	



## MONOCLONAL ANTIBODIES

### IGSF CAM CALCIUM-INDEPENDENT

Specificity (Anti-human)	Antigen Synonym	Clone	Isotype	Azide free	Unconjugated	FITC	PE	Biotin
CD31	PECAM-1	B-B38	IgG1	•	•	•	•	
CD31	PECAM-1	B-N14	IgG1	•				
CD50	ICAM-3	B-P12	IgG1	•				
CD50	ICAM-3	B-R1	IgG1	•	•	•		
CD54	ICAM-1	B-H17	IgG1	•	•	•	•	
CD54	ICAM-1	B-H22	IgG1	•				•
CD56	NCAM	B-A19	IgG1	•	•		•	
CD102	ICAM-2	B-R7	IgG1	•				
CD102	ICAM-2	B-T1	IgG1	•	•	•		
CD106	VCAM-1	B-S6	IgG1	•	•			
CD106	VCAM-1	B-N8	IgG1	•				•
CD112	Nectin-2	B-C12	IgG2b	•	•			
CD171	L1-CAM	B-L51	IgG1	•	•			

### INTEGRIN CALCIUM-INDEPENDENT

Specificity (Anti-human)	Antigen Synonym	Clone	Isotype	Azide free	Unconjugated	FITC	PE	Biotin
CD11a	LFA-1	B-B15	IgG1	•	•	•	•	
CD11b	Macrophage-1 antigen	MEM-174	IgG2a		•	•	•	
CD11c	Integrin alphaX	BU15	IgG1		•	•		
CD18	Integrin Beta2	MEM48	IgG1	•	•	•	•	
CD29	VLA-4	B-D15	IgG2a	•	•	•	•	
CD49d	V LA-4	BU49	IgG1		•			
CD41a	Glycoprotein IIb (ITGA2B)	HIP8	IgG1		•			

### SELECTIN CALCIUM-DEPENDENT

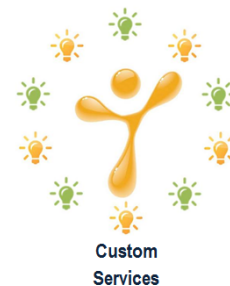
Specificity (Anti-human)	Antigen Synonym	Clone	Isotype	Azide free	Unconjugated	FITC	PE	Biotin
CD62E	E-Selectin	B-P7	IgG1	•	•			
CD62E	E-Selectin	B-53	IgG1	•				
CD62L	L-Selectin	B-S13	IgG1	•	•		•	
CD62P	P-Selectin	B-F46	IgG1	•	•			
CD62P	P-Selectin	B-G43	IgG2b	•				

Specificity (Anti-human)	Antigen Synonym	Clone	Isotype	Azide free	Unconjugated	FITC	PE	Biotin
CD22	BL-CAM	MEM-01	IgG1		•			
CD44	H-CAM	B-F24	IgG1	•	•	•	•	
CD44	H-CAM	B-R8	IgG1	•				
CD146	M-CAM	B-T46	IgG1	•	•			
CD326	EpCAM	B-ES4	IgG1	•	•			
CD326	EpCAM	B-K46	IgG1	•				
CD326	EpCAM	B-P43	IgG1	•				

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