

Figure S1. Frequency distribution of the expression levels of the six cell adhesion molecules. Skewed distribution was observed in the expression level of L1CAM, IGSF9B, PCDH9, PCDHB1, CDON and MUC15 in patients with endometrial cancer. FPKM, Fragments Per Kilobase of transcript per Million mapped reads; L1CAM, L1 cell adhesion molecule; IGSF9B, immunoglobulin superfamily member 9B; PCDH9, protocadherin 9; PCDHB1, protocadherin β 1; CDON, cell adhesion associated, oncogene regulated; MUC15, mucin 15, cell surface associated.

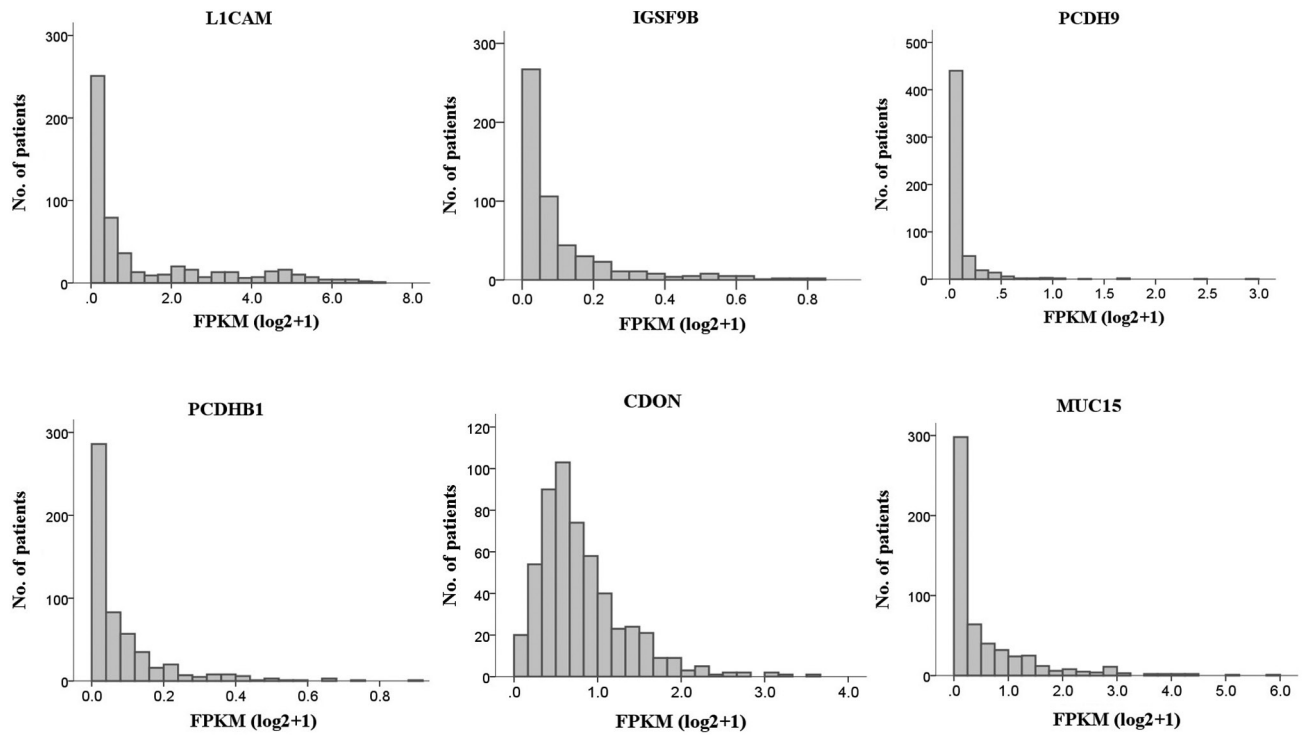


Figure S2. Immunohistochemistry staining results downloaded from the Human Protein Atlas database. Representative images of (A) L1CAM, (B) CDON, (C) IGSF9B and (D) PCDHBI expression in endometrial cancer, and (E) MUC15 expression in lung cancer.

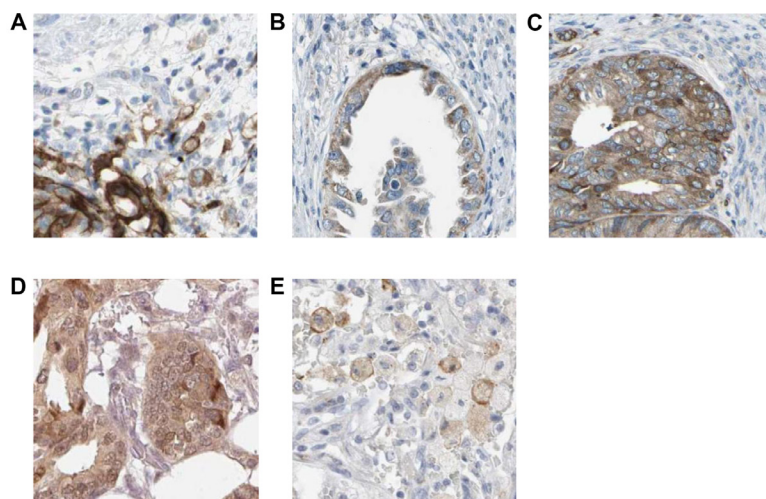


Table SI. Members of the cell adhesion molecules family.

Symbol	Official full name	Classes of CAMs
ALCAM	Activated leukocyte cell adhesion molecule	Immunoglobulin superfamily proteins
AMIGO1	Adhesion molecule with Ig like domain 1	Immunoglobulin superfamily proteins
AMIGO2	Adhesion molecule with Ig like domain 2	Immunoglobulin superfamily proteins
AMIGO3	Adhesion molecule with Ig like domain 3	Immunoglobulin superfamily proteins
BCAM	Basal cell adhesion molecule (Lutheran blood group)	Immunoglobulin superfamily proteins
BOC	BOC cell adhesion associated, oncogene regulated	Immunoglobulin superfamily proteins
CADM1	Cell adhesion molecule 1	Immunoglobulin superfamily proteins
CADM2	Cell adhesion molecule 2	Immunoglobulin superfamily proteins
CADM3	Cell adhesion molecule 3	Immunoglobulin superfamily proteins
CADM4	Cell adhesion molecule 4	Immunoglobulin superfamily proteins
CDH1	Cadherin 1	Cadherins
CDH10	Cadherin 10	Cadherins
CDH11	Cadherin 11	Cadherins
CDH12	Cadherin 12	Cadherins
CDH13	Cadherin 13	Cadherins
CDH15	Cadherin 15	Cadherins
CDH16	Cadherin 16	Cadherins
CDH17	Cadherin 17	Cadherins
CDH18	Cadherin 18	Cadherins
CDH19	Cadherin 19	Cadherins
CDH2	Cadherin 2	Cadherins
CDH20	Cadherin 20	Cadherins
CDH22	Cadherin 22	Cadherins
CDH23	cadherin related 23	Cadherins
CDH24	Cadherin 24	Cadherins
CDH26	Cadherin 26	Cadherins
CDH3	Cadherin 3	Cadherins
CDH4	Cadherin 4	Cadherins
CDH5	Cadherin 5	Cadherins
CDH6	Cadherin 6	Cadherins
CDH7	Cadherin 7	Cadherins
CDH8	Cadherin 8	Cadherins
CDH9	Cadherin 9	Cadherins
CDHR1	Cadherin related family member 1	Cadherins
CDHR2	Cadherin related family member 2	Cadherins
CDHR3	Cadherin related family member 3	Cadherins
CDHR4	Cadherin related family member 4	Cadherins
CDHR5	Cadherin related family member 5	Cadherins
CDON	Cell adhesion associated, oncogene regulated	Immunoglobulin superfamily proteins
CEACAM1	CEA cell adhesion molecule 1	Immunoglobulin superfamily proteins
CEACAM16	CEA cell adhesion molecule 16, tectorial membrane component	Immunoglobulin superfamily proteins
CEACAM18	CEA cell adhesion molecule 18	Immunoglobulin superfamily proteins
CEACAM19	CEA cell adhesion molecule 19	Immunoglobulin superfamily proteins
CEACAM20	CEA cell adhesion molecule 20	Immunoglobulin superfamily proteins
CEACAM21	CEA cell adhesion molecule 21	Immunoglobulin superfamily proteins
CEACAM3	CEA cell adhesion molecule 3	Immunoglobulin superfamily proteins
CEACAM4	CEA cell adhesion molecule 4	Immunoglobulin superfamily proteins
CEACAM5	CEA cell adhesion molecule 5	Immunoglobulin superfamily proteins
CEACAM6	CEA cell adhesion molecule 6	Immunoglobulin superfamily proteins
CEACAM7	CEA cell adhesion molecule 7	Immunoglobulin superfamily proteins
CEACAM8	CEA cell adhesion molecule 8	Immunoglobulin superfamily proteins
CERCAM	Cerebral endothelial cell adhesion molecule	Immunoglobulin superfamily proteins
CHL1	Cell adhesion molecule L1 like	Immunoglobulin superfamily proteins
CNTN1	Contactin 1	Immunoglobulin superfamily proteins
CNTN2	Contactin 2	Immunoglobulin superfamily proteins
CNTN3	Contactin 3	Immunoglobulin superfamily proteins

Table SI. Continued. Members of the cell adhesion molecules family.

Symbol	Official full name	Classes of CAMs
CNTN4	Contactin 4	Immunoglobulin superfamily proteins
CNTN5	Contactin 5	Immunoglobulin superfamily proteins
CNTN6	Contactin 6	Immunoglobulin superfamily proteins
DCC	DCC netrin 1 receptor	Immunoglobulin superfamily proteins
DSCAM	DS cell adhesion molecule	Immunoglobulin superfamily proteins
DSCAML1	DS cell adhesion molecule like 1	Immunoglobulin superfamily proteins
EPCAM	Epithelial cell adhesion molecule	other cell adhesion molecules
ESAM	Endothelial cell adhesion molecule	Immunoglobulin superfamily proteins
HEPACAM	Hepatic and glial cell adhesion molecule	Immunoglobulin superfamily proteins
HEPACAM2	HEPACAM family member 2	Immunoglobulin superfamily proteins
ICAM1	Intercellular adhesion molecule 1	Immunoglobulin superfamily proteins
ICAM2	Intercellular adhesion molecule 2	Immunoglobulin superfamily proteins
ICAM3	Intercellular adhesion molecule 3	Immunoglobulin superfamily proteins
ICAM4	Intercellular adhesion molecule 4 (Landsteiner-Wiener blood group)	Immunoglobulin superfamily proteins
ICAM5	Intercellular adhesion molecule 5, telencephalin	Immunoglobulin superfamily proteins
IGSF1	Immunoglobulin superfamily member 1	Immunoglobulin superfamily proteins
IGSF10	Immunoglobulin superfamily member 10	Immunoglobulin superfamily proteins
IGSF11	Immunoglobulin superfamily member 11	Immunoglobulin superfamily proteins
IGSF21	Immunoglobulin superfamily member 21	Immunoglobulin superfamily proteins
IGSF22	Immunoglobulin superfamily member 22	Immunoglobulin superfamily proteins
IGSF23	Immunoglobulin superfamily member 23	Immunoglobulin superfamily proteins
IGSF3	Immunoglobulin superfamily member 3	Immunoglobulin superfamily proteins
IGSF5	Immunoglobulin superfamily member 5	Immunoglobulin superfamily proteins
IGSF6	Immunoglobulin superfamily member 6	Immunoglobulin superfamily proteins
IGSF8	Immunoglobulin superfamily member 8	Immunoglobulin superfamily proteins
IGSF9	Immunoglobulin superfamily member 9	Immunoglobulin superfamily proteins
IGSF9B	Immunoglobulin superfamily member 9B	Immunoglobulin superfamily proteins
ITGA1	Integrin subunit alpha 1	Integrins
ITGA10	Integrin subunit alpha 10	Integrins
ITGA11	Integrin subunit alpha 11	Integrins
ITGA2	Integrin subunit alpha 2	Integrins
ITGA2B	Integrin subunit alpha 2b	Integrins
ITGA3	Integrin subunit alpha 3	Integrins
ITGA4	Integrin subunit alpha 4	Integrins
ITGA5	Integrin subunit alpha 5	Integrins
ITGA6	Integrin subunit alpha 6	Integrins
ITGA7	Integrin subunit alpha 7	Integrins
ITGA8	Integrin subunit alpha 8	Integrins
ITGA9	Integrin subunit alpha 9	Integrins
ITGAD	Integrin subunit alpha D	Integrins
ITGAE	Integrin subunit alpha E	Integrins
ITGAL	Integrin subunit alpha L	Integrins
ITGAM	Integrin subunit alpha M	Integrins
ITGAV	Integrin subunit alpha V	Integrins
ITGAX	Integrin subunit alpha X	Integrins
ITGB1	Integrin subunit beta 1	Integrins
ITGB2	Integrin subunit beta 2	Integrins
ITGB3	Integrin subunit beta 3	Integrins
ITGB4	Integrin subunit beta 4	Integrins
ITGB5	Integrin subunit beta 5	Integrins
ITGB6	Integrin subunit beta 6	Integrins
ITGB7	Integrin subunit beta 7	Integrins
ITGB8	Integrin subunit beta 8	Integrins
ITGBL1	Integrin subunit beta like 1	Integrins
JAM2	Junctional adhesion molecule 2	Immunoglobulin superfamily proteins
JAM3	Junctional adhesion molecule 3	Immunoglobulin superfamily proteins

Table SI. Continued. Members of the cell adhesion molecules family.

Symbol	Official full name	Classes of CAMs
JAML	Junction adhesion molecule like	Immunoglobulin superfamily proteins
KIRREL	Kirre like nephrin family adhesion molecule 1	Immunoglobulin superfamily proteins
KIRREL2	Kirre like nephrin family adhesion molecule 2	Immunoglobulin superfamily proteins
KIRREL3	Kirre like nephrin family adhesion molecule 3	Immunoglobulin superfamily proteins
L1CAM	L1 cell adhesion molecule	Immunoglobulin superfamily proteins
LSAMP	Limbic system associated membrane protein	Immunoglobulin superfamily proteins
MADCAM1	Mucosal vascular addressin cell adhesion molecule 1	Immunoglobulin superfamily proteins
MCAM	Melanoma cell adhesion molecule	Immunoglobulin superfamily proteins
MUC1	Mucin 1, cell surface associated	Mucins
MUC12	Mucin 12, cell surface associated	Mucins
MUC13	Mucin 13, cell surface associated	Mucins
MUC15	Mucin 15, cell surface associated	Mucins
MUC16	Mucin 16, cell surface associated	Mucins
MUC17	Mucin 17, cell surface associated	Mucins
MUC19	Mucin 19, oligomeric	Mucins
MUC2	Mucin 2, oligomeric mucus/gel-forming	Mucins
MUC20	Mucin 20, cell surface associated	Mucins
MUC21	Mucin 21, cell surface associated	Mucins
MUC22	Mucin 22,	Mucins
MUC3A	Mucin 3A, cell surface associated	Mucins
MUC4	Mucin 4, cell surface associated	Mucins
MUC5AC	Mucin 5AC, oligomeric mucus/gel-forming	Mucins
MUC5B	Mucin 5B, oligomeric mucus/gel-forming	Mucins
MUC6	Mucin 6, oligomeric mucus/gel-forming	Mucins
MUC7	Mucin 7, secreted	Mucins
MUC8	Mucin 8	Mucins
MUCL1	Mucin like 1	Mucins
NCAM1	Neural cell adhesion molecule 1	Immunoglobulin superfamily proteins
NCAM2	Neural cell adhesion molecule 2	Immunoglobulin superfamily proteins
NECTIN1	Nectin cell adhesion molecule 1	Immunoglobulin superfamily proteins
NECTIN2	Nectin cell adhesion molecule 2	Immunoglobulin superfamily proteins
NECTIN3	Nectin cell adhesion molecule 3	Immunoglobulin superfamily proteins
NECTIN4	Nectin cell adhesion molecule 4	Immunoglobulin superfamily proteins
NEO1	Neogenin 1	Immunoglobulin superfamily proteins
NFASC	Neurofascin	Immunoglobulin superfamily proteins
NRCAM	Neuronal cell adhesion molecule	Immunoglobulin superfamily proteins
NTM	Neurotrimin	Immunoglobulin superfamily proteins
OPCML	Opioid binding protein/cell adhesion molecule like	Immunoglobulin superfamily proteins
PCDH1	Protocadherin 1	Cadherins
PCDH10	Protocadherin 10	Cadherins
PCDH11X	Protocadherin 11 X-linked	Cadherins
PCDH11Y	Protocadherin 11 Y-linked	Cadherins
PCDH12	Protocadherin 12	Cadherins
PCDH15	Protocadherin related 15	Cadherins
PCDH17	Protocadherin 17	Cadherins
PCDH18	Protocadherin 18	Cadherins
PCDH19	Protocadherin 19	Cadherins
PCDH20	Protocadherin 20	Cadherins
PCDH7	Protocadherin 7	Cadherins
PCDH8	Protocadherin 8	Cadherins
PCDH9	Protocadherin 9	Cadherins
PCDHA1	Protocadherin alpha 1	Cadherins
PCDHA10	Protocadherin alpha 10	Cadherins
PCDHA11	Protocadherin alpha 11	Cadherins
PCDHA12	Protocadherin alpha 12	Cadherins
PCDHA13	Protocadherin alpha 13	Cadherins

Table SI. Continued. Members of the cell adhesion molecules family.

Symbol	Official full name	Classes of CAMs
PCDHA2	Protocadherin alpha 2	Cadherins
PCDHA3	Protocadherin alpha 3	Cadherins
PCDHA4	Protocadherin alpha 4	Cadherins
PCDHA5	Protocadherin alpha 5	Cadherins
PCDHA6	Protocadherin alpha 6	Cadherins
PCDHA7	Protocadherin alpha 7	Cadherins
PCDHA8	Protocadherin alpha 8	Cadherins
PCDHA9	Protocadherin alpha 9	Cadherins
PCDHAC1	Protocadherin alpha subfamily C, 1	Cadherins
PCDHAC2	Protocadherin alpha subfamily C, 2	Cadherins
PCDHB1	Protocadherin beta 1	Cadherins
PCDHB10	Protocadherin beta 10	Cadherins
PCDHB11	Protocadherin beta 11	Cadherins
PCDHB12	Protocadherin beta 12	Cadherins
PCDHB13	Protocadherin beta 13	Cadherins
PCDHB14	Protocadherin beta 14	Cadherins
PCDHB15	Protocadherin beta 15	Cadherins
PCDHB16	Protocadherin beta 16	Cadherins
PCDHB2	Protocadherin beta 2	Cadherins
PCDHB3	Protocadherin beta 3	Cadherins
PCDHB4	Protocadherin beta 4	Cadherins
PCDHB5	Protocadherin beta 5	Cadherins
PCDHB6	Protocadherin beta 6	Cadherins
PCDHB7	Protocadherin beta 7	Cadherins
PCDHB8	Protocadherin beta 8	Cadherins
PCDHB9	Protocadherin beta 9	Cadherins
PCDHGA1	Protocadherin gamma subfamily A, 1	Cadherins
PCDHGA10	Protocadherin gamma subfamily A, 10	Cadherins
PCDHGA11	Protocadherin gamma subfamily A, 11	Cadherins
PCDHGA12	Protocadherin gamma subfamily A, 12	Cadherins
PCDHGA2	Protocadherin gamma subfamily A, 2	Cadherins
PCDHGA3	Protocadherin gamma subfamily A, 3	Cadherins
PCDHGA4	Protocadherin gamma subfamily A, 4	Cadherins
PCDHGA5	Protocadherin gamma subfamily A, 5	Cadherins
PCDHGA6	Protocadherin gamma subfamily A, 6	Cadherins
PCDHGA7	Protocadherin gamma subfamily A, 7	Cadherins
PCDHGA8	Protocadherin gamma subfamily A, 8	Cadherins
PCDHGA9	Protocadherin gamma subfamily A, 9	Cadherins
PCDHGB1	Protocadherin gamma subfamily B, 1	Cadherins
PCDHGB2	Protocadherin gamma subfamily B, 2	Cadherins
PCDHGB3	Protocadherin gamma subfamily B, 3	Cadherins
PCDHGB4	Protocadherin gamma subfamily B, 4	Cadherins
PCDHGB5	Protocadherin gamma subfamily B, 5	Cadherins
PCDHGB6	Protocadherin gamma subfamily B, 6	Cadherins
PCDHGB7	Protocadherin gamma subfamily B, 7	Cadherins
PCDHGC3	Protocadherin gamma subfamily C, 3	Cadherins
PCDHGC4	Protocadherin gamma subfamily C, 4	Cadherins
PCDHGC5	Protocadherin gamma subfamily C, 5	Cadherins
PECAM1	Platelet and endothelial cell adhesion molecule 1	Immunoglobulin superfamily proteins
SDK1	Sidekick cell adhesion molecule 1	Immunoglobulin superfamily proteins
SDK2	Sidekick cell adhesion molecule 2	Immunoglobulin superfamily proteins
SELE	Selectin E	Selectins
SELL	Selectin L	Selectins
SELP	Selectin P	Selectins
SELPLG	Selectin P ligand	Selectins
SMAGP	Small cell adhesion glycoprotein	Other cell adhesion molecules
VCAM1	Vascular cell adhesion molecule 1	Immunoglobulin superfamily proteins

Table SII. Differential expression of CAMs in different clinicopathological categories and their association with OS.

Gene	Grade	Stage	Molecular subtypes	Histology	Lymph nodes	Peritoneal cytology	Recurrence and metastasis	Sum	Kaplan-Meier P-value	Univariate Cox P-value	Multivariate Cox P-value
CDH6 ^a	1	1	1	1	1	1	1	7	0.0044	0.0002	>0.05
CDON ^{a,c}	1	1	1	1	1	1	1	7	<0.0001	<0.0001	0.007
CEACAM1 ^b	1	1	1	1	1	1	1	7	<0.0001	<0.0001	>0.05
IGSF1 ^a	1	1	1	1	1	1	1	7	<0.0001	<0.0001	>0.05
ITGA7 ^a	1	1	1	1	1	1	1	7	0.0423	0.0030	>0.05
L1CAM ^{a,c}	1	1	1	1	1	1	1	7	<0.0001	<0.0001	0.001
OPCML ^b	1	1	1	1	1	1	1	7	0.0086	0.0016	>0.05
PCDH15 ^a	1	1	1	1	1	1	1	7	<0.0001	<0.0001	0.057
BCAM ^{a,c}	1	1	1	1	1	1	0	6	<0.0001	<0.0001	0.015
CADM1 ^b	1	1	1	1	1	0	1	6	0.0035	0.0001	>0.05
CDH18 ^a	1	1	1	1	1	0	1	6	<0.0001	<0.0001	>0.05
DSCAML1 ^a	1	1	1	1	1	1	0	6	0.0035	0.0002	>0.05
IGSF3 ^a	1	1	1	1	1	1	0	6	0.0149	0.0015	>0.05
IGSF9B ^{a,c}	1	1	1	1	1	1	0	6	0.0026	0.0008	0.015
ITGAL ^{b,c}	1	1	1	1	0	1	1	6	0.0012	0.0004	0.015
KIRREL ^a	1	1	1	1	1	1	0	6	0.0130	0.0007	>0.05
MUC15 ^{a,c}	1	1	1	1	1	1	0	6	0.0016	0.0001	0.029
MUC6 ^b	1	1	1	1	1	0	1	6	0.0270	0.0029	>0.05
PCDHBI ^{a,c}	1	1	1	1	1	0	1	6	0.0022	0.0001	0.009
JAML ^b	1	1	1	1	0	1	0	5	0.0207	0.0010	>0.05
CDHR4 ^b	1	1	1	1	1	0	0	5	0.0484	0.0077	>0.05
CEACAM21 ^{b,c}	1	1	1	1	0	0	1	5	0.0005	<0.0001	0.011
DCC ^a	1	1	1	1	0	1	0	5	0.0005	0.0001	>0.05
IGSF23 ^a	1	1	1	1	1	0	0	5	0.0353	0.0028	>0.05
IGSF5 ^b	1	1	1	1	1	0	0	5	0.0019	0.0001	>0.05
IGSF6 ^{b,c}	1	1	1	1	0	1	0	5	0.0005	<0.0001	0.006
NCAM1 ^a	1	1	0	1	1	1	0	5	0.0246	0.0013	>0.05
PCDH9 ^{a,c}	1	1	1	1	1	0	0	5	0.0038	0.0006	0.025

^aGenes with higher expression associated with OS. ^bGenes with lower expression associated with OS. 1 represents differentially expressed CAMs, which are statistically significant. 0 represents CAMs expressed with no statistical significance. Sum is the total number of co-differentially expressed CAMs in different clinicopathological categories. CAM, cell adhesion molecule; OS, overall survival.

^cIndependent prognostic factors. Only those DEGs associated with patients' OS are listed in this table.

Table SIII. Higher expression of the six cell adhesion molecules was associated with overall survival (validated using the International Cancer Genome Consortium data).

Gene symbol	Kaplan-Meier P-value	Univariate Cox P-value
CDON	<0.0001	0.0001
L1CAM	0.0002	0.0005
IGSF9B	0.0138	0.0162
MUC15	0.0007	0.0013
PCDH9	<0.0001	<0.0001
PCDHB1	0.0006	0.0010