

**FASN promotes lymph node metastasis in cervical cancer via cholesterol reprogramming
and lymphangiogenesis**

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Running title: FASN in cervical cancer nodal metastasis

Supplementary Material

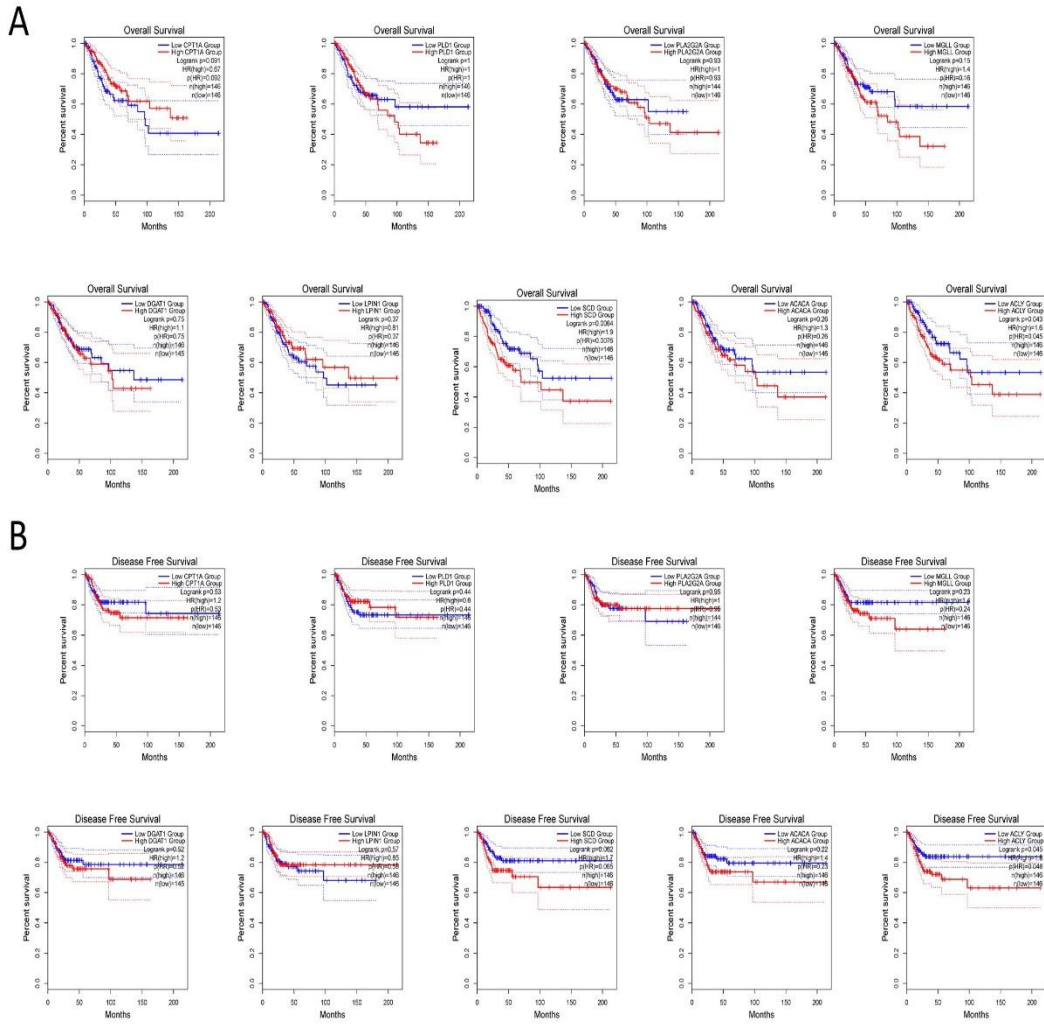


Fig S1. Overall and disease-free survival analysis of lipid metabolism related genes involved in cancer metastasis using TCGA dataset. A. Overall survival analysis of 9 lipid metabolism related genes involved in cancer metastasis using TCGA dataset. B. Disease-free survival analysis of 9 lipid metabolism related genes involved in cancer metastasis using TCGA dataset.

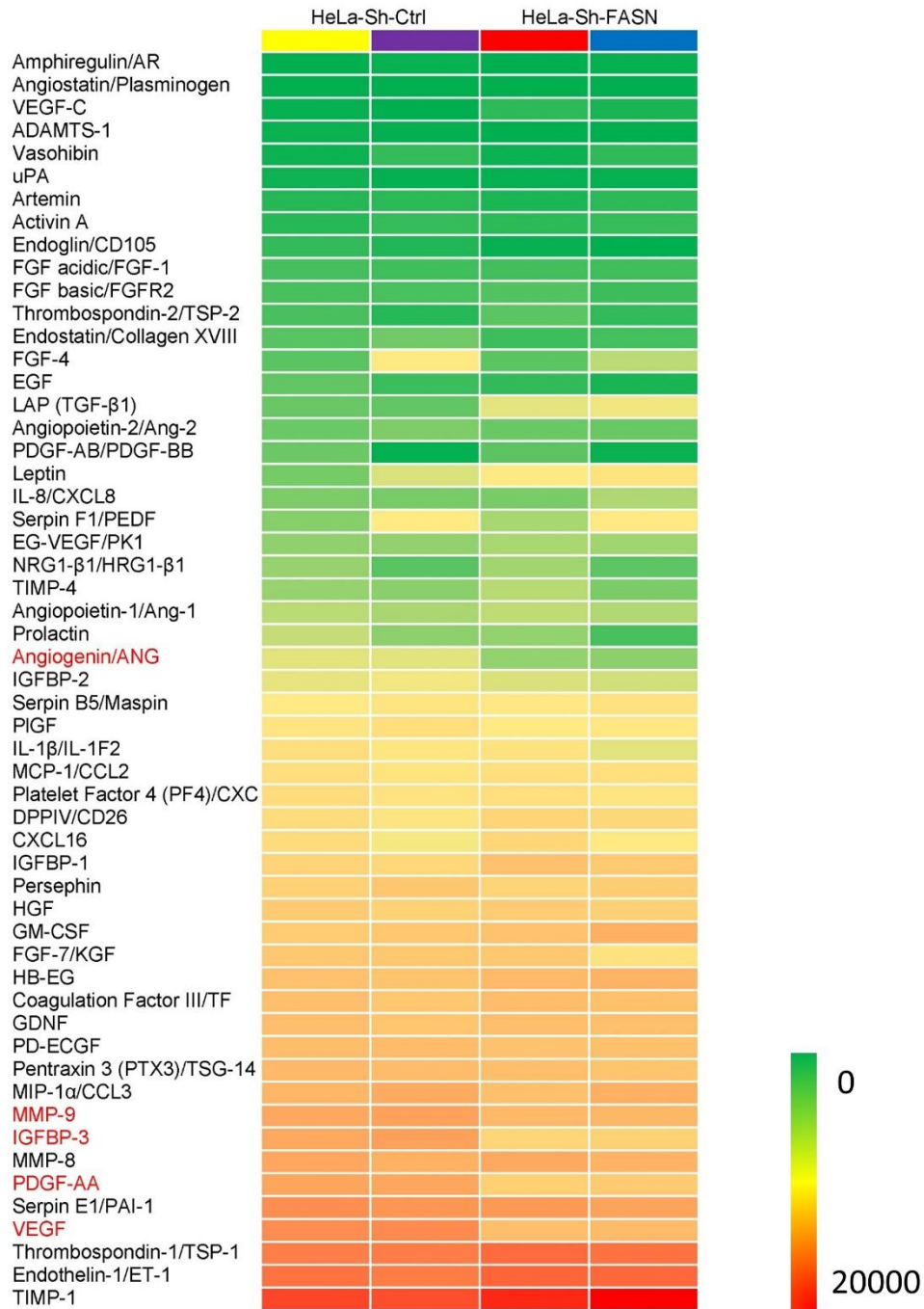


Fig S2. Heatmap of angiogenesis related factors in HeLa cell culture supernatant. The pixels were analyzed and form the heatmap. The red marked the most differentiated ones

Clinicopathologic Variable	Total(N=142)	FASN		P value
		Low expression	High expression	
Age/years				
<=42	55	36	19	
>42	87	49	38	0.283
FIGO stage				
Ia2	8	4	4	
Ib1	99	63	36	
Ib2	10	5	5	
IIa1	16	6	10	
IIa2	9	7	2	0.527
Tumor size				
<=4	114	69	45	
>4	28	16	12	0.746
Pathologic types				
Squamous cell carcinoma	113	65	48	
Adenocarcinoma	20	14	6	
Adenosquamous carcinoma	9	6	3	0.276
Stromal invasion				
<1/2	55	27	28	
≥1/2	87	58	29	0.038
Lymphovascular space invasion				
Yes	16	8	8	
No	126	77	49	0.397
Differentiation grade				
Well	11	6	5	
Moderate	51	27	24	
Poor	80	52	28	0.175
Pelvic lymph node metastasis				
Yes	29	12	17	
No	113	73	40	0.023
Vaginal involvement				
Yes	3	3	0	
No	139	82	57	0.154
Parametrial infiltration				
Yes	2	2	0	
No	140	83	57	0.247
Recurrence				
Yes	13	0	13	
No	129	85	44	<0.001
Vital status at follow-up				
Alive	123	84	39	
Dead	19	1	18	<0.001

Abbreviations: FIGO: the International Federation of Gynecology and Obstetrics;

The bold number inside the table reflected $P < 0.05$

TableS1. Correlation between FASN expression and clinicopathological characteristics of patients with cervical cancer.

Clinicopathologic Variable	Total(N=142)	OS			DFS		
		Univariate p value	Multivariate		Univariate p value	Multivariate	
			RR(95% CI)	p value		RR(95% CI)	p value
Age/years							
<=42	55						
>42	87	0.399	N	N	0.393	N	N
FIGO stage							
Ia2	8						
Ib1	99						
Ib2	10						
IIa1	16						
IIa2	9	0.630	N	N	0.631	N	N
Tumor size							
<=4	114						
>4	28	0.262	N	N	0.268	N	N
Pathologic types							
Squamous cell carcinoma	113						
Adenocarcinoma	20						
Adenosquamous carcinoma	9	0.332	N	N	0.336	N	N
Stromal invasion							
<1/2	55						
≥1/2	87	0.443	N	N	0.437	N	N
Differentiation grade							
Well	11						
Moderate	51						
Poor	80	0.414	N	N	0.409	N	N
Vaginal involvement							
Yes	3						
No	139	0.530	N	N	0.529	N	N
Parametrial infiltration							
Yes	2						
No	140	0.610	N	N	0.609	N	N
Lymphovascular space invasion							
Yes	16						
No	126	<0.001	0.639(0.156-2.616)	0.533	<0.001	0.764(0.196-2.972)	0.698
Pelvic-lymph node metastasis							
Yes	29						
No	113	<0.001	0.275(0.092-0.817)	0.020	<0.001	0.275(0.090-0.837)	0.023
Recurrence							
Yes	13						
No	129	<0.001	0.026(0.007-0.095)	<0.001	<0.001	0.022(0.006-0.081)	<0.001
FASN expression							
Low	85						
High	57	<0.001	0.115(0.013-0.986)	0.049	<0.001	0.114(0.013-0.983)	0.048

Abbreviations: N: Not application; FIGO: the International Federation of Gynecology and Obstetrics; The bold number inside the table reflected P < 0.05

Table S2. Univariate and multivariate analyses of factors associated with overall survival and disease-free survival