

# **An aptamer-based SERS-LFA biosensor with multiple channels for ultrasensitive simultaneous detection of serum VEGF and OPN in cervical cancer patients**

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**Table S1. Sequences of the aptamers for VEGF and OPN**

Name	Sequences (from 5' to 3')
Detection aptamer of VEGF	biotin- TTTTTTTTTGTGGGGGTGGACGGGCCGGGTAGA- SH
Capture aptamer of VEGF	TTTTTTTTTTTTTTTTTTTTTCAATTGGGCCCGTCC GTATGGTGGGT
Detection aptamer of OPN	biotin- TGTGTGCGGCACTCCAGTCTGTTACGCCGCTTTT TTTTTATTTT-SH
Capture aptamer of OPN	AAAAAAAAAATGTGTGCGGCACTCCAGTCTGTT ACGCCGC

**Table S2. Information of clinical serum samples.**

<b>ID</b>	<b>FIGO Stage</b>	<b>Age(y)</b>	<b>Pathology</b>	<b>ID</b>	<b>FIGO Stage</b>	<b>Age(y)</b>	<b>Pathology</b>
1	IVA	48	Malignant	31	health	50	Control
2	IIIC	35	Malignant	32	health	44	Control
3	IIIB	51	Malignant	33	health	43	Control
4	IIIB	44	Malignant	34	health	38	Control
5	IIIA	59	Malignant	35	health	51	Control
6	IIIA	48	Malignant	36	health	46	Control
7	IIB	39	Malignant	37	health	52	Control
8	IIB	48	Malignant	38	health	57	Control
9	IIB	44	Malignant	39	health	43	Control
10	IIB	51	Malignant	40	health	51	Control
11	IIB	50	Malignant	41	health	37	Control
12	IIB	49	Malignant	42	health	50	Control
13	IIA	47	Malignant	43	health	43	Control
14	IIA	35	Malignant	44	health	47	Control
15	IIA	41	Malignant	45	health	53	Control
16	IIA	37	Malignant	46	health	39	Control
17	IIA	48	Malignant	47	health	36	Control
18	IIA	50	Malignant	48	health	55	Control
19	IIA	41	Malignant	49	health	64	Control
20	IIA	60	Malignant	50	health	52	Control
21	IB	37	Malignant	51	health	60	Control
22	IB	46	Malignant	52	health	44	Control
23	IB	47	Malignant	53	health	56	Control
24	IB	52	Malignant	54	health	36	Control
25	IA	36	Malignant	55	health	34	Control
26	IA	48	Malignant	56	health	47	Control
27	IA	45	Malignant	57	health	39	Control
28	IA	53	Malignant	58	health	41	Control
29	IA	41	Malignant	59	health	37	Control
30	IA	47	Malignant	60	health	45	Control

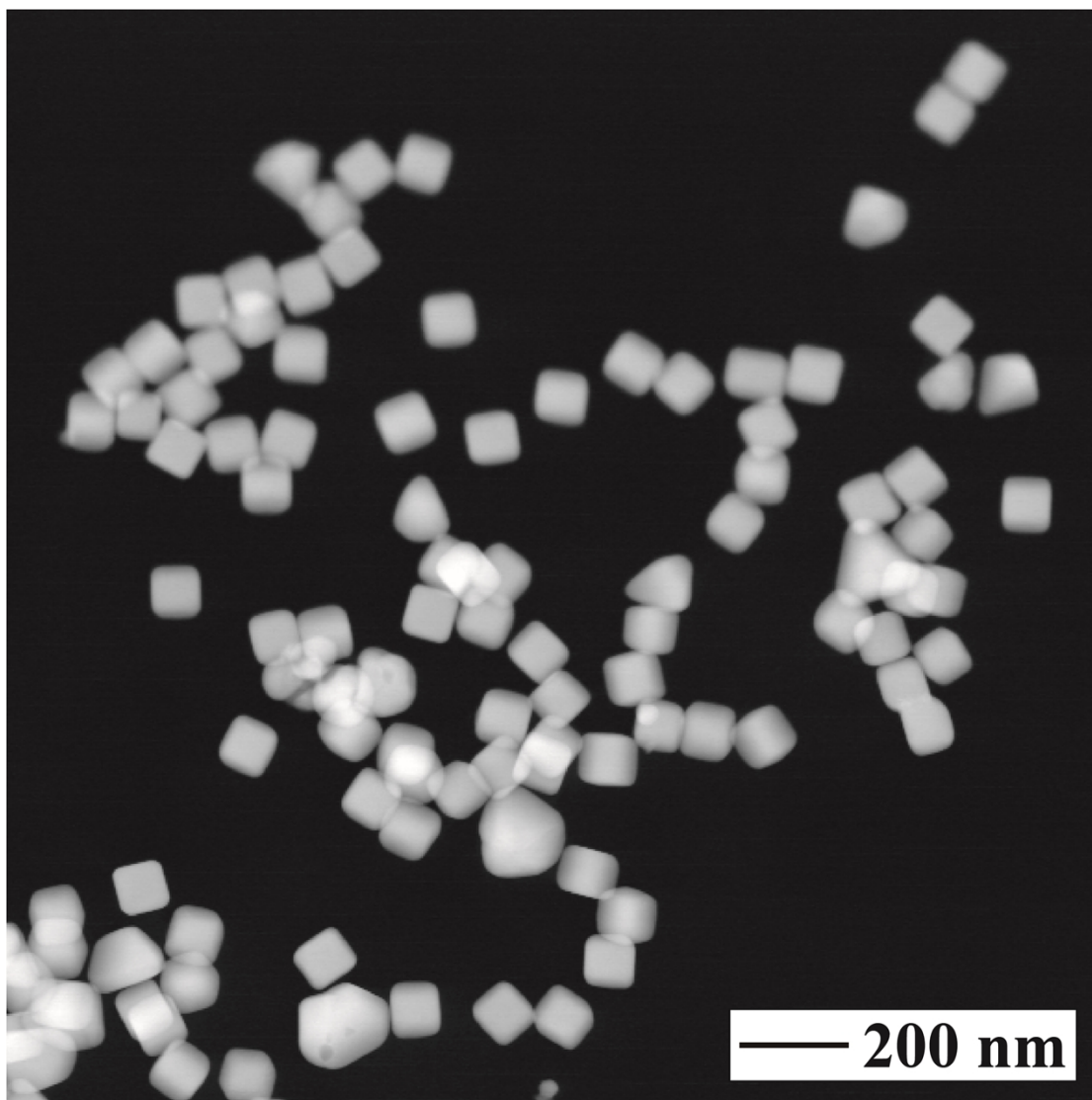
**Table S3. The levels of VEGF and OPN detected by our method and ELISA in clinical samples.**

ID	Our method (ng mL <sup>-1</sup> )		ELISA (ng mL <sup>-1</sup> )	
	VEGF	OPN	VEGF	OPN
1	0.135	0.437	0.153	0.451
2	0.136	0.452	0.156	0.460
3	0.148	0.472	0.165	0.476
4	0.154	0.473	0.158	0.472
5	0.169	0.485	0.168	0.477
6	0.171	0.501	0.187	0.541
7	0.205	0.513	0.204	0.495
8	0.228	0.522	0.223	0.581
9	0.237	0.552	0.235	0.519
10	0.248	0.557	0.232	0.588
11	0.319	0.598	0.317	0.612
12	0.320	0.612	0.332	0.671
13	0.325	0.621	0.334	0.583
14	0.354	0.632	0.363	0.622
15	0.420	0.653	0.408	0.671
16	0.421	0.662	0.418	0.629
17	0.422	0.665	0.419	0.710
18	0.435	0.681	0.419	0.625
19	0.445	0.743	0.434	0.733
20	0.449	0.761	0.431	0.738
21	0.457	0.772	0.439	0.841
22	0.461	0.781	0.441	0.850
23	0.509	0.794	0.538	0.759
24	0.513	0.802	0.551	0.779
25	0.529	0.812	0.574	0.841
26	0.552	0.823	0.586	0.818
27	0.601	0.912	0.589	0.869
28	0.634	0.934	0.596	0.959
29	0.653	0.935	0.595	0.964
30	0.657	0.943	0.634	0.983
31	0.661	0.964	0.628	1.011
32	0.663	0.975	0.649	1.023
33	0.673	0.987	0.659	1.105
34	0.687	0.996	0.712	1.051
35	0.731	1.010	0.759	0.989
36	0.733	1.111	0.761	0.996
37	0.748	1.124	0.805	1.132
38	0.759	1.159	0.814	1.221
39	0.778	1.235	0.811	1.191
40	0.814	1.237	0.817	1.188
41	0.819	1.249	0.826	1.313
42	0.855	1.251	0.847	1.237
43	0.881	1.264	0.869	1.286
44	0.923	1.275	0.971	1.279

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45	0.943	1.280	0.895	1.199
46	0.957	1.296	0.969	1.351
47	0.982	1.300	0.986	1.332
48	0.987	1.302	1.012	1.248
49	1.033	1.302	1.021	1.331
50	1.036	1.330	1.024	1.378
51	1.040	1.335	1.044	1.413
52	1.083	1.351	1.045	1.298
53	1.085	1.356	1.058	1.367
54	1.087	1.425	1.091	1.434
55	1.113	1.447	1.094	1.486
56	1.121	1.478	1.203	1.425
57	1.136	1.485	1.212	1.511
58	1.159	1.509	1.241	1.537
59	1.262	1.517	1.341	1.546
60	1.284	1.525	1.361	1.553

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**Fig. S1** TEM image used for size distribution analysis of Cu<sub>2</sub>O NCs