

Supplementary Information

Figure S1. Differential nuclear and cytoplasm HDGF expression in tumor and non-tumor specimens from patients with cervical adenocarcinoma (Cx). **(A)** Western blot analysis. Protein extracts were isolated from Cx tissue and subjected to western blot analysis using HDGF antibodies (1:1000 dilutions). As an internal control, the β -actin level was also determined; **(B)** Quantification. ** Indicates that the difference compared to the non-tumor samples was statistically significant at $p < 0.01$.

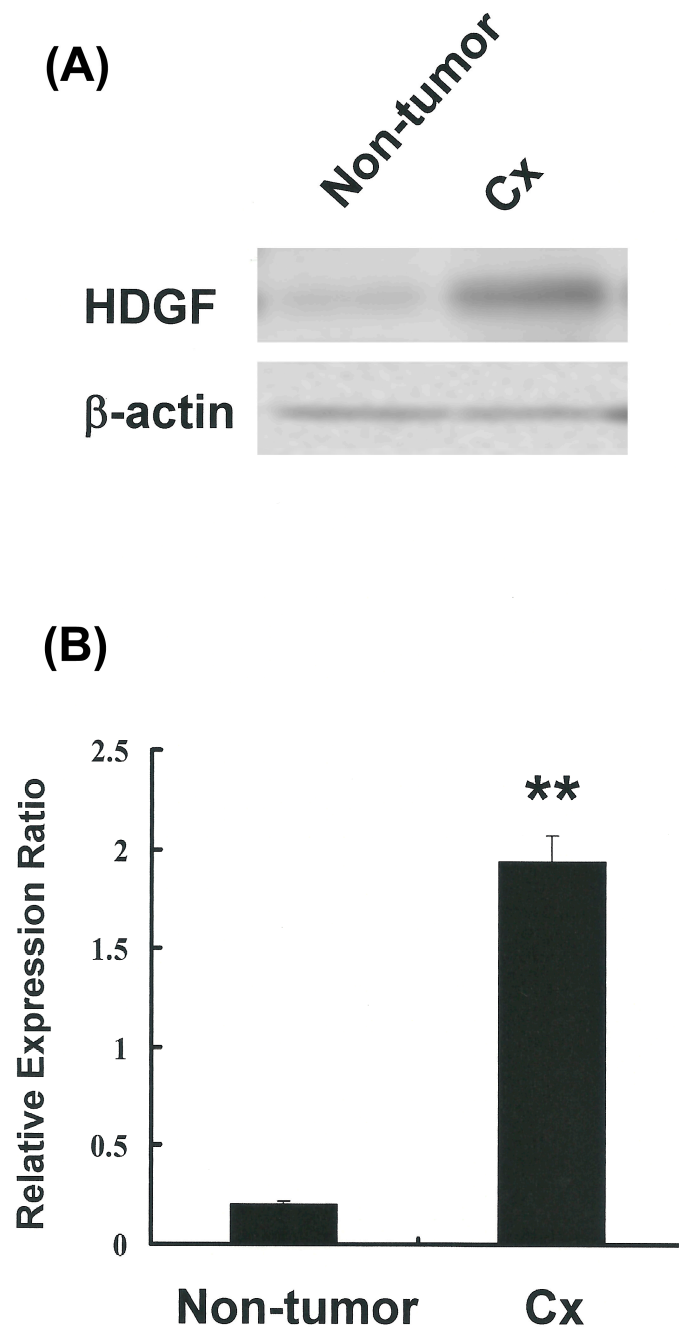


Figure S2. An *in vitro* study was performed by treating each of the Hela cells with increasing doses of HDGF (0, 0.02 and 0.2 nM) for 24 to 72 h. The survival of the HDGF-treated cancer cells was then measured using the MTT method. The results are expressed as a percentage of the control, which was considered to be 100%. All data are reported as the mean (\pm SEM) of at least three separate experiments. Statistical analysis was performed using a *t*-test, with significant differences determined at the level of * $p < 0.05$ versus the control group (HDGF 0 nM group).

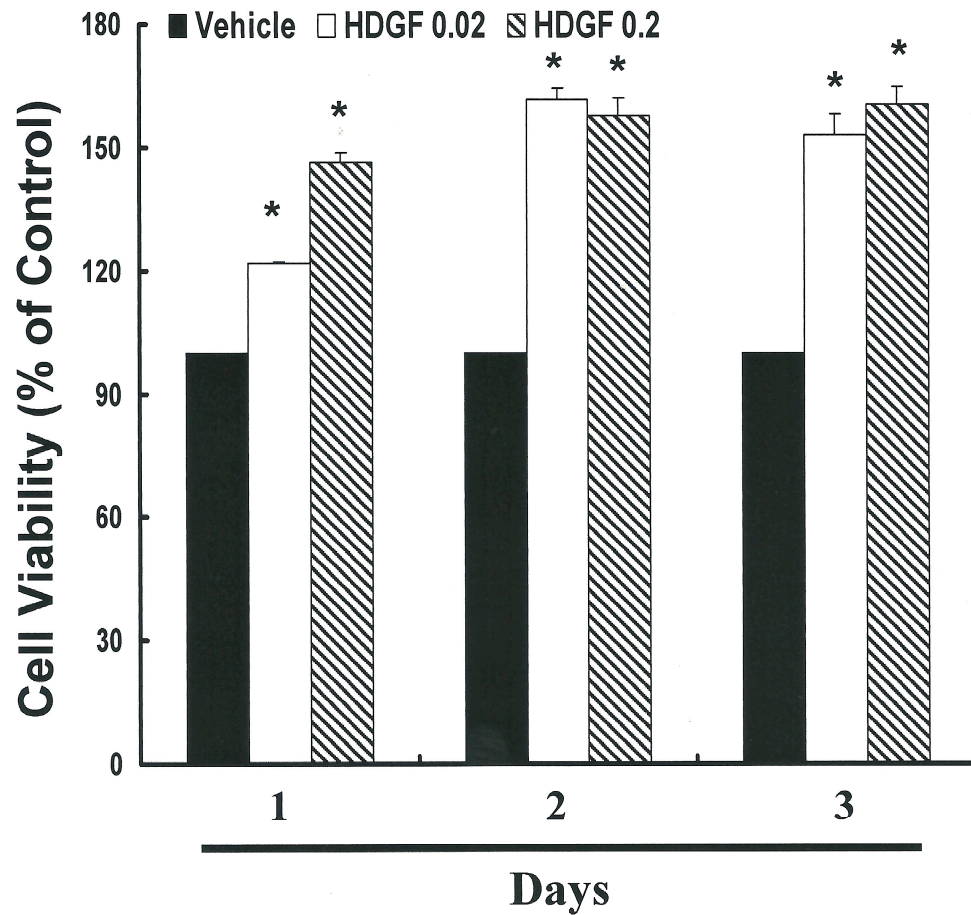


Figure S3. Differential colony formation and invasion capability among human primary cervical and cancer cells as assessed by the colony formation and invasion assay.

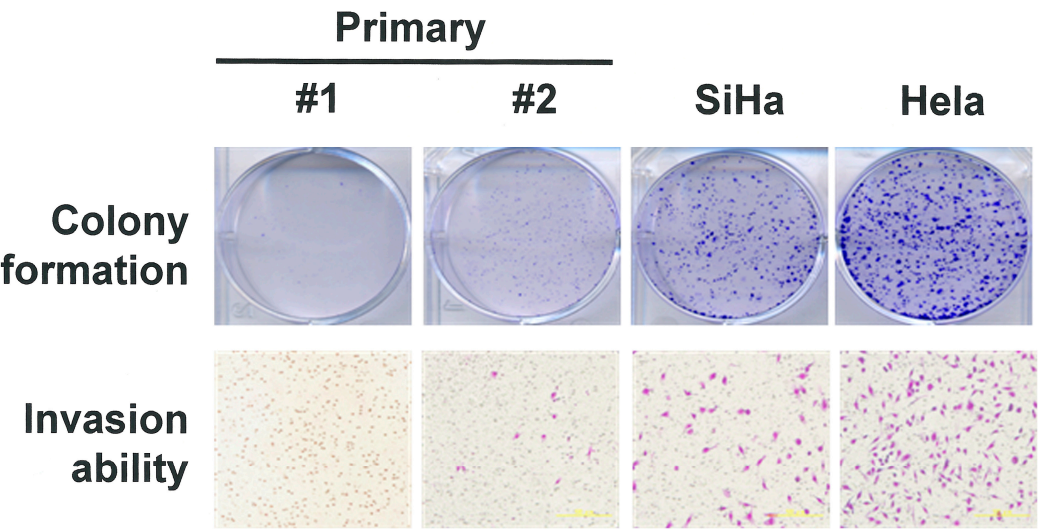


Figure S4. Colony-forming capability and invasion assay among human primary cervical and cancer cells as determined by the colony formation assay. ** $p < 0.01$ versus primary cells.

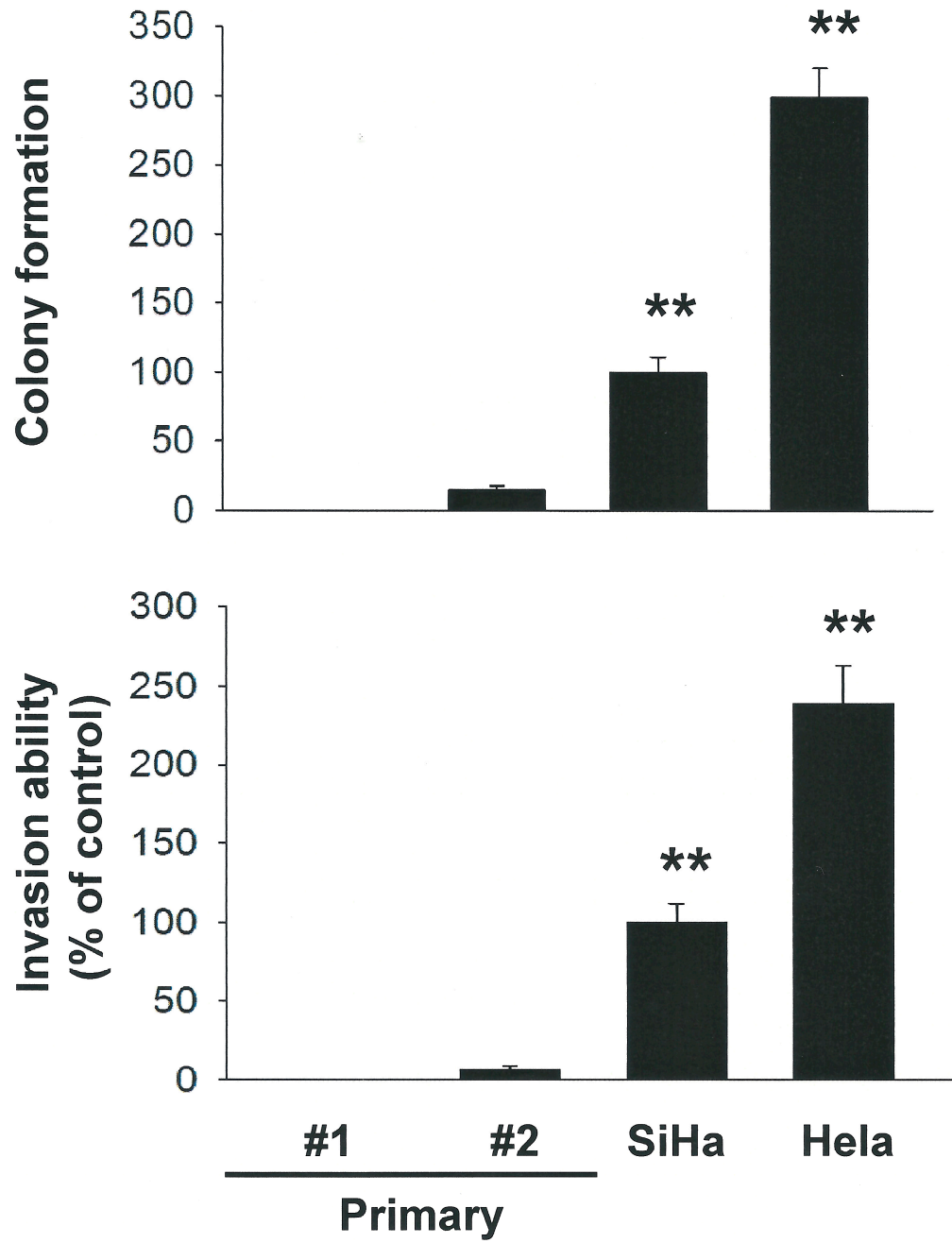


Figure S5. Effect of ectopic HDGF overexpression and knockdown on the tumorigenic behaviors of cervical cancer cells. After infection with various adenovirus vectors at a MOI of 200 for 72 hours, HeLa cells were harvested for subsequent analysis. **(A)** Immunoblot analysis of HDGF protein level after infection with various adenovirus vectors. The anti-6XHis antibody detected the presence of exogenous HDGF with a molecular weight of 42 kDa; **(B)** Effect of gene delivery with various adenovirus vectors on colony formation and invasion. The invasion capability was assessed by the Boyden chamber assay; **(C)** Effect of gene delivery with various adenovirus vectors on colony formation and invasion. ** $p < 0.01$ versus PBS group, * $p < 0.01$ versus the Ad-GFP group and # $p < 0.01$ versus the Ad-HDGF group.

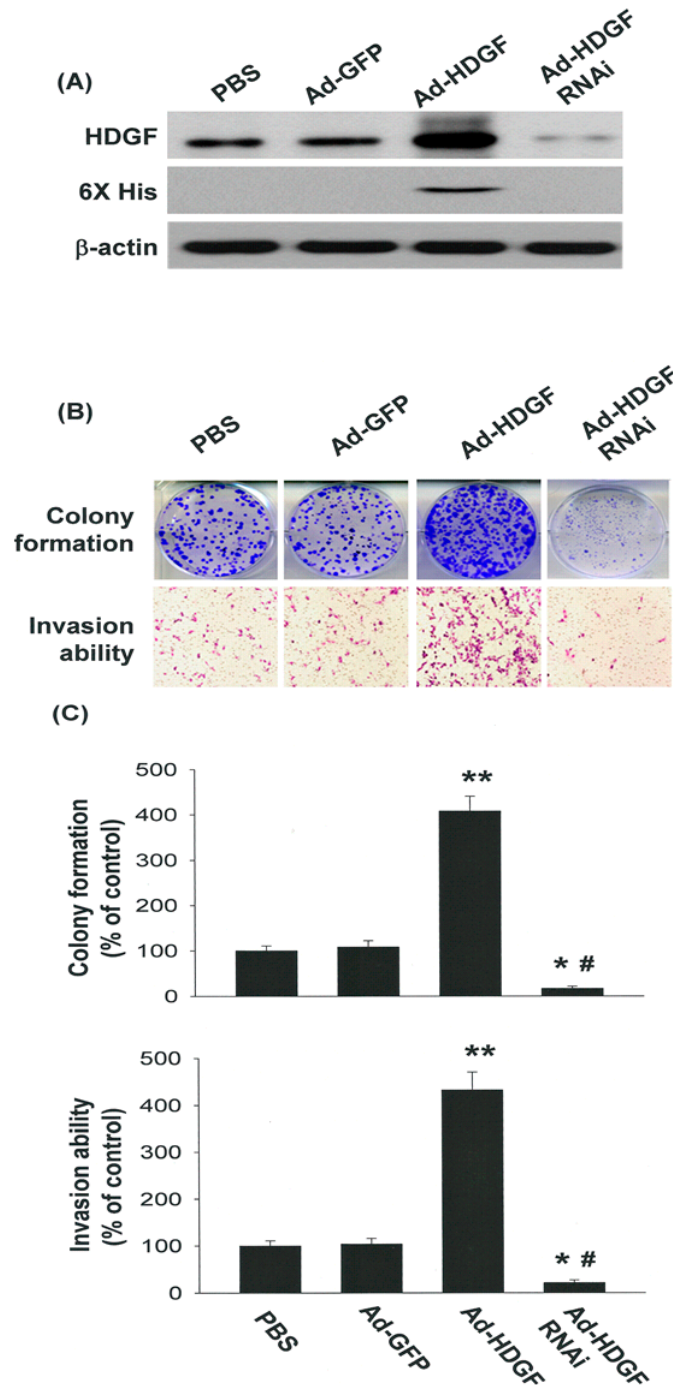


Table S1A. Histopathological characteristics of the patients studied.

Factor	N	Means of HDGF (nu)
FIGO stage		
1b	52	65.9 ± 29.6
IIa	11	74.5 ± 20.2
Histological Subtype		
Serous AD	47	68.1 ± 27.6
AS	5	63.0 ± 36.7
Other	11	66.4 ± 29.8
Grade		
WD (1)	12	65.4 ± 33.3
MD (2)	37	68.6 ± 25.5
PD (3)	14	65.7 ± 32.5
Tumor size		
≤2 cm	27	66.3 ± 30.0
>2 cm	36	68.2 ± 27.3
≤4 cm	58	67.8 ± 28.1
>4 cm	5	62.0 ± 32.7
LVSI		
(+)	27	76.5 ± 19.4 *
(-)	36	60.6 ± 32.0
PM invasion		
(+)	57	66.6 ± 29.0
(-)	6	75.0 ± 19.7
Depth of stromal Invasion		
<2/3	34	60.7 ± 32.5
>2/3	29	75.2 ± 20.1
LN		
(+)	9	73.3 ± 26.0
(-)	54	66.4 ± 28.7
Recurrence		
(+)	22	78.9 ± 19.0 *
(-)	41	61.2 ± 30.6
CD31	63	r = 0.419 ^{#,*}
CEA	63	r = 0.004 [#]

[#] Wilcoxon rank sum test; * $p < 0.05$. FIGO, International Federation of Gynecologists & Obstetricians; AD, adenocarcinoma; AS, adenosquamous carcinoma; WD, well differentiation; MD, moderate differentiation; PD, poor differentiation; LVSI: lymphovascular space Involvement; PM, parametrium; LN, lymph node invasion; CD, cluster of differentiation; CEA, Carcinoembryonic antigen.

Table S1B. Histopathological characteristics of the patients studied.

Factor	N	Means of HDGF (cy)
FIGO stage		
1b	52	26.2 ± 34.6
IIa	11	18.2 ± 21.4
Histological Subtype		
Serous AD	47	23.8 ± 32.2
AS	5	26.0 ± 36.5
Other	11	28.2 ± 36.0
Grade		
WD (1)	12	14.2 ± 24.6
MD (2)	37	30.0 ± 35.4
PD (3)	14	20.0 ± 30.1
Tumor size		
≤2 cm	27	20.4 ± 28.2
>2 cm	36	28.1 ± 35.7
≤4 cm	58	24.3 ± 32.7
>4 cm	5	30.0 ± 35.4
LVSI		
(+)	27	28.5 ± 36.1
(-)	36	21.9 ± 30.0
PM invasion		
(+)	57	22.6 ± 30.7
(-)	6	45.0 ± 45.9
Depth of stromal Invasion		
<2/3	34	16.8 ± 26.8
>2/3	29	34.1 ± 36.7
LN		
(+)	9	21.1 ± 30.5 *
(-)	54	46.7 ± 38.4
Recurrence		
(+)	22	16.1 ± 28.2 *
(-)	41	40.9 ± 34.9
CD31	63	r = 0.567 #,*
CEA	63	r = -0.033 #

Wilcoxon rank sum test; * $p < 0.05$. Note: FIGO, International Federation of Gynecologists & Obstetricians; AD, adenocarcinoma; AS, adenosquamous carcinoma; WD, well differentiation; MD, moderate differentiation; PD, poor differentiation; LVSI: lymphovascular space Involvement; PM, parametrium; LN, lymph node invasion; CD, cluster of differentiation; CEA, Carcinoembryonic antigen.