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CORRECTION

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Correction to: USP13 functions as a tumor suppressor by blocking the NF-kB-mediated PTEN downregulation in human bladder cancer

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Correction to: J Exp Clin Cancer Res 38, 259 (2019) https://doi.org/10.1186/s13046-019-1262-4

Following publication of the original article [1], the authors identified minor errors in Figs. 2, 4 and 6, specifically:

- In Fig. 2e, incorrect image was used for migration of 5637 cells after miR-301b overexpression (1st row, 3rd column)
- In Fig. 2h, incorrect images were used for UM-UC-3/Sh-USP13 (2nd row, 1st and 2nd columns)
- In Fig. 4f, incorrect image was used for migration assay of UM-UC-3 (4th row, 2nd column)
- In Fig. 6a, incorrect images were used to demonstrate USP13 Low for both PTEN and USP13 immunohistochemistry staining (2nd row, 1st and 2nd columns)

The corrected figures are given here. The corrections do not have any effect on the final conclusions of the paper. The original article has been corrected.

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Reference

1. Man X, Piao C, Lin X, et al. USP13 functions as a tumor suppressor by blocking the NF-kB-mediated PTEN downregulation in human bladder cancer. J Exp Clin Cancer Res. 2019;38:259. https://doi.org/10.1186/s13046-019-1262-4.

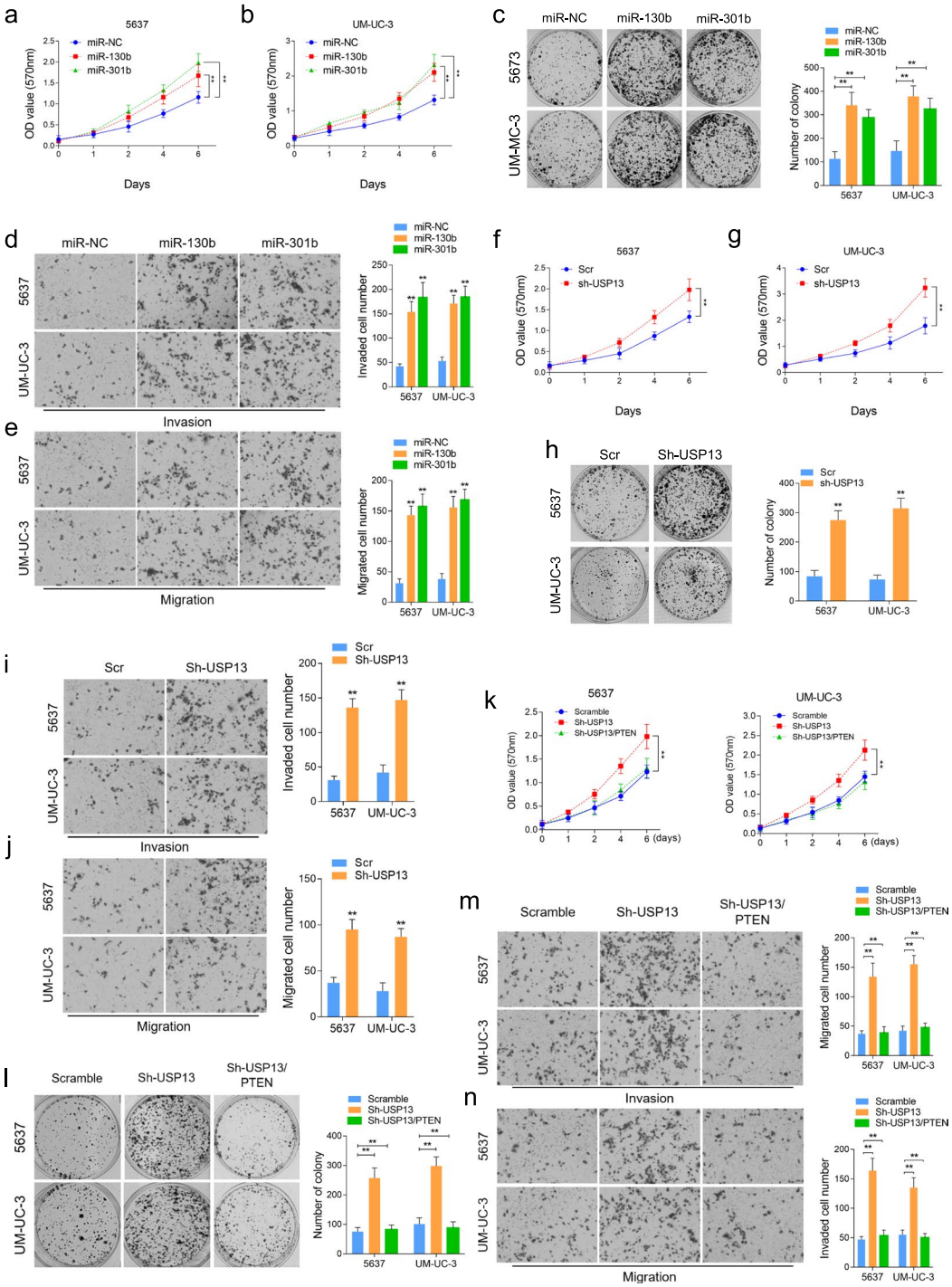

Fig. 2 The biological function of miR-130b/301b and USP13 in vitro. Cell proliferative capacity was measured by Cell Counting-Kit 8 (CCK-8) (**a** and **b**) assay and colony formation assay (**e**) in miR-130b/301b overexpressed 5637 and UM-UC-3 cells. CCK-8 (**c** and **d**) and colony formation assay (**f**) were also performed to evaluate the cellular proliferation in USP13 knocked down 5637 and UM-UC-3 cells. Cell invasive and migrative capacities were measured by transwell assay in miR-130b/301b overexpressed (**g** and **h**) or USP13 knocked down (**i** and **j**) 5637 and UM-UC-3 cells. Cell proliferation was detected by CCK-8 (**k**) and colony formation assay (**l**) in USP13 knocked down alone or USP13 knocked down as well as PTEN expression restored 5637 and UM-UC-3 cells. Cell invasive (**m**) and migrative (**n**) capacities were measured by Transwell assay in USP13 knocked down alone or USP13 knocked down as well as PTEN expression restored 5637 and UM-UC-3 cells. Original magnification: 400×. $^{*}P < 0.05$ and $^{**}P < 0.01$, as determined by Student's T-test

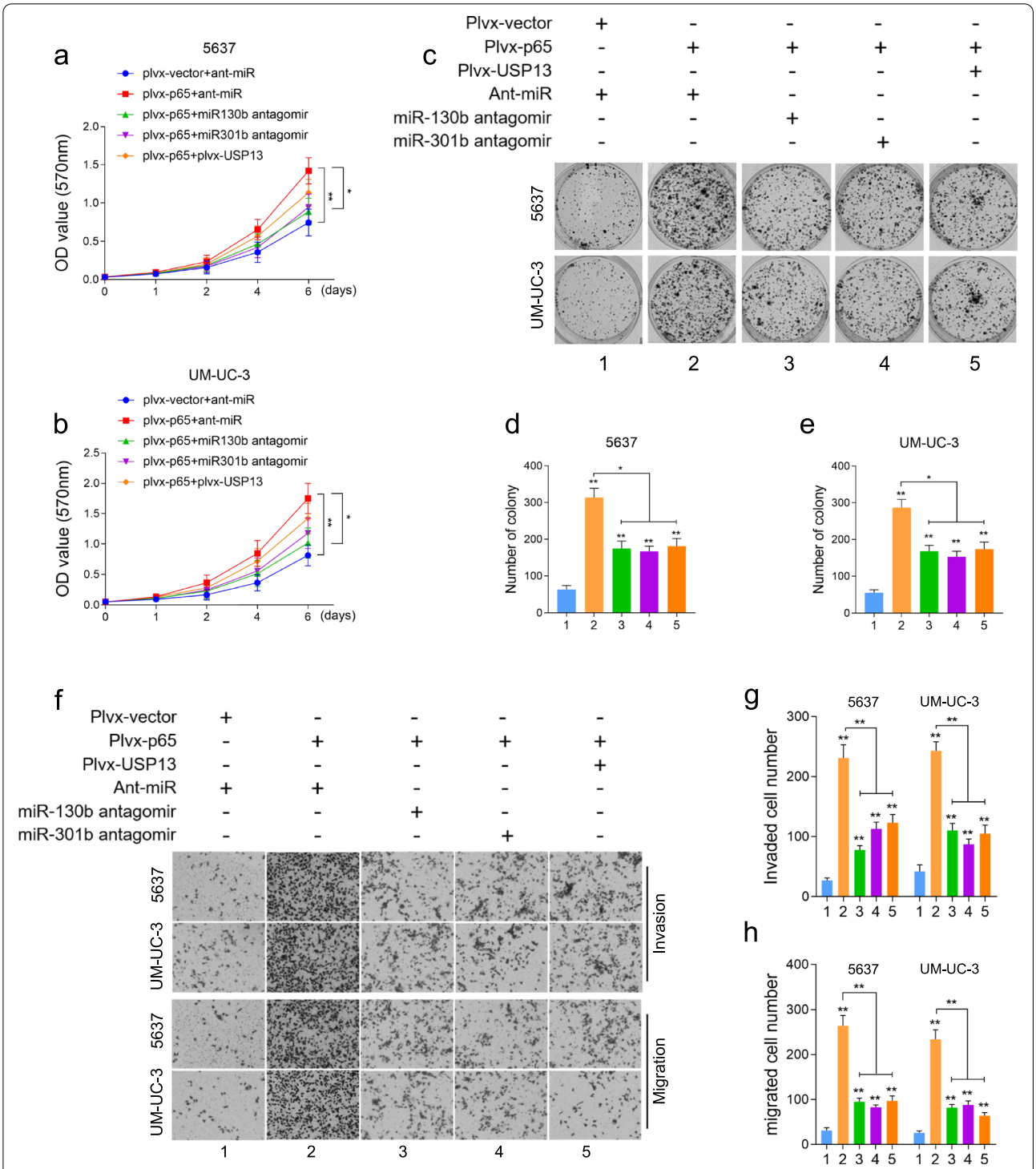

Fig. 4 The biological function of NF-kB/miR-130b~301b/USP13 axis in vitro. **a-e**. NF-kB p65 was overexpressed in BC cells by transfecting with pLvx-NF-kB p65, then followed by transfection of antagomir of miR-130b/301b or USP13 overexpression. Cell proliferation index was determined by CCK-8 assay and cell colony formation assay. Each group was indicated as: 1 empty vector; 2 NF-kB p65 overexpression; 3 NF-kB p65 overexpression with miR-130b knockdown; 4 NF-kB p65 overexpression with miR-301b knockdown; 5 NF-kB p65 overexpression with restoration of USP13 expression. **f-h**. Cell invasive and migrative capacities were determined by Transwell assay. The cells were grouped as described in (**a**). Original magnification: 400×. **P* < 0.05 and ***P* < 0.01, as determined by Student's T-test

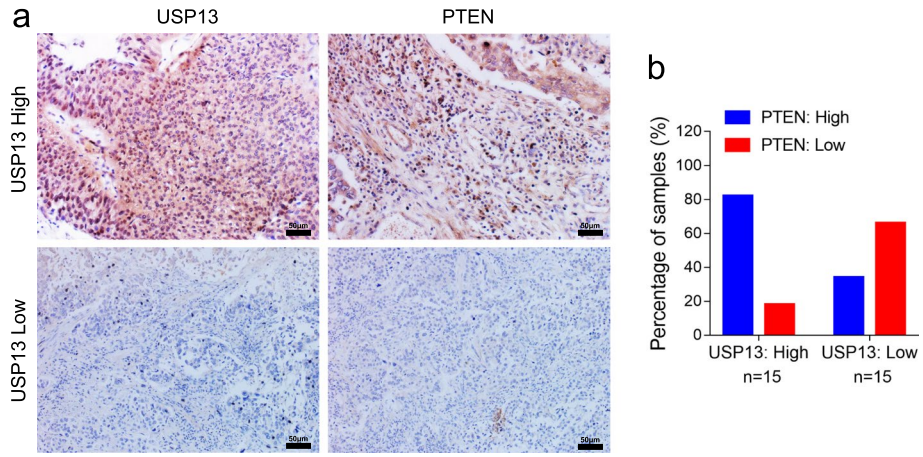

Fig. 6 High PTEN levels correlate with USP13 overexpression in a subset of human bladder cancer tissue specimens. **a.** Representative images demonstrating PTEN and USP13 immunohistochemistry (IHC) staining of human bladder cancer tissue specimens from 30 bladder cancer patients. **b.** Quantification of PTEN or USP13 staining in BC tissue specimens. Staining intensity of PTEN or USP13 was scored as 0 to3 (0: no staining, 1: weak staining, 2: medium staining, and 3: strong staining. 0 and 1 were classified as low-expression, whereas 2 and 3 were defined as high-expression. High PTEN expression was correlated with high USP13 expression ($P < 0.05$, Fisher's exact test)