**SUPPLEMENTARY FIGURE LEGENDS**

**Figure S1**. (A) Relative miR-34c expression assessed by qRT-PCR in C666-1 cells treated with SB431542 (10 or 20 µM) for 72 h compared to untreated cells (UT). (B and C) Relative expression of putative miR-34c targets assessed by qRT-PCR in NP69, NP460, and C666-1 cells, normalized to C666-1 cells. (B) Genes that are highly expressed in C666-1 (NPC) cells *vs.* NP69 and NP460 (normal nasopharyngeal) cells. (C) Genes with no significant differences in expression between C666-1 cells and NP69/NP460. Note that MARCKS and PML expression were significant only between C666-1 and NP460 cells. The data are represented as the mean ± SEM of at least three independent experiments.

\* P<0.05; \*\* P<0.01; \*\*\* P<0.001.

**Figure S2**. (A) Relative expression of putative miR-34c target genes after transient transfection with pre-miR-34c (20 or 50 nM; 72 h after transfection) in C666-1 cells. (B) Relative expression of putative miR-34c target genes after SB431542 treatment (10 or 20 µM; 72 h) in C666-1 cells. (C to J) Relative expression of significantly dysregulated genes (ARID5A, BIK, LITAF, NFKBIA, SOX4, BAX, and PML) as assessed by qRT-PCR. (C) Gene expression after transient transfection with pre-miR-34c (20 or 50 nM) in NP69 cells. (D) Gene expression after transient transfection with pre-miR-34c (20 or 50 nM) in NP460 cells. (E) Gene expression of NP69-anti-miR-34c stable cells. (F) Gene expression of NP69-pre-miR-34c stable cells. (G) Gene expression of NP460-anti-miR-34c stable cells. (H) Gene expression of NP460-pre-miR-34c stable cells. (I) Gene expression of C666-1-anti-miR-34c stable cells. (J) Gene expression of C666-1-pre-miR-34c stable cells. The data are represented as the mean ± SEM of at least three independent experiments.

\* P<0.05; \*\* P<0.01; \*\*\* P<0.001.

**Figure S3**. (A) Relative SOX4 and SOX2 expression assessed by qRT-PCR in NP69 cells stably overexpressing SOX4. (B) Relative SOX2 expression assessed by qRT-PCR in C666-1 cells stably expressing pre-miR-34c. (C, D, and E) Cell viability was measured by ATPlite assay 72 h after cisplatin treatment: (C) Stable C666-1-anti-miR-34c (or control) cells. (D) Stable NP69-pre-miR-34c (or control) cells. (E) Stable NP460-pre-miR-34c (or control) cells. (F) Effect of SB431542 on C666-1 cell viability measured by ATPlite at 72 h. The data are represented as the mean ± SEM of at least three independent experiments. \* P<0.05; \*\* P<0.01; \*\*\* P<0.001.

**Figure S4.** IHC was performed on NPC patient samples with an anti-SOX4 polyclonal antibody. Representative photomicrographs of SOX4 expression in the tumour nuclei of scores 0, 1, and 2 at 200X. No samples presented with a score of 3.