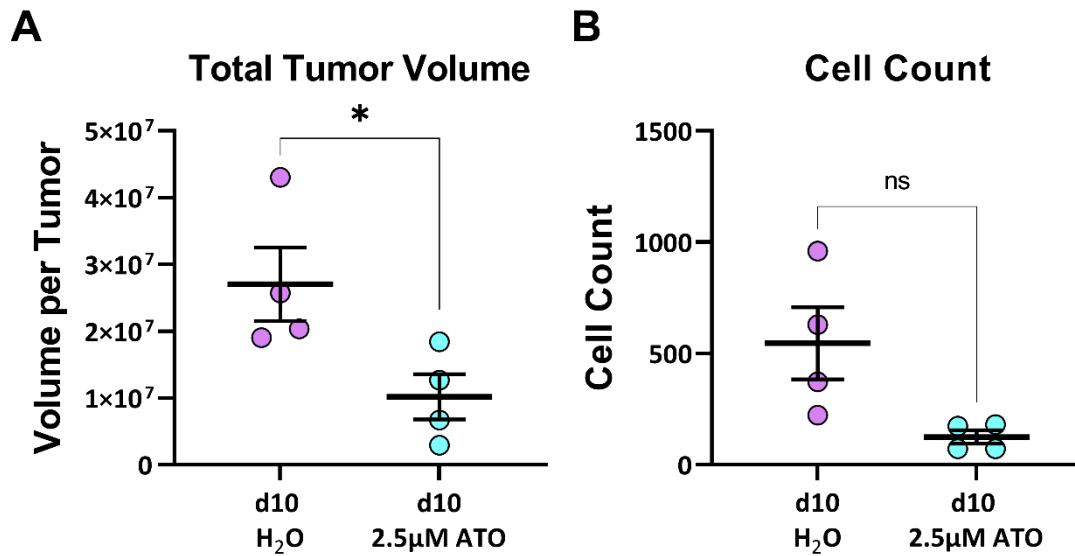


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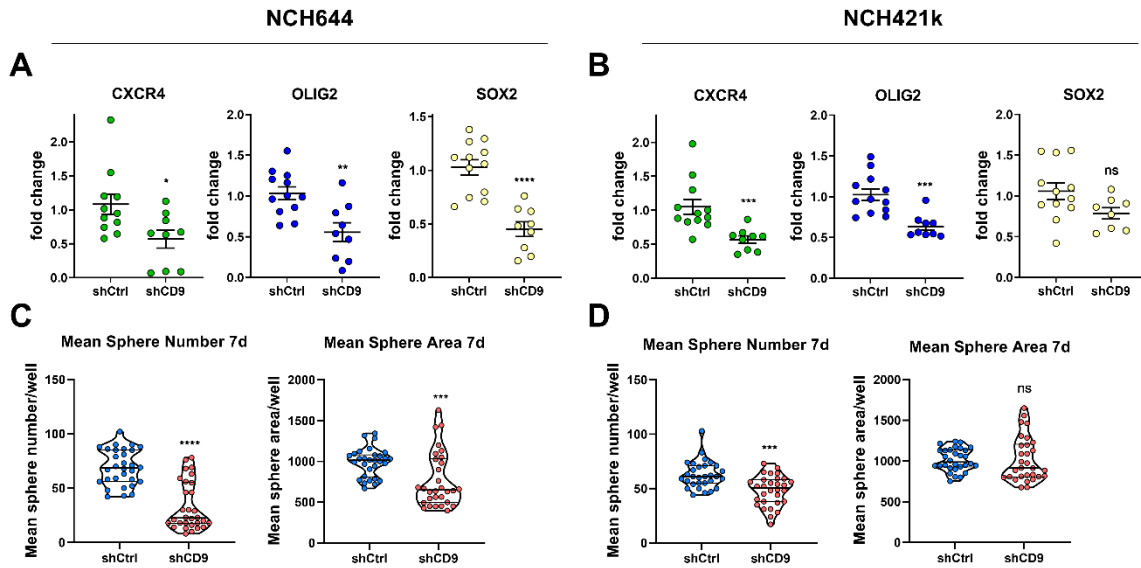
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Appendix Figure S1 - Arsenic Trioxide reduces tumor growth in the validation experiment using adult organotypic tissue slice culture based on epifluorescence microscopy and OTCxLSFM-based single cell analysis.

A, B The total tumor volume (A) and cell count (B) parameters were extracted from segmented 3D data sets of adult OTCs treated for 10 days with 2.5 µM ATO or solvent (H₂O) and image acquisition and processing using OTCxLSFM. The experiment was performed in 4 biological replicates (n = 4 tumors).

Data information: In (A, B), data are presented as mean ± SEM. ns = not significant; *P≤0.05 (Unpaired T-Test with Welch's Test, GraphPad Prism 9).

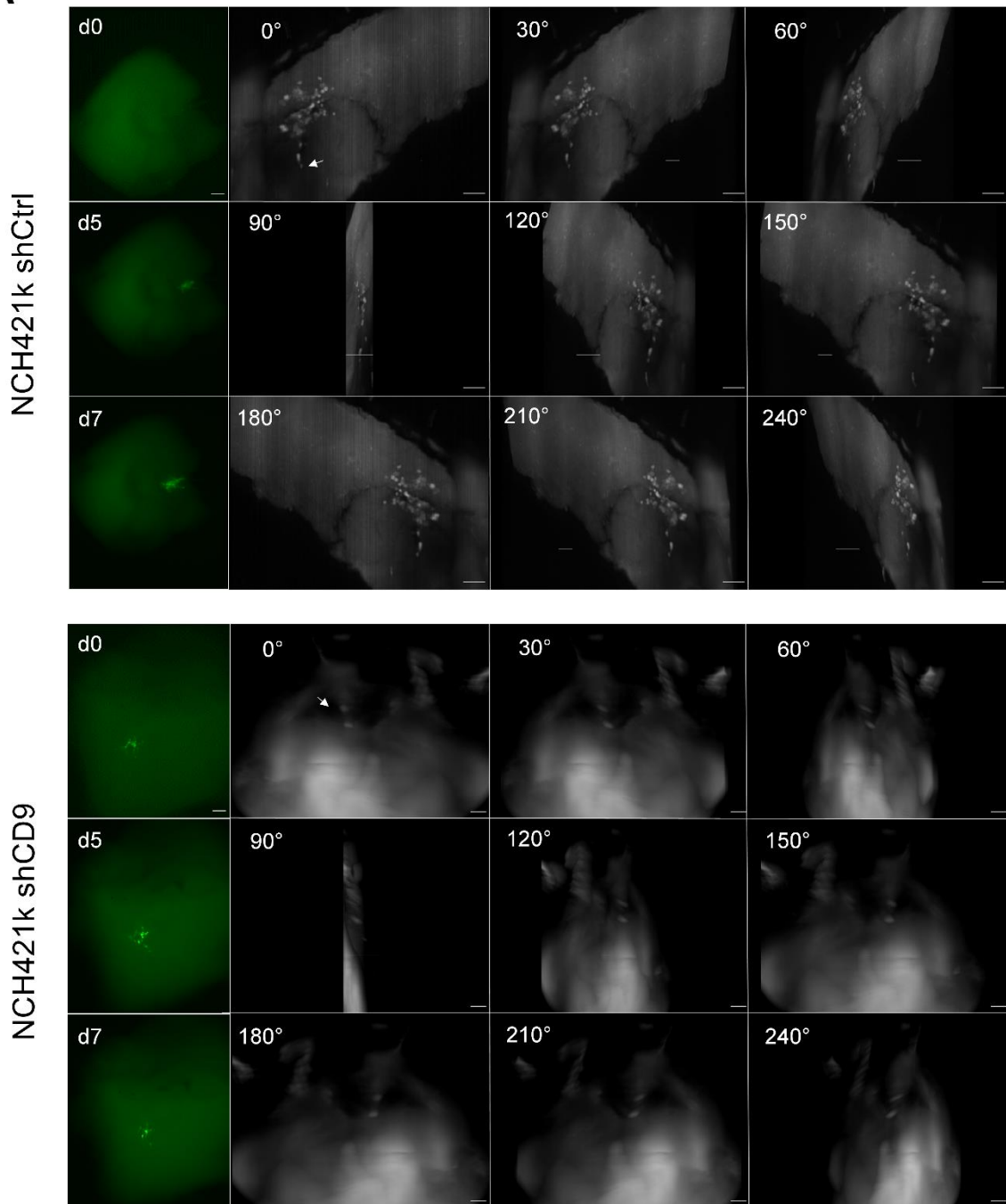


Appendix Figure S2 - CD9-depletion reduces stemness traits in NCH644 and NCH421k GSCs.

A, B Point-plots of Taqman-based qRT-PCR of stemness marker CXCR4, OLIG2 and SOX2 in NCH644 (A) and NCH421k (B) GSCs after stable transduction with shCtrl or shCD9. The experiment was performed at least three times in biological triplicates ($n \geq 9$)

C, D Violin plots of the sphere formation assay after 7d of incubation, where the mean sphere number/well and the mean sphere area/well was determined of NCH644 (C) and NCH421k (D) GSCs. The experiment was performed three times using 5-10 biological replicates ($n \geq 15$).

Data information: In (A - D), data are presented as mean \pm SEM. ns = not significant; * $P \leq 0.05$; ** $P < 0.01$; *** $P < 0.001$; **** $P < 0.0001$ against shCtrl (One-Way ANOVA with Tukey's multiple comparisons test, GraphPad Prism 9).

A

Appendix Figure S3 - CD9 depletion affects tumor growth in ex vivo organotypic tissue culture tumor growth kinetics in NCH421k.

A Epifluorescence microscopic pictures (left panels, green) of the same tumor of NCH421k shCtrl or shCD9 after 0, 5, and 7 d of incubation. Scale bars 200 μ m. The montage of 3D-reconstruction LSFM image displays the same tumor at the latest timepoint (d7) of incubation for NCH421k shCtrl or shCD9 in 30° angles (right panels, grey). Arrows display cells which reached their overall maximal migration distance. Scale bars 100 μ m. 360° videos of the LSFM images are provided as source data.