

## **Bioengineered human tumor within a bone niche**

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**Supplementary Tables 1 and 2:** Genes expressed in ESFT but not in cell lines

**Supplementary Figure 1:** Genes expressed in ESFT and in bone

**Supplementary Figure 2:** Focal adhesion genes expressed in ESFT

**Supplementary Figure 3:** Cancer genes expressed in ESFT

**Supplementary Figure 4:** Focal adhesion and cancer genes expressed in ESFT

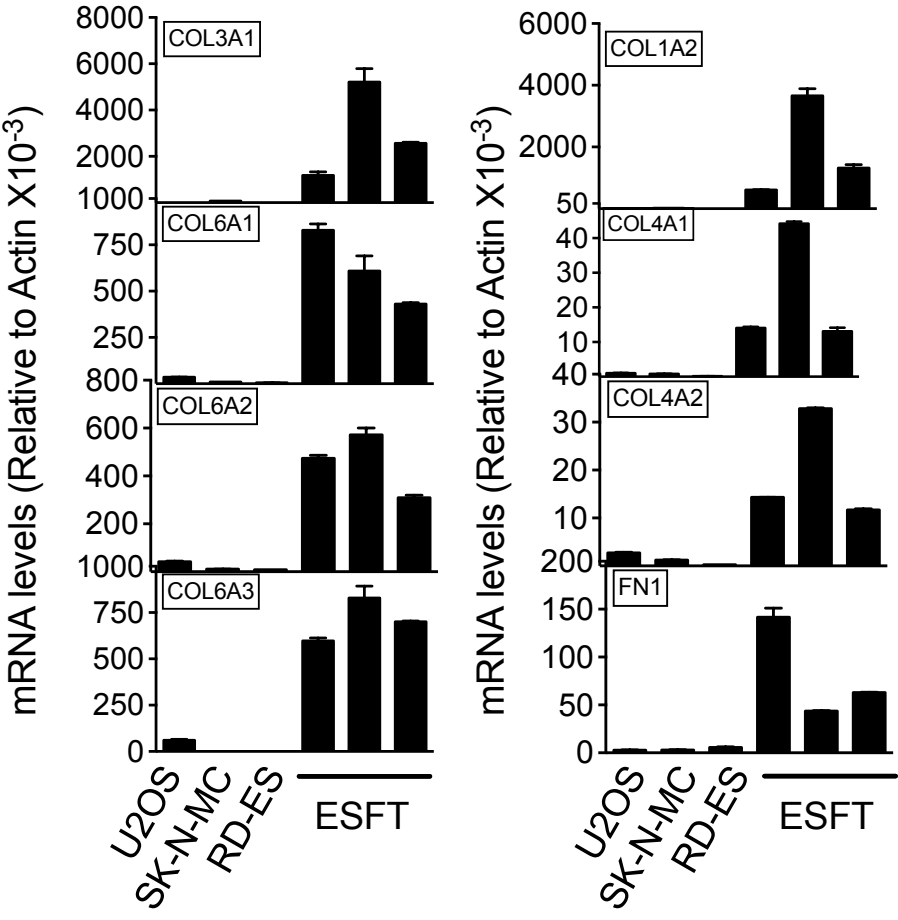
**Supplementary Table 1.** Number of genes expressed in ESFT and in cell lines

<b>Condition</b>	<b>Number of genes</b>
Genes expressed in cell-lines	2977
Genes expressed in tumors	2430
Genes expressed in cell-lines but not tumors	1312
Genes expressed in tumors not cell-lines	599

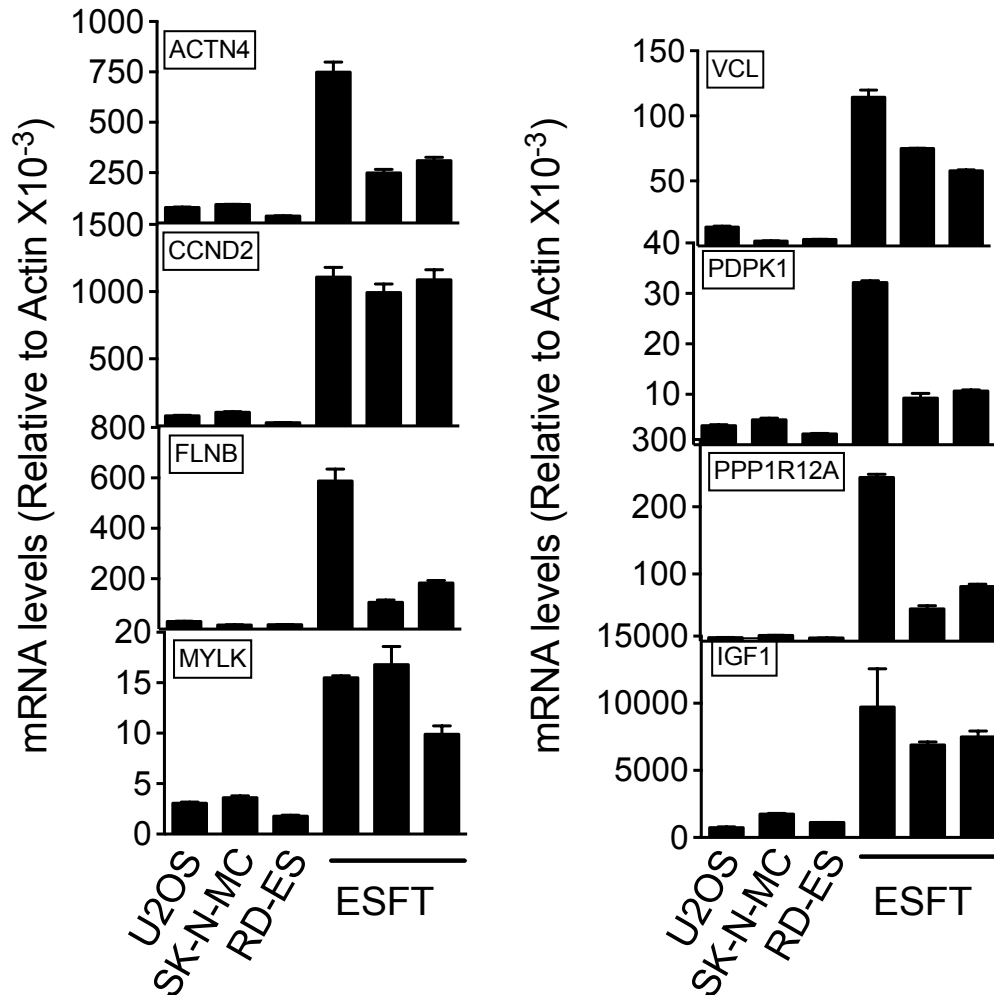
**Supplementary Table 2.** Focal adhesion genes and related to pathways in cancer genes expressed in ESFT but not in cell lines

<b>Focal adhesion:</b>	ACTN4,CCND2,COL1A2,COL3A1,COL6A1,COL6A2,COL6A3,FLNB,MYLK,PDPK1,PPP1R12A,IGF1,VCL
<b>Pathways in cancer:</b>	CDKN1B,CTBP1,CTBP2,ETS1,KRAS,PIAS1,RXRA,STAT3,TP53
<b>Both:</b>	CDC42,COL4A1,COL4A2,CTNNB1,FN1,JUN,LAMA4,LAMB1,LAMBC1,PIK3R1,PTEN

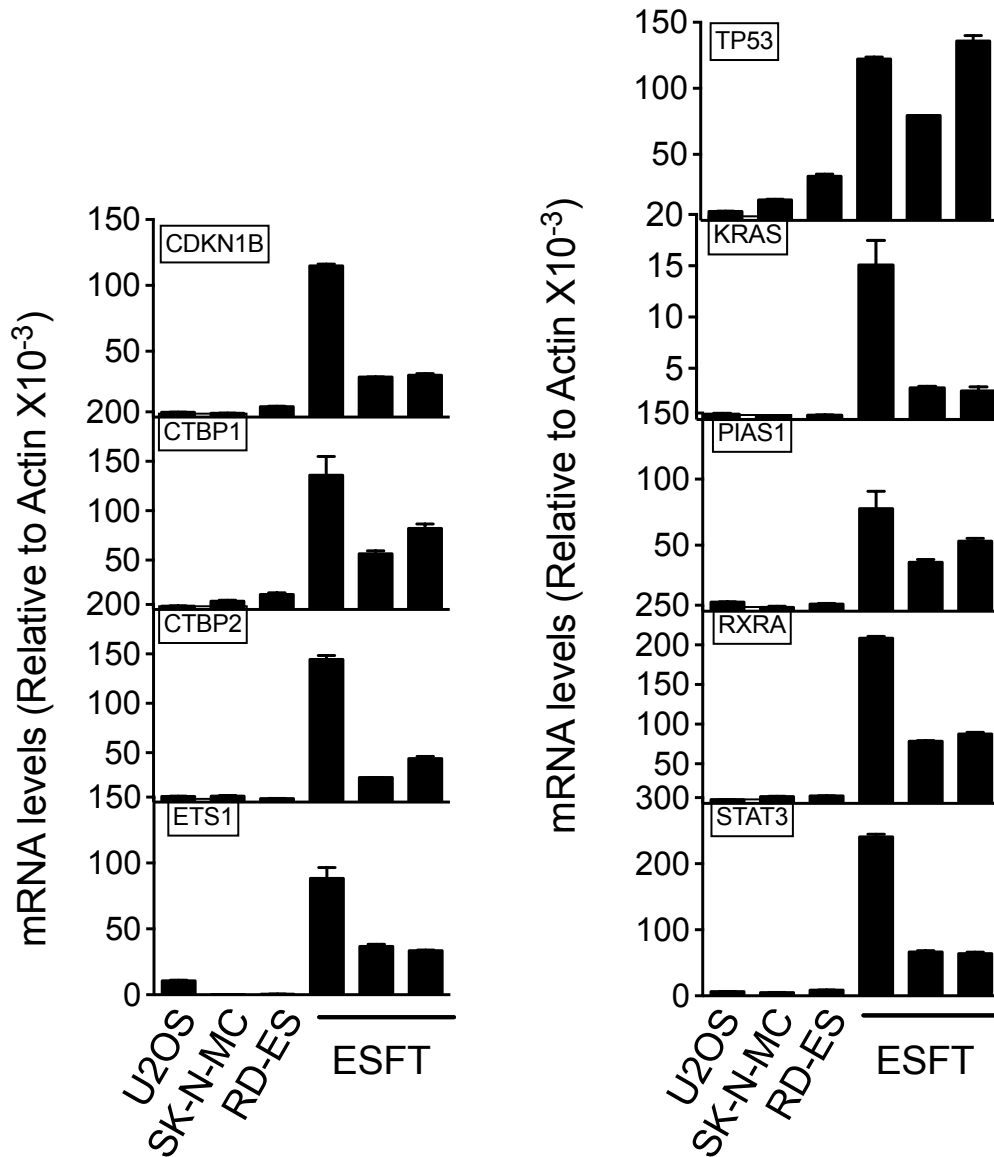
**Supplementary Figure 1: Focal adhesion genes and related to pathways in cancer genes expressed in ESFT and bone but not in cell lines** qRT-PCR analysis of the indicated genes. Relative endogenous expression of each gene was normalized to actin and error bars represent technical standard deviation of three replicates. The figure shows the data for, two Ewing’s sarcoma cell lines (RD-ES and SK-N-MC), three independent tumors (ESFT) and one osteosarcoma cell line as control of bone tumor cell line but unrelated to ESFT.



**Supplementary Figure 2: Focal adhesion genes differentially expressed in ESFT and cell lines.** qRT-PCR analysis of Focal adhesion genes expressed in ESFT but not in cell lines. Relative endogenous expression of each gene was normalized to actin and error bars represent technical standard deviation of three replicates. The figure shows the data for, two Ewing's sarcoma cell lines (RD-ES and SK-N-MC), three independent tumors (ESFT) and one osteosarcoma cell line as control of bone tumor cell line but unrelated to ESFT.



**Supplementary Figure 3: Cancer related genes differentially expressed in ESFT and cell lines.** qRT-PCR analysis of cancer related genes expressed in ESFT but not in cell lines. Relative endogenous expression of each gene was normalized to actin and error bars represent technical standard deviation of three replicates. The figure shows the data for, two Ewing's sarcoma cell lines (RD-ES and SK-N-MC), three independent tumors (ESFT) and one osteosarcoma cell line as control of bone tumor cell line but unrelated to ESFT.



**Supplementary Figure 4: Focal adhesion and Cancer related genes differentially expressed in ESFT and cell lines.** qRT-PCR analysis of cancer related genes expressed in ESFT but not in cell lines. Relative endogenous expression of each gene was normalized to actin and error bars represent technical standard deviation of three replicates. The figure shows the data for, two Ewing's sarcoma cell lines (RD-ES and SK-N-MC), three independent tumors (ESFT) and one osteosarcoma cell line as control of bone tumor cell line but unrelated to ESFT.

