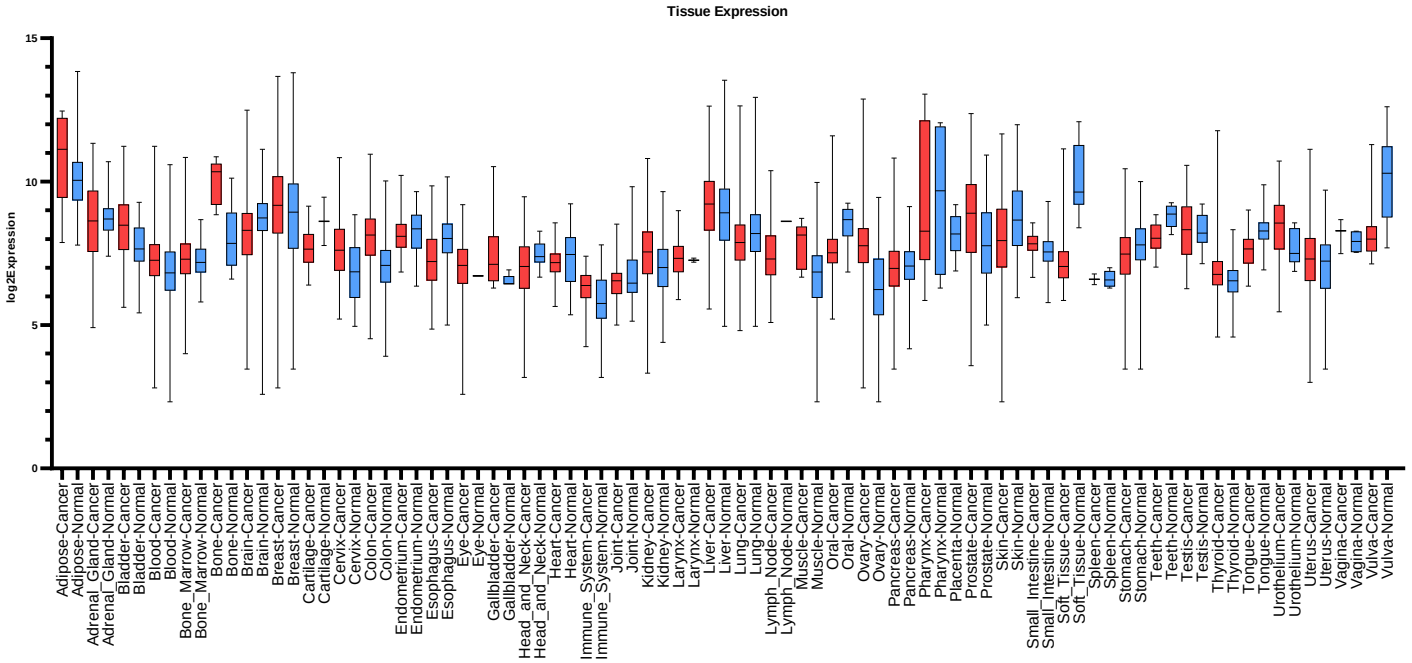
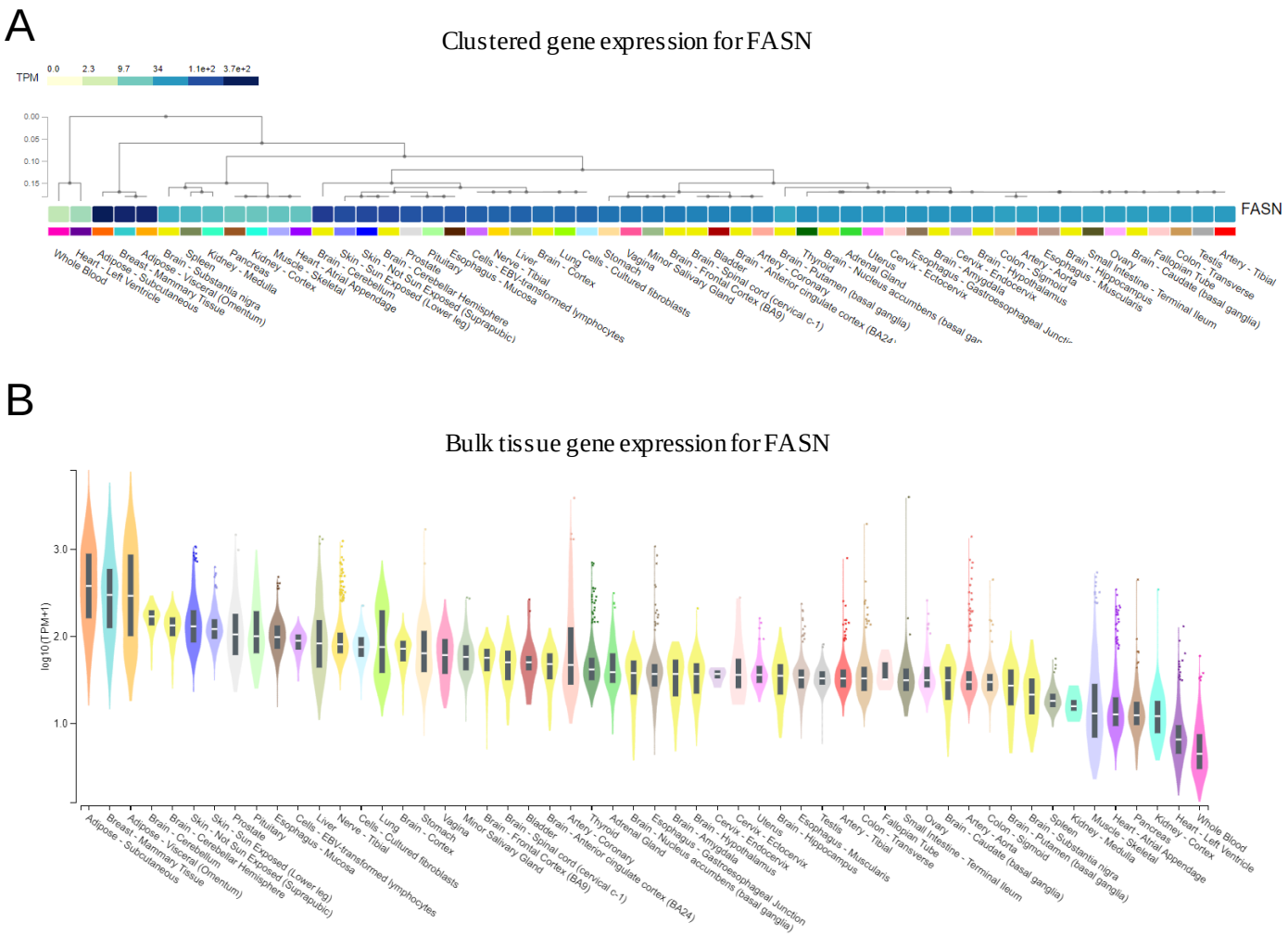
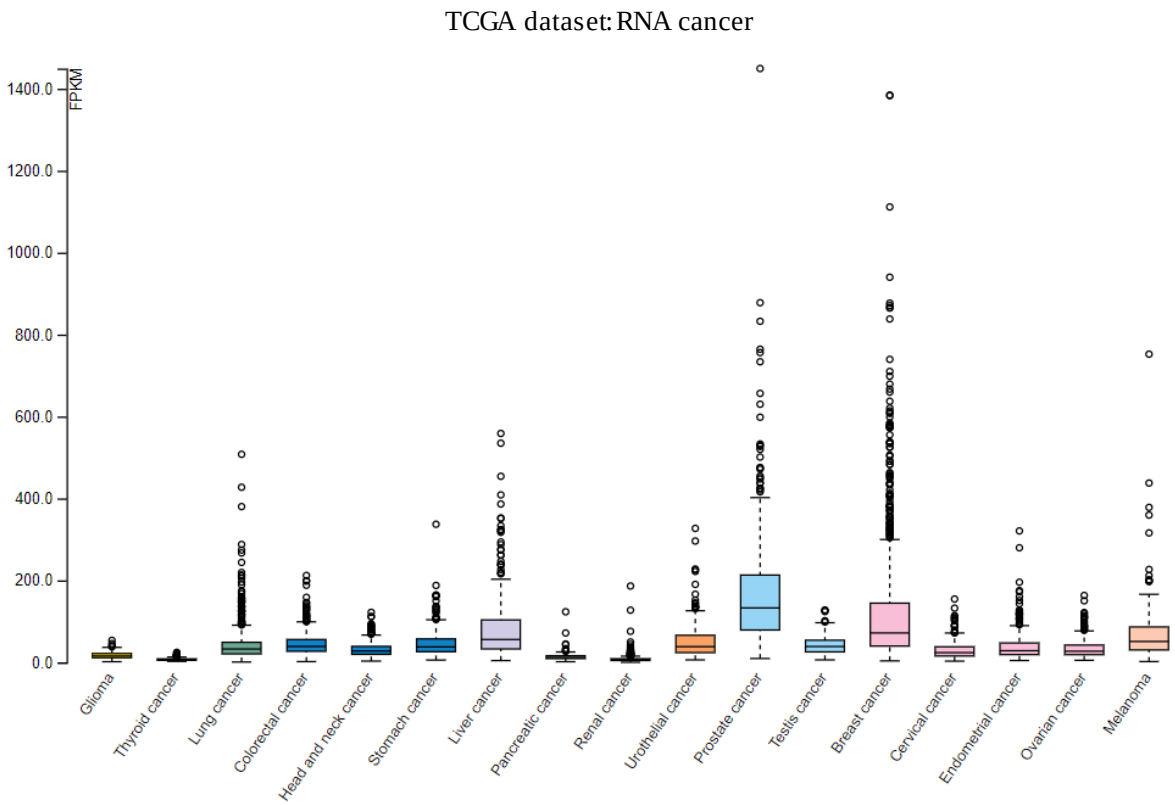


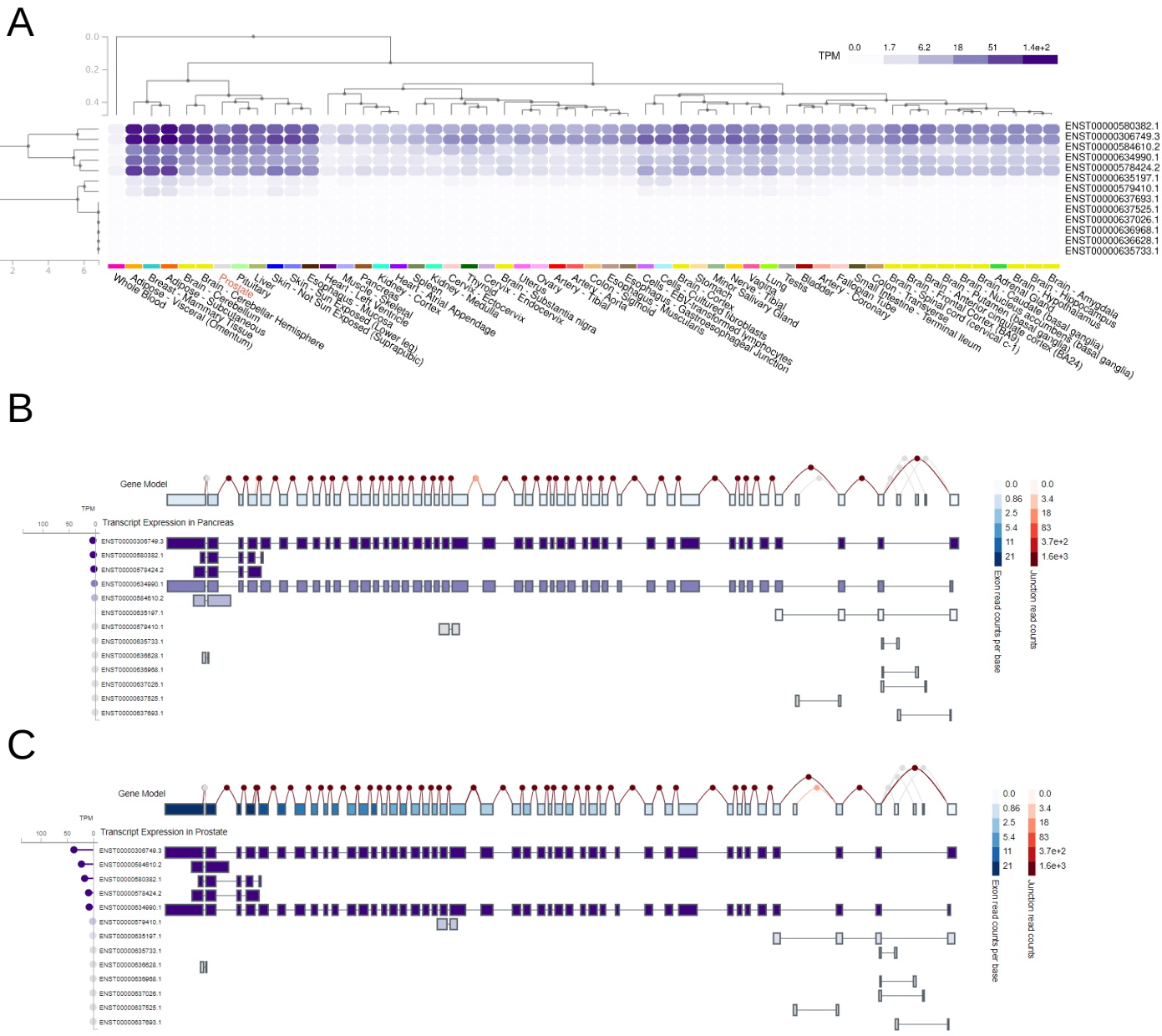
Supplementary Figure 1: Fatty acid synthase (FASN) transcription levels in cancer (red) and normal tissue (blue). mRNA expression in various cancer types was obtained from the GENT database. Y-axis shows log2 fold change values, while X-axis shows tissue types. Boxes indicate the median, and 25th and 75th percentiles. Red boxes indicate tumor tissues; blue boxes indicate normal tissues.



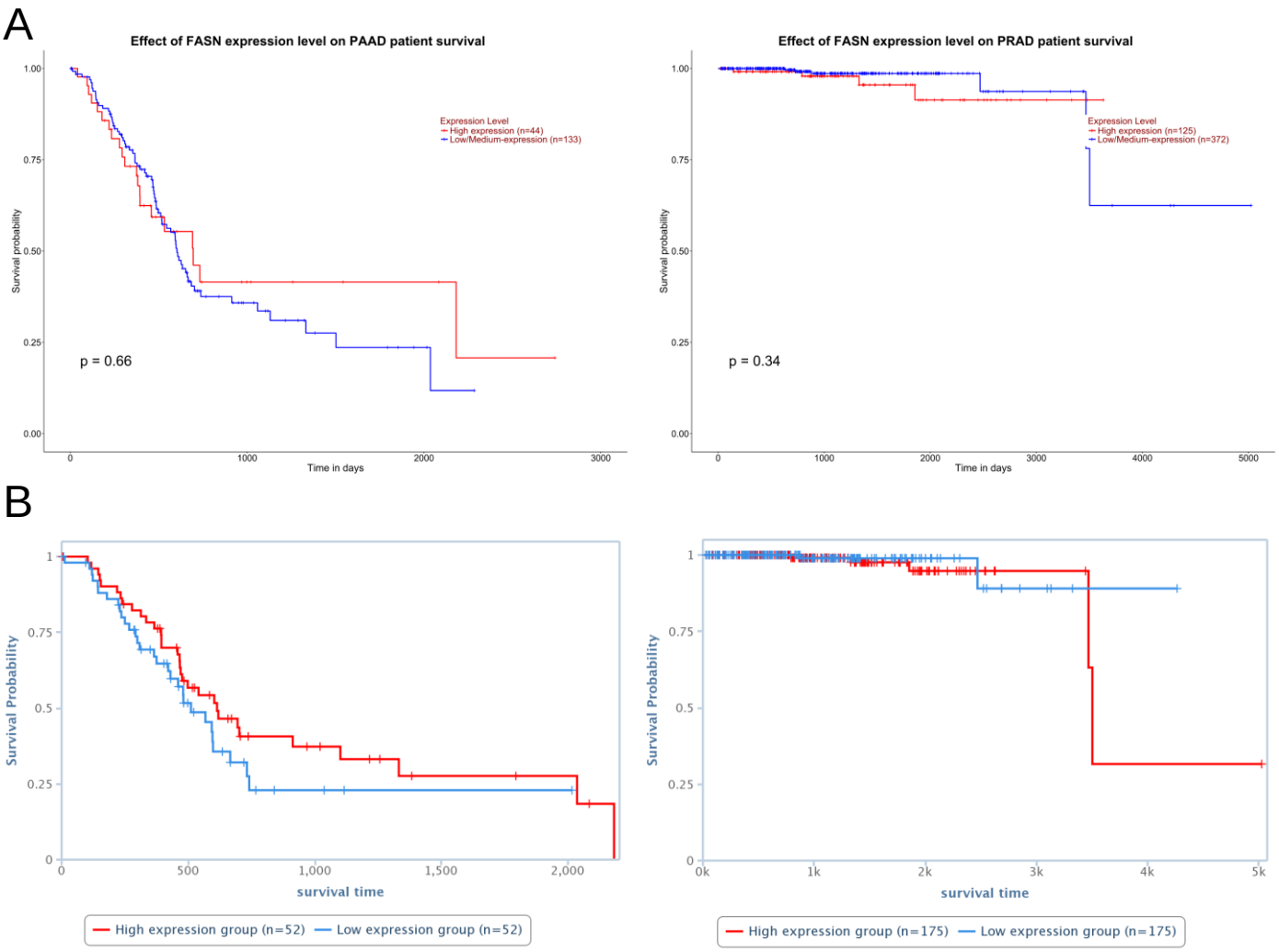
Supplementary Figure 2: **A** Gene query showing clustered FASN expression in tumors expressed as TPM. **B** Bulk tissue gene expression for FASN. Data is shown as a violin plot and on a log scale, sorted by expression, while dots represent outliers. Y-axis shows log2 fold change values, while X-axis shows tissue types. Data were obtained from the GTEx portal database (https://gtexportal.org).



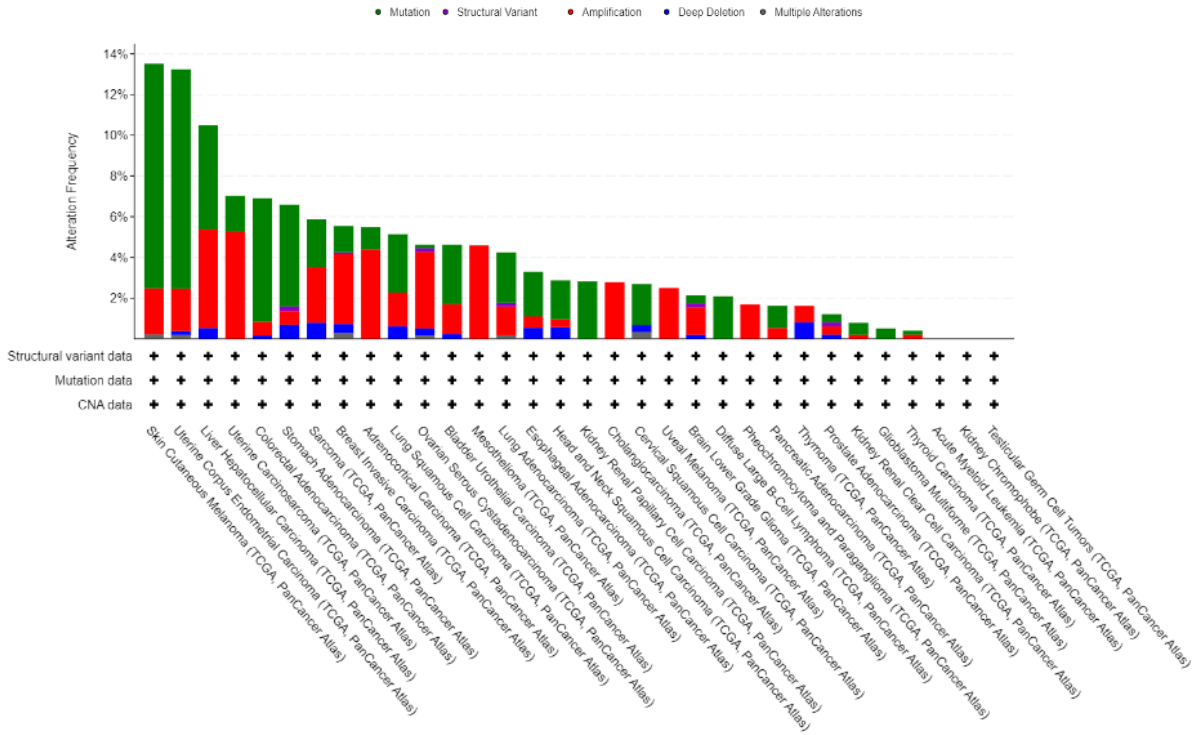
Supplementary Figure 3: RNA expression of FASN in cancer. Data is shown as a box plot with FPKM values, while dots represent outliers. Data were obtained from The Human Protein Atlas using pathological classification.



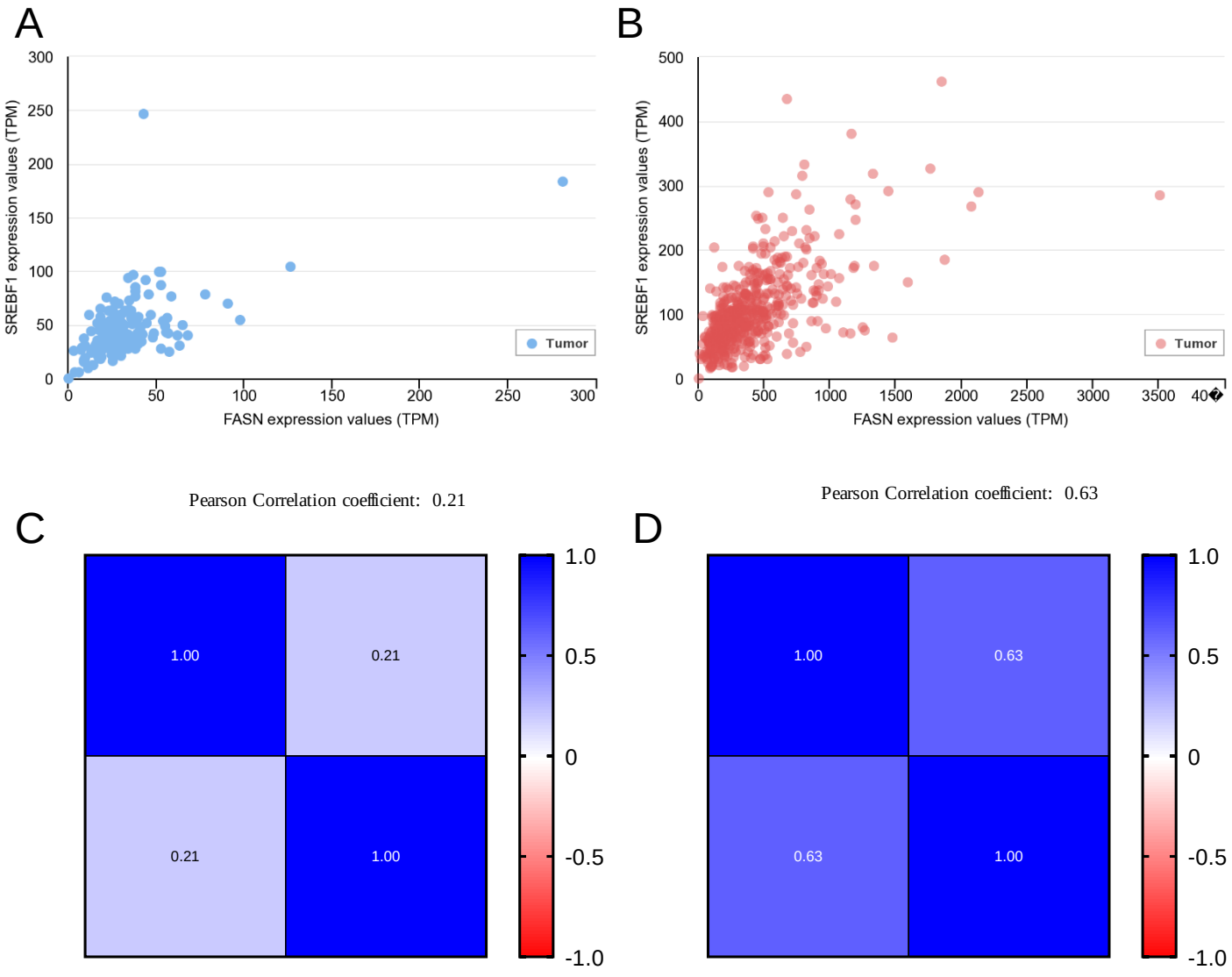
Supplementary Figure 4: A Gene query showing clustered FASN expression of all transcripts in tumors expressed as TPM. **B-C** show accessibility of exons (red labels) and expression of each transcript (blue labels) in PDAC and PCa, respectively. Data were obtained from the GTEx portal database. .



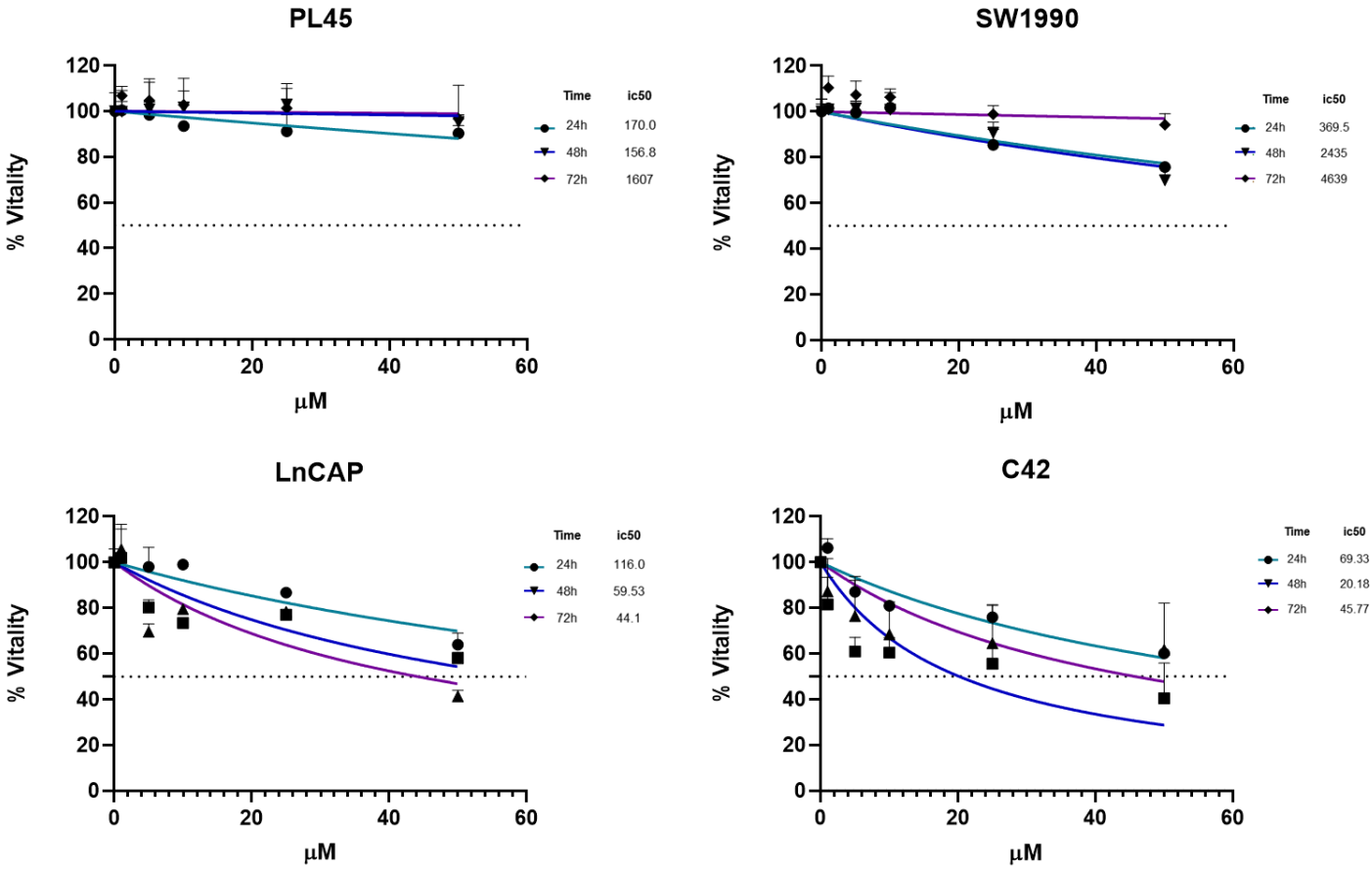
Supplementary Figure 5: **A-B** Overall survival prognosis based on FASN expression (high=red, low=blue) in PDAC and PCa. Data were obtained from UALCAN and cBioPortal platforms, respectively.



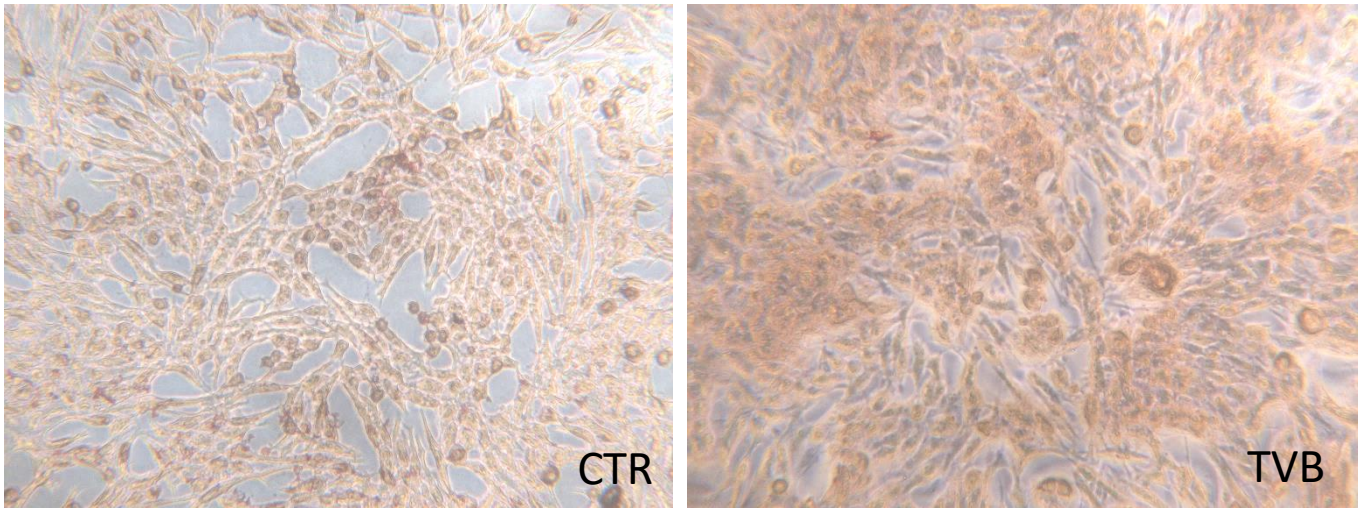
Supplementary Figure 6: Alteration frequency of FASN gene from the cBioPortal database indicated as mutations (green), fusions (purple), amplifications (red), deep deletions (blue), and multiple alterations (gray).



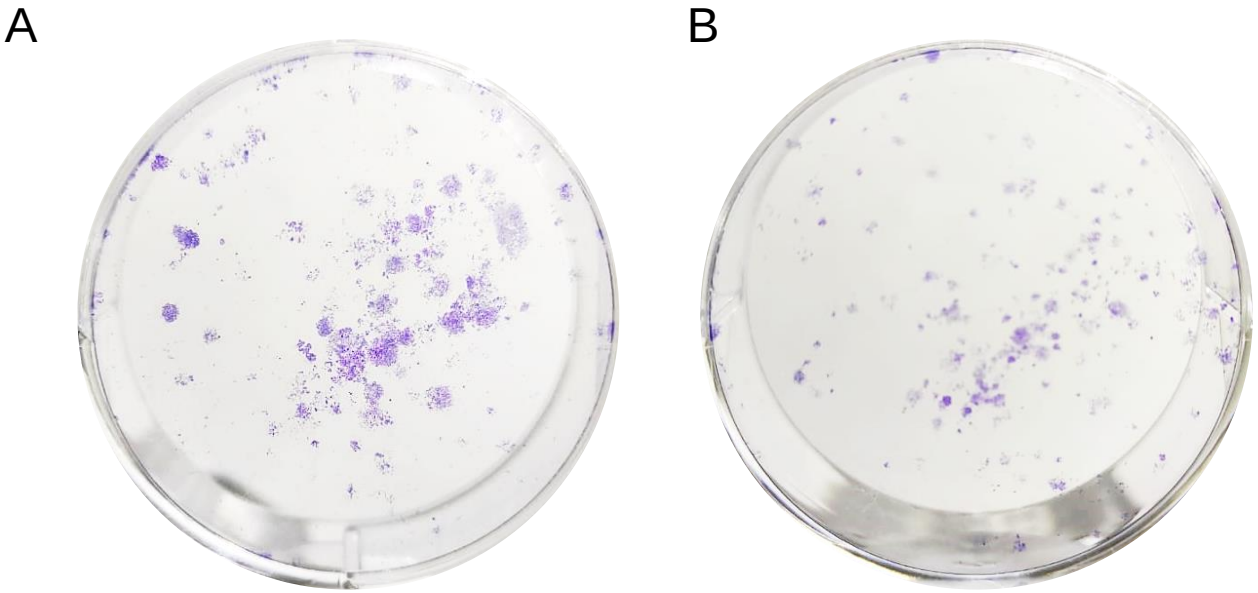
Supplementary Figure 7: A-B Scatter plots of FASN expression (X-axis) and SREBF1 (Y-axis) in PDAC and PCa. **C-D** Heatmaps showing Pearson correlation related to co-expression of FASN-SREBF1. Data were downloaded from UALCAN..



Supplementary Figure 8: Graphs showing IC50 for TVB-2640 in PL-45, SW1990, LNCaP, and C4-2 cells at 24 h, 48 h, and 72 h.



Supplementary Figure 9: Oil-Red O staining results of the lipid drop accumulation assay in LNCaP in control and after treatment with TVB-2640 50 μM for 24h. Image acquisition has been done with light microscope 20X magnification.



Supplementary Figure 10: Colony assay in LNCaP cells, **A**) control and **B**) treated with TVB-2640 50 μM for 72 h.