Figure S2 (legend on next page).

Figure S2 related to Figure 2. Analysis of TP53 action in multiple cancer cell types.
(A) All three cell types undergo cell cycle arrest upon Nutlin treatment. Cellular proliferation was assessed by BrdU incorporation assays and propidium iodide staining in cells treated with 10 µM Nutlin for 24 hours. Scatter plots are representative of three independent experiments.
(B) Basal levels of TP53 vary among the three cell types. Representative western blots show basal levels of TP53 in vehicle-treated cells. 10, 25 and 50 ng of total protein lysate were loaded per lane as indicated.
(C) Venn diagrams show shared and cell type-specific loci with TP53 binding.
(D) Venn diagrams comparing all up- and downregulated genes as identified by RNA-seq, GRO-seq (E) and polysomal RNA-seq (F).
(G) Left panels display heatmaps of read densities (fold change over input samples) of the TP53 ChIP-seq and CPM (GRO-seq) or RPKM (RNA-seq and polysomal RNA-seq) fold changes (Nutlin vs. DMSO). Right panels show associated p values (ChIP-seq) or p-adjusted values calculated by DESeq2 (GRO-seq, RNA-seq and polysomal RNA-seq). Gray indicates missing value, e.g. no p value calculated for a TP53 peak identified in different cell line (ChIP-seq) or transcriptionally inactive gene (GRO-seq).
(H) Matrices of the Spearman correlation coefficients of the log2 fold changes presented in G.
(I) Pie charts illustrate the fractions of genes in the indicated categories with a TP53 binding event within 25 kb from the TSS. Statistics: X^2 with Yates' correction, p < 0.01, compared to "All genes" group.
(J) Distribution of TP53 binding within 25 kb from the TSS by 500 bp brackets in MCF7 and SJSA cells. Statistics: X^2 with Yates' correction, p < 0.01.
(K) Ingenuity Pathway Analysis of genes commonly downregulated upon Nutlin treatment in all three cell lines.
(L) Venn diagrams indicate the number of actively transcribed lncRNAs and the number of lncRNAs significantly up- or downregulated by TP53 induction. All commonly upregulated lncRNAs are listed in a box next to the venn diagram.