



**Supplementary Figure 6** (a) Venn diagram showing the overlap between udRNAs and antisense TSS-associated (TSSa) RNAs at the TSS. (b) Venn diagram showing that 44.69% (274 out of 613) of udRNAs overlapping with divergent lncRNAs were also upregulated upon 7SK knockdown. (c) Venn diagram showing the overlap between genes with failed termination after 7SK knockdown (“hotspot” genes) and 7SK regulated udRNAs. (d) qRT-PCR analysis of *Hexim1* total RNA, and *Dll1* nascent RNA, 6h after nucleofection of ES cells with scrambled or 7SK 3′ ASOs targeting the 3′ segments of 7SK, in the presence or absence of I-BET151. Error bars represent standard error of the mean (SEM) from 2-3 independent experiments. (e) Box plot depicting log<sub>2</sub> fold changes measured by RNA-seq upon 7SK knockdown in mouse ES cells of udRNAs and their associated genes, using either 7SK 5′ and 3′ ASO data for udRNA detection.