

Figure S1. Nuclear to cytoplasmic ratio of target genes. (A) In normal-iPSCs, the reverse RT-qPCR results demonstrated that the expression levels of NONHSAT009060.2 in the nucleus accounted for 78.90% of the total and those of NONHSAT022318.2 accounted for 28.78%. (B) In DS-iPSCs, the results were similar to those presented above. NONHSAT009060.2 was indicated to be localized in the nucleus (73.16%), while only a small fraction of NONHSAT022318.2 was expressed in the nucleus. *P<0.05; **P<0.01. ns, no significance; DS, Down syndrome; iPSCs, induced pluripotent stem cells; XIST, X-inactive specific transcript.

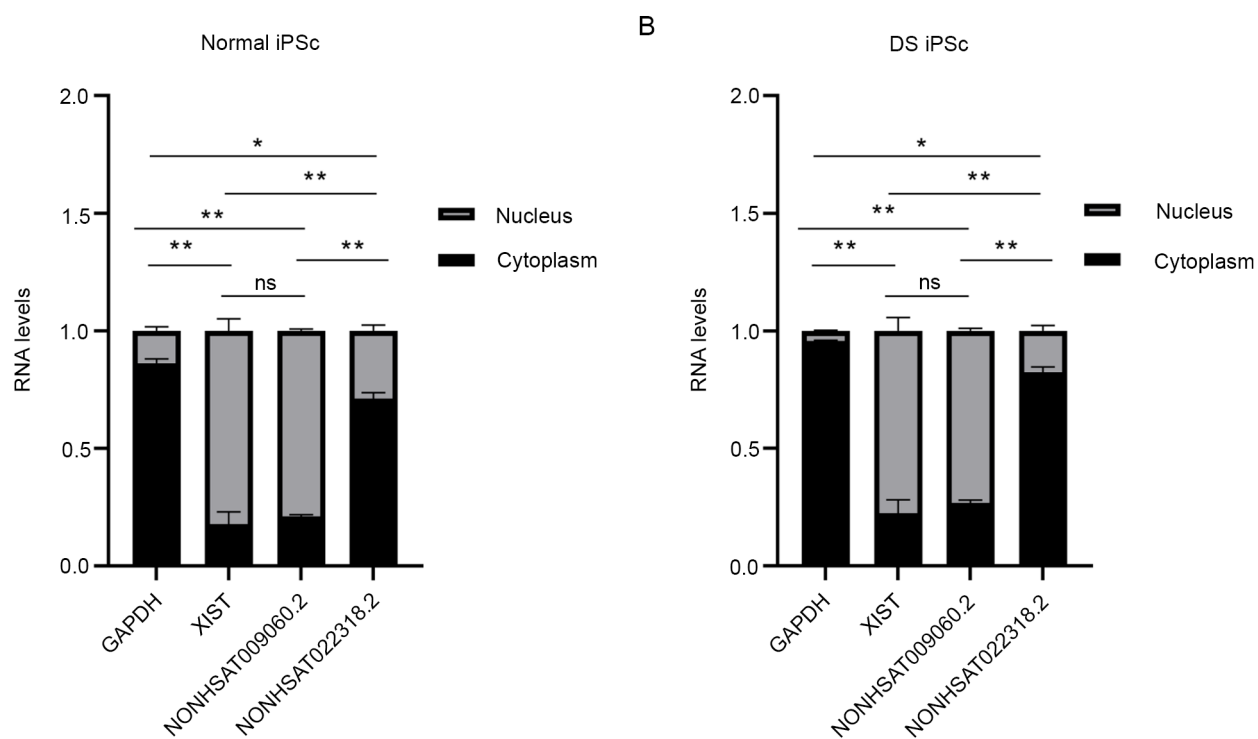


Table SI. Overlap classification instructions.

lnc-Overlap-mRNA	lncRNA and mRNA are on the same chain and there is an overlap between lncRNA and mRNA in the positional relationship (overlap here is local overlap, not completely included in the other party).
lnc-AntiOverlap-mRNA	lncRNA and mRNA are on different chains and there is overlap between lncRNA and mRNA in the positional relationship (overlap here is local overlap, not completely included in the other party).
lnc-CompleteIn-mRNAExon	lncRNA and mRNA are on the same chain, and the lncRNA is in the exon region of mRNA.
lnc-AntiCompleteIn-mRNAExon	lncRNA and mRNA are on different chains, and the lncRNA is in the exon region of mRNA.
mRNA-CompleteIn-lncExon	lncRNA and mRNA are on the same chain, and the mRNA exists within the exon region of lncRNA.
mRNA-AntiCompleteIn-lncExon	lncRNA and mRNA are on different chains, and the mRNA completely exists in the exon region of lncRNA.
lnc-CompleteIn-mRNAIntron	lncRNA and mRNA are on the same chain, and the lncRNA completely falls within the intronic region of mRNA in the positional relationship.
lnc-AntiCompleteIn-mRNAIntron	lncRNA and mRNA are on different chains, and the lncRNA completely falls within the intronic region of mRNA.
mRNA-CompleteIn-lncIntron	lncRNA and mRNA are on the same chain, and the mRNA completely falls within the intronic region of lncRNA.
mRNA-AntiCompleteIn-lncIntron	lncRNA and mRNA are on different chains, and the mRNA completely falls within the intronic region of lncRNA.

Table SII. Other information, such as the position between lncRNA and mRNA.

Gene ID	Transcription	lncRNA ID	lncRNA_class	Overlap_class
SRGAP2C	NM_001271872	NONHSAT009060.2	cis_mRNA_overlap	LncRNA-CompleteIn-mRNAIntron
ACTN3	NM_001104	NONHSAT022318.2	cis_mRNA_overlap	LncRNA-Overlap-mRNA