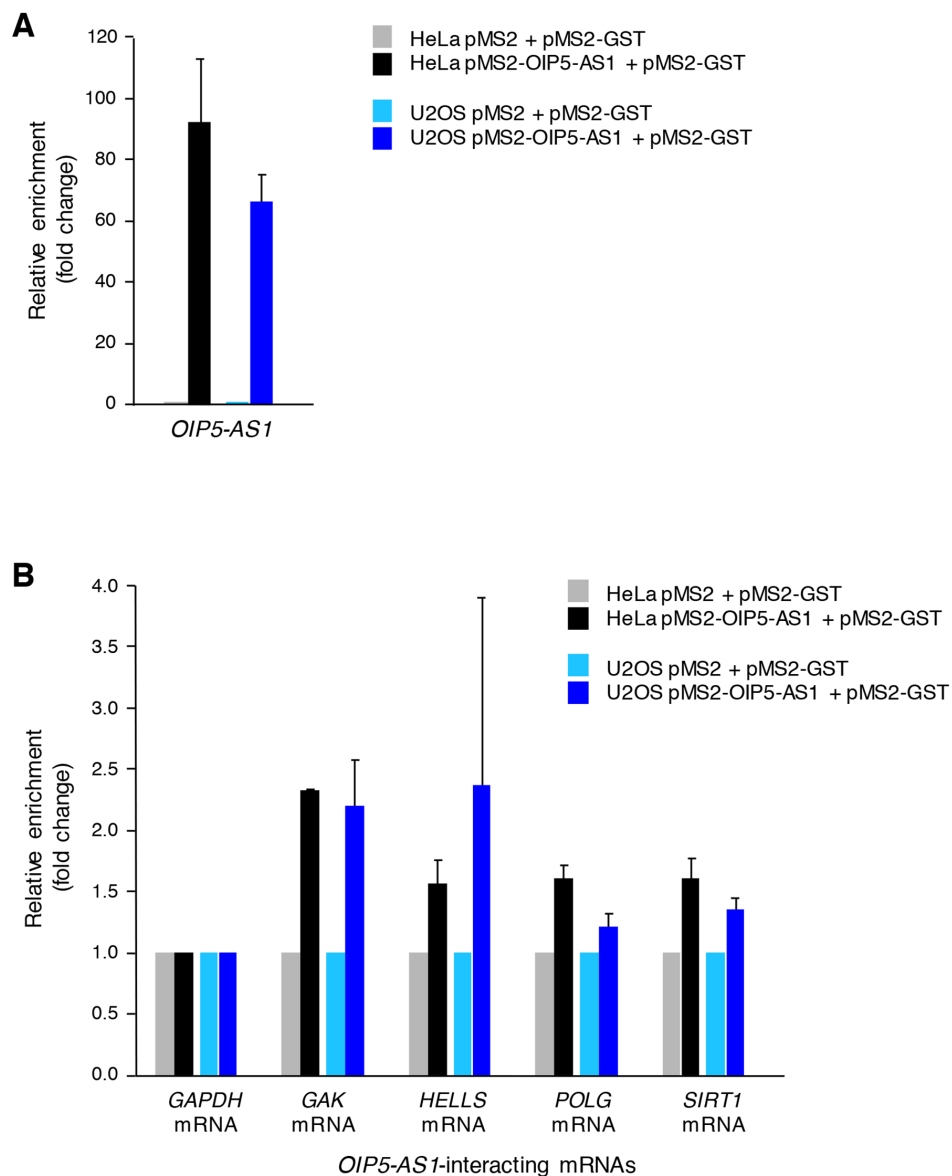


LncRNA *OIP5-AS1/cyran* suppresses *GAK* expression to control mitosis

SUPPLEMENTARY MATERIALS



Supplementary Figure 1: Assessment of the interaction of *OIP5-AS1* with target mRNAs in HeLa and U2OS cells using the MS2 RNA-tagging method. (A) HeLa cells and U2OS cells were transfected with two expression vectors, one that transcribed the chimeric RNA *MS2-OIP5-AS1* (or a control vector that only expressed the *MS2* RNA hairpins) and one that expressed a *MS2-GST* fusion protein. GSH beads were then used to pull down the *MS2* complex from cell lysates, thereby capturing *MS2-OIP5-AS1* and molecules bound to it. Associated mRNAs were then identified by RT-qPCR analysis, including a negative control (*GAPDH* mRNA), a positive control (*GAK* mRNA), and other mRNAs that were found enriched by microarray analysis. Data are the means + S.E.M. from three independent experiments.

Supplementary Table 1:

See Supplementary File 1

Supplementary Table 2: siRNA duplexes used in this study

siRNA (Provider)	Sequence
Ctrl siRNA (Qiagen)	AATTCTCCGAACGTGTCACGT
<i>OIP5-AS1</i> (IDT)	Sense1 rGrGrCrUrGrArGrUrUrUrCrArUrUrUrGrArArArCrArGrGTG
	Antisense1 rCrArCrCrUrGrUrUrUrCrArArArUrGrArArArCrUrCrArGrCrCrUrU
	Sense2 rCrArUrGrCrArGrUrGrCrCrArUrCrUrGrArCrUrUrUrArUGG
	Antisense2 rCrCrArUrArArArGrUrCrArGrArUrGrGrCrArCrUrGrCrArUrGrArG
<i>GAK</i> (IDT)	Sense3 rCrArCrCrArArArCrArGrGrCrUrUrUrGrUrGrUrUrCrCrUTA
	Antisense3 rUrArArGrGrArArCrArCrArArArGrCrCrUrGrUrUrUrGrGrUrGrGrU
	Sense1 rGrArGrArArCrUrUrGrUrUrGrCrUrUrArGrUrArArCrCrAAG
	Antisense1 rCrUrUrGrGrUrUrArCrUrArArGrCrArArCrArArGrUrUrCrUrCrArA
	Sense2 rGrUrUrUrUrG rUrUrCrUrGrCrArGrCrGrUrCrUrArUrArGGA
	Antisense2 rUrCrCrUrArUrArGrArCrGrCrUrGrCrArGrArArCrArArArCrUrG

Supplementary Table 3: Primers for qPCR amplification

Oligomers	Sequence
<i>OIP5-AS1-F</i>	TGCGAAGATGGCGGAGTAAG
<i>OIP5-AS1-R</i>	TAGTTCCTCTCCTCTGGCCG
<i>GAK-F</i>	CACCAACCTCAAGGACACCT
<i>GAK-R</i>	TGACTCCACACCTTCTGCTG
<i>GAK-2-F</i>	CTGCAGGTGAACCCGGAGGAGC
<i>GAK-2-R</i>	CCAAGCTTCTAATACGACTCACTATAGGGAGAACCCCGTGTGGAAGTGAATCTGGA
<i>HELLS-F</i>	AGAGGTCACAAGGTGCTGCT
<i>HELLS-R</i>	AAGACATGGACCCATCAAGC
<i>POLG-F</i>	CAACCCCTAGCTCTGACTGC
<i>POLG-R</i>	GAGGCAGCTTGAAAAACCAG
<i>SIRT1-F</i>	TCAGTGGCTGGAACAGTGAG
<i>SIRT1-R</i>	AGCGCCATGGAAAATGTAAC
<i>GAPDH-F</i>	TGCACCACCAACTGCTTAGC
<i>GAPDH-R</i>	GGCATGGACTGTGGTCATGAG
<i>18S-F</i>	CGAACGTCTGCCCTATCAACTT
<i>18S-R</i>	ACCCGTGGTCACCATGGTA

Forward (F) and reverse (R) primers used in this study are named by the transcript they amplify.

Supplementary Table 4: DNA oligomers

DNA Oligomers	Sequence
GAK-biotin-AS1	GCTGGTGCACCACCTCGGCGAT/3'biotin
GAK-biotin-AS2	ACCCCGTGTGGAAGTGAATCTGGA/3'biotin
GAK-biotin-AS3	GCAGTCTCGGTCCAGGCAGCCCAT/3'biotin
GAK-biotin-AS4	GCGGTGCAAACACCAGGGCCCATG/3'biotin
GAK-biotin-S1	ATCGCCGAGGTGGTGCACCAGC/3'biotin
GAK-biotin-S2	TCCAGATTCAGTTCACACGGGGT/3'biotin
GAK-biotin-S3	ATGGGCTGCCTGGACCGAGACTGC/3'biotin
GAK-biotin-S4	CATGGGCCCTGGTGTTCACCCGC/3'biotin
OIP5-AS1-biotin-AS1	CCGATATTTTTTTTCTTCTC/3'biotin
OIP5-AS1-biotin-AS2	GTTGAATTTGAGAGGCAGAAC/3'biotin
OIP5-AS1-biotin-AS3	TAGTATCTTTCACGTCAAAT/3'biotin
OIP5-AS1-biotin-AS4	ATTGTAATTATTTTTCTTAT/3'biotin
OIP5-AS1-biotin-S1	GAGAAGAAAAAAATATCGG/3'biotin
OIP5-AS1-biotin-S2	GTTCTGCCTCTCAAATTCAAC/3'biotin
OIP5-AS1-biotin-S3	ATTTGACGTGAAAGATACTA/3'biotin
OIP5-AS1-biotin-S4	ATAAGAAAAATAATTACAAT/3'biotin

Sense (S) and antisense (AS) biotinylated oligomers used to pull down *GAK* mRNA and *OIP5-AS1*.