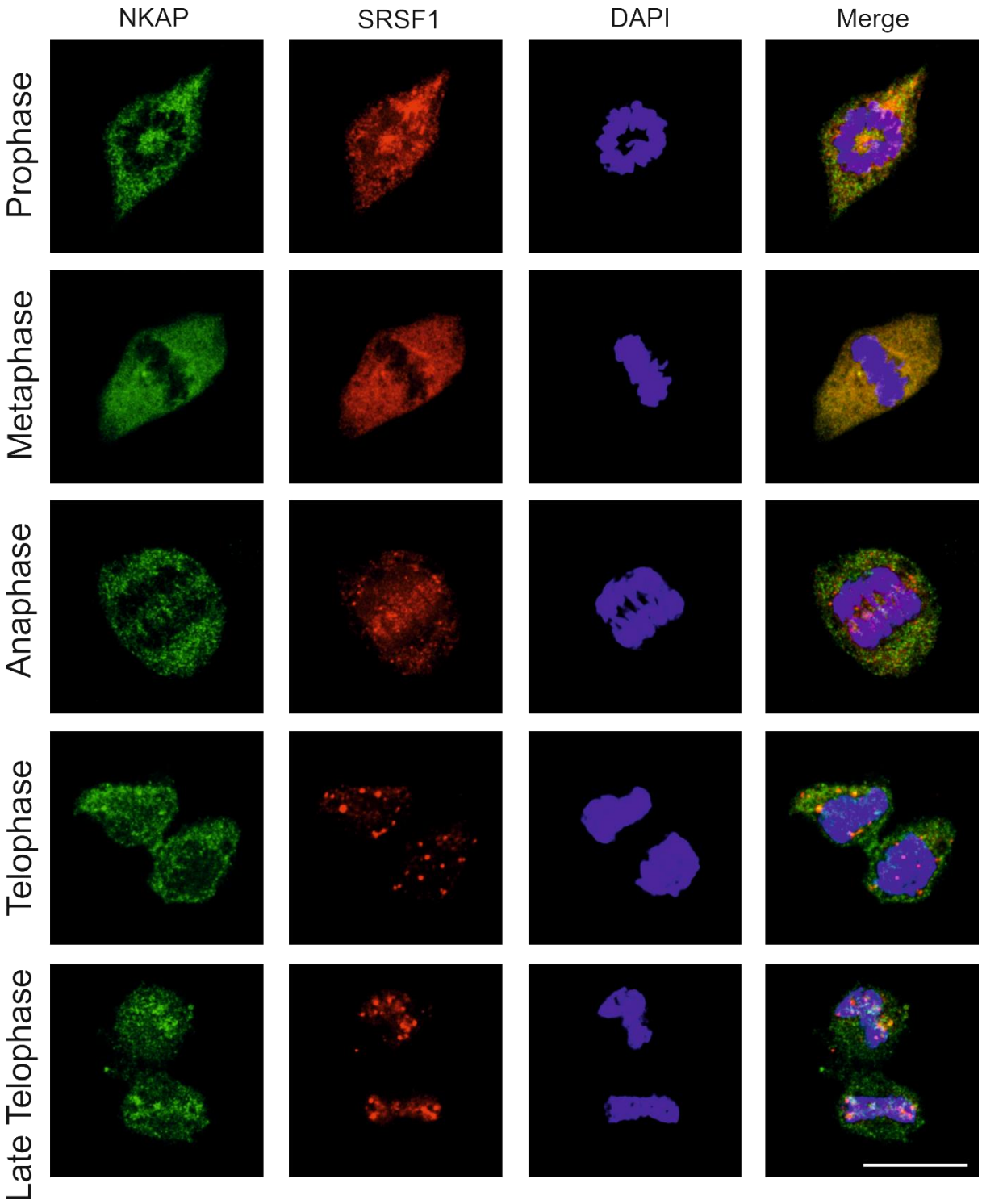
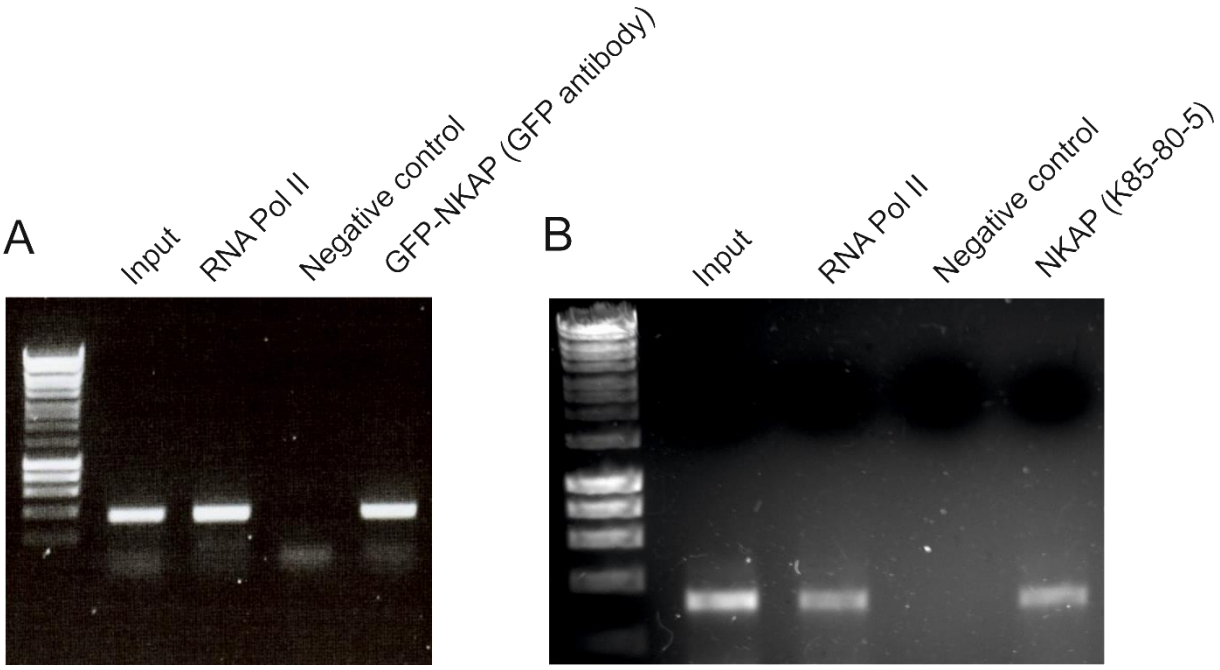
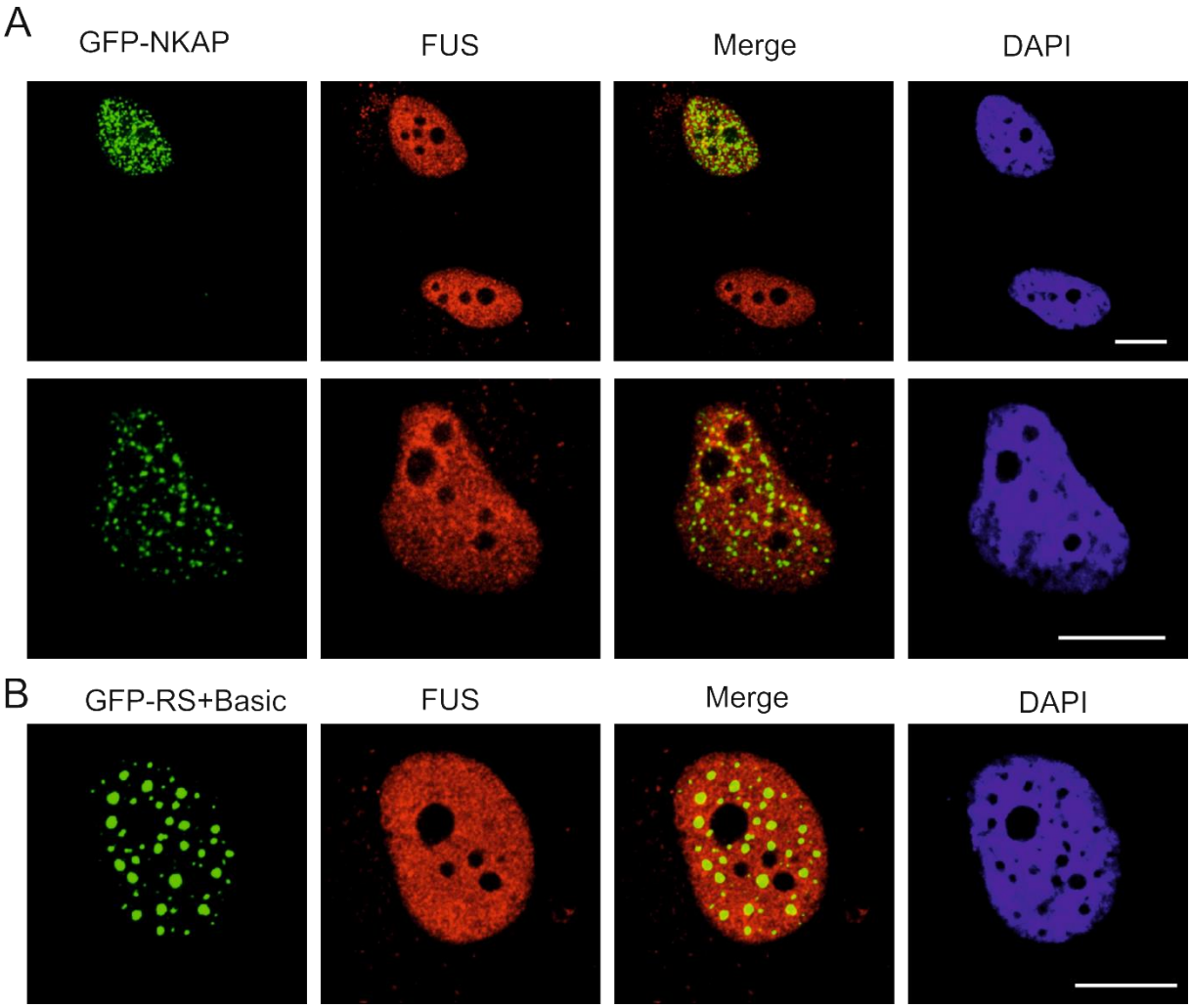


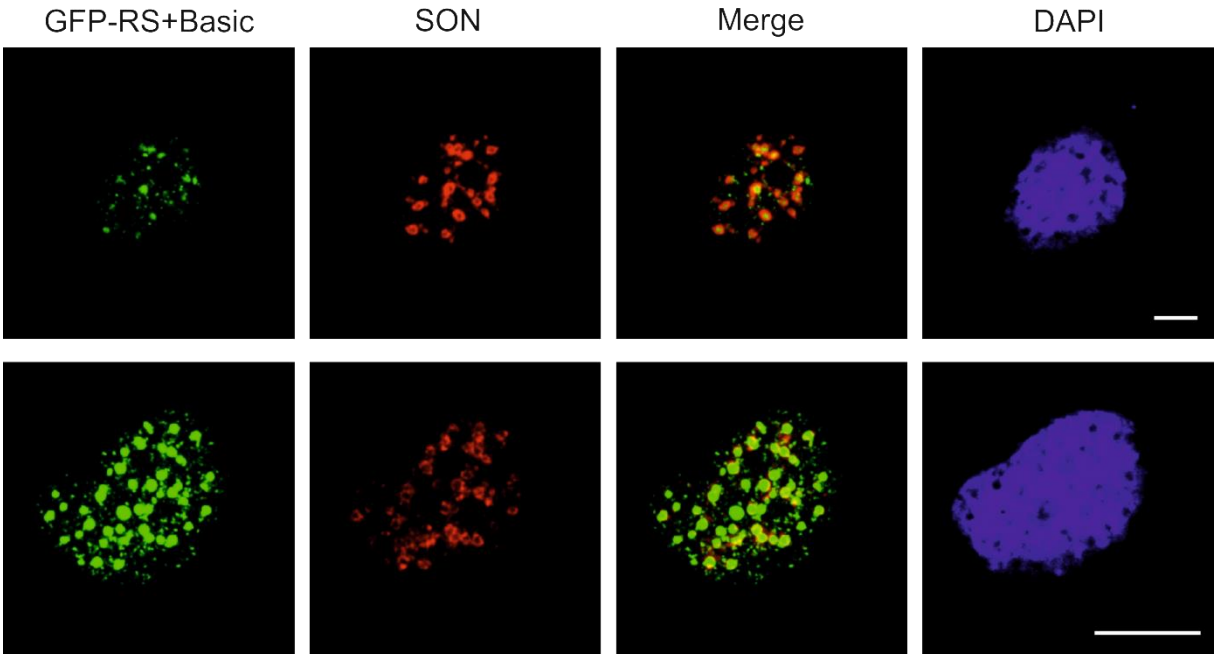
Supplementary Figure 1. NKAP partially colocalizes with mitotic interchromatin granules (MIGs). HeLa cells were treated with nocodazole, fixed using 4% PFA and stained for NKAP using mAB K85-80-5 and SRSF1 antibodies. Nuclei (blue) were stained with DAPI.



Supplementary Figure 2. NKAP interacts with chromatin. (**A**) Chromatin immunoprecipitation (ChIP) was performed on extracts from formaldehyde fixed HeLa cells expressing GFP-NKAP or GFP alone. DNA fragments purified from whole-cell extracts (Input) or co-precipitated with antibodies to pAb GFP or RNA Pol II were amplified by PCR using ASPM (Abnormal spindle-like microcephaly-associated protein) primers. (**B**) Chromatin immunoprecipitation was performed using monoclonal NKAP antibody (K85-80-5), RNA Pol II as a positive control and GFP antibody as a negative control.



Supplementary Figure 3. Overexpression of NKAP and RS+Basic did not alter FUS localization. (**A**) HeLa cells expressing GFP-NKAP showed normal distribution of FUS/TLS. (**B**) Overexpression of GFP-RS+Basic did not alter FUS/TLS localization. Bar, 10 μm.



Supplementary Figure 4. Overexpression of RS+Basic led to dough-nut like structures for SON. Overexpression of GFP-RS+Basic altered SON localization which appeared in dough-nut like structures. Bar, 10 μm.

Table 1. Identification of interaction partners of NKAP.

Protein name	Gene symbol	Unique peptides	Sequence coverage (%)
DNA-dependent protein kinase catalytic subunit	PRKDC	76	20.4
E3 ubiquitin-protein ligase	UBR5	4	4.1
Transferrin receptor protein 1	TFRC	19	30
26S proteasome non-ATPase regulatory subunit	PSMD2	7	11.6
Gamma-interferon-inducible protein	IFI16	6	10
4F2 cell-surface antigen heavy chain	4F2	4	11
WD repeat-containing protein 36	WDR36	4	5.4
Exportin-2	CSE1L	6	9.2
Ubiquitin-like modifier-activating enzyme	UBA1	5	7
Major vault protein	MVP	7	11.2
Importin subunit beta-1	KPNB1	9	13.4
Transcription intermediary factor 1-beta	TRIM28	4	6
Annexin A2	ANXA1	8	12.8
Lamin-B1	LMNB1	16	25.4
X-ray repair cross-complementing protein 6	XRCC6	4	9.2
RNA-binding protein FUS (hnRNP P2)	FUS	7	19.1
hnRNP A2/B1	HNRNPA	14	45.3
hnRNP A1-like protein 2	HNRNPA	2	8.2
hnRNP M	HNRPM	22	28.4
hnRNP L	HNRPL	2	6.6
hnRNP U	HNRPU	7	15.3
Splicing factor, proline- and glutamine-rich	SFPQ	12	22.9
YTH domain family protein	YTHDF3	6	13.8
U5 small nuclear ribonucleoprotein 200 kDa	SNRNP20	25	14.3
Nucleolar RNA helicase 2	DDX21	21	31.8
Probable ATP-dependent RNA helicase	DDX27	5	9
ATP-dependent RNA helicase	DDX54	7	11.4
Probable ATP-dependent RNA helicase	DDX17	4	8.7
Putative ribosomal RNA methyltransferase	NOP2	5	8.3
Protein RRP5 homolog	PDCD11	6	9.2
HEAT repeat-containing protein 1	HEATR1	5	8.1

Table 2. List of primers used in this study.

NKAP FW:	5'GAATTCATGGCTCCTGTATCGGGCTC3'
NKAP RV:	5'GGATCCTCACTTGTCATCCTTCCCTTTG3'
RS+Basic FW:	5'GAATTCATGGCTCCTGTATCGGGCTC3'
RS+Basic RV	5’GTCGACTCATTCTTCTTGGGACTCTTTAGAGC 3’
NKAP RS FW	5'GAATTCATGGCTCCTGTATCGGGCTC3'
NKAP RS RV	5’GTCGACCAGGCTAGGCCATGGCTTGTC3’
NKAP basic FW	5’GAATTCCTGGACAAGGAAAGGGAGGAG3’
NKAP basic RV	5’GTCGACTTCTTGGGACTCTTTAGAGCTC3’
NKAP DUF Fw	5’GAATTCTTTCTAGAGAATCCTTGGAAGGATC 3’
NKAP DUF RV	5’ GTCGACTCACTTGTCATCCTTCCCTTTGG 3’
QGSY FW	5´GAATTCATGGCTTCAAACGACTATACCC 3´
QGSY RV	5´GGATCCACTGCTACTGTTGTACTGGTTC 3´
G RICH+RGG1 FW	5´GAATTCGGAGGTGGTGGAGGGGGTG 3´
G RICH+RGG1 RV	5´GTcGACACGAGATCCTTGATCCCGAGG 3´
RGG2+ZnF+RGG3 FW	5´GAATTCCGAGCTGACTTCAATCGGGG 3´
RGG2+ZnF+RGG3 RV	5´GTCGACCTAATATGGCCTCTCCCTGCG 3´
RGG1 FW	5´GAATTCCGTGGGGGCCGAGGCAGG 3´
RGG1 RV	5´GTcGACACGAGATCCTTGATCCCGAGG 3´
RGG2 FW	5´GAATTCCGAGCTGACTTCAATCGGGG 3´
RGG2 RV	5´GTCGACTTGCTGTCCTCCACCTCCAC 3´
RGG3 FW	5´GAATTCGGCCCAGGAGGGGGACCAG 3´
RGG3 RV	5´GTCGACCTAATATGGCCTCTCCCTGCG 3´
GAPDH mRNA FW	5´ GACTGTGGATGGCCCCTCCGG3´
GAPDH mRNA RV	5´GTCAGAGGAGACCACCTGGTGC3´
GAPDH pre-mRNA FW	5´ GTTCTGGGGACTGGCTTTCC3´
GAPDH pre-mRNA RV	5´CTAGACGGCAGGTCAGGTCC3
NKAP shRNA4	5´AAGTGAGAGAGAGAGAATTGGAGAATTGG 3´
NKAP shRNA5	5´ AATCCTGAACCAGATTCTGATGAACATAC 3´