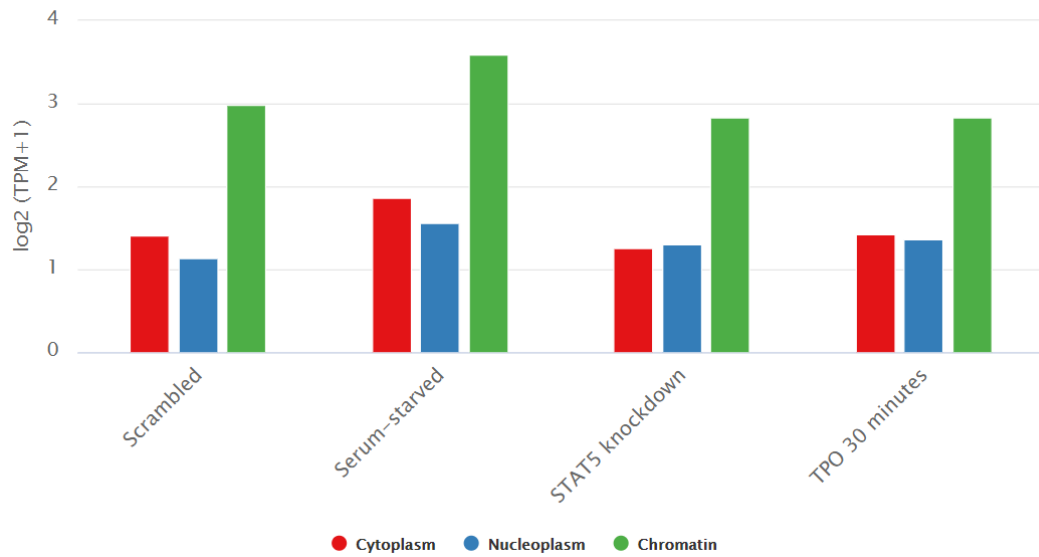


SUPPLEMENTARY DATA

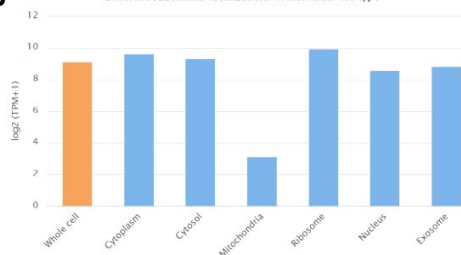
Supplementary Figure S1. The result of searching from RNA-seq dataset. **(A)** Subcellular localization of chromatin, cytoplasm and nucleoplasm in different conditions. **(B)** Different subcellular localizations in individual cell type. **(C)** Subcellular localizations revealed by APEX-Seq. **(D)** Single subcellular localization (Nucleus) in different conditions. **(E)** Subcellular localizations of cytoplasm and nucleus in different cell lines.

A Subcellular localization (chromatin, cytoplasm and nucleoplasm) in different conditions

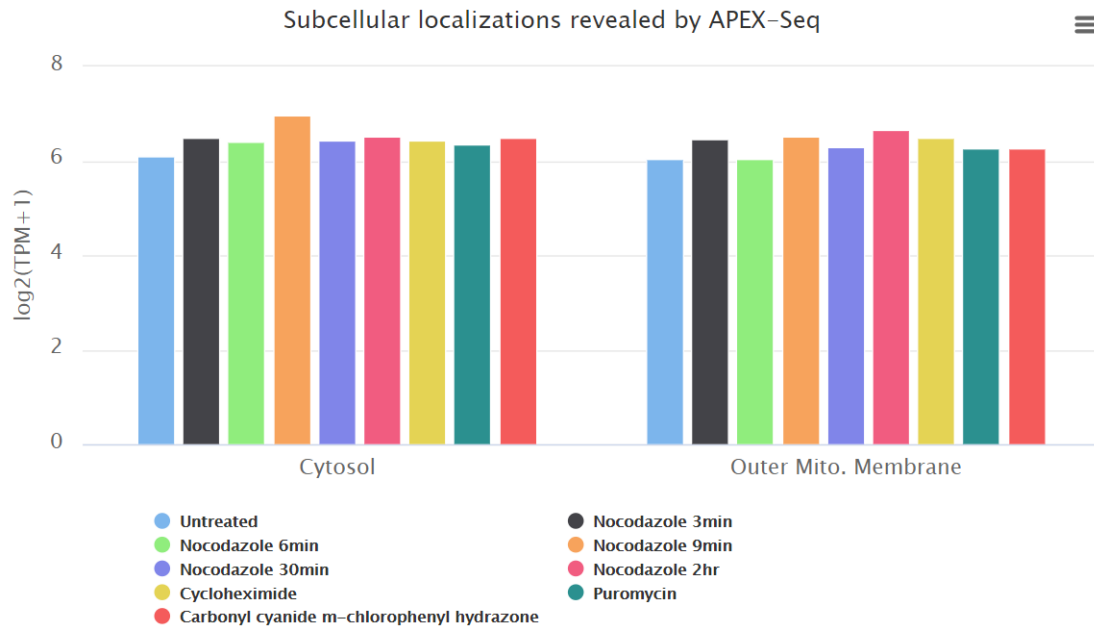
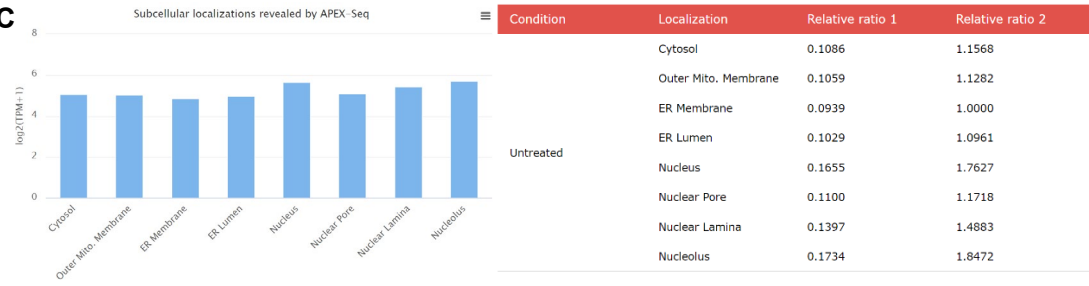


Condition	Localization	Relative ratio 1	Localization	Condition	Relative ratio 2
Scrambled	Cytoplasm	0.1697	Cytoplasm	Scrambled	0.8980
	Nucleoplasm	0.1232		Serum-starved	1.4361
	Chromatin	0.7072		STAT5 knockdown	0.7529
		TPO 30 minutes		0.9131	
Serum-starved	Cytoplasm	0.1698	Nucleoplasm	Scrambled	0.7773
	Nucleoplasm	0.1242		Serum-starved	1.2528
	Chromatin	0.7060		STAT5 knockdown	0.9465
		TPO 30 minutes		1.0234	
STAT5 knockdown	Cytoplasm	0.1543	Chromatin	Scrambled	0.9159
	Nucleoplasm	0.1627		Serum-starved	1.4616
	Chromatin	0.6829		STAT5 knockdown	0.8153
		TPO 30 minutes		0.8071	
TPO 30 minutes	Cytoplasm	0.1801			
	Nucleoplasm	0.1693			
	Chromatin	0.6506			

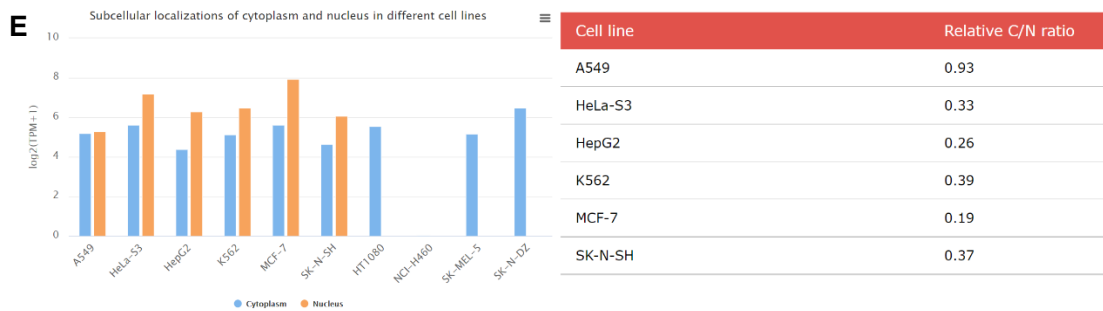
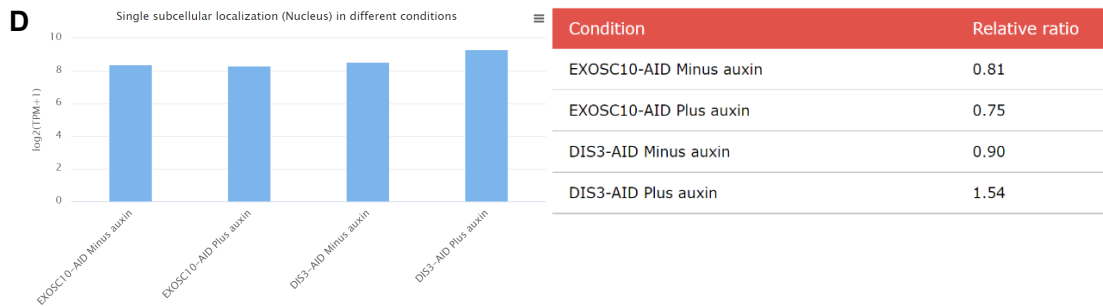
B Different subcellular localizations in individual cell type



Localization	Relative ratio
Cytoplasm	1.43
Cytosol	1.17
Mitochondria	0.01
Ribosome	1.80
Nucleus	0.70
Exosome	0.82

C

Localization	Condition	Relative ratio 3
Cytosol	Untreated	1.00
	Nocodazole 3min	1.30
	Nocodazole 6min	1.23
	Nocodazole 9min	1.84
	Nocodazole 30min	1.27
	Nocodazole 2hr	1.35
	Cycloheximide	1.25
	Puromycin	1.20
	Carbonyl cyanide m-chlorophenyl hydrazone	1.31
Outer Mito. Membrane	Untreated	1.00
	Nocodazole 3min	1.34
	Nocodazole 6min	1.00
	Nocodazole 9min	1.37
	Nocodazole 30min	1.18
	Nocodazole 2hr	1.53
	Cycloheximide	1.37
	Puromycin	1.16
	Carbonyl cyanide m-chlorophenyl hydrazone	1.17



Supplementary Table S1. The number of samples and datasets in 15 subcellular locations.

Subcellular Location	Number of Samples	Number of Datasets
Chromatin	10	2
Cytoplasm	38	16
Cytosol	44	7
ER Lumen	4	1
ER Membrane	4	1
Exosome	2	1
Mitochondria	2	1
Mitochondrial Matrix	9	1
Nuclear Lamina	4	1
Nuclear Pore	4	1
Nucleolus	6	2
Nucleoplasm	10	2
Nucleus	34	12
Outer Mito. Membrane	30	1
Ribosome	2	1

Supplementary Table S2. The types of 'other RNAs' and 'other localizations' in Figure 3A.

Other RNAs	Subcellular localization
antisense RNA	Axon
cnRNA	Cell body
csRNA	Centrosome
lincRNA	Chloroplast
ncRNA	Cytoplasmic stress granule
other	Dendrite
piRNA	Endosome
processed_transcript	Extracellular vesicle
pseudo	Germ plasm
rRNA	Germinal vesicle
scRNA	Interphase nucleus of blastomere
snRNA	Lysosome
tRNA	Mitochondrion
unclassified RNA	Monosome
	Nuclear membrane
	Nucleolar precursor body periphery
	Ooplasm
	Paraspeckles in the nucleus
	P-body
	Plasma membrane
	Plastid
	Polysome
	Pronucleus
	Ribosomal partner
	Ribosome-free cytosol
	Soma
	Somatodendritic compartment

Speckle periphery

Synapse

Synaptosome
