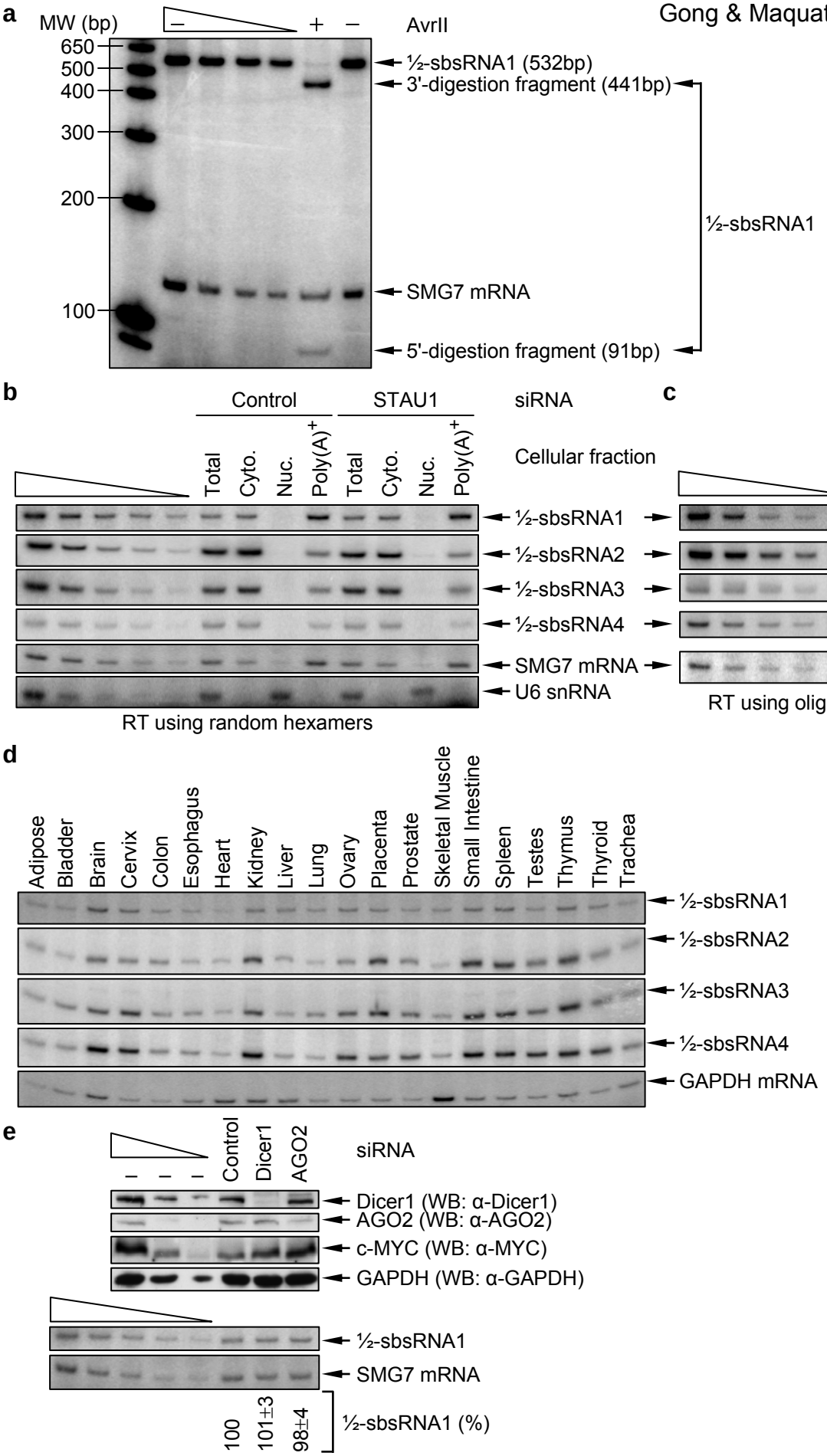
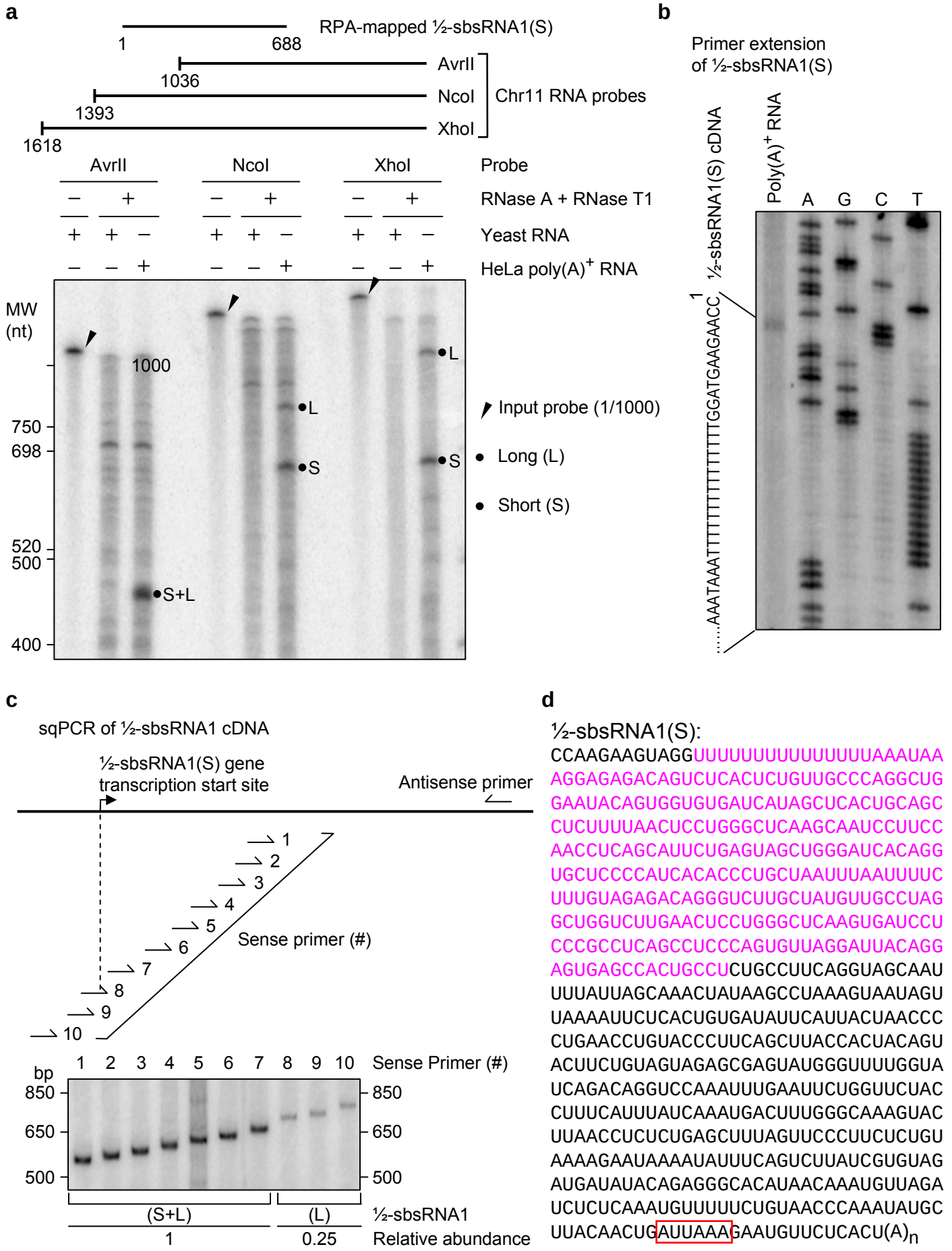
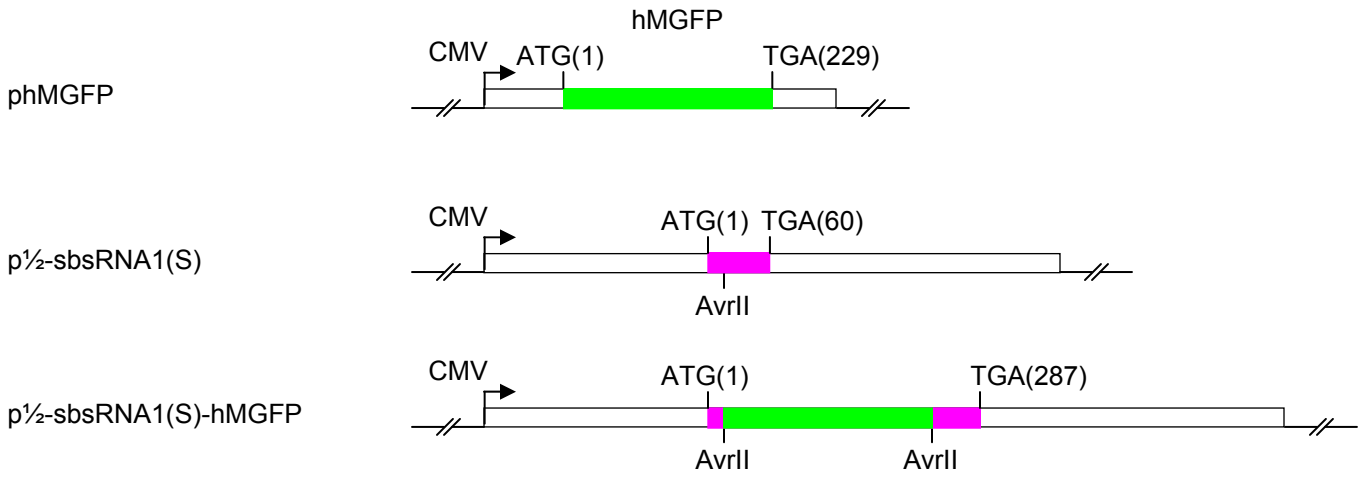
a
FLJ21870 mRNA
½-sbsRNA1
SERPINE1 mRNA
b
½-sbsRNA2
CDCP1 mRNA
c
½-sbsRNA 3
MTAP mRNA
½-sbsRNA 4
d
½-sbsRNA3
FLJ21870 mRNA
½-sbsRNA4


a
MW (bp)
650
500
400
300
200
100
–
+
–
AvrII
½-sbsRNA1 (532bp)
3'-digestion fragment (441bp)
½-sbsRNA1
SMG7 mRNA
5'-digestion fragment (91bp)
b
Control
STAU1
siRNA
Total
Cyto.
Nuc.
Poly(A)+
Cellular fraction
½-sbsRNA1
½-sbsRNA2
½-sbsRNA3
½-sbsRNA4
SMG7 mRNA
U6 snRNA
RT using random hexamers
c
Total
Poly(A)+
RT using oligo(dT)18
d
Adipose
Bladder
Brain
Cervix
Colon
Esophagus
Heart
Kidney
Liver
Lung
Ovary
Placenta
Prostate
Skeletal Muscle
Small Intestine
Spleen
Testes
Thymus
Thyroid
Trachea
½-sbsRNA1
½-sbsRNA2
½-sbsRNA3
½-sbsRNA4
GAPDH mRNA
e
Control
Dicer1
AGO2
siRNA
Dicer1 (WB: α-Dicer1)
AGO2 (WB: α-AGO2)
c-MYC (WB: α-MYC)
GAPDH (WB: α-GAPDH)
½-sbsRNA1
SMG7 mRNA
100
101±3
98±4
½-sbsRNA1 (%)


a
RPA-mapped ½-sbsRNA1(S)
1
688
AvrII
1036
NcoI
1393
XhoI
1618
Chr11 RNA probes
AvrII
NcoI
XhoI
Probe
RNase A + RNase T1
Yeast RNA
HeLa poly(A)+ RNA
MW (nt)
1000
750
698
520
500
400
L
S
S+L
Input probe (1/1000)
Long (L)
Short (S)
b
Primer extension of ½-sbsRNA1(S)
Poly(A)+ RNA
½-sbsRNA1(S) cDNA
1
.....AAATAAATTTTTTTTTTTTTTTTGGATGAAGAACC
A
G
C
T
c
sqPCR of ½-sbsRNA1 cDNA
½-sbsRNA1(S) gene transcription start site
Antisense primer
Sense primer (#)
1
2
3
4
5
6
7
8
9
10
bp
850
650
500
Sense Primer (#)
(S+L)
(L)
½-sbsRNA1
Relative abundance
1
0.25
d
½-sbsRNA1(S):
CCAAGAAGUAGGUUUUUUUUUUUUUUUAAAUAA
AGGAGAGACAGUCUCACUCUGUUGCCCAGGCUG
GAAUACAGUGGUGUGAUCAUAGCUCACUGCAGC
CUCUUUUAACUCCUGGGCUCAAGCAAUCCUUCC
AACCUCAGCAUUCUGAGUAGCUGGGAUCACAGG
UGCUCCCCAUCACACCCUGCUAAUUUAAUUUUC
UUUGUAGAGACAGGGUCUUGCUAUGUUGCCUAG
GCUGGUCUUGAACUCCUGGGCUCAAGUGAUCCU
CCCGCCUCAGCCUCCCAGUGUUAGGAUUACAGG
AGUGAGCCACUGCCUCUGCCUUCAGGUAGCAAU
UUUAUUAGCAAACUAUAAGCCUAAAGUAAUAGU
UAAAAUUCUCACUGUGAUAUUCAUUACUAACCC
CUGAACCUGUACCCUUCAGCUUACCACUACAGU
ACUUCUGUAGUAGAGCGAGUAUGGGUUUUGGUA
UCAGACAGGUCCAAAUUUGAAUUCUGGUUCUAC
CUUUCAUUUAUCAAAUGACUUUGGGCAAAGUAC
UUAACCUCUCUGAGCUUUAGUUCCCUUCUCUGU
AAAAGAAUAAAAUAUUUCAGUCUUAUCGUGUAG
AUGAUAUACAGAGGGCACAUAACAAAUGUUAGA
UCUCUCAAAUGUUUUUCUGUAACCCAAAUAUGC
UUACAACUGAUUAAAGAAUGUUCUCACU(A)n

a


hMGFP
CMV
ATG(1)
TGA(229)
phMGFP
CMV
ATG(1)
TGA(60)
p½-sbsRNA1(S)
AvrII
CMV
ATG(1)
TGA(287)
p½-sbsRNA1(S)-hMGFP
AvrII
AvrII

b

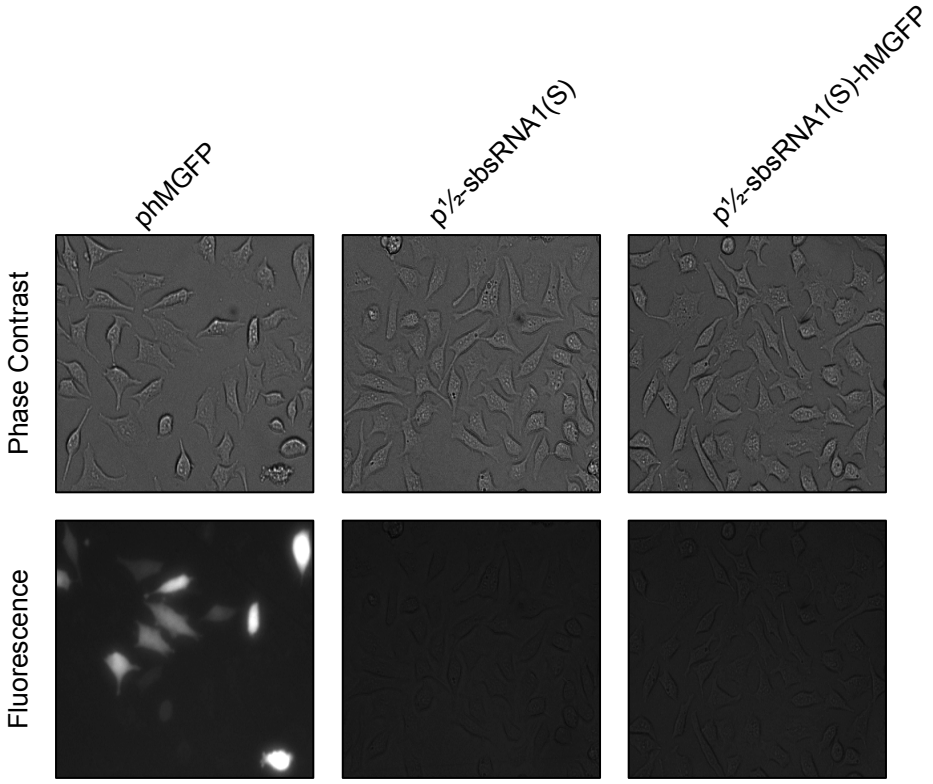

phMGFP
p½-sbsRNA1(S)
p½-sbsRNA1(S)-hMGFP
Phase Contrast
Fluorescence

Fig. 1b

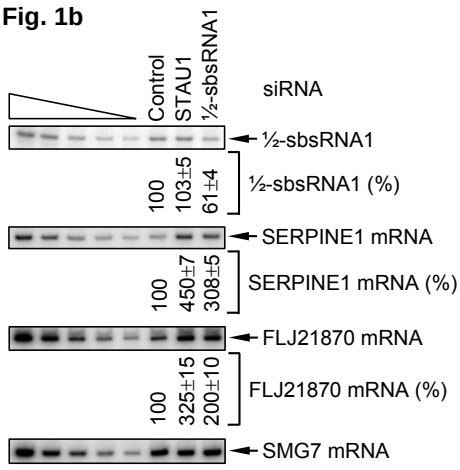


Fig. 1c

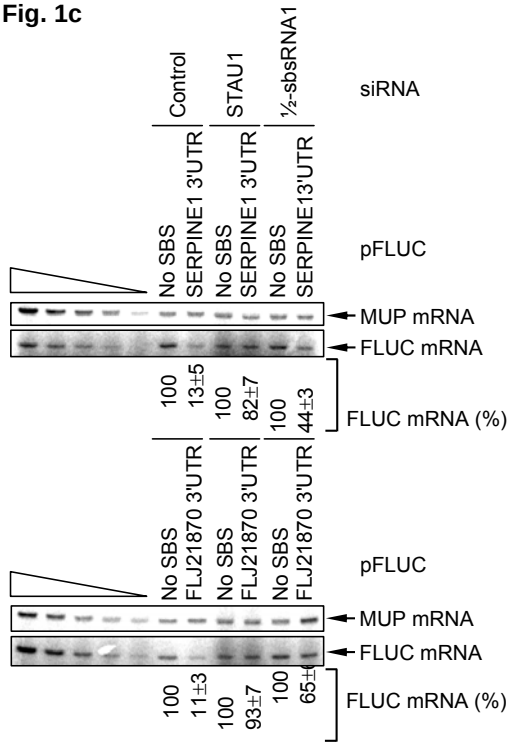


Fig. 1f

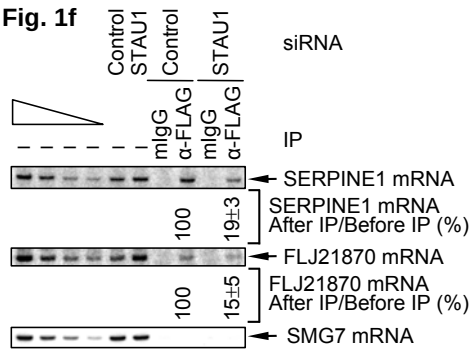


Fig. 2a

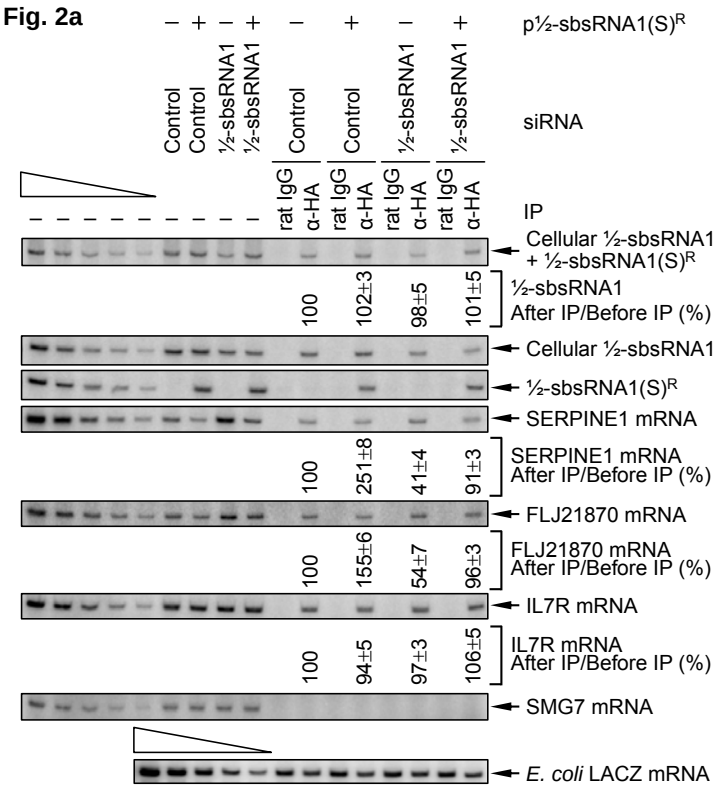


Fig. 2c

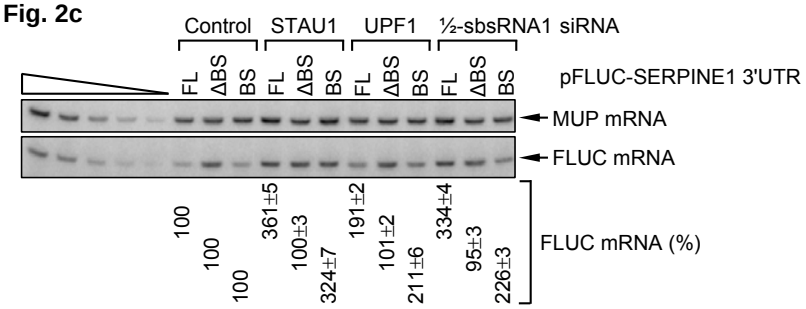
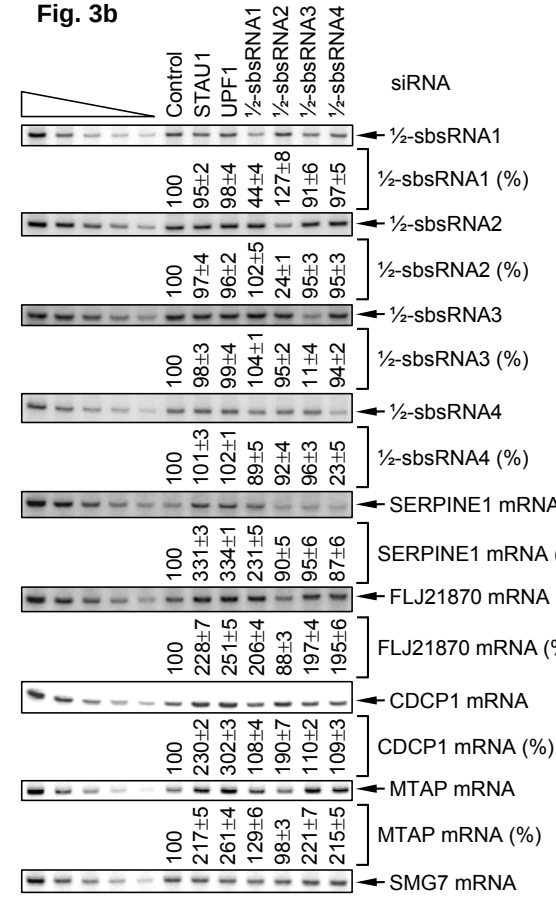
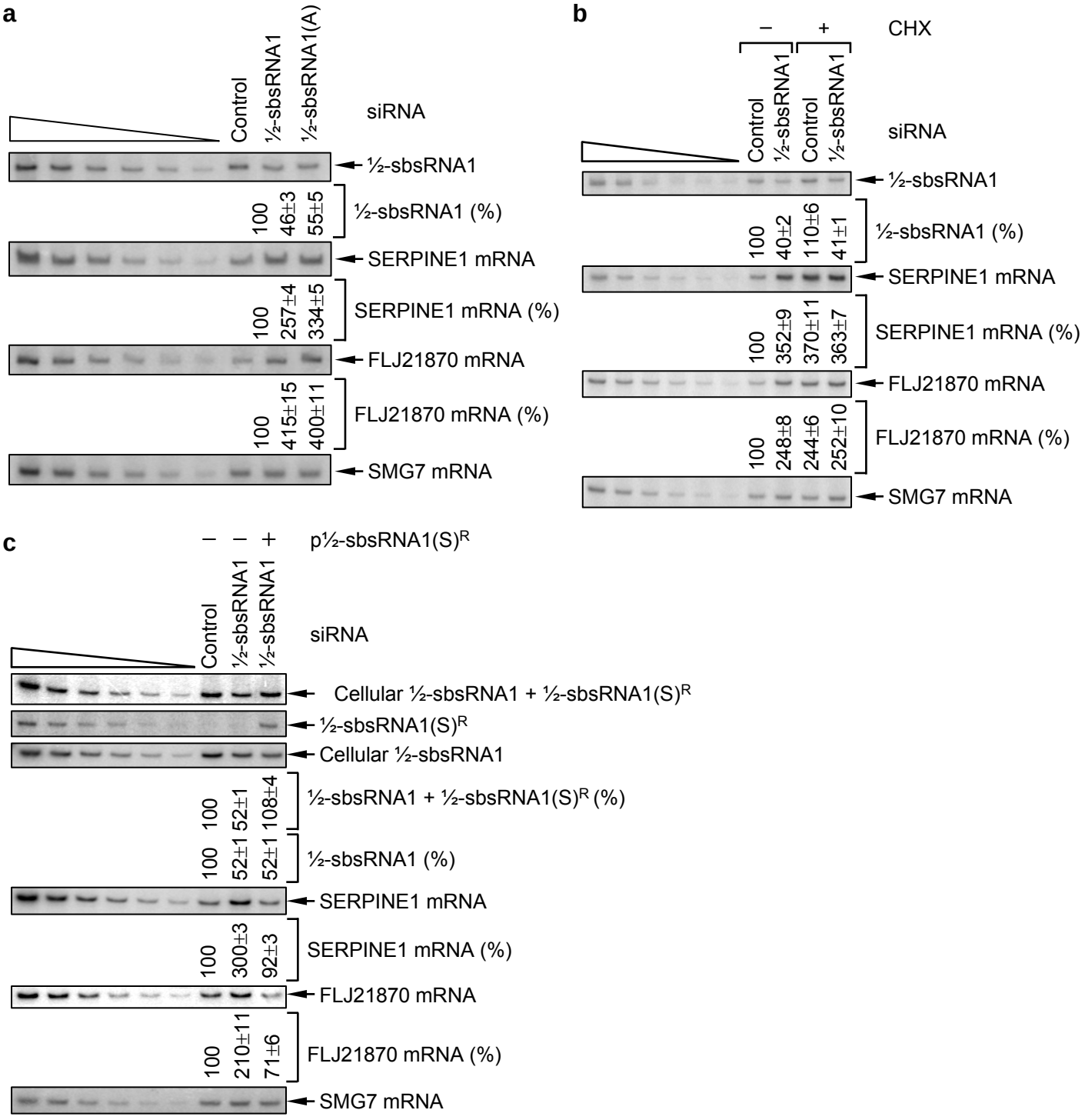
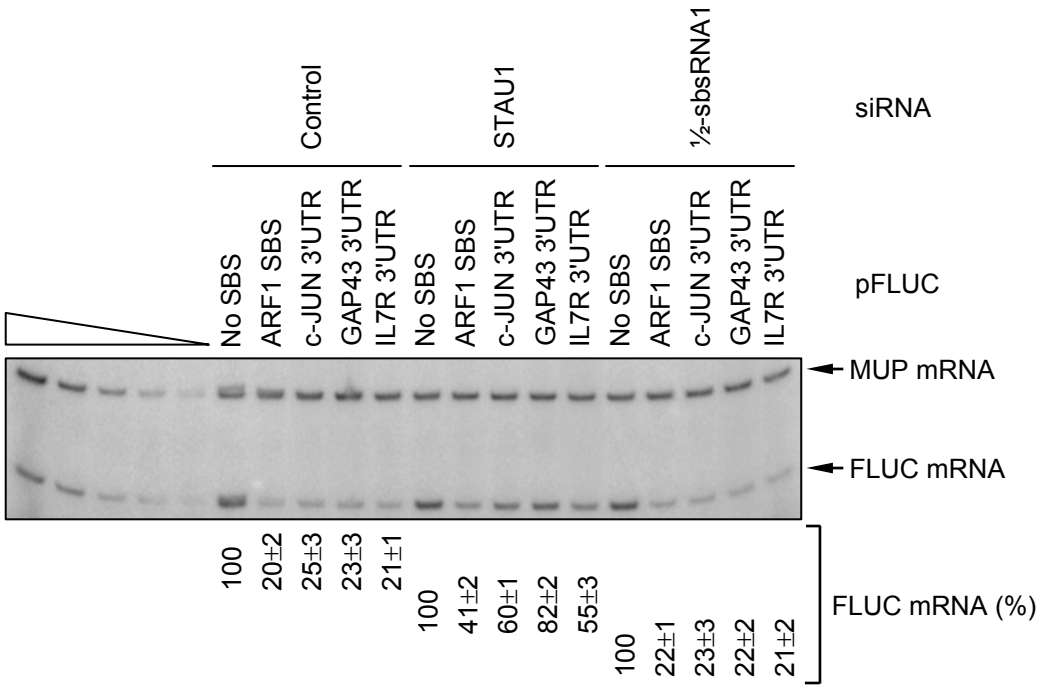
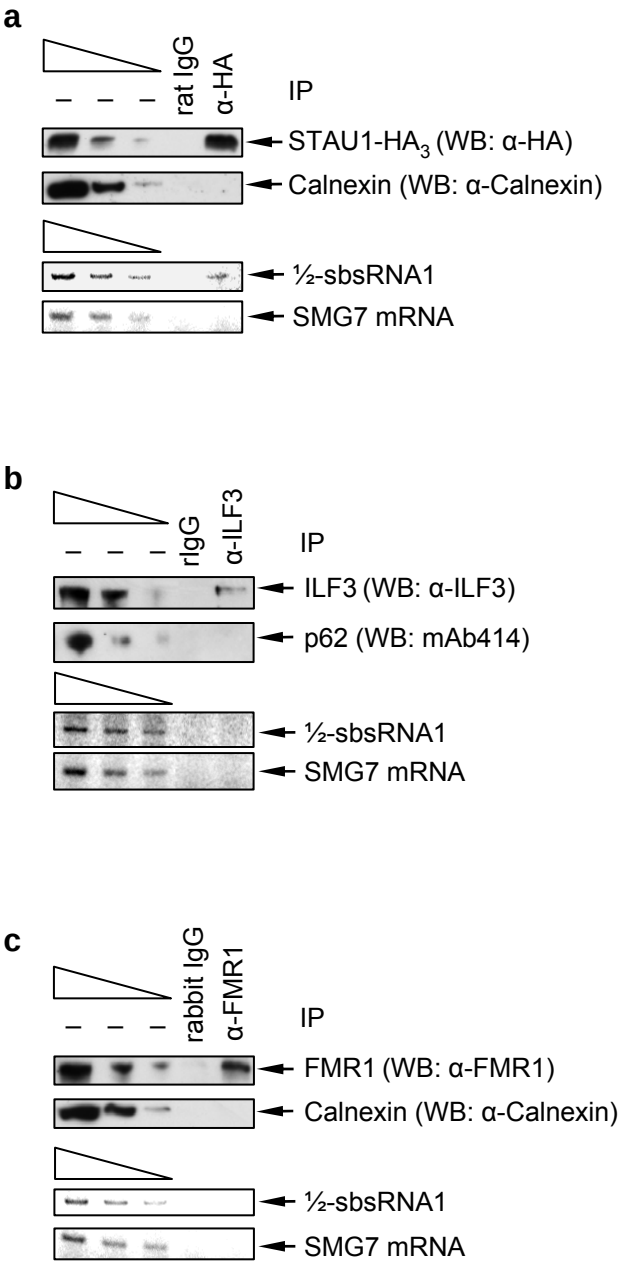


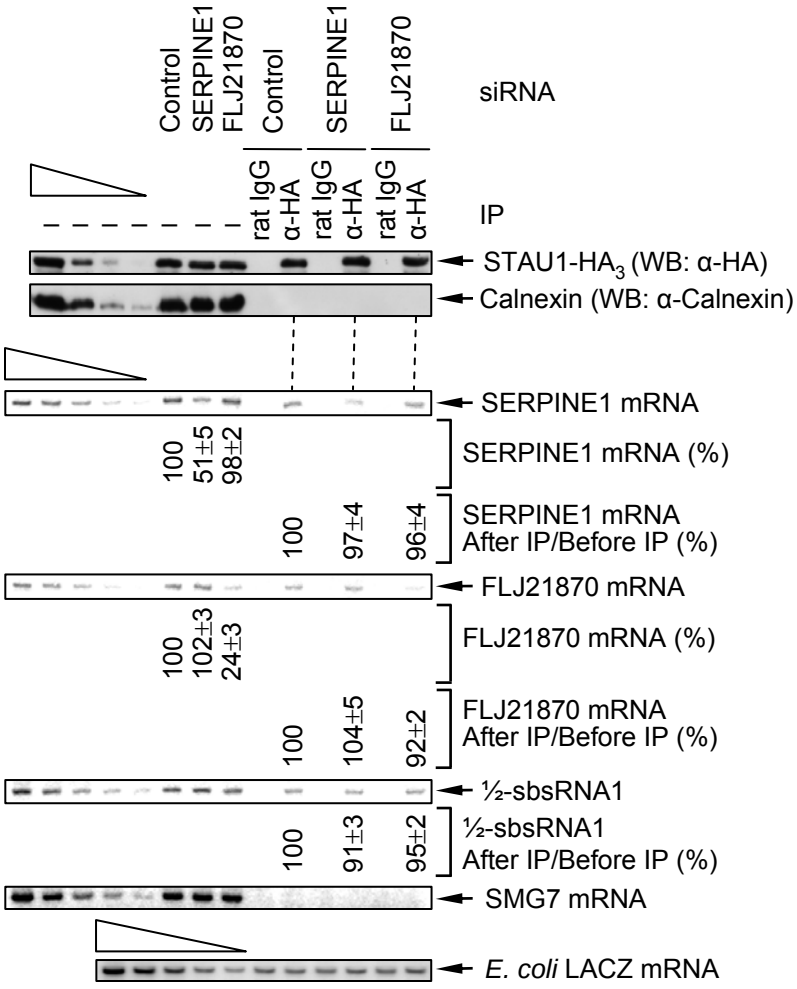
Fig. 3b

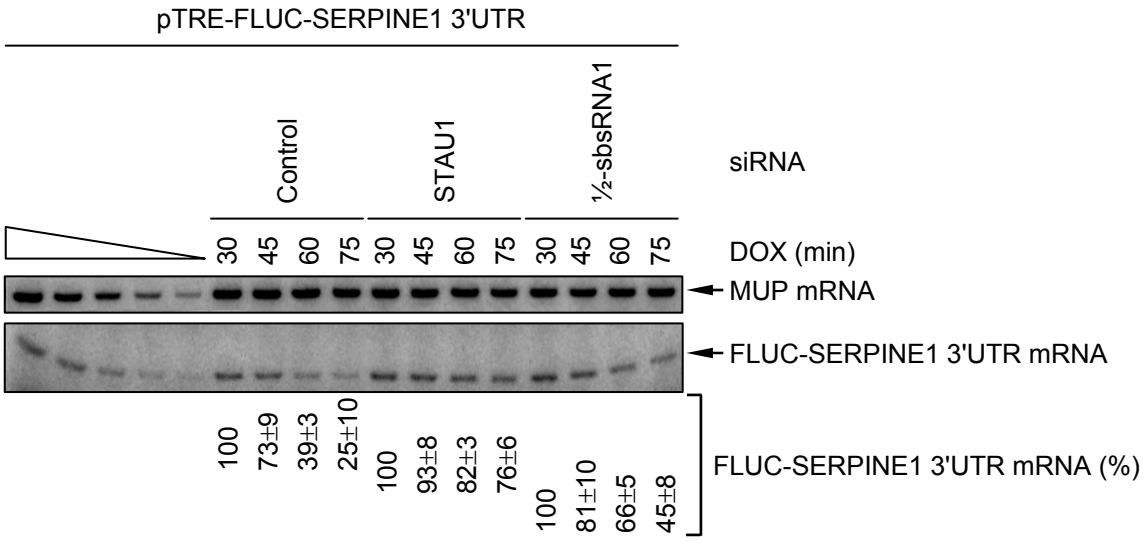


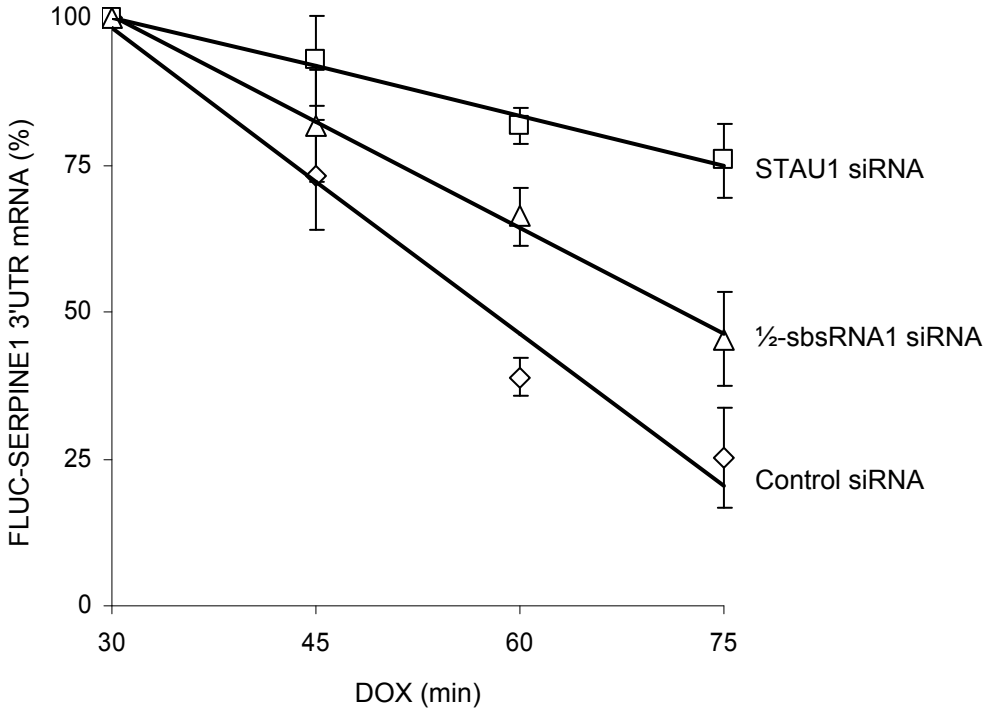

a
Control
½-sbsRNA1
½-sbsRNA1(A)
siRNA
½-sbsRNA1
100 46±3 55±5
½-sbsRNA1 (%)
SERPINE1 mRNA
100 257±4 334±5
SERPINE1 mRNA (%)
FLJ21870 mRNA
100 415±15 400±11
FLJ21870 mRNA (%)
SMG7 mRNA
b
–
+
CHX
Control
½-sbsRNA1
Control
½-sbsRNA1
siRNA
½-sbsRNA1
100 40±2 110±6 41±1
½-sbsRNA1 (%)
SERPINE1 mRNA
100 352±9 370±11 363±7
SERPINE1 mRNA (%)
FLJ21870 mRNA
100 248±8 244±6 252±10
FLJ21870 mRNA (%)
SMG7 mRNA
c
– – +
p½-sbsRNA1(S)R
Control
½-sbsRNA1
½-sbsRNA1
siRNA
Cellular ½-sbsRNA1 + ½-sbsRNA1(S)R
½-sbsRNA1(S)R
Cellular ½-sbsRNA1
100 100 52±1 108±4
½-sbsRNA1 + ½-sbsRNA1(S)R (%)
100 52±1 52±1
½-sbsRNA1 (%)
SERPINE1 mRNA
100 300±3 92±3
SERPINE1 mRNA (%)
FLJ21870 mRNA
100 210±11 71±6
FLJ21870 mRNA (%)
SMG7 mRNA

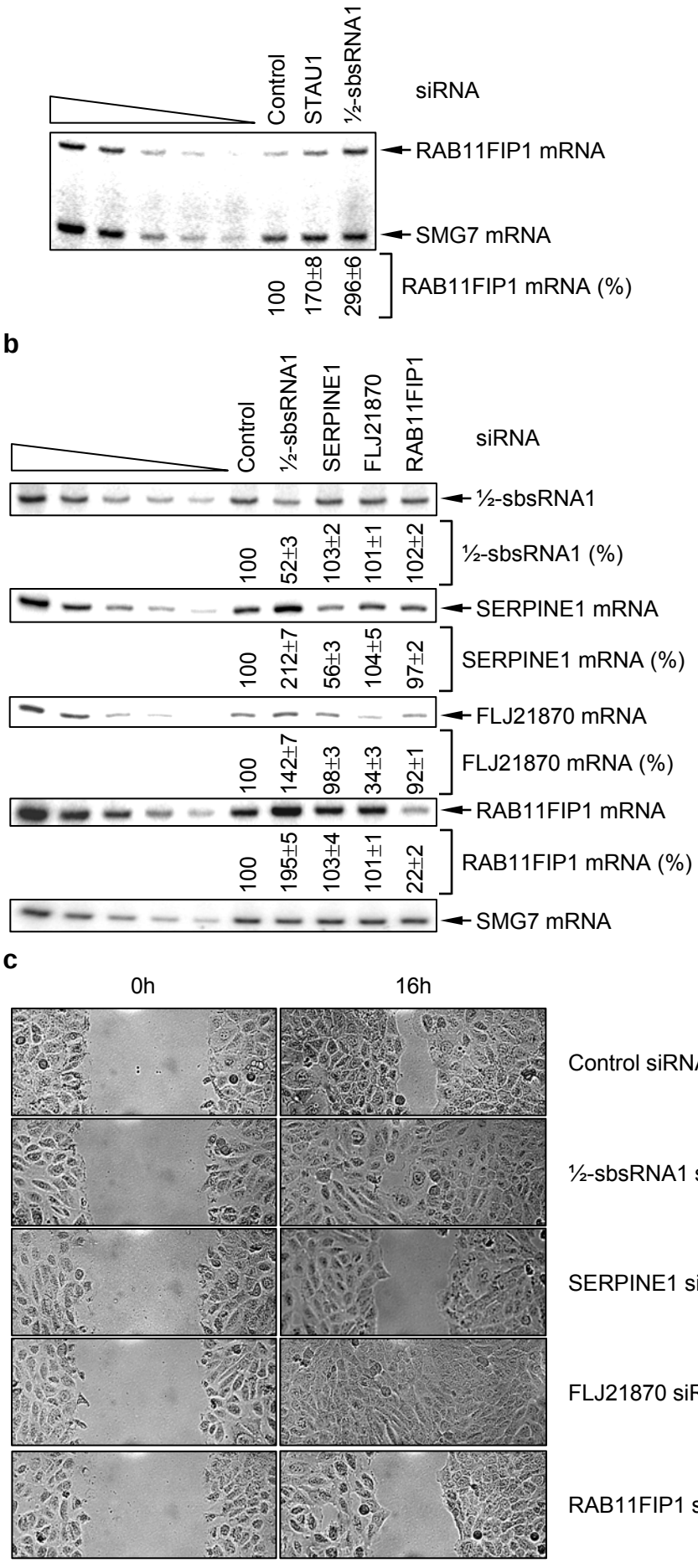

siRNA
Control
STAU1
½-sbsRNA1
pFLUC
No SBS
ARF1 SBS
c-JUN 3'UTR
GAP43 3'UTR
IL7R 3'UTR
MUP mRNA
FLUC mRNA
100
20±2
25±3
23±3
21±1
100
41±2
60±1
82±2
55±3
100
22±1
23±3
22±2
21±2
FLUC mRNA (%)


a
rat IgG
α-HA
IP
STAU1-HA3 (WB: α-HA)
Calnexin (WB: α-Calnexin)
½-sbsRNA1
SMG7 mRNA
b
rIgG
α-ILF3
IP
ILF3 (WB: α-ILF3)
p62 (WB: mAb414)
½-sbsRNA1
SMG7 mRNA
c
rabbit IgG
α-FMR1
IP
FMR1 (WB: α-FMR1)
Calnexin (WB: α-Calnexin)
½-sbsRNA1
SMG7 mRNA


Control
SERPINE1
FLJ21870
Control
SERPINE1
FLJ21870
siRNA
rat IgG
α-HA
rat IgG
α-HA
rat IgG
α-HA
IP
STAU1-HA3 (WB: α-HA)
Calnexin (WB: α-Calnexin)
SERPINE1 mRNA
100
51±5
98±2
SERPINE1 mRNA (%)
100
97±4
96±4
SERPINE1 mRNA
After IP/Before IP (%)
FLJ21870 mRNA
100
102±3
24±3
FLJ21870 mRNA (%)
100
104±5
92±2
FLJ21870 mRNA
After IP/Before IP (%)
½-sbsRNA1
100
91±3
95±2
½-sbsRNA1
After IP/Before IP (%)
SMG7 mRNA
E. coli LACZ mRNA


pTRE-FLUC-SERPINE1 3'UTR
Control
STAU1
½-sbsRNA1
siRNA
30 45 60 75 30 45 60 75 30 45 60 75
DOX (min)
MUP mRNA
FLUC-SERPINE1 3'UTR mRNA
100 73±9 39±3 25±10 100 93±8 82±3 76±6 100 81±10 66±5 45±8
FLUC-SERPINE1 3'UTR mRNA (%)


100
75
50
25
0
FLUC-SERPINE1 3'UTR mRNA (%)
30
45
60
75
DOX (min)
STAU1 siRNA
½-sbsRNA1 siRNA
Control siRNA

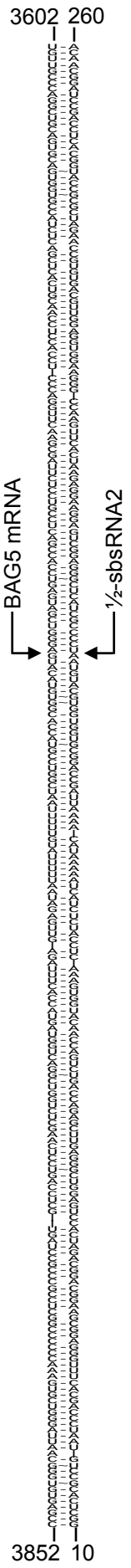

a
Control
STAU1
½-sbsRNA1
siRNA
RAB11FIP1 mRNA
SMG7 mRNA
100
170±8
296±6
RAB11FIP1 mRNA (%)
b
Control
½-sbsRNA1
SERPINE1
FLJ21870
RAB11FIP1
siRNA
½-sbsRNA1
100
52±3
103±2
101±1
102±2
½-sbsRNA1 (%)
SERPINE1 mRNA
100
212±7
56±3
104±5
97±2
SERPINE1 mRNA (%)
FLJ21870 mRNA
100
142±7
98±3
34±3
92±1
FLJ21870 mRNA (%)
RAB11FIP1 mRNA
100
195±5
103±4
101±1
22±2
RAB11FIP1 mRNA (%)
SMG7 mRNA
c
0h
16h
Control siRNA
½-sbsRNA1 siRNA
SERPINE1 siRNA
FLJ21870 siRNA
RAB11FIP1 siRNA

a

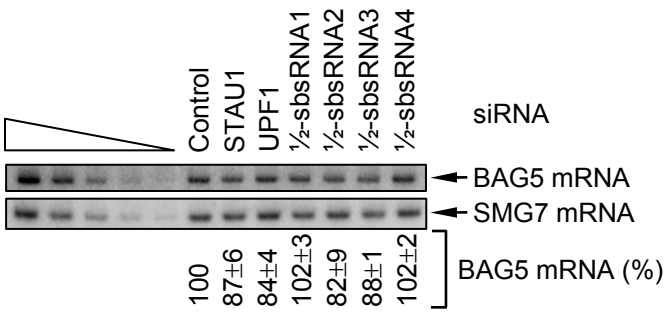
lncRNA	ΔG(kcal/mol)*
½-sbsRNA1	0
½-sbsRNA2	-416
½-sbsRNA3	-26.9
½-sbsRNA4	-28

* of predicted duplex formed between the lncRNA Alu element and the 3'UTR Alu element of BAG5 mRNA

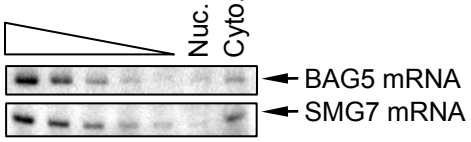
b



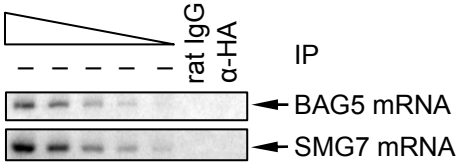
c



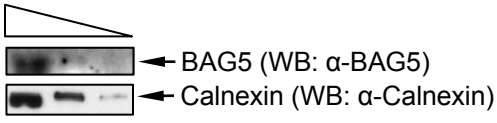
d



e



f



Supplementary Table 1. Genes encoding transcripts that are upregulated at least 1.8-fold upon STAU1 downregulation and contain a single 3'UTR Alu elemen

Gene symbol	NCBI accession #	Fold upregulation *	Alu motif in 3'UTR	Full name of gene
IFI44	NM_006417	5.88	AluSq	interferon-induced protein 44
FBLIM1	NM_017556	4.71	AluSz	filamin-binding LIM protein 1
CLDN11	NM_005602	4.50	AluJb	claudin 11
PDLIM3	NM_014476	3.97	AluSx	PDZ and LIM domain 3
OASL	NM_003733	3.86	AluJo	2'-5'-oligoadenylate synthetase-like
TAF7L	NM_024885	3.72	FLAM_A	TAF7-like RNA polymerase II, TATA box-binding protein (TBP)-associated factor, 50kDa
NOX4	NM_016931	3.59	AluSg7	NADPH oxidase 4
AIM1	NM_001624	3.34	AluJb	absent in melanoma 1
SERPINE1	NM_000602	3.16	AluJo	serpin peptidase inhibitor, clade E (nexin, plasminogen activator inhibitor type 1), member 1
DCP2	NM_152624	2.74	AluSp	DCP2 decapping enzyme homolog (*S. cerevisiae*)
EIF5A2	NM_020390	2.73	AluSx3	eukaryotic translation initiation factor 5A2
CEP135	NM_025009	2.50	AluSx1	centrosomal protein 135kDa
LRRFIP1	NM_004735	2.22	AluSq2	leucine-rich repeat (in FLII) interacting protein 1
ZFP90	NM_133458	2.20	AluJb	zinc-finger protein 90 homolog (mouse)
TP53	NM_000546	2.20	AluJb	tumor protein p53
PHLPP2	NM_015020	2.05	AluSx	PH domain and leucine-rich repeat protein phosphatase 2
EHHADH	NM_001966	2.03	AluJr	enoyl-CoA, hydratase/3-hydroxyacyl CoA dehydrogenase
CCDC125	NM_176816	1.99	AluY	coiled-coil domain-containing 125
CDCP1	NM_022842	1.98	AluJb	CUB domain-containing protein 1
NUAK2	NM_030952	1.96	AluSp	NUAK family, SNF1-like kinase, 2
AKT2	NM_001626	1.84	AluJr	v-akt murine thymoma viral oncogene homolog 2
APPL1	NM_012096	1.83	AluY	adaptor protein, phosphotyrosine interaction, PH domain and leucine zipper-containing 1
COL16A1	NM_001856	1.81	FLAM_A	collagen, type XVI, alpha 1
RIPK1	NM_003804	1.81	AluJo	receptor (TNFRSF)-interacting serine-threonine kinase 1

*Minimum fold upregulation in each of three independently performed microarray analyses (Kim et al, 2007)

Supplementary Table 2. Features of lncRNAs that contain a single Alu element

lncRNA accession # *	lncRNA Alu motif **	ΔG (kcal/mol) of predicted duplexes formed between the Alu element of each specified lncRNA and the 3'UTR Alu element of four proven SMD targets ***			
		SERPINE1 mRNA	FLJ21870 mRNA	CDCP1 mRNA	MTAP mRNA
ASO1026	FLAM_C	-48.5	-100.5	0	-100.5
ASO1113	AluSx	0	0	-44.2	-21.8
ASO1151	FLAM_C	0	-60.9	0	-38.7
ASO1162	AluSx	-37.8	-43.7	-12.8	-31.8
ASO1170	FRAM	0	-19.2	-91.3	0
ASO1178	FLAM_C	0	-60.7	0	-70.6
ASO1183	SVA_A	0	-83.2	-25.1	-24.7
ASO1195	FLAM_C	0	-81.4	-21.1	-65.1
ASO1208	SVA_F	-28.8	0	0	-45.6
ASO1213	SVA_F	-28.8	0	0	-45.6
ASO1220	AluY	-22.7	-90.5	-18.5	-83.9
ASO1259	AluJb	0	-25.7	-71.6	0
ASO1267	AluJb	-28.7	-21.2	-107.9	0
ASO1282	AluJb	0	0	-90.6	-19.9
ASO1285	AluSx	0	-61.4	0	-38.9
ASO1289	FLAM_C	0	0	-55.8	-23.4
ASO1296	AluJb	-12.5	-48.3	-9.7	-26.8
ASO1320	FLAM_C	-43	-28.4	0	-28.4
ASO1321	AluJb	-24.6	-54	0	-17.4
ASO1323	AluSx	0	-86.8	0	-42.1
ASO1326	AluJb	0	-29.5	-114.2	0
ASO1362	FLAM_C	0	-21.9	0	-23.9
ASO1379	FLAM_C	0	0	-40.1	0
ASO1392	AluJb	0	0	-107.9	0
ASO1409	AluJb	-41.8	-90.2	0	-46.9
ASO1410	AluJb	-41.8	-90.2	0	-46.9
ASO1433	FLAM_C	0	0	-26.4	0
ASO1445	tRNA-Ala-GCY_	0	-23	0	-27.9
ASO1446	AluSx	0	-85.2	0	-80.6
ASO1450	tRNA-Ala-GCY_	0	0	-32.9	0
ASO1456	FLAM_C	0	0	-34.8	0
ASO1470	AluSx	-18.8	0	0	-21.4
ASO1476	AluJb	-50	-106.8	-18.5	-107.4
ASO1480	FLAM_C	-13.5	-17.4	-96.7	0
ASO1483	AluSx	0	-68	-31.6	-66.4
ASO1487	AluJb	-37.1	-83.3	0	-83.2
ASO1488	FLAM_C	0	-25.5	-42.7	0
ASO1496	FLAM_C	0	0	-66.8	0
ASO1497	AluJb	0	-19.1	-69.8	-17.9
ASO1498	AluSx	0	-18.4	-103.8	-24.4
ASO1500	FLAM_C	0	-21.8	-66.3	-18.1
ASO1503	FLAM_C	0	-24.1	0	0
ASO1511	tRNA-Thr-ACA	0	0	0	0
ASO1514	AluJb	-49.6	-99.2	0	-94.3
ASO1521	tRNA-Ala-GCY_	0	0	0	-19.5
ASO1523	AluSx	0	-88.5	0	-43.8
ASO1535	AluJb	-48.5	-66.8	0	-66.3
ASO1544	AluJb	-48.1	-99.7	0	-96.4
ASO1546	AluJb	-48.3	-65.4	-24.9	-13.2
ASO1566	FLAM_C	0	-17	-47.4	-15.2
ASO1569	AluSx	0	-22.8	-71.5	-27.2

ASO1601	AluSx	0	-71	-21.1	-74.4
ASO1632	AluJb	-99.5	-222.1	-24.7	-84.2
ASO1636	AluJb	-84.8	-85.5	-9.7	-103.2
ASO1668	AluY	0	0	-112.8	0
ASO1674	AluSx	-35.7	-53.6	0	-116.7
ASO1700	AluY	-46	-122.6	-35.1	-125.6
ASO1705	FRAM	0	0	-81.2	-26.5
ASO1714	AluJb	0	0	-135.9	0
ASO1719	AluSx	0	-17.2	-148.9	-25.4
ASO1721	AluJb	-119.7	-99.2	-22.9	-77
ASO1726	AluSx	0	0	-118.6	0
ASO1729	AluSx	0	0	-107.3	-25.2
ASO1730	AluJb	0	0	-141.1	0
ASO1736	AluSx	-70.3	-258.5	-31.4	-230.1
ASO1737	AluY	-68.2	-339	-22.6	-235.5
ASO1751	AluSx	0	-39.2	-138.7	0
ASO1754	FRAM	-10.9	-29.3	-103.9	-14.9
ASO1757	FLAM_C	-110.8	-163.4	-18.1	-88.9
ASO1763	FLAM_C	0	0	-167.3	-23.4
ASO1766	AluJb	-134.1	-177.1	-16.3	-78.2
ASO1768	AluJb	0	0	-128.2	0
ASO1770	AluY	0	-26.7	-175.9	-32.5
ASO1781	AluSx	-61.9	-255.5	-36.7	-166
ASO1787	AluJb	-57.9	-236	-49.9	-104.8
ASO1794	FRAM	0	-52.8	-16.3	-71.9
ASO1803	AluSx	-16.5	0	-214.9	0
ASO1808	AluJb	0	-27.9	-133.9	-39.9
ASO1810	AluJb	0	-28.4	-189.3	-32.6
ASO1812	AluSx	-76.6	-226.2	0	-348.3
ASO1818	AluY	-62.2	-407.9	-23.6	-229.1
ASO1821	AluSx	-45.5	-108.9	-19.5	-126.2
ASO1823	AluJb	-63.7	-146.4	-26.6	-280.7
ASO1825	AluSx	-54.1	-118.7	-23.7	-120.8
ASO1827	AluSx	-123.4	-262.6	0	-260
ASO1829	FLAM_C	-95.9	-137.3	-22.3	-92.1
ASO1841	AluJb	0	-22.9	-99.6	-20.8
ASO1862	AluSx	0	0	-176.7	-33
ASO1871	FLAM_C	-115.9	-159.7	-12.2	-79.7
ASO1876	AluSx	-114	-203.4	-11.3	-197.5
ASO1880	AluJb	-55.4	-110.3	-16.6	-95.4
ASO1885	AluJb	-13.5	-16.3	-358.2	0
ASO1895	AluJb	-73.1	-157	-27	-113.5
ASO1897	AluSx	-70.1	-101.1	-18.5	-121.4
ASO1901	AluSx	-72.7	-204.9	-20.9	-341.3
ASO1906	AluSx	0	0	-193.9	-30.6
ASO1912	AluSx	-106.7	-445.6	-21.1	-255.7
ASO1928	AluJb	-88.5	-208	-8.3	-105.5
ASO1934	AluJb	0	0	-135.9	0
ASO1957	AluSx	-65.9	-232.4	0	-300
ASO1959	AluSx	0	-35.5	-181.4	-34
ASO1966	AluSx	-16.5	0	-214.9	0
ASO1980	AluSx	0	-27.5	-192.2	-30.6
ASO1993	AluSx	-26.6	-136.8	-38.8	-77.6
ASO1994	AluJb	-88.2	-207.7	-19.7	-105.5
ASO1995	AluSx	0	0	-118.6	0

ASO1998	AluSx	-108.2	-444.2	-27.6	-264.2
ASO2002	AluJb	-84.6	-302.6	0	-135.6
ASO2003	AluSx	0	0	-118.6	0
ASO2015	AluSx	0	0	-118.6	0
ASO2016	AluSx	-31.5	-49.3	0	-125.8
ASO2020	AluSx	0	0	-118.6	0
ASO2026	AluJb	-77.8	-113.2	-23.1	-99.1
ASO2028	AluSx	-125.2	-223.9	-34.2	-128.7
ASO2029	AluJb	-77.8	-113.2	-23.1	-99.1
ASO2031	AluSx	-13.9	0	-157.2	-13.1
ASO2037	AluSx	-76.9	-116.5	-22.4	-103.5
ASO2042	FLAM_C	0	0	-68.8	0
ASO2046	AluSx	0	0	-118.6	0
ASO2059	FRAM	-78	-73	-31.5	-65.2
ASO2066	AluJb	0	-21.7	-121.2	-25.9
ASO2070	AluSx	-114.2	-447.6	-19.7	-190.2
ASO2087	FLAM_C	-116.1	-163.8	-36.5	-87
ASO2100	FLAM_C	0	0	-153.3	0
ASO2101	AluSx	0	0	-179.1	-29.8
ASO2120	AluJb	0	0	-240.5	-21.7
ASO2124	FLAM_C	-89.4	-102.7	-37.4	-30.7
ASO2126	AluJb	-13.2	-36.1	-136	-39.8
ASO2127	AluSx	0	0	-210.2	-26.2
ASO2128	FLAM_C	-115.2	-155.5	0	-71.8
ASO2131	AluSx	0	0	-159.1	-16.3
ASO2147	tRNA-Arg-AGA	-23.7	0	-19.3	-19.8
ASO2153	AluJb	0	-21.7	-121.2	-25.9
ASO2160	AluY	-62.1	-208.4	-18.8	-218.5
ASO2168	AluJb	0	-25.1	-144	-30.9
ASO2179	AluJb	0	-26.5	-202.3	0
ASO2181	AluY	-66.2	-210.7	-26.4	-286.2
ASO2185	AluSx	-70.8	-233.4	0	-360.9
ASO2186	AluSx	-69.1	-116	-15.4	-103.5
ASO2188	AluY	0	-23.6	-196.1	-29.5
ASO2192	AluSx	0	0	-118.6	0
ASO2209	AluSx	-96.3	-147.9	-39.9	-150.6
ASO2218	FRAM	-60.9	-79.6	-20.1	-114.9
ASO2236	AluSx	0	-20	-96.5	-33.9
ASO2239	FLAM_C	0	0	-114.3	-40.9
ASO2241	AluSx	0	-33.3	-193.9	-15.6
ASO2242	AluY	-27.9	-54.5	0	-90.9
ASO2262	AluJb	-116.5	-279.2	0	-105.5
ASO2282	AluY	0	-12.7	-165.3	-29.5
ASO2287	AluSx	0	0	-189.6	-12.6
ASO2299	AluJb	0	0	-78.4	0
ASO2301	AluJb	-42.8	-25.6	-20.4	-41
ASO2319	AluJb	-50.9	-60.1	0	-17.9
ASO2320	AluSx	0	-21.2	-79.8	-19.9
ASO2321	FLAM_C	-41.3	-53.5	0	-16.2
ASO2347	FLAM_C	-42.2	-79.9	0	-53.7
ASO2356	AluJb	0	0	-40.7	0
ASO2360	AluSx	0	-77.7	0	-29.3
ASO2362	AluJb	-27.9	-21.2	-98.8	-24.4
ASO2368	AluJb	-49.6	-57.5	0	-30.2
ASO2370	AluJb	-24.2	-12.3	-23.4	-31.8

ASO2373	AluJb	0	-14.4	0	0
ASO2378	AluSx	0	0	-28	0
ASO2385	AluSx	0	0	-46.7	0
ASO2395	FLAM_C	0	-60.5	-33.1	-23.2
ASO2414	FLAM_C	0	-68.3	0	-53
ASO2418	AluSx	0	-25.4	-85.4	-40.4
ASO2443	AluJb	-25.9	-41.8	-12.2	-36.7
ASO2469	AluJb	-61.3	-106.3	-39.2	-102.4
ASO2474	AluJb	0	0	-28.3	0
ASO2479	AluJb	-48.6	-111.1	-20.1	-94.5
ASO2488	AluJb	0	0	-39.3	0
ASO2490	tRNA-Ala-GCY_	0	0	0	-21.7
ASO2495	AluJb	-53.4	-63.3	-22.2	-55.4
ASO2510	AluJb	-39	-72.6	-7.2	-48.6
ASO2515	AluJb	-49.6	-57.5	0	-30.2
ASO2518	AluJb	-57	-120.5	-11.7	-99.6
ASO2520	AluJb	0	0	-56.6	0
ASO2532	AluSx	0	-41.8	0	-24.8
ASO2565	AluSx	-29.2	-21.2	-98.1	0
ASO2570	AluJb	-21.4	-63.4	-19.8	-68.6
ASO2576	FLAM_C	0	0	-28.1	0
ASO2580	tRNA-Ala-GCY_	-25.5	0	-40.1	0
ASO2593	FRAM	-22.9	-52.3	0	-38.1
ASO2601	AluSx	0	-21.2	-47.3	-23
ASO2603	AluJb	-49.5	-90.4	0	-105.2
ASO2605	FRAM	-50.5	-88.5	-13.2	-69
ASO2608	AluJb	-34.2	-40.3	-20.3	-50.1
ASO2610	AluSx	-29.2	-21.2	-98.1	0
ASO2616	AluSx	0	-77.7	0	-29.3
ASO2617	AluJb	0	-73.5	0	-30.2
ASO2620	AluJb	-35.9	-56.8	0	-64.5
ASO2633	AluSx	0	-78.8	-18.5	-64
ASO2634	AluSx	-51.4	-87.7	-22.2	-65.3
ASO2640	AluSx	-33.4	-34.2	-14.9	-36.7
ASO2643	FLAM_C	-58.7	-66.3	0	-64.9
ASO2659	FLAM_C	-16.1	-69.5	0	-50
ASO2665	AluJb	0	0	-41.9	0
ASO2672	AluSx	0	0	-85.3	-19.9
ASO2673	AluJb	0	-22.1	-27.7	-26.3
ASO2674	FLAM_C	0	0	-45.5	0
ASO2684	FLAM_C	0	-61.4	-15.7	-61.1
ASO2689	AluJb	-38	-76.7	-25.8	-72.3
ASO2704	AluSx	-31.4	-96.2	0	-84.5
ASO2713	AluJb	-48.6	-100.7	-10.7	-93.4
ASO2719	FLAM_C	-49.7	-97.9	0	-50.6
ASO2725	AluSx	-58.1	-114.4	-22.2	-90.4
ASO2741	AluJb	-12.1	-68.5	0	-75.8
ASO2753	FLAM_C	-60.3	-113.9	0	-72.3
ASO2759	SVA_A	-22.9	0	0	-73.7
ASO2768	AluSx	0	-13	-70.9	-20.5
ASO2769	AluSx	0	0	-81.5	0
ASO2774	AluJb	-13.9	-73.1	-18.6	-66.6
ASO2776	FRAM	0	-99.6	0	-86.6
ASO2785	FLAM_C	-17.7	0	-54.6	0
ASO2806	AluSx	-48.6	-106.5	-13.6	-57.6

ASO2815	FRAM	-20.3	-20	-48.5	-21.9
ASO2834	AluY	0	0	-39.2	-18.7
ASO2846	AluJb	-24.6	0	-74	0
ASO2867	tRNA-Ala-GCY_	0	0	0	-22.9
ASO2883	AluSx	0	-25.4	-85.4	-40.4
ASO2894	AluSx	0	-21.7	0	-33.4
ASO2897	AluJb	-47.2	-100.5	-25.9	-86.3
ASO2907	AluSx	0	0	-20.1	0
ASO2911	AluJb	-48.6	-64.3	-11.3	-53.9
ASO2913	FRAM	-28.4	-30.6	-50.6	0
ASO2930	AluJb	-38	-74.7	-31.9	-39
ASO2931	AluJb	-20.8	-109.6	-23.7	-104.3
ASO2936	tRNA-Ala-GCY_	0	0	0	0
ASO2941	tRNA-Ala-GCY_	0	0	0	0
ASO2951	tRNA-Ala-GCA	0	0	0	0
ASO2966	AluJb	-46.8	-110.7	-13.2	-95.9
ASO2981	AluSx	-50.9	-103.1	0	-96.8
ASO3003	AluJb	-24	-20.8	-110.2	0
ASO3015	AluSx	-25.6	-21.2	-37.7	0
ASO3025	AluJb	0	0	-56.1	-18.9
ASO3037	AluJb	-18.4	-42.5	-26.6	-52
ASO3061	AluJb	0	-21.2	-111	0
ASO3064	FLAM_C	0	0	-60.3	0
ASO3070	tRNA-Ala-GCY_	0	0	-9.9	0
ASO3086	AluSx	0	0	-30.1	0
ASO3093	FLAM_C	-49.7	-70.8	0	-59.4
ASO3103	FLAM_C	-30.9	-52	-20.1	-46.7
ASO3111	FRAM	-43	-89.5	0	-69.7
ASO3112	AluJb	0	0	-57.2	-24.3
ASO3116	AluJb	0	0	-46.9	0
ASO3137	FLAM_C	-52.7	-112.4	0	-82.2
ASO3154	AluJb	-48.3	-99.4	0	-86.6
ASO3167	AluJb	-32.2	-51.7	0	-59.9
ASO3179	tRNA-Ala-GCY_	0	-18.9	-18.7	0
ASO3181	tRNA-Ala-GCY_	0	0	-12.7	0
ASO3183	FLAM_C	0	-22.4	-47.8	-15.8
ASO3200	AluSx	-25	-76.1	-18.6	-71.2
ASO3209	FRAM	-13.5	0	-77.3	0
ASO3222	FLAM_C	0	0	-52.2	-26.8
ASO3245	AluJb	-45	-71.8	0	-67.1
ASO3260	FLAM_C	0	0	-33.6	0
ASO3267	AluJb	0	-46.1	0	-24.6
ASO3268	AluJb	-23	-34.2	0	-43
ASO3280	tRNA-Thr-ACA	-16.7	-16.8	-18.5	0
ASO3281	AluJb	0	-21.8	-85.3	0
ASO3286	FLAM_C	-20.1	-29.3	-26.3	-50.1
ASO3290	AluJb	-17.2	-107.2	-11.3	-95.9
ASO3300	AluSx	-51.3	-114.4	0	-99.9
ASO3303	FLAM_C	-53.7	-20.6	0	-43.6
ASO3304	FLAM_C	-11.2	-76.3	-11.2	-61.2
ASO3307	AluJb	-24	-27.9	-102.1	-24.1
ASO3310	FLAM_C	0	-19.9	-69.8	-21
ASO3329	FRAM	-23	-50.1	-30.4	-42.3
ASO3334	FRAM	-49	-83	0	-8.7
ASO3347	AluJb	0	-18.7	-24.8	0

ASO3351	AluSx	0	-59.7	-30.3	-23.2
ASO3355	AluSx	0	0	-61.6	-17.8
ASO3357	AluSx	0	-39	-25.5	-40.3
ASO3360	BC200	-63.7	-35.2	-20.1	-35.8
ASO3363	tRNA-Ala-GCY_	0	0	0	-29.6
ASO3365	tRNA-Ala-GCA	0	0	0	0
ASO3369	tRNA-Ala-GCY_	-25.6	0	0	0
ASO3378	AluSx	0	-22.4	-59.1	0
ASO3383	tRNA-Ala-GCY_	0	-31.3	0	-25.7
ASO3389	AluJb	0	-21.8	-53.6	-19.2
ASO3390	FLAM_C	-32.9	-62.4	0	-25.1
ASO3397	FLAM_C	0	0	-41.5	0
ASO3406	AluY	-42.6	-73.1	0	-85.2
ASO3413	AluJb	-40.7	-104.3	-21	-94.6
ASO3428	AluSx	0	0	-321.7	-25.6
ASO3436	AluJb	-85	-97.7	-34.7	-126.7
ASO3442	AluJb	-118.6	-189.7	0	-106.4
ASO3455	FLAM_C	-100.3	-46.3	0	-49.5
ASO3457	AluSx	-118.5	-382.1	-25.2	-253
ASO3459	AluJb	-75.1	-94.2	-20.3	-74.7
ASO3462	AluY	0	0	-205.2	-29.2
ASO3466	AluJb	-138.4	-155	-24.1	-183.9
ASO3467	FLAM_C	-99.8	-74.3	0	-71.5
ASO3470	AluSx	0	0	-89	-19.6
ASO3476	AluY	0	-31.1	-117.9	-25.7
ASO3478	AluSx	0	0	-135.9	0
ASO3481	AluJb	0	-27.7	-150.2	-18.7
ASO3488	AluSx	-66.4	-261.9	-19.1	-203.1
ASO3491	AluJb	-101.9	-156.1	-22.2	-142.2
ASO3493	AluSx	-122	-263.5	0	-252.5
ASO3498	AluJb	0	-26.9	-198.5	-34.7
ASO3502	AluJb	-29.9	-29.8	-96.7	-31.2
ASO3505	AluSx	-61.3	-116	-21.1	-142.5
ASO3506	AluY	-49.9	-150.9	0	-153.9
ASO3517	AluSx	0	-17.2	-216.8	-36.6
ASO3520	AluSx	0	0	-118.6	0
ASO3521	AluSx	0	0	-118.6	0
ASO3528	AluY	-62.7	-326.8	-18.1	-403.8
ASO3534	AluSx	0	-30.6	-166.4	-15.5
ASO3535	AluJb	-118.2	-88.2	-20.6	-107.8
ASO3539	AluSx	0	0	-93	0
ASO3545	FRAM	-59.2	-66.7	-39.3	-85.4
ASO3546	AluSx	-98.4	-352.8	-26.7	-144
ASO3548	AluSx	-101.8	-214.3	0	-163.2
ASO3556	AluSx	-125.2	-223.9	-34.2	-128.7
ASO3557	AluY	0	0	-100.8	0
ASO3563	AluSx	-80.9	-124.3	-18.8	-145.5
ASO3566	FRAM	-41.7	-44.4	0	-82.3
ASO3573	FRAM	-42.8	-56.2	-33	-55
ASO3583	AluSx	0	0	-139	-29.2
ASO3584	AluSx	0	0	-149.3	-31.3
ASO3586	FLAM_C	-99.6	-83.9	0	-59.4
ASO3593	AluSx	-109.1	-245.4	-18.8	-245.8
ASO3595	AluSx	-65.5	-111.8	0	-125
ASO3601	AluSx	0	0	-82.9	0

ASO3604	FRAM	-87.8	-65	0	-78.3
ASO3606	AluSx	-117.8	-362.6	-14.5	-248.3
ASO3609	AluY	0	-31.9	-192	-19.3
ASO3629	AluSx	0	0	-211.8	0
ASO3630	AluSx	-95.6	-420.4	-17.1	-210.7
ASO3633	FLAM_C	-54.9	-96.3	0	-112.2
ASO3635	AluSx	-74.1	-220.9	-43.4	-163.2
ASO3645	AluSx	0	0	-214	-39.8
ASO3661	AluSx	0	-89.9	-10.6	-72.5
ASO3667	AluSx	0	-19.6	-153.7	-26.3
ASO3668	AluSx	-45.7	-110.5	-42.2	-100.3
ASO3673	AluY	0	0	-71.1	0
ASO3674	FLAM_C	0	-22.8	-60.8	0
ASO3680	FLAM_C	-118.4	-178.6	-23.2	-77.3
ASO3682	AluJb	-62.4	-85.8	0	-119.4
ASO3690	AluSx	-74.1	-220.9	-43.4	-163.2
ASO3695	AluSx	0	0	-104.4	0
ASO3698	AluSx	-12.5	0	-124.8	0
ASO3710	FLAM_C	-99.8	-77.7	0	-59.6
ASO3717	AluSx	0	0	-100.3	0
ASO3720	AluJb	-155.7	-182.1	-11.4	-89.8
ASO3721	AluSx	0	0	-118.6	0
ASO3722	AluSx	-65.5	-111.8	0	-125
ASO3735	AluSx	0	0	-118.6	0
ASO3739	AluSx	0	-19.8	-207	-25.6
ASO3742	AluSx	0	-29.8	-231.9	-16.3
ASO3745	AluSx	-86.5	-350.5	-25.8	-260.7
ASO3746	AluSx	0	-34.7	-211.3	-20.8
ASO3747	AluJb	-50.4	-98.4	-11.4	-68.1
ASO3755	FLAM_C	0	0	-98.3	-27.2
ASO3761	AluSx	-61.3	-109.1	0	-119.2
ASO3780	AluSx	-66.5	-127.9	-20.1	-134
ASO3803	AluSx	-124.7	-308.8	-20.4	-202
ASO3804	FLAM_C	-120.1	-124.7	0	-75.9
ASO3809	AluSx	0	0	-118.6	0
ASO3813	AluSx	-13.9	0	-157.2	-13.1
ASO3817	FRAM	-60.8	-97.6	-22.6	-107.7
ASO3820	AluJb	0	0	-100.4	-18.4
ASO3821	AluJb	-82.1	-178.7	-16.3	-101.7
ASO3822	AluSx	0	0	-163.3	-18.9
ASO3837	AluJb	-122.4	-163.1	-8	-142.8
ASO3838	AluSx	0	0	-118.6	0
ASO3847	AluY	-47.3	-173.4	-26.4	-167.5
ASO3851	AluSx	-112.6	-304.3	-34.7	-172.8
ASO3861	AluJb	-134.1	-177.1	-16.3	-78.2
ASO3864	AluSx	-107.6	-235.8	-30.3	-249.5
ASO3872	FLAM_C	0	0	-124.5	0
ASO3873	AluSx	-65.2	-207.1	-20.8	-342
ASO3874	AluSx	0	0	-159.1	-16.3
ASO3875	AluSx	0	0	-118.6	0
ASO3876	AluJb	0	0	-71.1	0
ASO3878	AluY	0	0	-112.6	0
ASO3881	AluJb	-99.6	-92.1	-19.2	-120.7
ASO3882	FLAM_C	0	-30.9	-68.7	0
ASO3891	AluSx	-13.5	-17.2	-127.7	-17.6

ASO3893	AluY	-69.7	-202.2	-24.6	-404.1
ASO3900	AluJb	-91.4	-119.5	0	-89.1
ASO3902	AluSx	0	-15.6	-189.1	-27
ASO3906	AluSx	0	0	-159.1	-16.3
ASO3908	AluJb	-69.8	-157.8	-28.7	-88.9
ASO3911	AluSx	0	-28.8	-302.9	-21.1
ASO3913	AluSx	-98.4	-352.8	-26.7	-144
ASO3946	AluJb	-75.1	-94.2	-20.3	-74.7
ASO3947	AluJb	-150.2	-214.4	-22.2	-106.5
ASO3948	AluY	0	0	-115.4	0
ASO3950	FRAM	-67.6	-103.4	-13.6	-64.1
ASO3952	AluSx	0	-26.9	-105.7	-25
ASO3960	AluSx	-86.5	-350.5	-25.8	-260.7
ASO3961	AluSx	-111.4	-360.3	-39.9	-262.4
ASO3973	AluJb	-32	0	-298.5	0
ASO3974	AluSx	-99	-366.7	-36.2	-262.2

*From Antisense lncRNA Pipeline (Engstrom et al, 2006)
**Motif search using REPEATMASKER for Alu sequences within the specific lncRNA
***Free energy (ΔG) calculation considered duplexes that contain ≥10 continuous basepairs; otherwise, free energy was designated to be 0
Grey highlights denote studied lncRNAs: ASO1998, ½-sbsRNA4; ASO3488, ½-sbsRNA3; ASO3667, ½-sbsRNA2; ASO3720, ½-sbsRNA1

Supplementary Table 3. Comparison of RT-sqPCR shown in Fig. 1 and RT-qPCR *

		RT-sqPCR **			RT-qPCR		
	siRNA	Control	STAU1	½-sbsRNA1	Control	STAU1	½-sbsRNA1
Fig. 1b	½-sbsRNA1	100	103±5	61±4	100	107±4	64±3
	SERPINE1 mRNA	100	451±5	308±5	100	443±7	336±10
	FLJ21870 mRNA	100	325±15	200±10	100	303±22	201±2
Fig. 1c	FLUC-SEPRINE1 3'UTR mRNA	13±5	82±7	44±3	11±7	82±4	48±4
	FLUC-FLJ21870 3'UTR mRNA	11±3	93±7	65±6	16±5	92±6	68±3

* sqPCR and qPCR used the same RT reactions
** See Fig. 1c legend for details

Supplementary Table 4. Primers for RT-sqPCR and RT-qPCR

RNA	Sense primer	Antisense primer
½-sbsRNA1	5'-CAGCATTCTGAGTAGCTGGGATC-3'	5'-CAGTTGTAAGCATATTTGGGTTAC-3'
Primer #1 (Supplementary Fig. 3c)	5'-CAGCATTCTGAGTAGCTGGGATC-3'	
#2	5'-CCTTCCAACCTCAGCATTCTGAG-3'	
#3	5'-GCTCAAGCAATCCTTCCAACCTC-3'	
#4	5'-TCTTTTAACTCCTGGGCTCAAGC-3'	
#5	5'-GGCTGGAATACAGTGGTGTGATC-3'	
#6	5'-CAGTCTCACTCTGTTGCCCAGGC-3'	
#7	5'-AAAGGAGAGACAGTCTCACTCTG-3'	
#8	5'-AGGACAATGACCCAAGAAGTAGG-3'	
#9	5'-CCTTTGACAAAGGACAATGACCC-3'	
#10	5'-GGACTTCCTCTGGCATGTAGG-3'	
SMG7 mRNA	5'-CCAAAGGAGACCATCTGACC-3'	5'-TTCACCTCATCTCGGCTTTCC-3'
SERPINE1 mRNA	5'-ACCGCCAATCGCAAGGCACC-3'	5'-GCTGATCTCATCCTTGTTCC-3'
FLJ21870 mRNA	5'-AACGACCTGTTAAAGGCCACTC-3'	5'-TCCTTACTTTGCAGGCATCCAG-3'
FLUC mRNA	5'-AATACGACTCACTATAGGGA-3'	5'-TCTAGAGGATAGAATGGCG-3'
MUP mRNA	5'-CTGATGGGGCTCTATG-3'	5'-TCCTGGTGAGAAGTCTCC-3'
½-sbsRNA1 (Fig. 2a, Supplementary Fig. 6b only)	5'-CAGCATTCTGAGTAGCTGGGATC-3'	5'-GAACCTGTACCCTTCAGCTTACC-3'
½-sbsRNA1^{R} (Fig. 2a, Supplementary Fig. 6b only)	5'-CAGCATTCTGAGTAGCTGGGATC-3'	5'-GAACCCATACAGTTCAGCTCAGA-3'
IL7R mRNA	5'-AAGTGGCTATGCTCAAAATG-3'	5'-TTCAGGCACTTTACCTCCAC-3'
½-sbsRNA2	5'-GTCCAGGAAGAAGGTGCAAAG-3'	5'-GGCTACCATATTGGACAGCAC-3'
½-sbsRNA3	5'-CTAAATCTTCCCATGAAATAGGTG-3'	5'-GGCCTTTGATAGAAATGTGTAGG-3'
½-sbsRNA4	5'-GGCGTTTGTAGATCACTCCTTC-3'	5'-ATGCGTGGTGAAACTCAACTGG-3'
GAPDH mRNA	5'-AAGGTCGGAGTCAACGGATTTG-3'	5'-ATGACAAGCTTCCCGTTCTCAG-3'
RAB11FIP1 mRNA	5'-CCTGCTGAAGACCTTGTGAGAAG-3'	5'-AGGATGAAGTCGGGGCTTGAC-3'
CDCP1 mRNA	5'-GCAAGGTCTACCTGAGGACC-3'	5'-CAGTCAAGTCCACAGTCCTTGG-3'
MTAP mRNA	5'-TCTTGTGCCAGAGGAGTGTG-3'	5'-CCACCGAAACTGCTTCCTCG-3'
BAG5 mRNA	5'-CCCAGTGGGAGTGCTTGTGAAA-3'	5'-AAGACGTTCTGTCTCCTGTGCT-3'