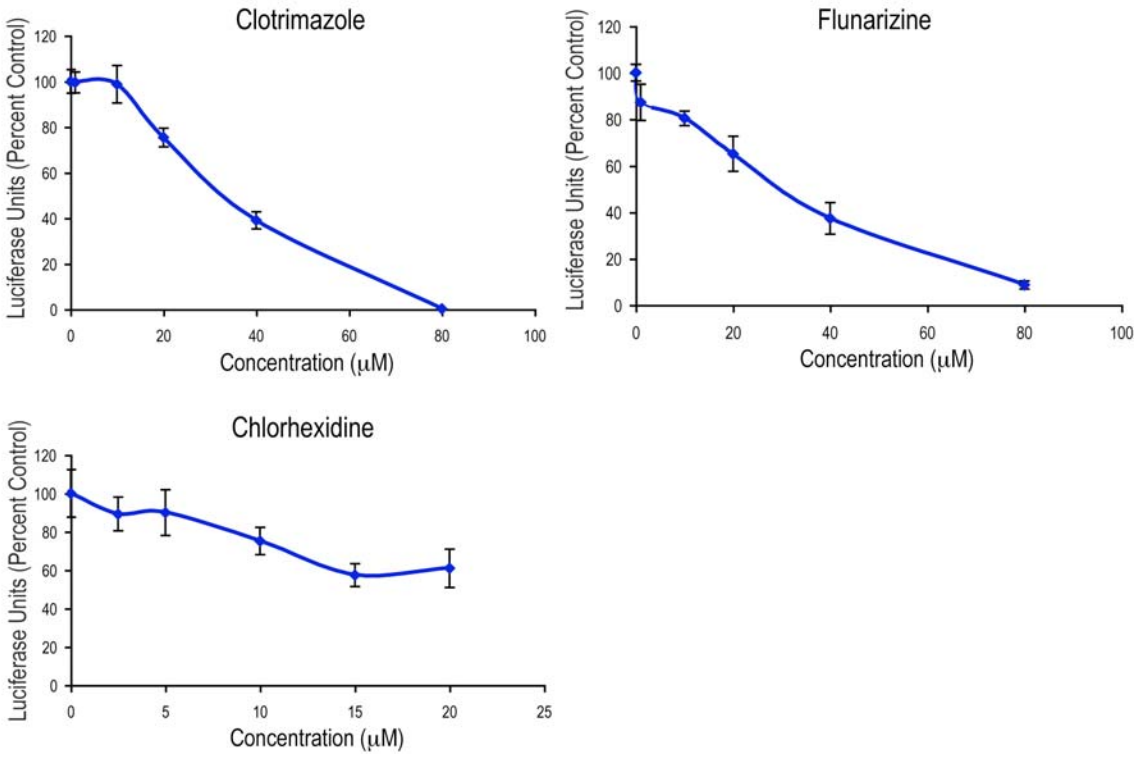
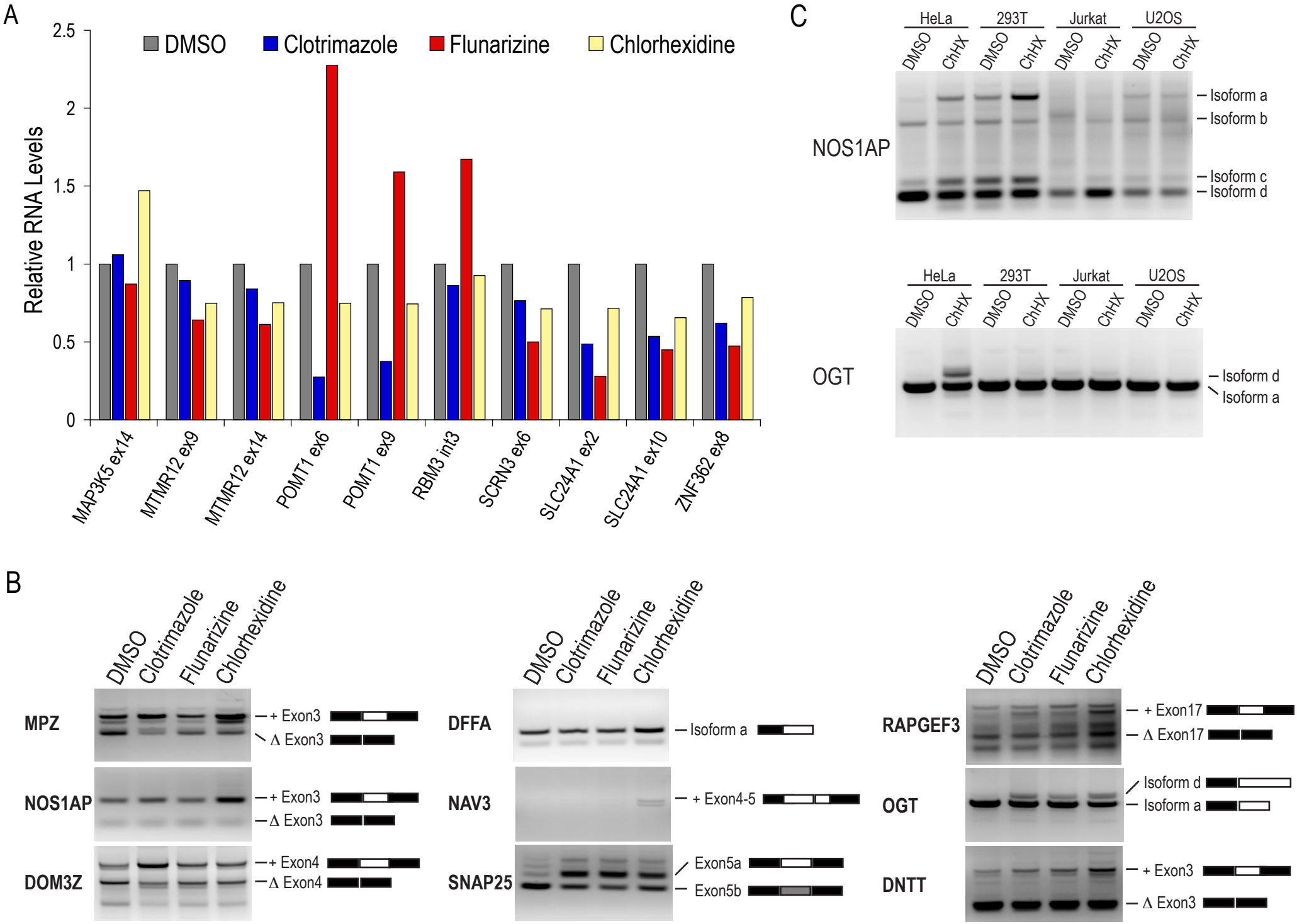
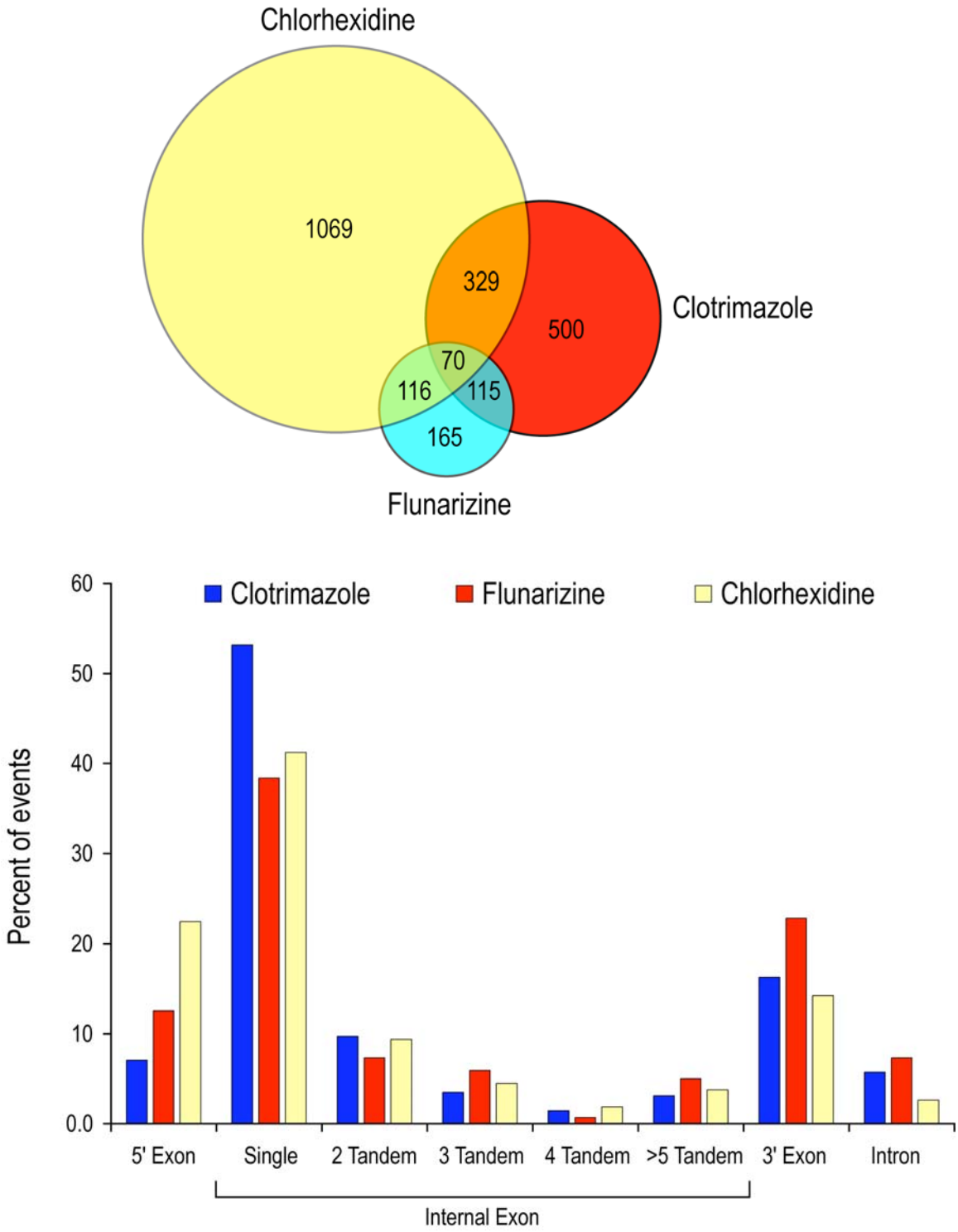


Supplementary Figure 1. Dose response for the splicing modulators. 10000 Luc-I stably expressing cells were treated with DMSO or increasing concentrations of compounds in 96-well plate for 4 hours, followed by luciferase assay.



Supplementary Figure 2. Confirmation of exon array. A. Real-time PCR for a select number of exons identified by exon array. B. RT-PCR confirmation of alternative splicing events identified by exon array. C. Cell type specificity of chlorhexidine on NOS1AP and OGT.



Supplementary Figure 3: Regulation of alternative splicing by the three compounds.
Venn diagram of the affected transcripts from the exon arrays.
Breakdown of the splicing modulators-mediated alternative splicing events identified by exon arrays.

Supplementary Table 1: Summary of the exon array for splicing inhibitors (all analyses were performed with FDR <0.01)

	Total transcripts analyzed	Transcript level changes	Alternative splicing changes
Chlorhexidine	17867	191	1444
Clotrimazole	17859	<5	874
Flunarizine	17868	<5	326

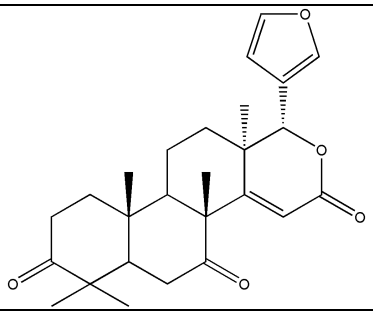
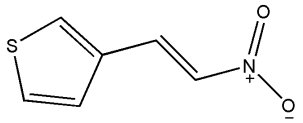
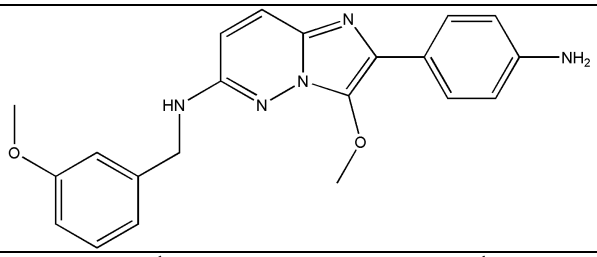
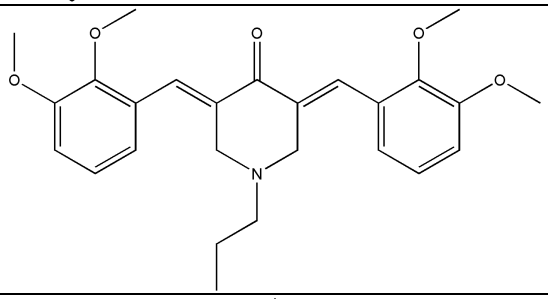
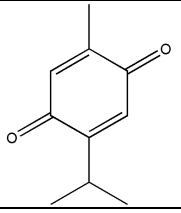
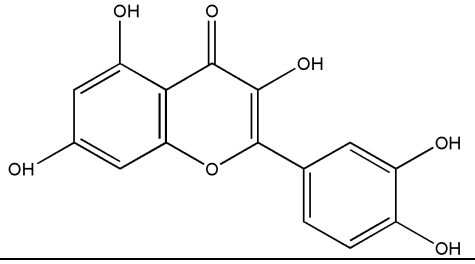
Supplementary Table 2: primers used for RT-PCR

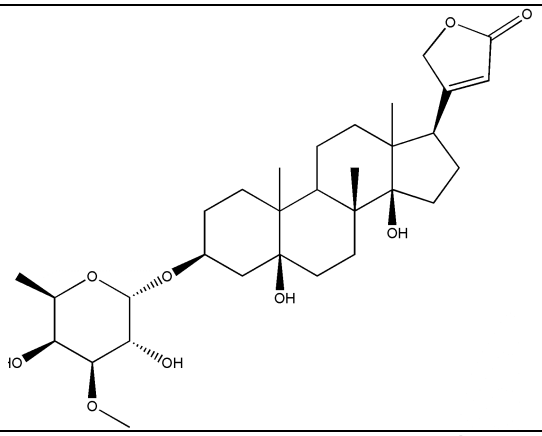
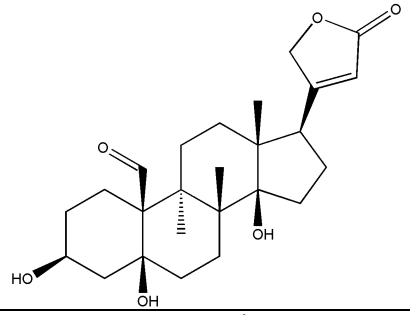
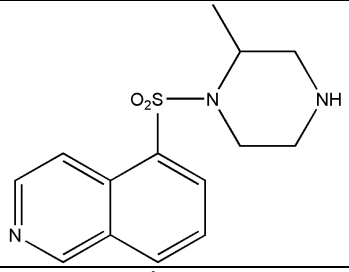
Coilin exon2F	GCTCAAATGGTGGTGGACAGG
Coilin exon3R	GCAGCTGCTAACAGTGGTAACAGAC
RON exon10F	TGTGAGAGGCAGCTTCC
RON exon12R	TAGCTGCTTCCTCCGCC
Casp9 exon2F	GCTCTTCCTTTGTTCATCTCC
Casp9 exon7R	CATCTGGCTCGGGGTTACTGC
Coilin unsplicedF	TGTGTGGAGTTCATGTCATGGA
Coilin unsplicedR	TGGGTGTCTCTACTGGATTCTGAAA
CCDC56 exon1-2 unsplicedF	CCTGGTGTTGGCTATTTGTATCC
CCDC56 exon1-2 unsplicedR	GCCCTCTTGCACACTCTGTTC
ILF2 exon4-5 unsplicedF	AGGCCTTGCTGAAGAGGAATC
ILF2 exon4-5 unsplicedR	GACATTTCTGGAAGACAGCCAAA
ILF2 exon5-6 unsplicedF	GATTGTGGCTCCAGGGACAT
ILF2 ex5-6 unsplicedR	AAGCTGCCCTTTCCTAAAACTAAAT
IK exon14-15 unsplicedF	GGGAAGGCACAGAATCATATCC
IK exon14-15 unsplicedR	AAATTCAGCGTAAAAGGGAAGGA
DIAPH1 int11 F	CCCTGATCCCTGTGTGGAAT
DIAPH1 int11 R	GACACATAAGCCTGATGCTCTGTT
CK1A1 int1 F	CGAACCTCGTCCGCTGTCT
CK1A1 int1 R	GTTCCCCCAACCTTTCTATCG
EIF3D int1 F	GAGACTCGTTGTCTTGGTATTATGATGT
EIF3D int1 R	GCAGCAGCCCGCAAAG
ERBB2IP int16 F	TTATTTGCCCCTTATACAAACTTAGCT
ERBB2IP int16 R	TGTCTCACATACCAAGAGCCATATTT
ETF1 int10 F	GCTTCCGGTGAGGTGCTTATT

ETF1 int10 R	TGCACCTGCTGCGTCAA
ETF1 int2 F	CGCATGGCCGGATGAG
ETF1 int2 R	AGATCCAGAAGGCGGGAGTT
FGF18 int1 F	CTGACTCTTCGACTGCGTGTCT
FGF18 int1 R	GTAAACACCTGCGGGAAACAG
Gemin3 int1 F	GGCGTGTTCTCATACGTTTTTG
Gemin3 int1 R	GGGTCTCCTGAGATTCCCCTAGT
hnRNP M int7 F	CGTGGAATAGGCACTGTTACTTTTG
hnRNP M int7 R	ATTCCTGCAGAAGGATACATATAGCTT
hnRNP M int8 F	CACGTCAAGATGGTAAGTCAGTAGGA
hnRNP M int8 R	CAACATACTGCACCCTATTTAACTTAGAC
MTRR int1 F	TCGAGCCGATCATCTGATTTC
MTRR int1 R	TCAAATTAAGGAGAGTGTACGAATGAA
NR3C1 int1 F	CAGTGAGCGGCAGGATGAA
NR3C1 int1 R	TGCACAGCTGAGGGCAAA
NR3C1 int2 F	TGCTAAAGCAATGCAGTGAACA
NR3C1 int2 R	GCAAGAACCCTGTGAGCAAGA
NOP2 int16 F	TGGTCAGCCAGATGGTCTGA
NOP2 int16 R	AGGGTCAAGTGGCTGGTAGGT
POM121 int2 F	TCTGAATGCTCTCAGTTGAATGG
POM121 int2 R	TGCCCACAAGGAATTAAATGG
PSMB2 int4 F	TTTCCTCCCCTTGCCTAAGTG
PSMB2 int4 R	AGCACAAAAGCATCCCTGTGT
RPL23 int1 F	GACTGGATTAGGCCCTGGTTT
RPL23 int1 R	GCAATTACTCCTGCAAGGCATA
ZNF622 int1 F	AAATGATGAGGGAAGGTGGTTTAG

ZNF622 int1 R	CCAAACCTGCTGGCCAGAT
SRRM2 int8 F	CCACCTTAGTGGGAGGGAGTT
SRRM2 int8 R	CTCACGTATCCCTCAACCCTTT
SRRM2 int9 F	TGCACAGACCATTCGGAAGA
SRRM2 int9 R	TGCTTTAGCCTGTCAGCTCCTA
BRWD2 int15 F	CCGCCAGACCGTAGTCTCA
BRWD2 int15 R	AGACATGATGCTAATGGCACAAA
DOCK5 int41 F	AATGCGGAGAAGATGACCAGTAC
DOCK5 int41 R	CCCGGAAAGGATACACTGCTT
TMEM1 int12 F	CCTCTCCGCTCCAGCTACCT
TMEM1 int12 R	TGCTTGCGCTCCTCTTCAGT
TMEM1 int16 F	CCGAAGCCATGCTCATCCT
TMEM1 int16 R	CACCTCACCTCTCGTGTTGGA
Caspase9 int3 F	GGAGAGCCCGGGTTTACG
Caspase9 int3 R	GCAGAAGTTCACATTGTTGATAATGA
RON int10 F	CACCCAGTGCCAACCTAGTTC
RON int10 R	CCCTATCCCTTACACTTACCTCAAAC
SMN int3 F	CGAGATGATAGTTTGCCCTCTTC
SMN int3 R	TCCCCAACTTTCCACTACAAAAG
DNAJB2 int9 F	GAGCGGGTGGAAGTGGAGGAGGAT
DNAJB2 int9 R	TCAGAGGATGAGGCAGCGAGAGGC
TRA2Beta int1 F	GGTAGAGTTAGAGCCCGTGCGGAG
TRA2Beta int1 R	GGCCTCCCTCCTTCACGACCAAAG

Supplementary Table 3. A list of 10 hits from the splicing screen that showed differential effect on Luc-I vs. Luc cells.

Compound	Splicing Activity % of control (Luc-I/Luc)	Structure
MELIACIN-1(2),14(15)-DIEN-3,7-DIONE	83	
M10H10	86	
GBLD	73	
Chem2A7	69	
Thymoquinone	76	
Quercitin	81	

Emicymarin	57	
Strophanthidin	51	
H-7	83	
Isradipine	70