Potent and Selective Inhibition of A-to-I RNA Editing with 2'-O-Methyl/Locked Nucleic Acid-containing Antisense Oligoribonucleotides

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Supporting Information

Pages

Supplementary Table 1: Oligonucleotide Sequences Used for Antisense and RT-PCR

Oligonucleotides	**Sequence (5' to 3')**
Antisense oligonucleotides	
OMe1	CAUAAUCCGAAAGUAUUGAGCAU
$5HT_{2C}R$ morpholino	CAUAAUCCGAAAGUAUUGAGCAU
OMe2	ACAGUACAUAAUCCGAAAGUAUU
$5HT_{2C}R$ LNA/2'-O-methyl mixmer*	AC***A***GU***A***CA***T***AA***U***CC***G***AA***A***GU***A***UU
NL18 mixmer*	C***T***GU***G***G***G***A***C***A***G***A***G***G***A***A***C***A
NL18 control mixmer*	***GG***AAU***C***AA***GT***AU***AG***CU***C***A
NL18 morpholino	CTGUGGGACAGAGGAACA
RT-PCR	
DNA for primer extension	CCGCGAATTGAAACGGCTATGCTC
NEIL1 Outside Forward	TCCAGACCTGCTGGAGCTAT
NEIL1 Outside Reverse	TGGCCTTGGATTTCTTTTTG
NEIL1 Inside Forward	CCCAAGGAAGTGGTCCAGTTGG
NEIL1 Inside Reverse	CTGGAACCAGATGGTACGGCC
BLCAP Outside Forward	CCAGAGAGCACAGCGGC
BLCAP Outside Reverse	CAAATTGTGCAAGGCTTCCG
BLCAP Inside Forward	TCAGCTCCTGGAGAGTGAGGGTT
BLCAP Inside Reverse	TCCAGGAGGAAGCTGAGCAGGTAG

*bold and italicized residues are LNA

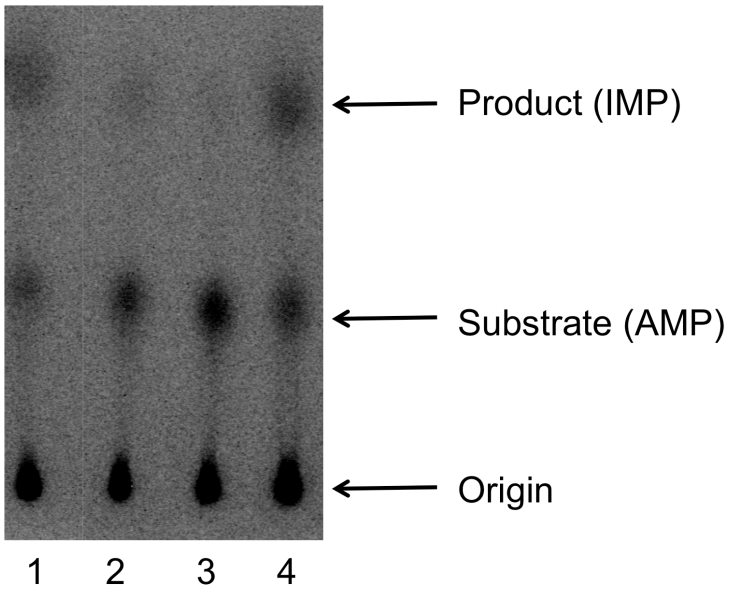

Figure S1. Inhibition of editing of the NEIL1 RNA by the NL18 mixmer. Representative storage phosphor diagram of TLC plate used to separate deamination products arising from the reaction of 50 nM ADAR1 with ≤ 18 nM RNA. Lanes 1-3: AON concentrations of 0, 10, 30 nM, respectively. Lane 4: 100 nM of the control AON.

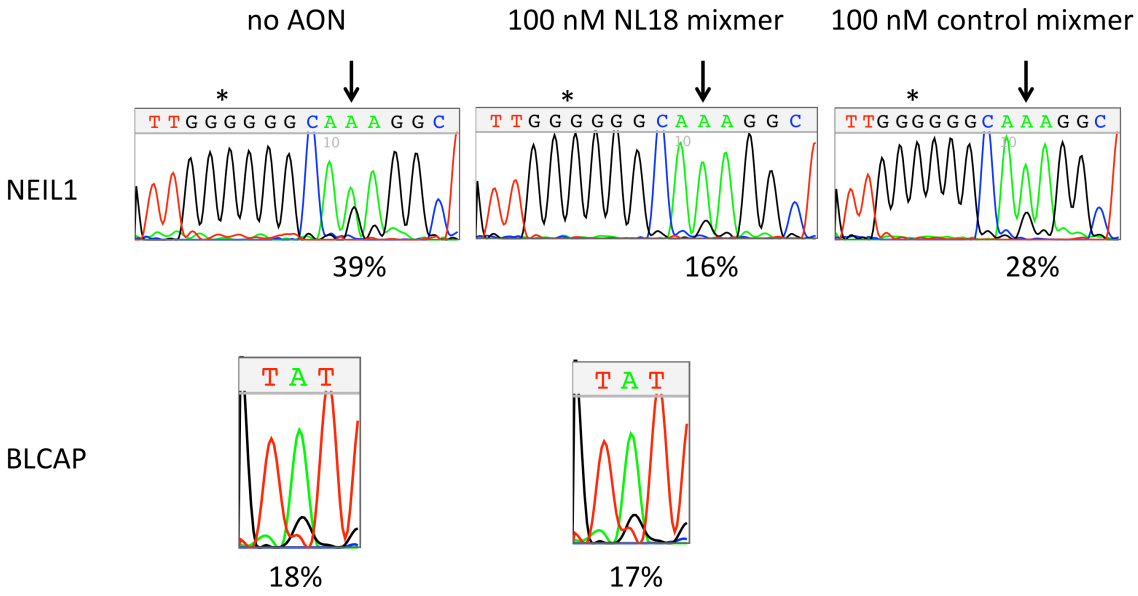

Figure S2. Representative sequencing traces upon isolation of RNA from HeLa cells with treatment of varying concentrations of AON. AON target for inhibition is the NEIL1 pre-mRNA, the BLCAP RNA is used as a control. Arrow indicates recoding site, * indicates exon-exon junction.