FIG. 1A

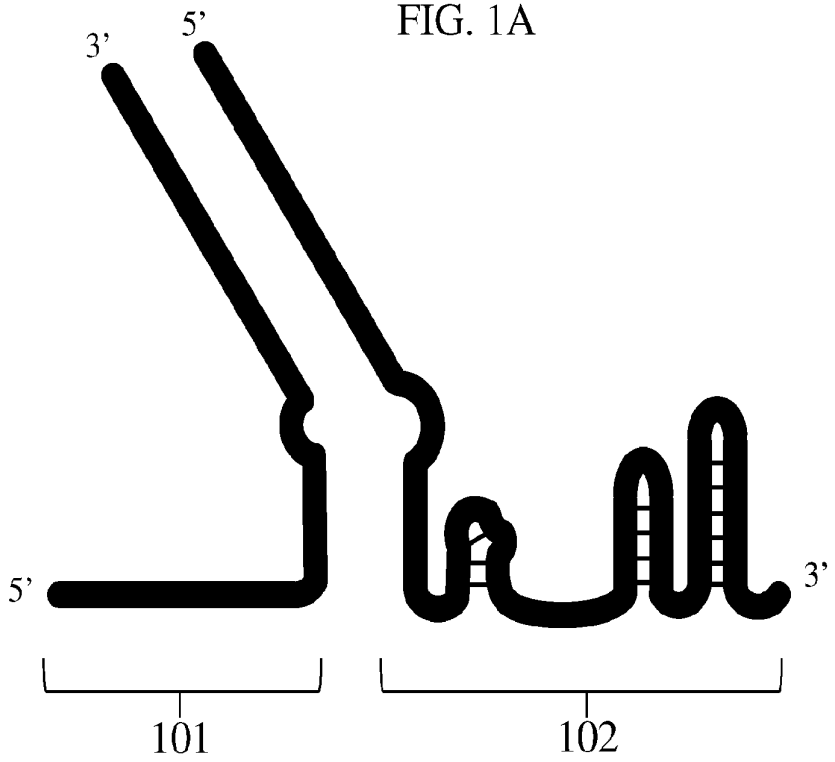
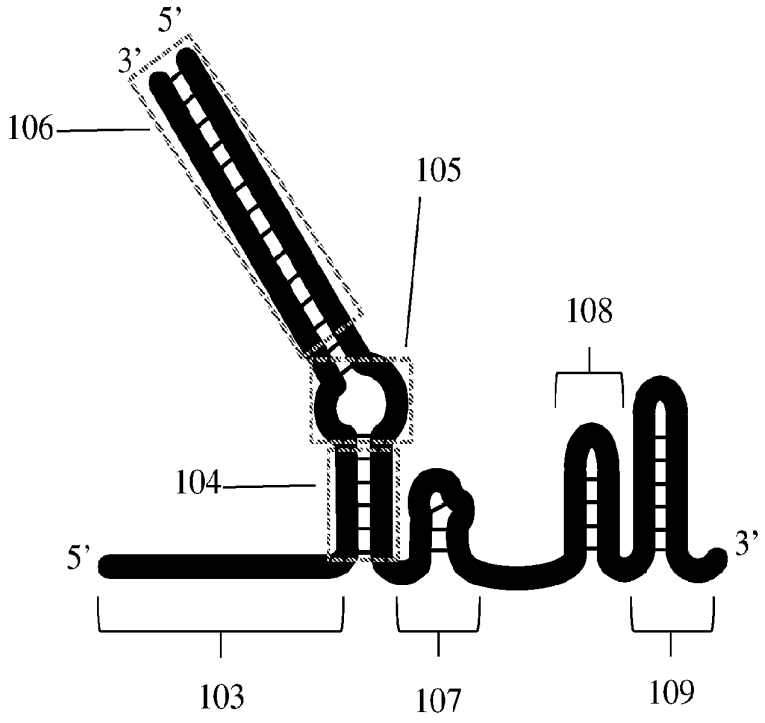


FIG. 1B



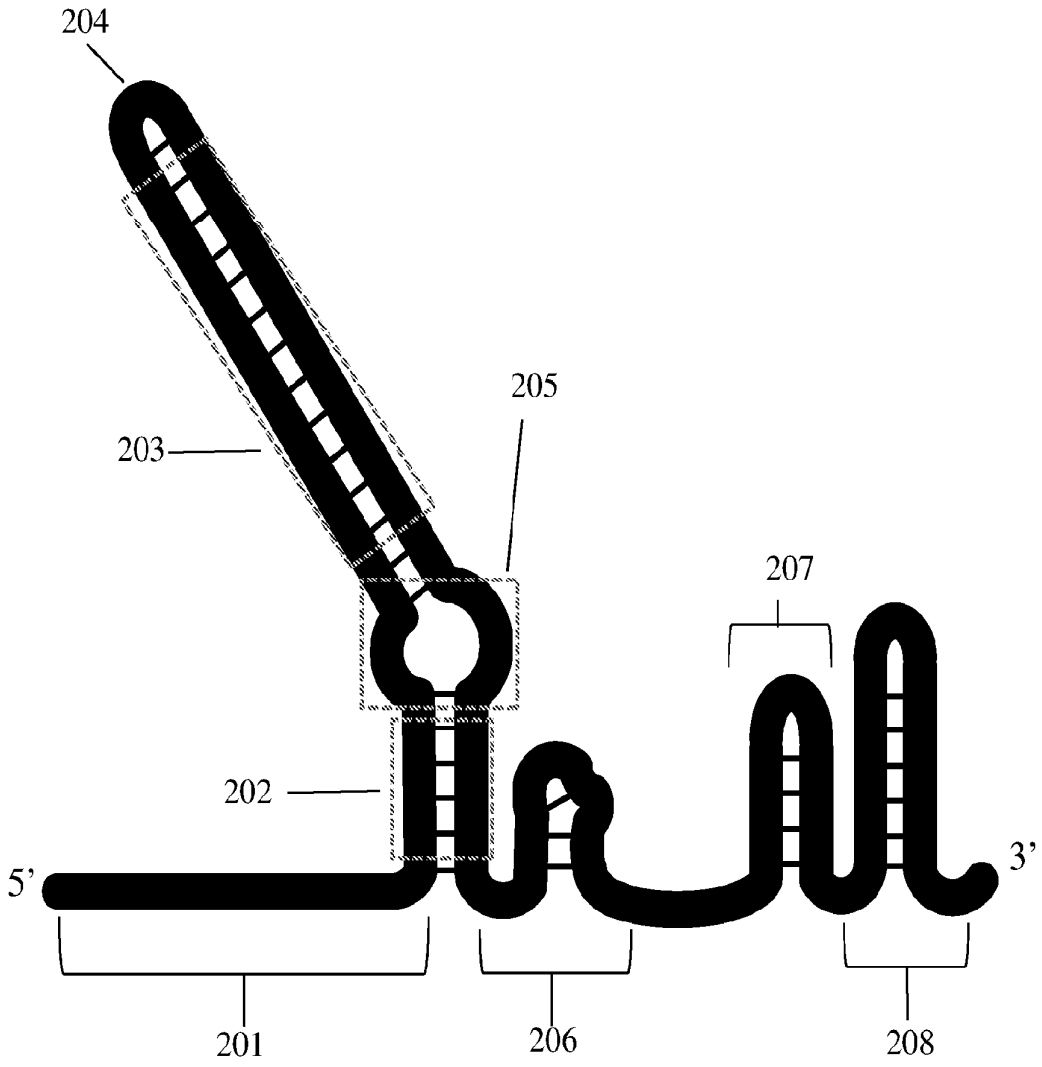


FIG. 2

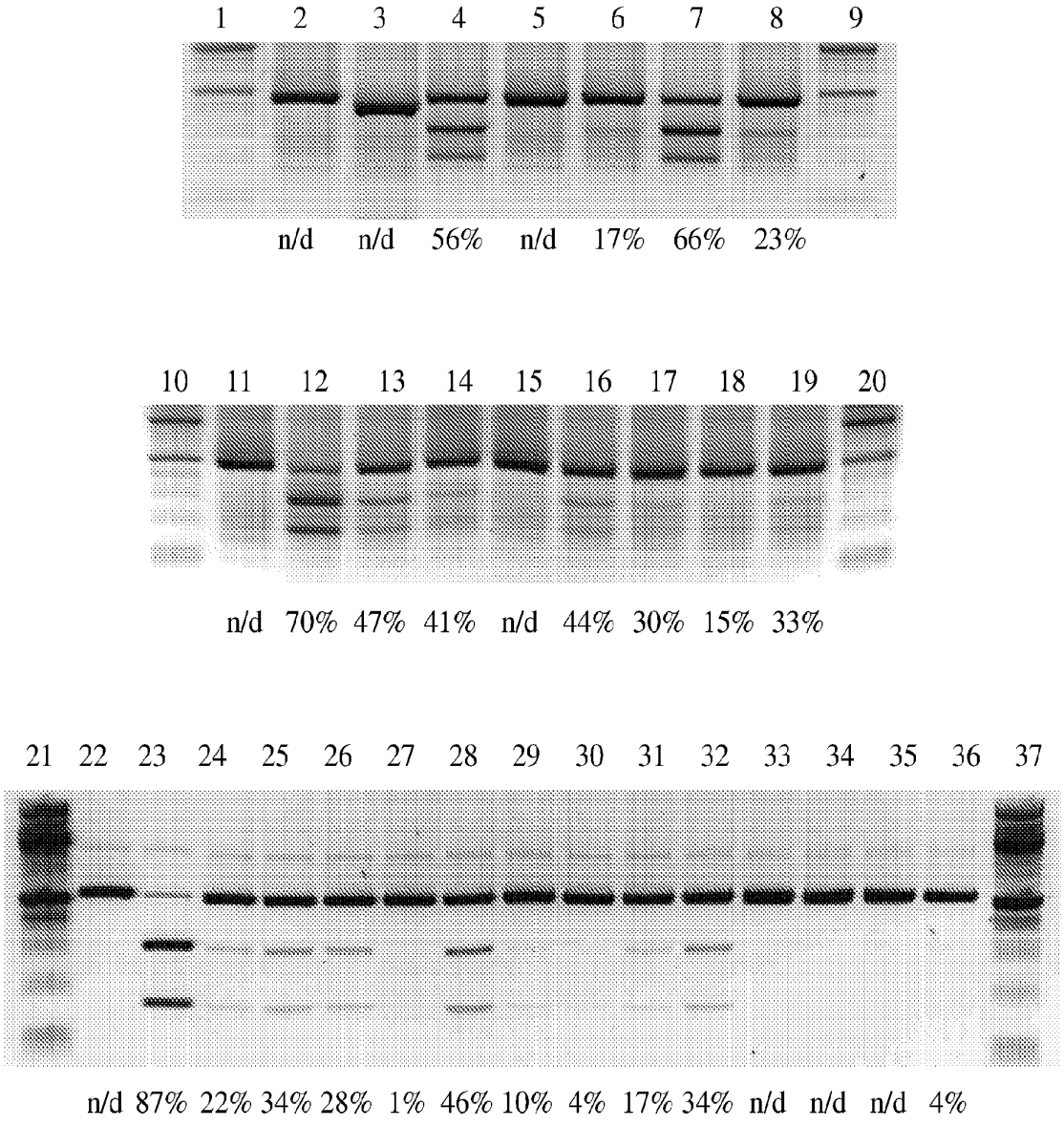
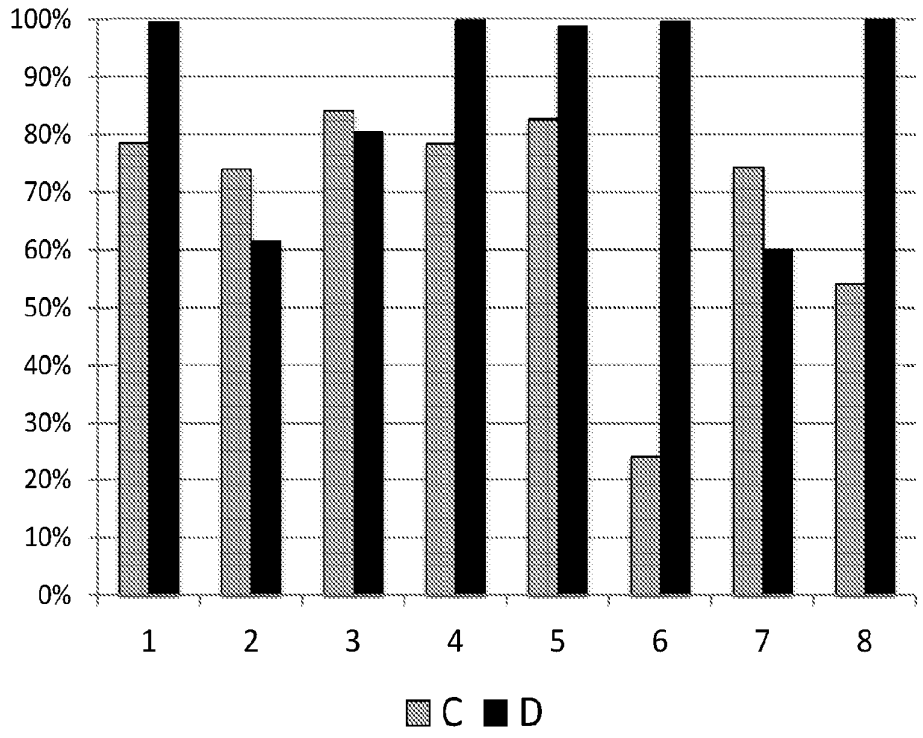

1 2 3 4 5 6 7 8 9
n/d n/d 56% n/d 17% 66% 23%
10 11 12 13 14 15 16 17 18 19 20
n/d 70% 47% 41% n/d 44% 30% 15% 33%
21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37
n/d 87% 22% 34% 28% 1% 46% 10% 4% 17% 34% n/d n/d n/d 4%

FIG. 3

FIG. 4A

	A	B	C	D
1	n/d	n/d	79%	100%
2	n/d	n/d	74%	62%
3	n/d	n/d	84%	80%
4	n/d	n/d	78%	100%
5	n/d	n/d	83%	99%
6	n/d	n/d	24%	100%
7	n/d	n/d	74%	60%
8	n/d	n/d	54%	100%

FIG. 4B



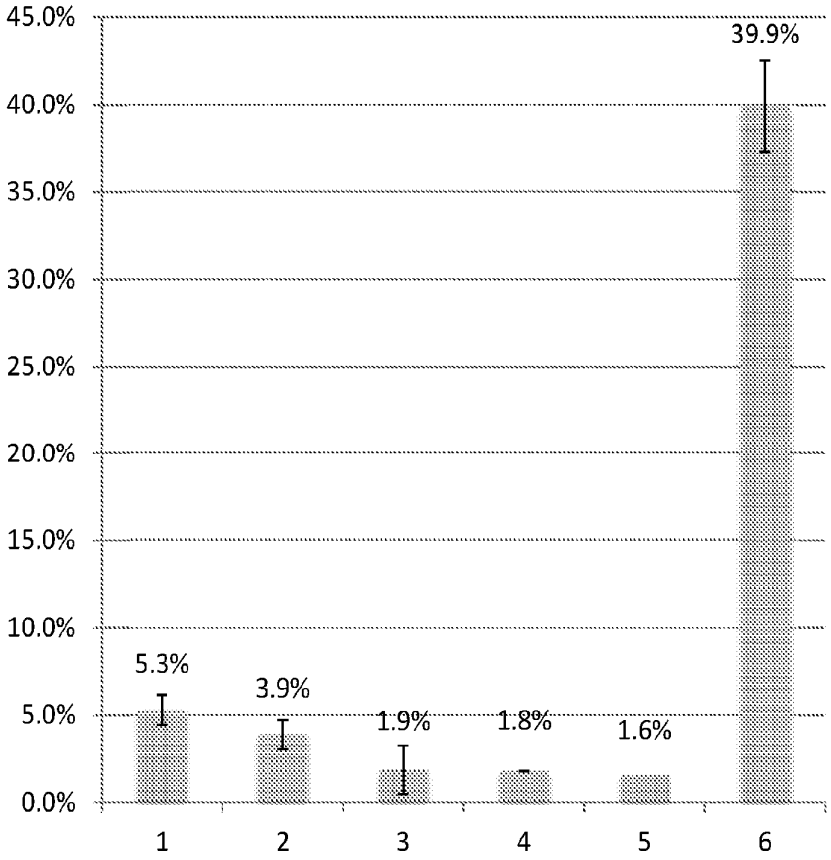


FIG. 5

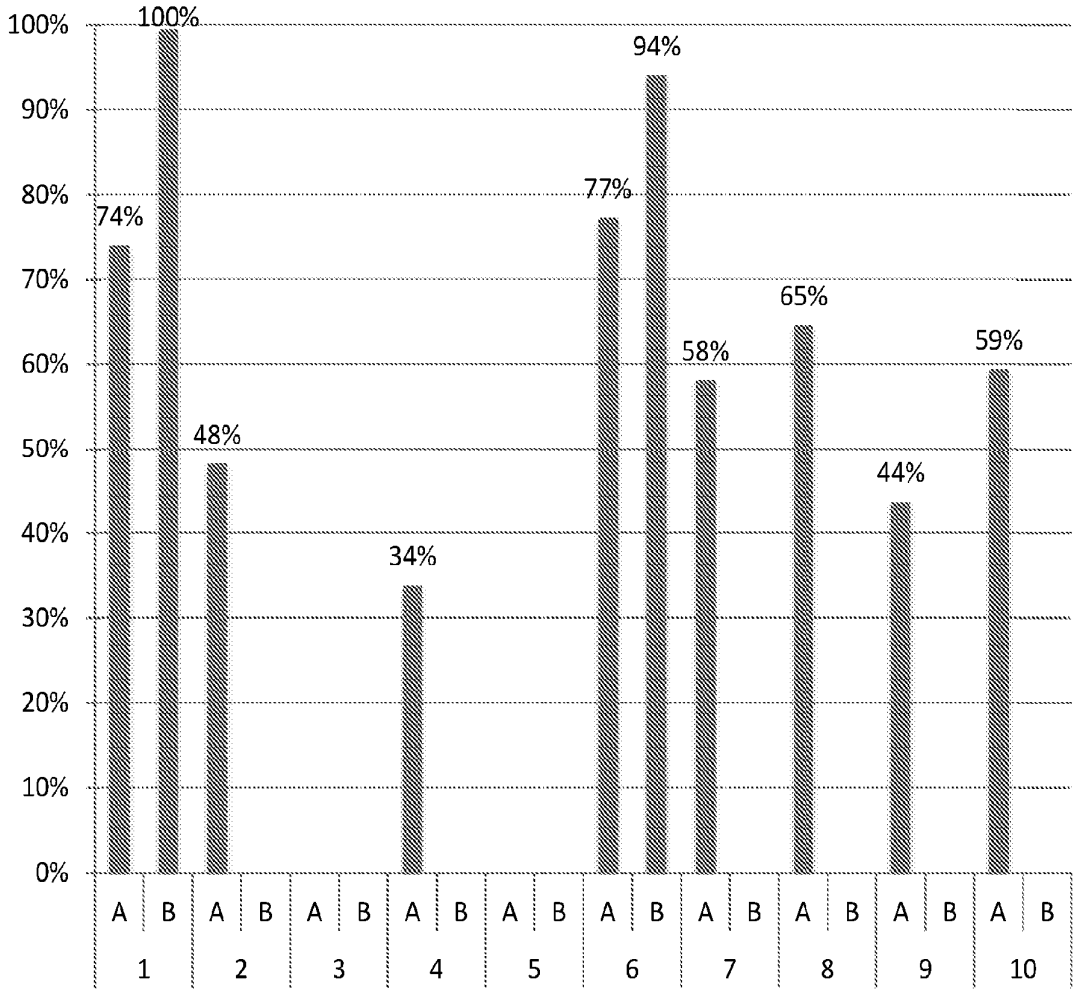

100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
74%
100%
48%
34%
77%
94%
58%
65%
44%
59%
A B A B A B A B A B A B A B A B A B A B
1 2 3 4 5 6 7 8 9 10

FIG. 6

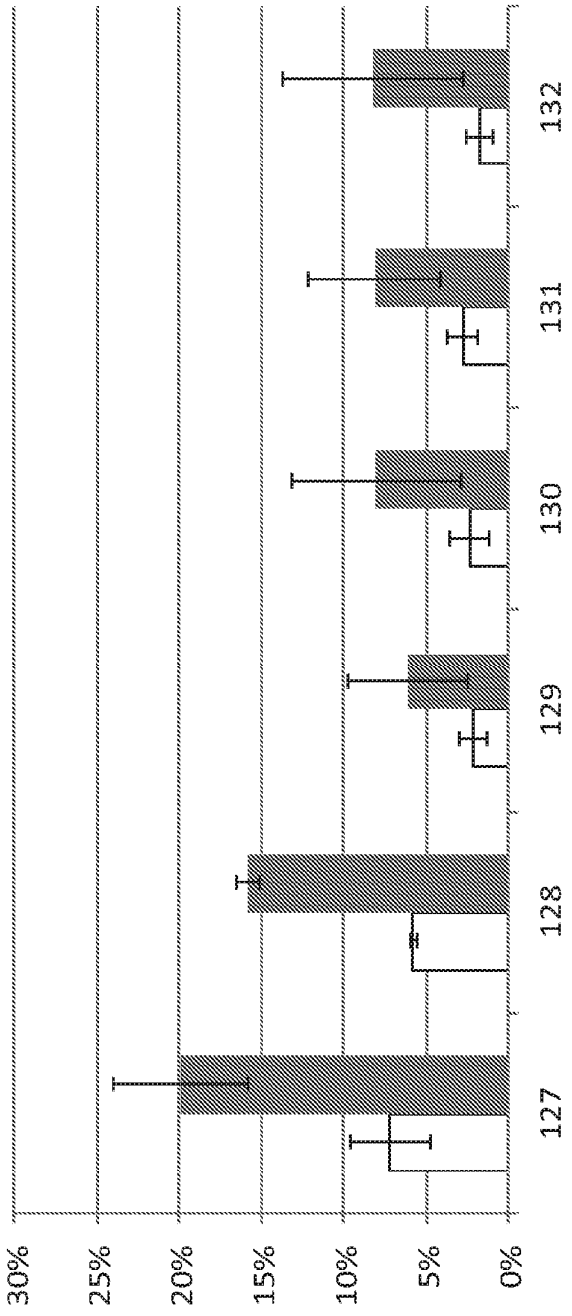


FIG. 7

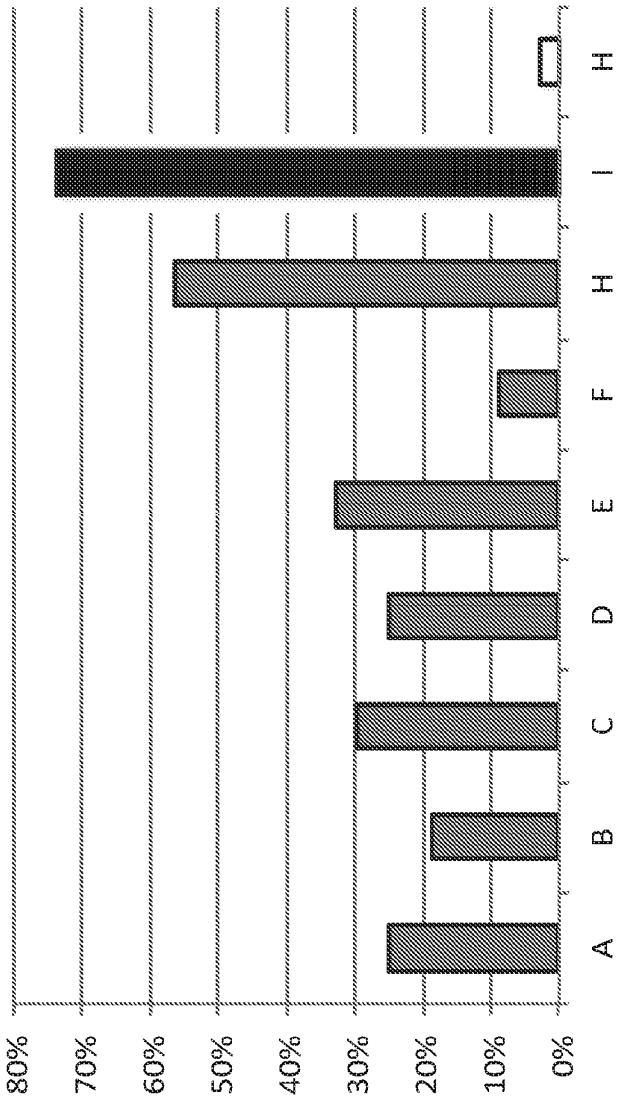


FIG. 8

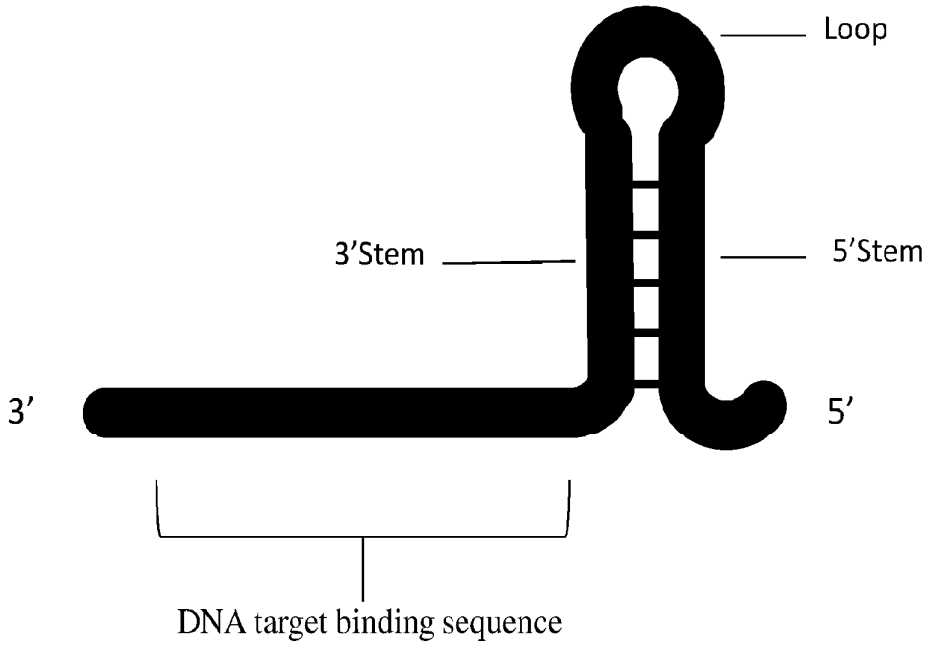


FIG. 9

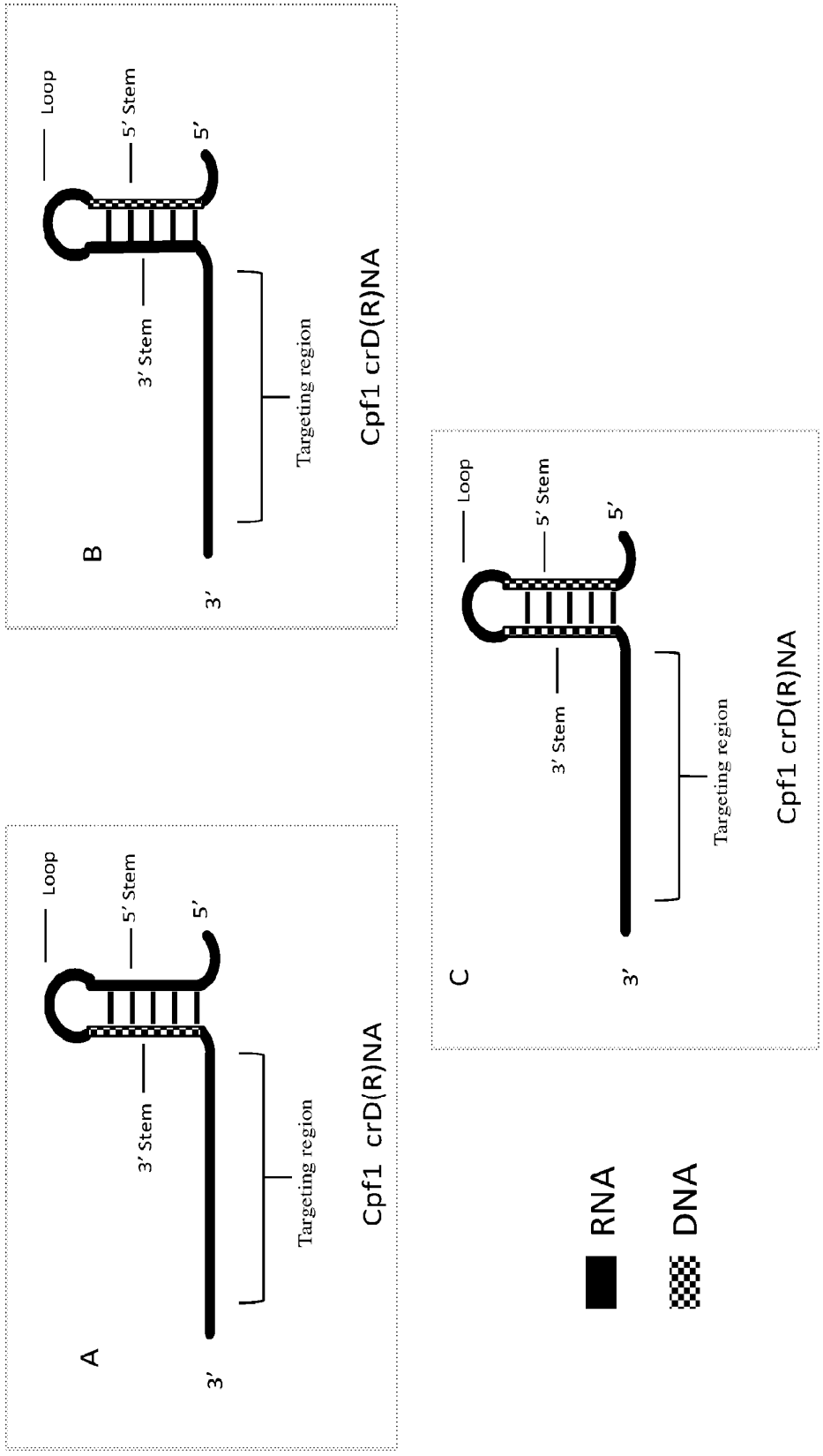

A
Loop
5′ Stem
5′
3′ Stem
Targeting region
3′
Cpf1 crD(R)NA
B
Loop
5′ Stem
5′
3′ Stem
Targeting region
3′
Cpf1 crD(R)NA
C
Loop
5′ Stem
5′
3′ Stem
Targeting region
3′
Cpf1 crD(R)NA
RNA
DNA

FIG. 10A-C

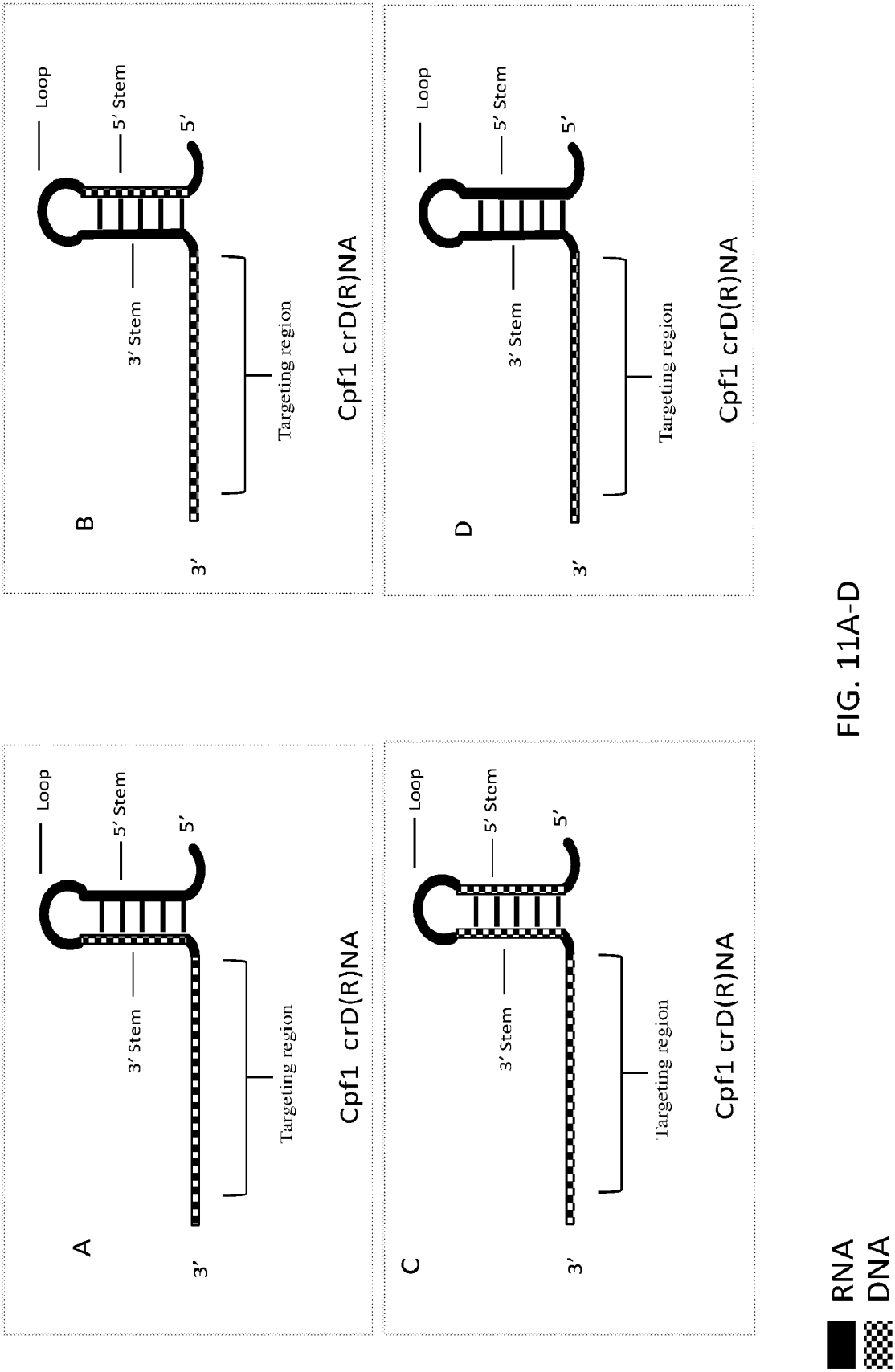

A
Loop
5′ Stem
5′
3′ Stem
Targeting region
3′
Cpf1 crD(R)NA
B
Loop
5′ Stem
5′
3′ Stem
Targeting region
3′
Cpf1 crD(R)NA
C
Loop
5′ Stem
5′
3′ Stem
Targeting region
3′
Cpf1 crD(R)NA
D
Loop
5′ Stem
5′
3′ Stem
Targeting region
3′
Cpf1 crD(R)NA
RNA
DNA

FIG. 11A-D

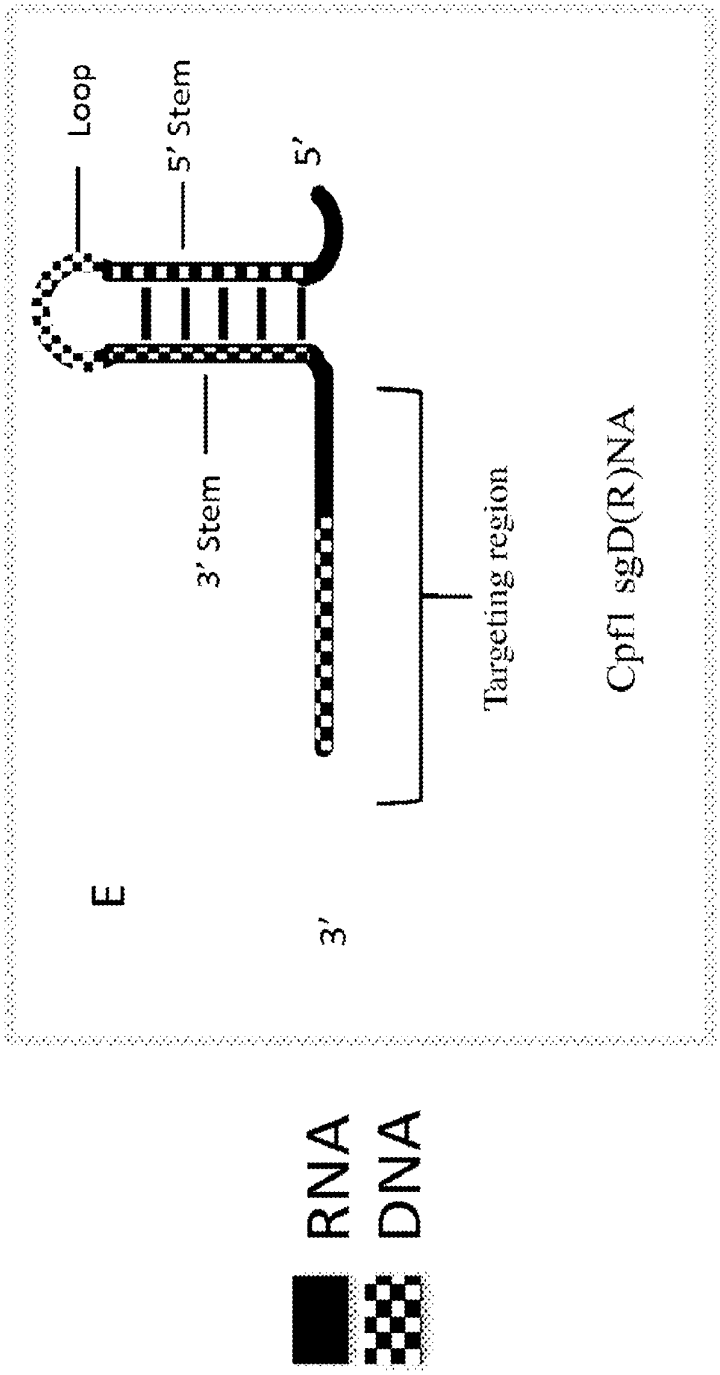


FIG. 11E

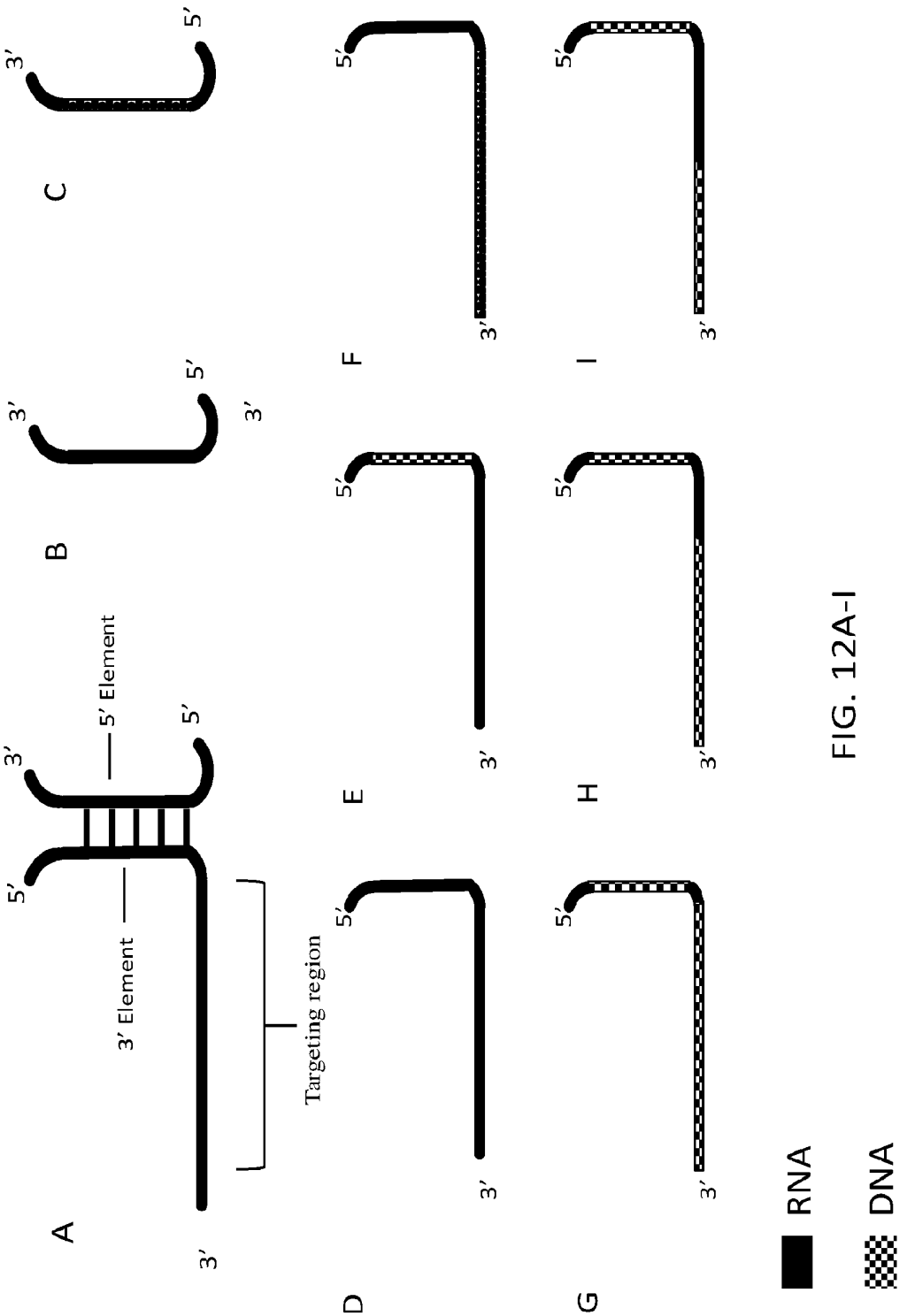

A
3'
5'
5' Element
3' Element
Targeting region
5'
3'
B
3'
5'
3'
C
3'
5'
D
5'
3'
E
5'
3'
F
5'
3'
G
5'
3'
H
5'
3'
I
5'
3'
RNA
DNA

FIG. 12A-I

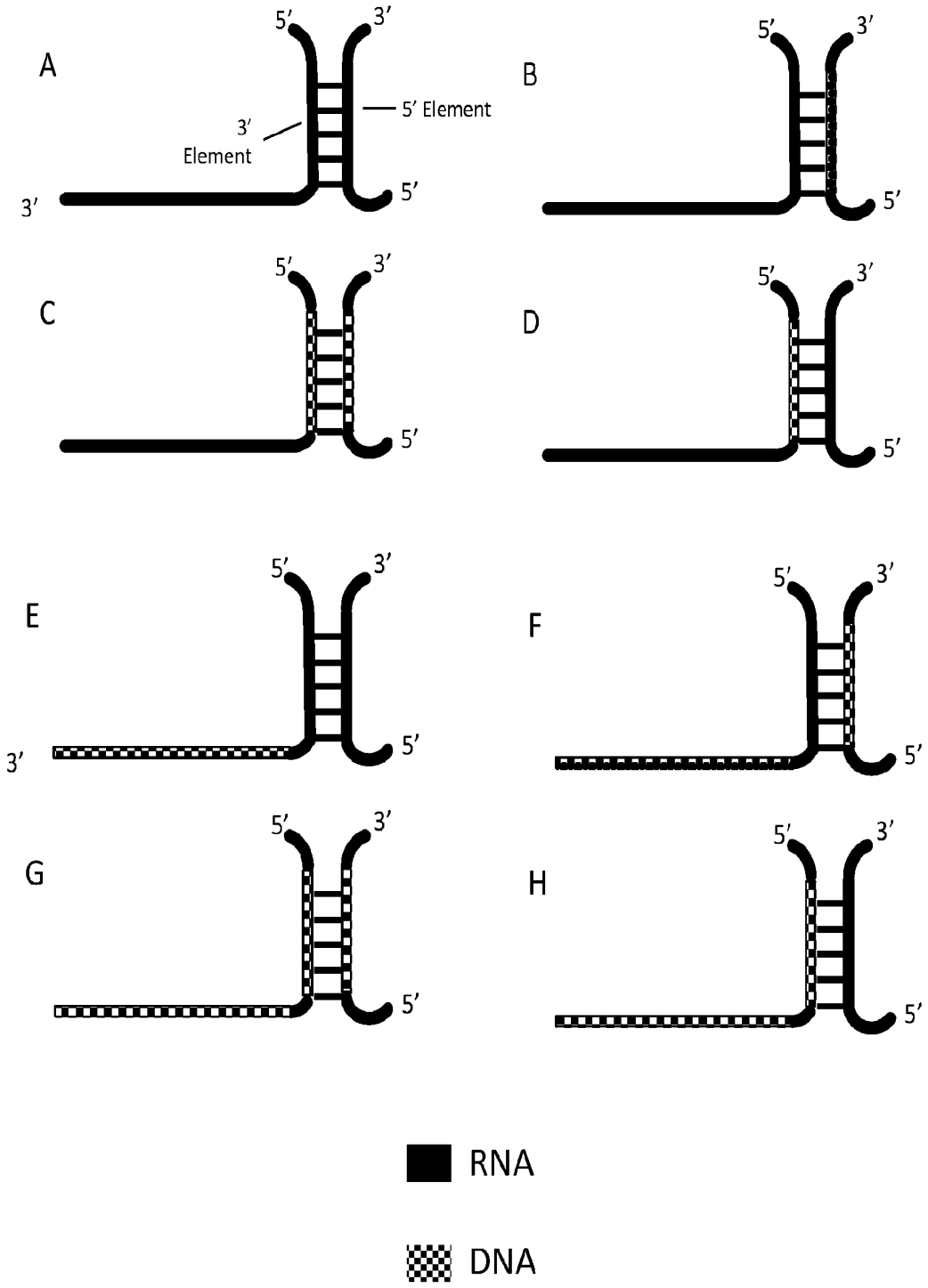

A
5′
3′
5′ Element
3′
Element
3′
5′
B
5′
3′
5′
C
5′
3′
5′
D
5′
3′
5′
E
5′
3′
3′
5′
F
5′
3′
5′
G
5′
3′
5′
H
5′
3′
5′
RNA
DNA

FIG. 13A-H

	Reference	CAGCGCACGTATATATACGCGTACGTACGTGTGAGGTATATATATCCTCCGCCG	SEQ ID NO:	216	Frequency in Treated		Frequency in Control
sgD(R)NA corresponding to SEQ ID NO.: 204	Mutation 1	CAGCGCACGTATATATACGCGTACGTACGT-TGAGGTATATATATCCTCCGCCG		217	5		0
sgD(R)NA corresponding to SEQ ID NO.: 205	Mutation 1	CAGCGCACGTATATATACGCGTACGCGTACGTtGTGAGGTATATATATCCTCCGCCG		218	113		0
	Mutation 2	CAGCGCACGTATATATACGCGTACGCGTACG-GTGAGGTATATATATCCTCCGCCG		219	62		0
	Mutation 3	CAGCGCAC----------GTATATATATCCTCCGCCG		220	12		0
	Mutation 4	CAGCGCACGTATATATACGCGTACGCGTACGT-TGAGGTATATATATCCTCCGCCG		221	5		0
sgD(R)NA corresponding to SEQ ID NO.: 206	Mutation 1	CAGCGCACGTATATATACGCGTACGCGTA----TGAGGTATATATATCCTCCGCCG		222	5		0
	Mutation 2	CAGCGCACGTATATATACGCGTACGCGTACGT-TGAGGTATATATATCCTCCGCCG		223	4		0

FIG. 14A

Protospacer Target

Expected Site of Cleavage

Protospacer Adjacent Motif

	Reference	AGTCCGCTGGCCGAGGTCGACTACCGGCCGGTGAAGCAC	SEQ ID NO:	234	Frequency in Treated	Frequency in Control
sgD(R)NA corresponding to SEQ ID NO.: 224						
	Mutation 1	AGTCCGCTGGCCGAGGTCGACTACCaGGCCGGTGAAGCAC	235		88	16
	Mutation 2	AGTCCGCTGGCCGAGGTCGACTtgCCGGCCGGTGAAGCAC	236		30	0
	Mutation 3	AGTCCGCTGGCC----------GGTGAAGCAC	237		17	0
	Mutation 4	AGTCCGCTGGCCGAGGTCGAC--caGGCCGGTGAAGCAC	238		14	0
	Mutation 5	AGTCCGCTGGCCGAGGTCGACTACCtGGCCGGTGAAGCAC	239		12	0
	Mutation 6	AGTCCGC----------caGTGAAGCAC	240		10	0
	Mutation 7	AGTCCGCTGGCCGAGGTCGACTAC-GGCCGGTGAAGCAC	241		10	0
	Mutation 8	AGTCCGCTGGCCGAGGTCGACTACCcGGCCGGTGAAGCAC	242		9	0
sgD(R)NA corresponding to SEQ ID NO.: 225						
	Mutation 1	AGTCCGCTGGCCGAGGTCGACTACCaGGCCGGTGAAGCAC	243		81	16
	Mutation 2	AGTCCGCTGGCCG----------GTGAAGCAC	244		27	0
	Mutation 3	AGTCCGCTGGCCGAGGTCGACTAC-GGCCGGTGAAGCAC	245		9	0
	Mutation 4	AGTCCGCTGGCCGAGGTCGACT--tGGCCGGTGAAGCAC	246		8	0
sgD(R)NA corresponding to SEQ ID NO.: 226						
	Mutation 1	AGTCCGCTGGCCGAGGTCGACTACCaGGCCGGTGAAGCAC	247		638	16
	Mutation 2	AGTCCGCTGGCCGAGGTCGACTAC-GGCCGGTGAAGCAC	248		52	0
	Mutation 3	AGTCCGCTGGCCGAGGTCGACTACCtGGCCGGTGAAGCAC	249		46	0
	Mutation 4	AGTCCGCTGGCCGAGGTCGACTACCcGGCCGGTGAAGCAC	250		35	0
	Mutation 5	AGTCCGCTGGTC----------aaGGCCGGCGAAGCAC	251		29	0
	Mutation 6	AGTCCGCTGGCCG----------GTGAAGCAC	252		28	0
	Mutation 7	AGTCCGCTGGCCGAGGTCGACTA--aGCCGGTGAAGCAC	253		27	0
	Mutation 8	AGTCCGCTGGCCGAGGT----------GAAGCAC	254		23	0

FIG. 14B