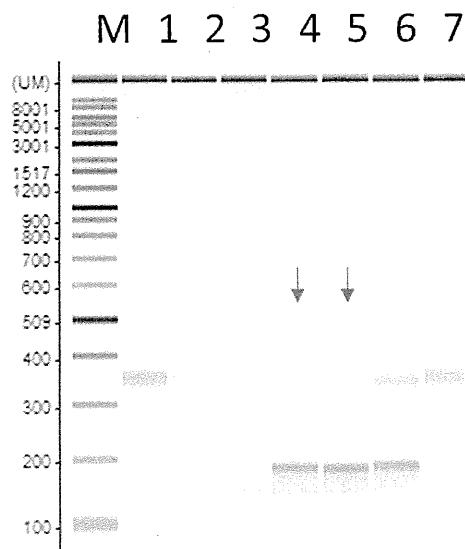


Fig. 1

	Cascade (hEMX1)	Cas3	Donor DNA	Double-stranded DNA fragment (60bp)
1	-	○	○	-
2	○	-	○	-
3	○	○	○	-
4	○	○	○	AAG + EMX1-Target sequence
5	○	○	○	ATG + EMX1-Target sequence
6	○	○	○	CCA + EMX1-Target sequence
7	Negative control		○	

Linear single-stranded DNA
(1kb lssDNA)



Cyclic single-stranded DNA
(M13 ssDNA)

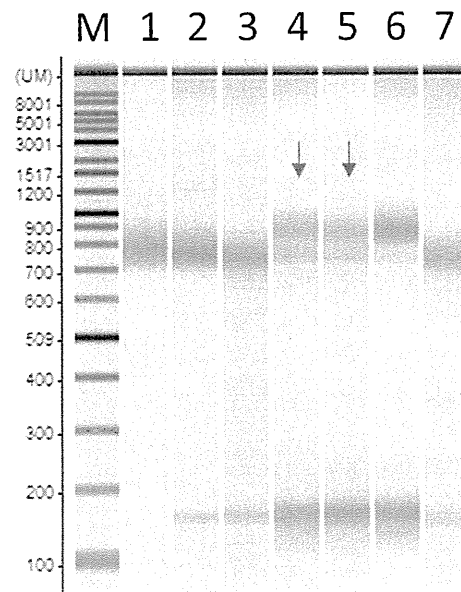


Fig. 2

	Cascade (hEMX1)	Cas3	Double-stranded DNA fragment (60bp)
1	-	○	-
2	○	-	-
3	○	○	-
4	○	○	AAG + EMX1-Target sequence
5	○	○	ATG + EMX1-Target sequence
6	○	○	CCA + EMX1-Target sequence
7	Negative control		

Double-stranded DNA
(pBlueScript)

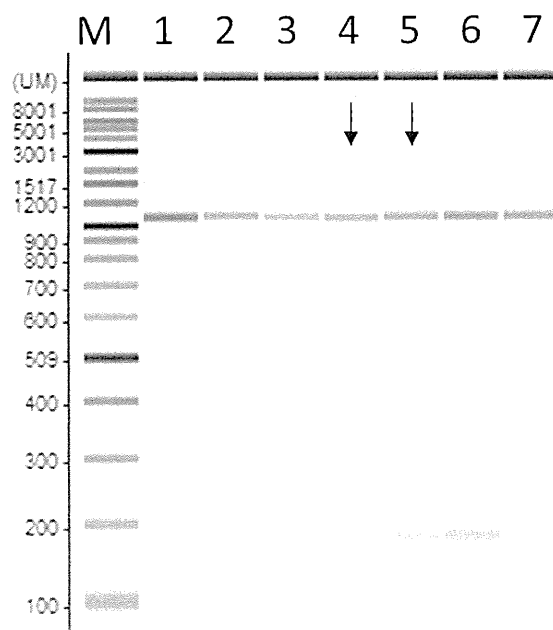


Fig. 3

	Cascade (hEMX1)	Cas3	Double-stranded DNA fragment(60bp)
1	-	○	-
2	○	-	-
3	○	○	-
4	○	○	AAG + Target sequence
5	○	○	ATG + Target sequence
6	○	○	CCA + Target sequence
7	Positive control (DNaseI)		
8	Negative control		

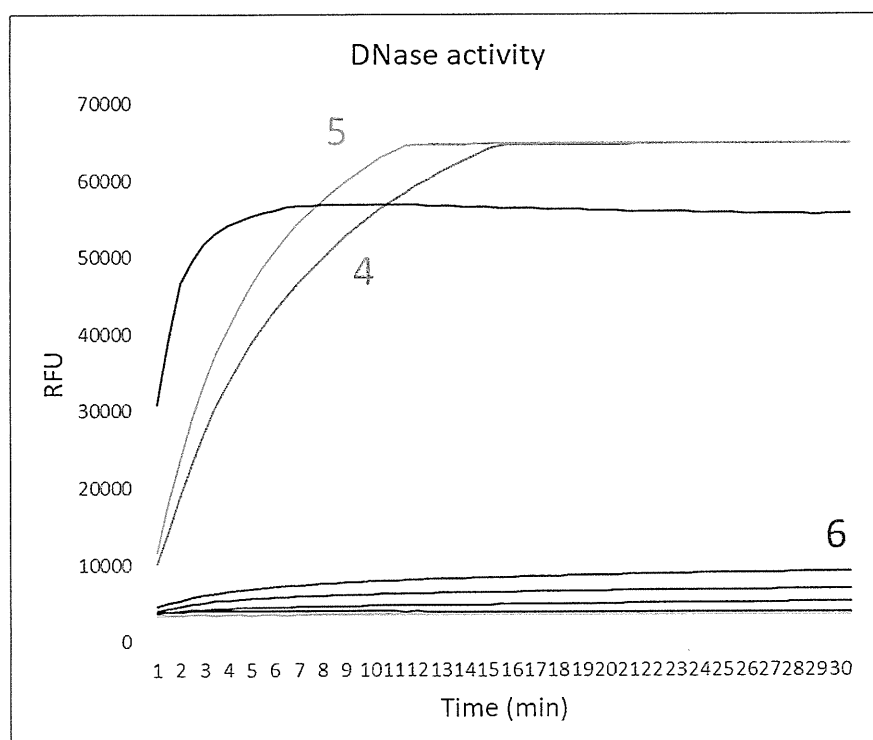


Fig. 4

	Cascade (mTyr)	Cas3	Double-stranded DNA fragment(60bp)
1	-	○	-
2	○	-	-
3	○	○	-
4	○	○	AAG + Target sequence
5	○	○	ATG + Target sequence
6	○	○	CCA + Target sequence
7	Positive control(DNaseI)		
8	Negative control		

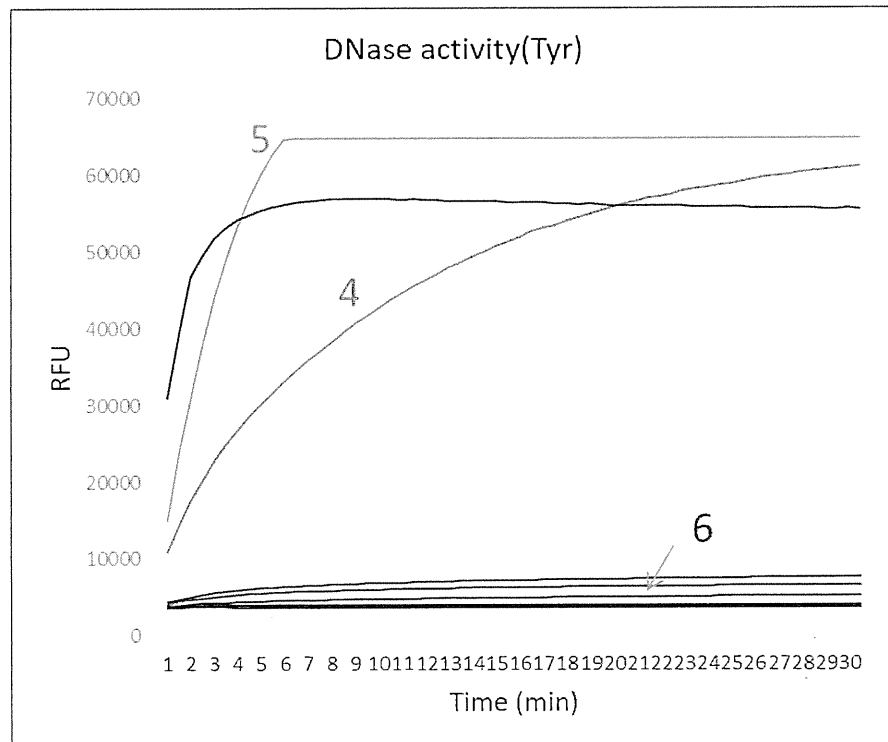


Fig. 5A

	Cascade (hEMX1)	Cas3	Double-stranded DNA fragment(60bp)
1	○	○	-
2	○	○	AAG + Target sequence
3	○	○	ATG + Target sequence
4	○	○	CCA + Target sequence
5	DNaseI		
6	Negative control		

Measurement results

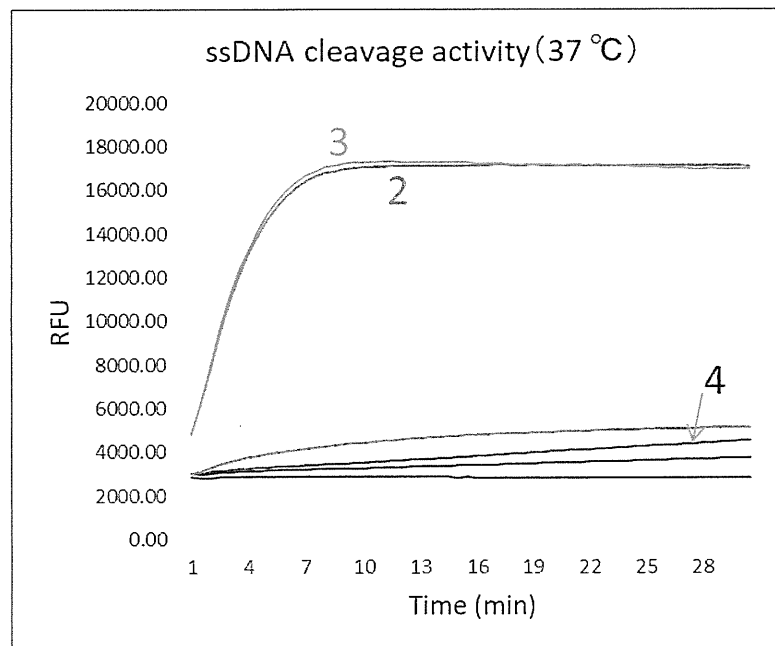


Fig. 5B

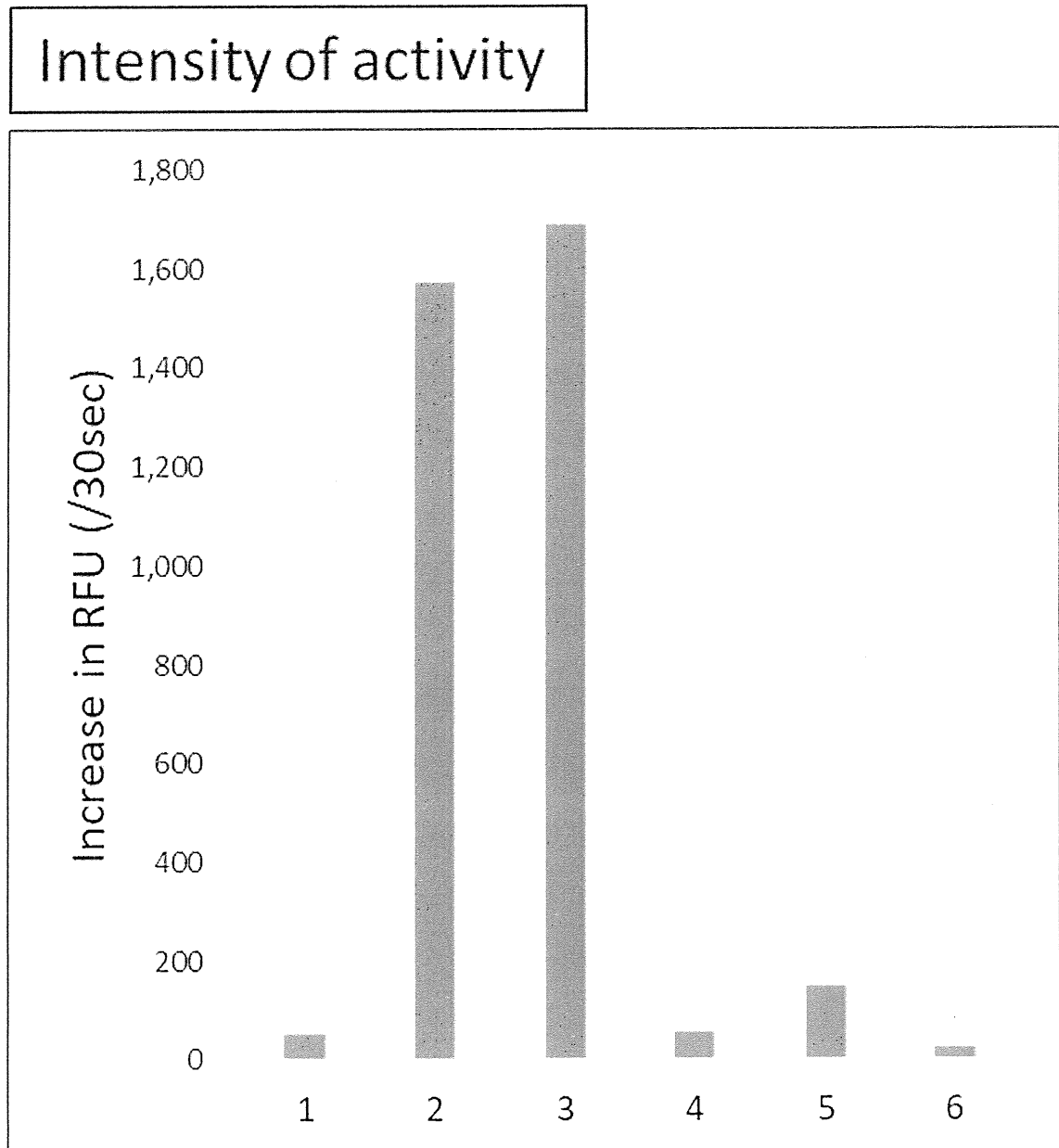
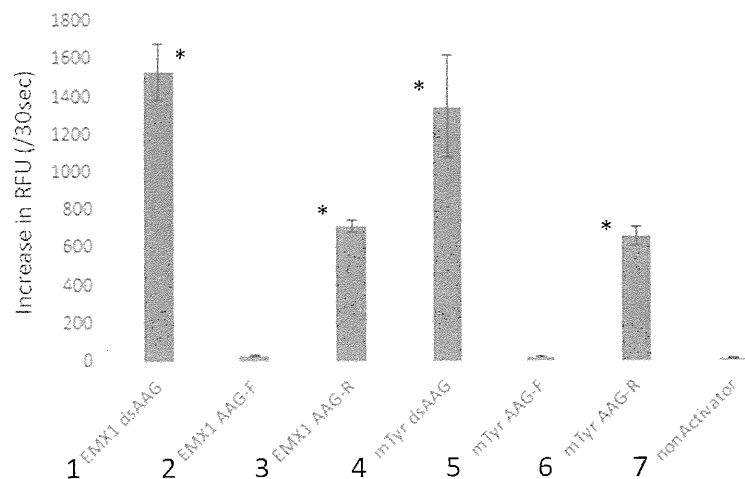


Fig. 6

	Cascade	Cas3	Double-stranded DNA fragment (60bp)	Single-stranded DNA fragment (60base)
1	○(hEMX1)	○	AAG + Target sequence	-
2	○(hEMX1)	○	-	AAG + Target sequence (Non-targeted strand)
3	○(hEMX1)	○	-	AAG + Target sequence (Targeted strand)
4	○(mTyr)	○	AAG + Target sequence	-
5	○(mTyr)	○	-	AAG + Target sequence (Non-targeted strand)
6	○(mTyr)	○	-	AAG + Target sequence (Targeted strand)
7	○(hEMX1)	○	-	-

Intensity of activity



*: p<0.01

Fig. 7

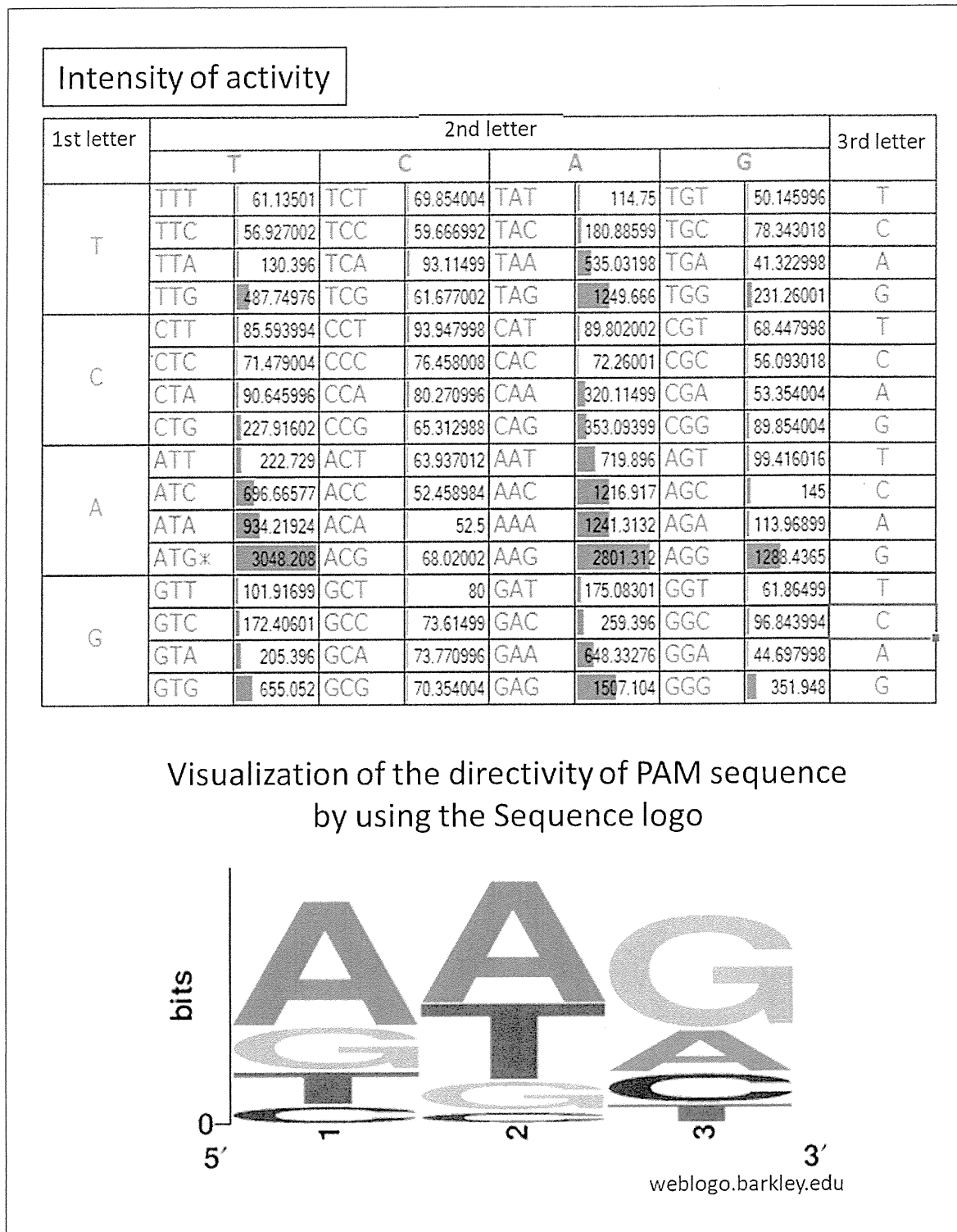


Fig. 8

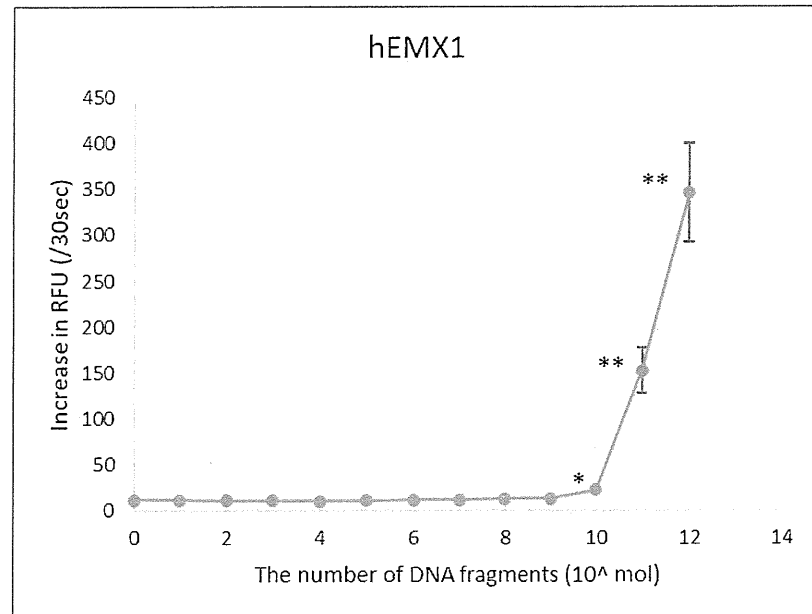
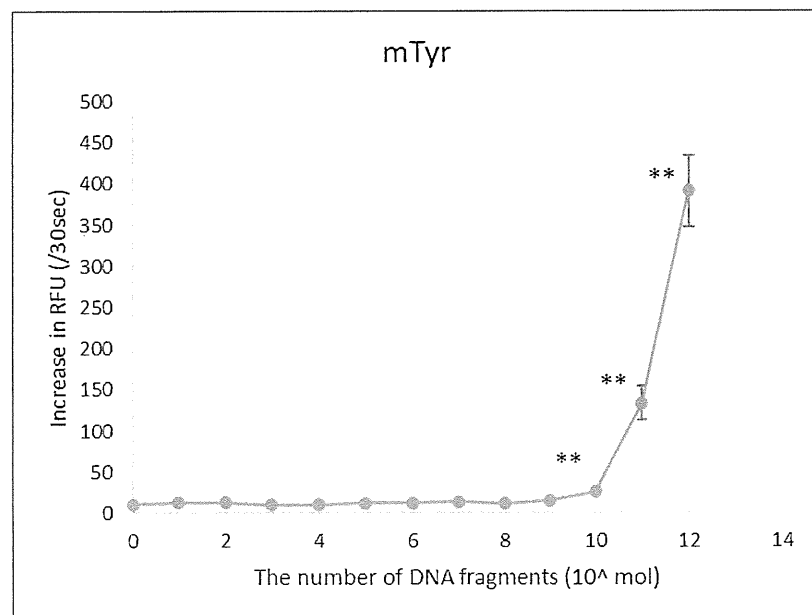
*: $p < 0.05$, **: $p < 0.01$ **: $p < 0.01$

Fig. 9

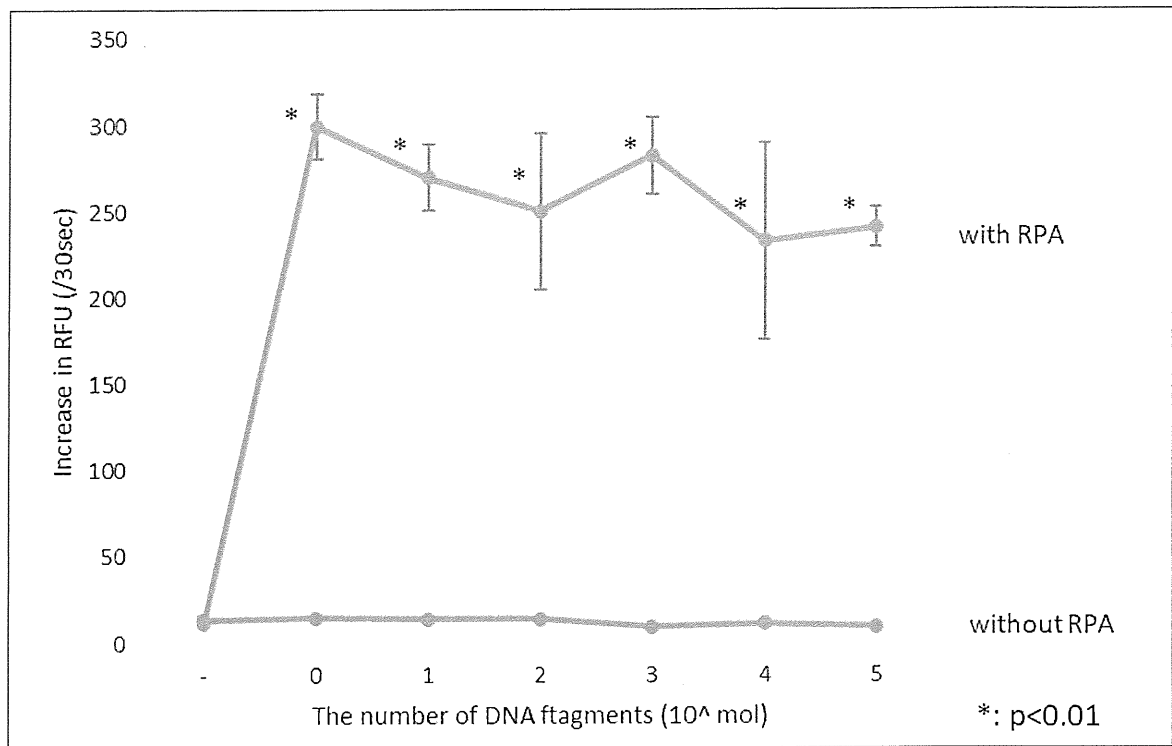


Fig. 10

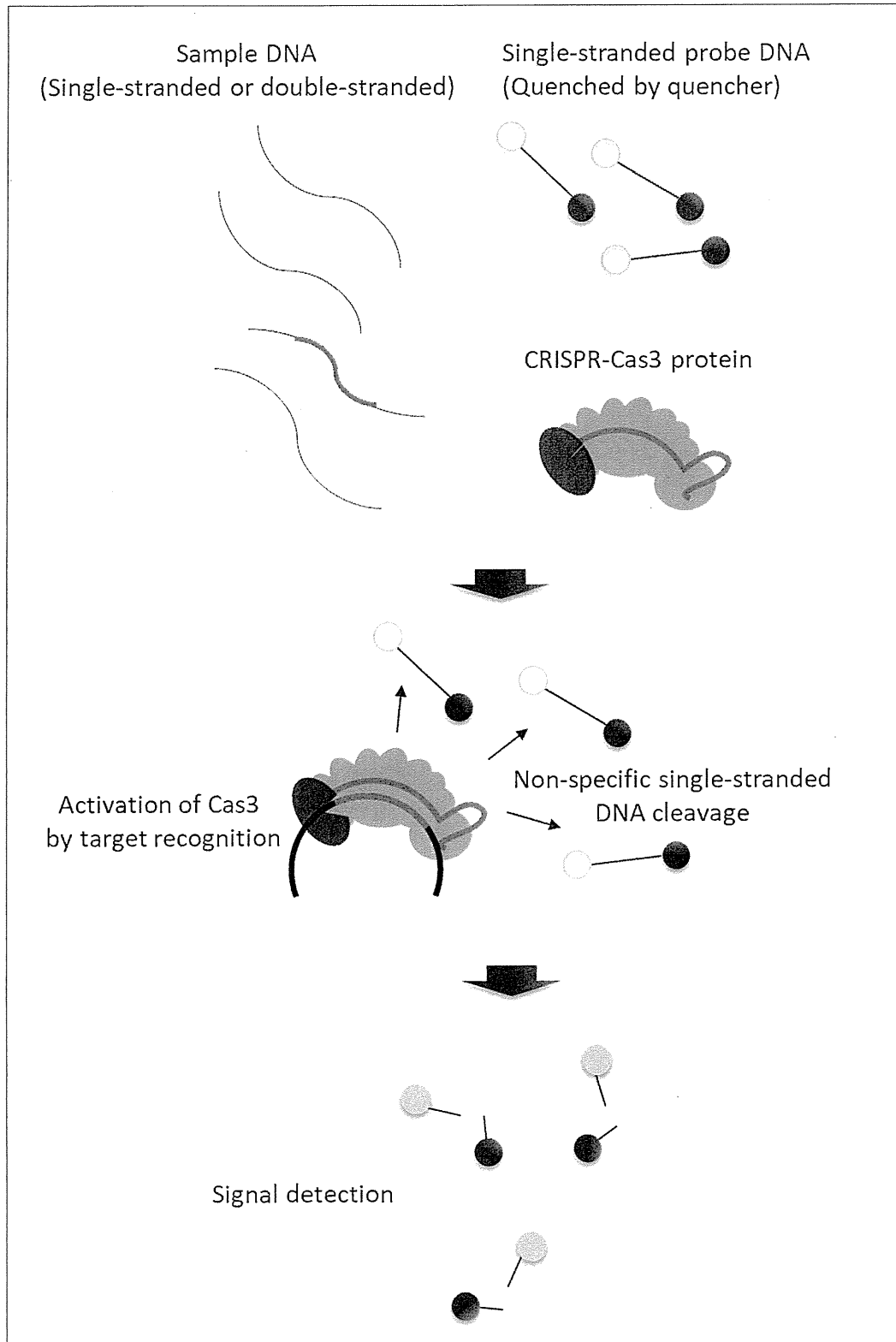


Fig. 11

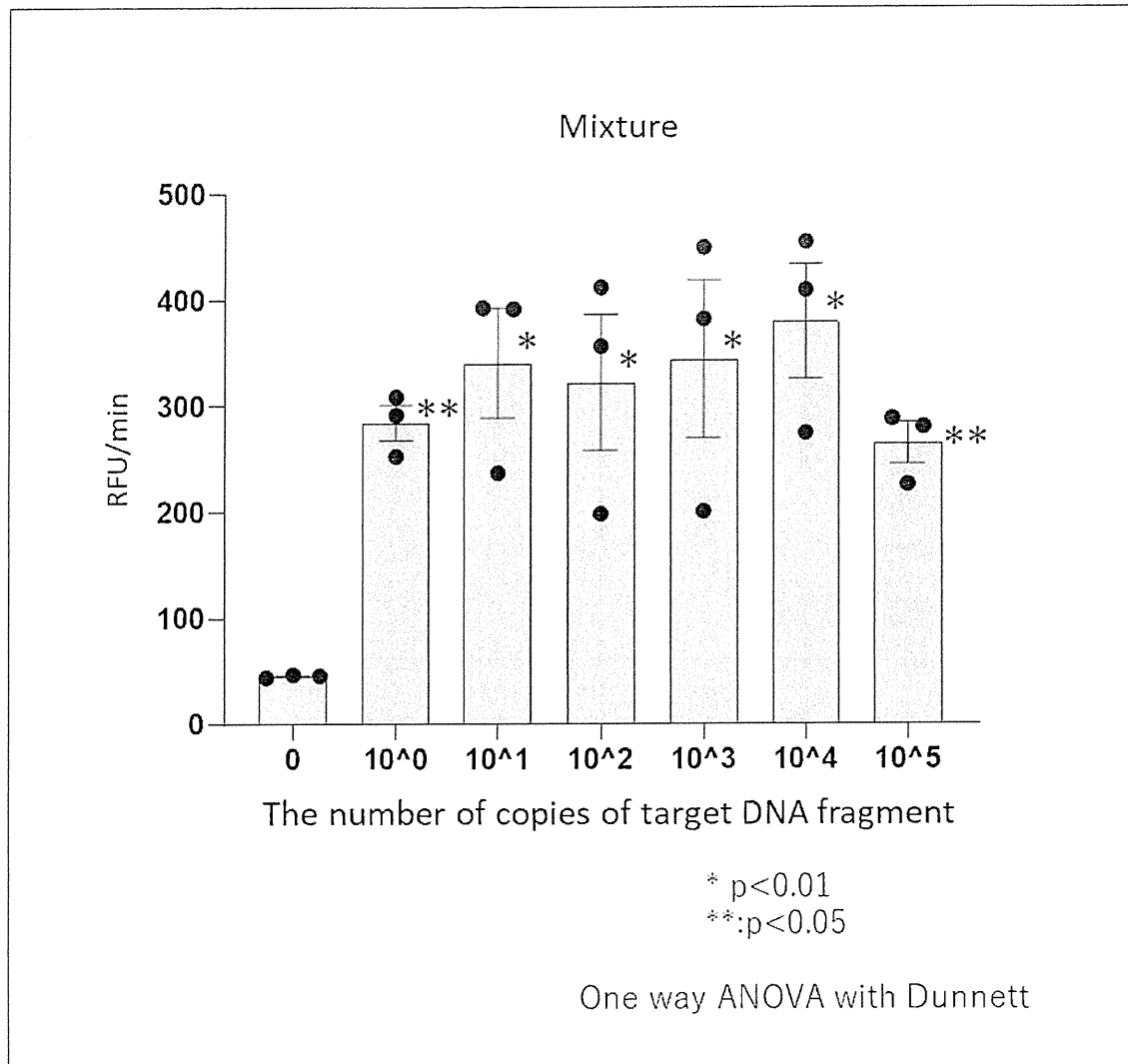


Fig. 12

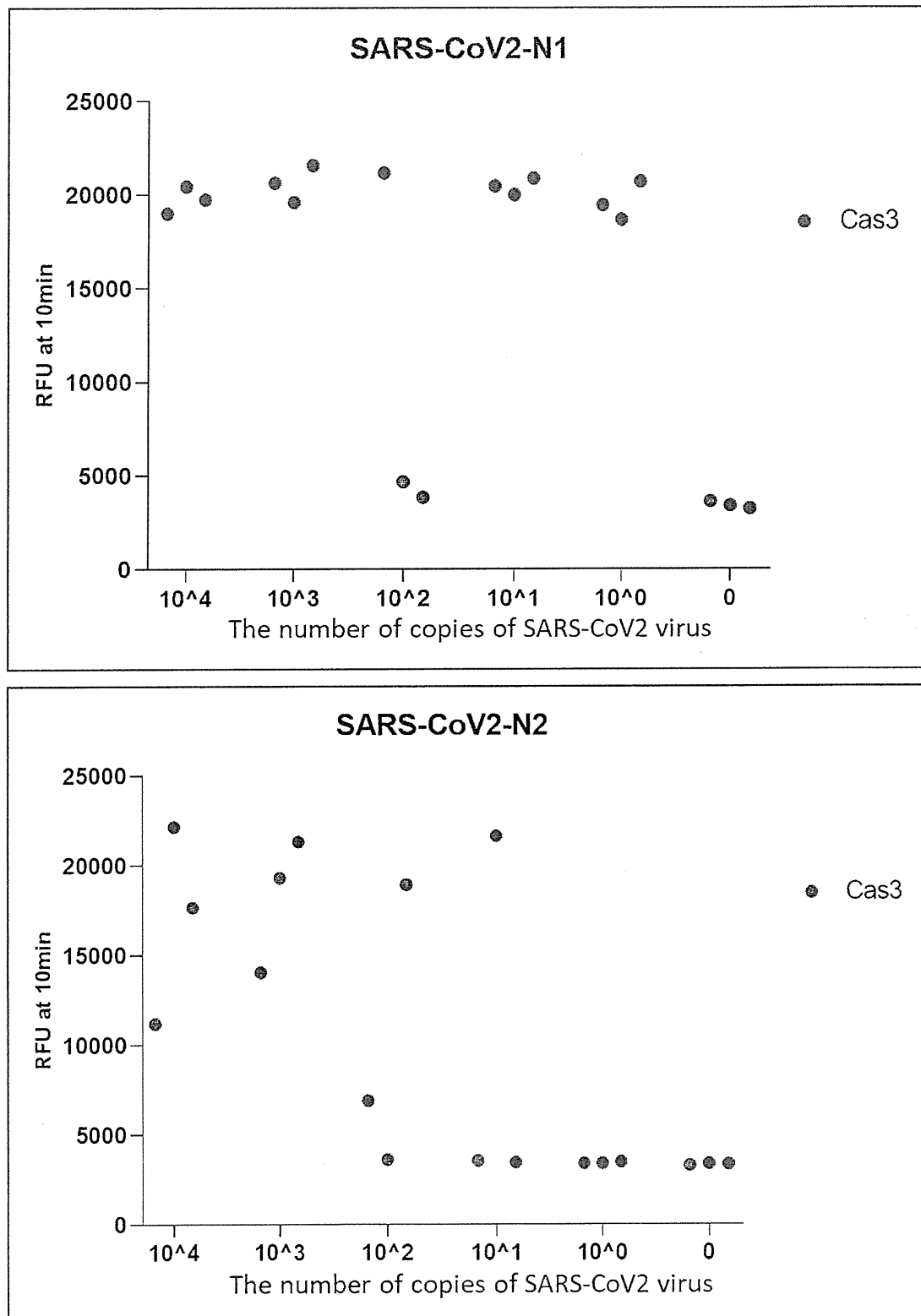


Fig. 13A

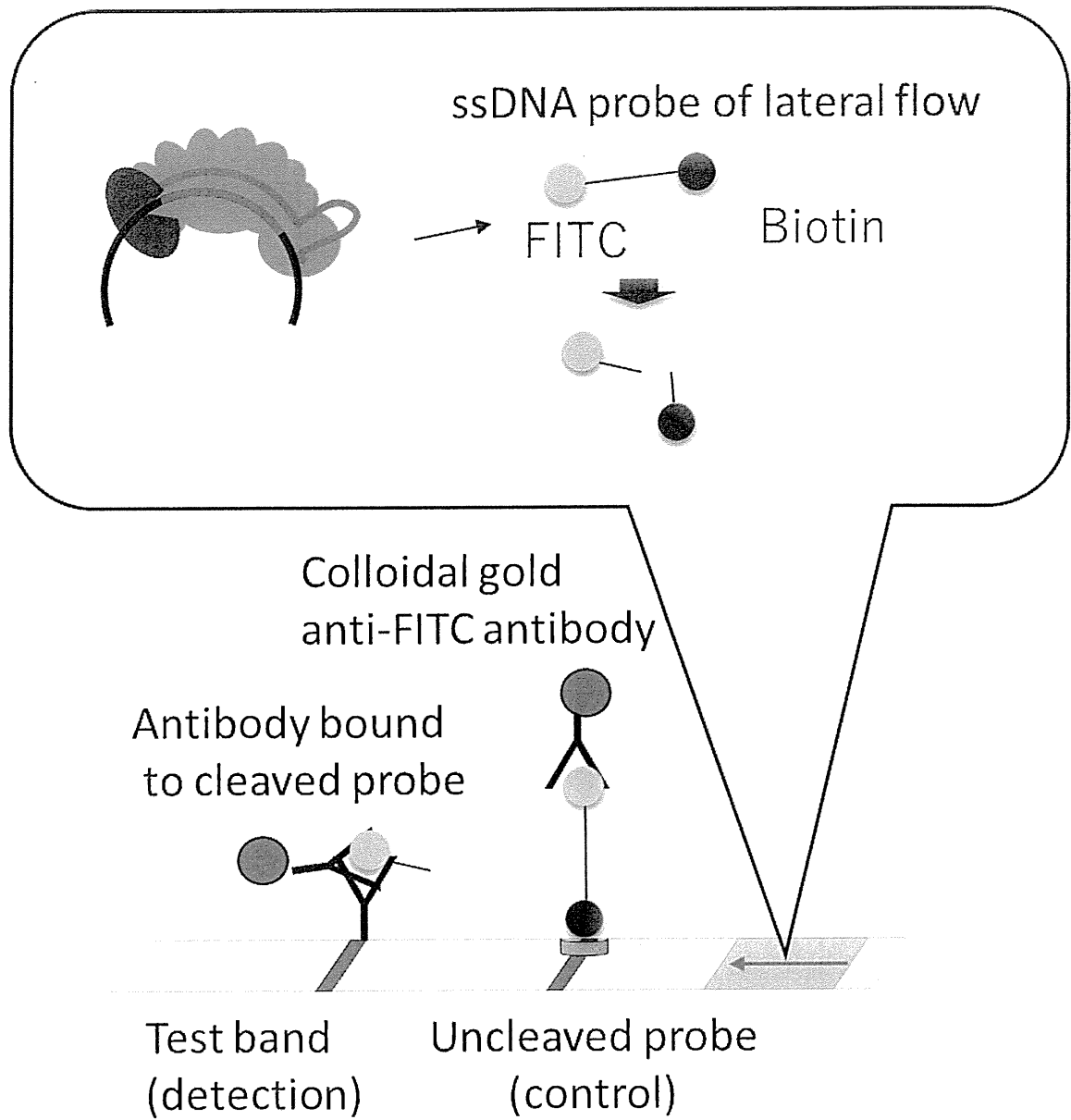


Fig. 13B

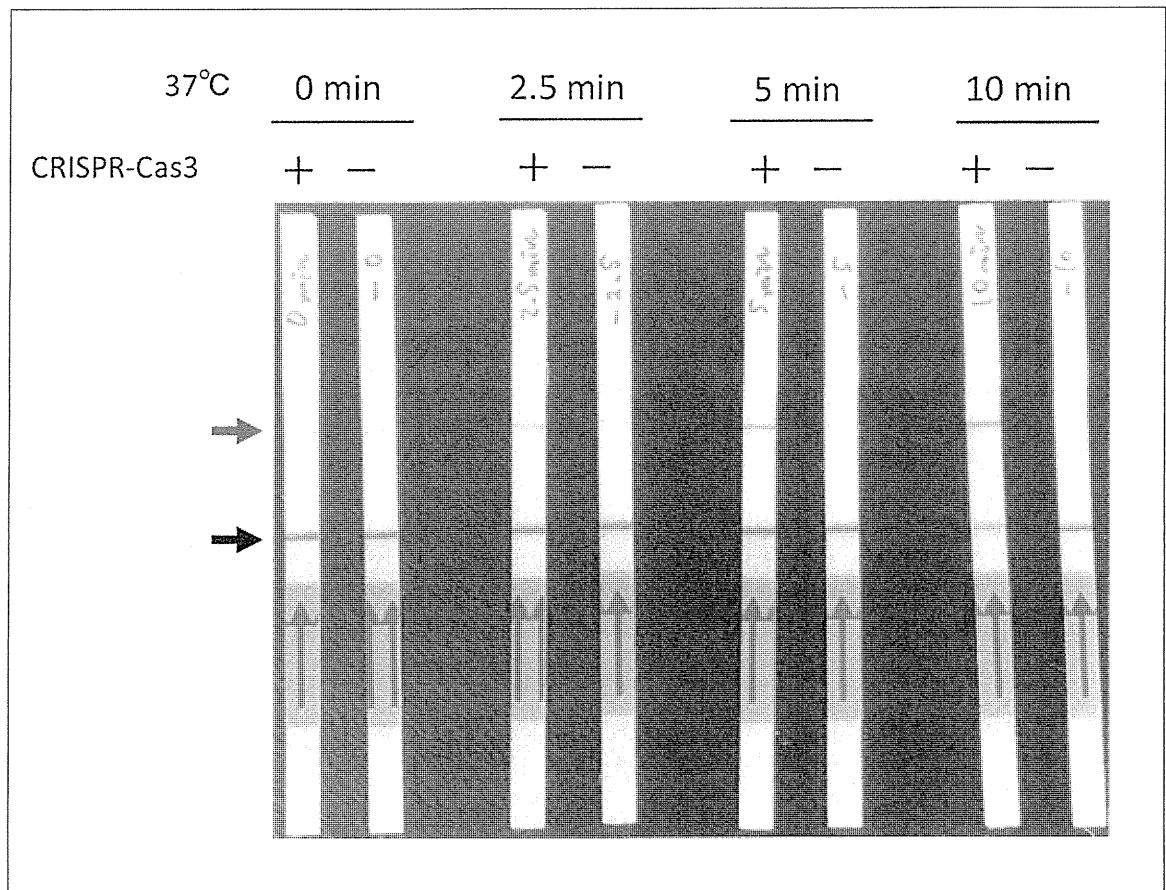


Fig. 14

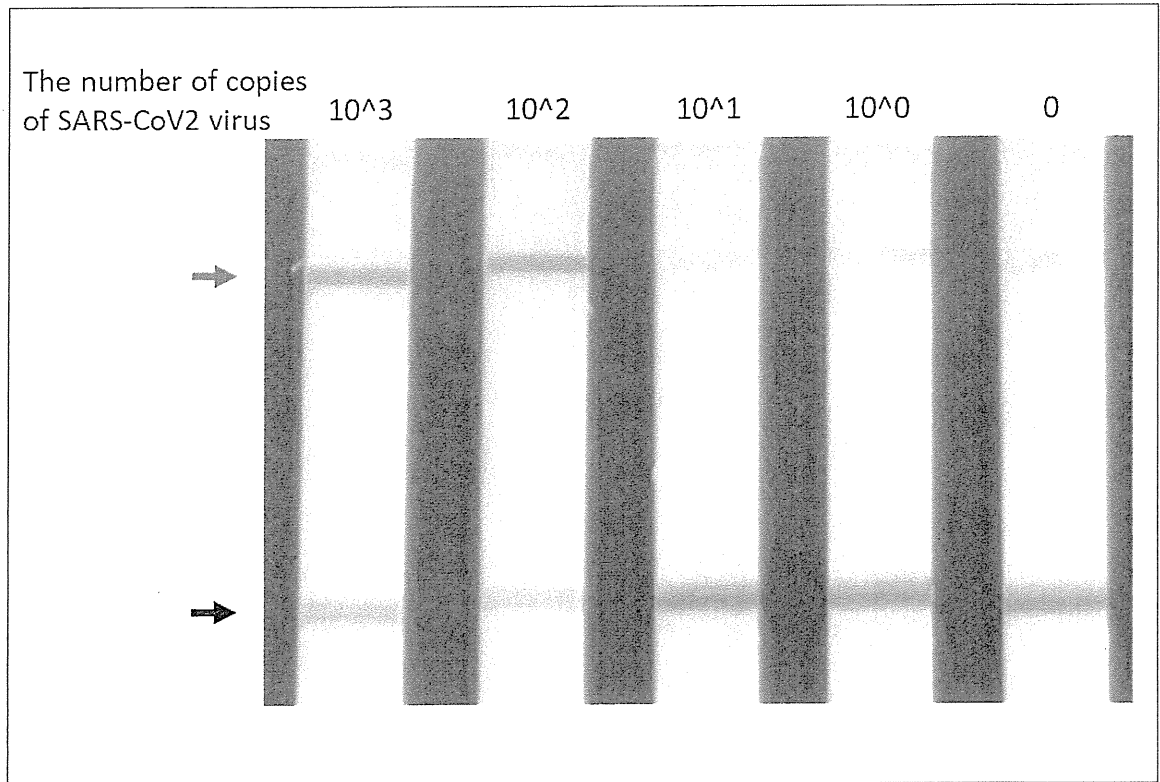


Fig. 15

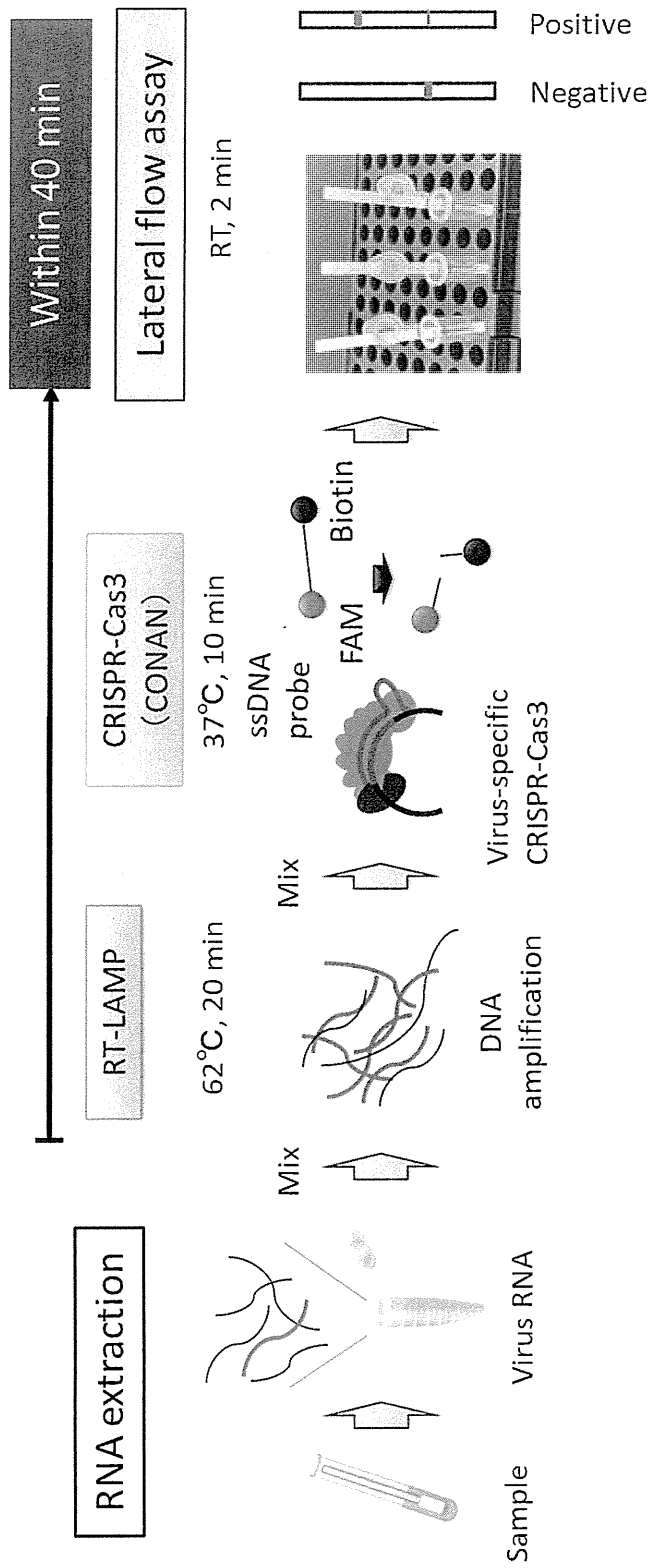


Fig. 16

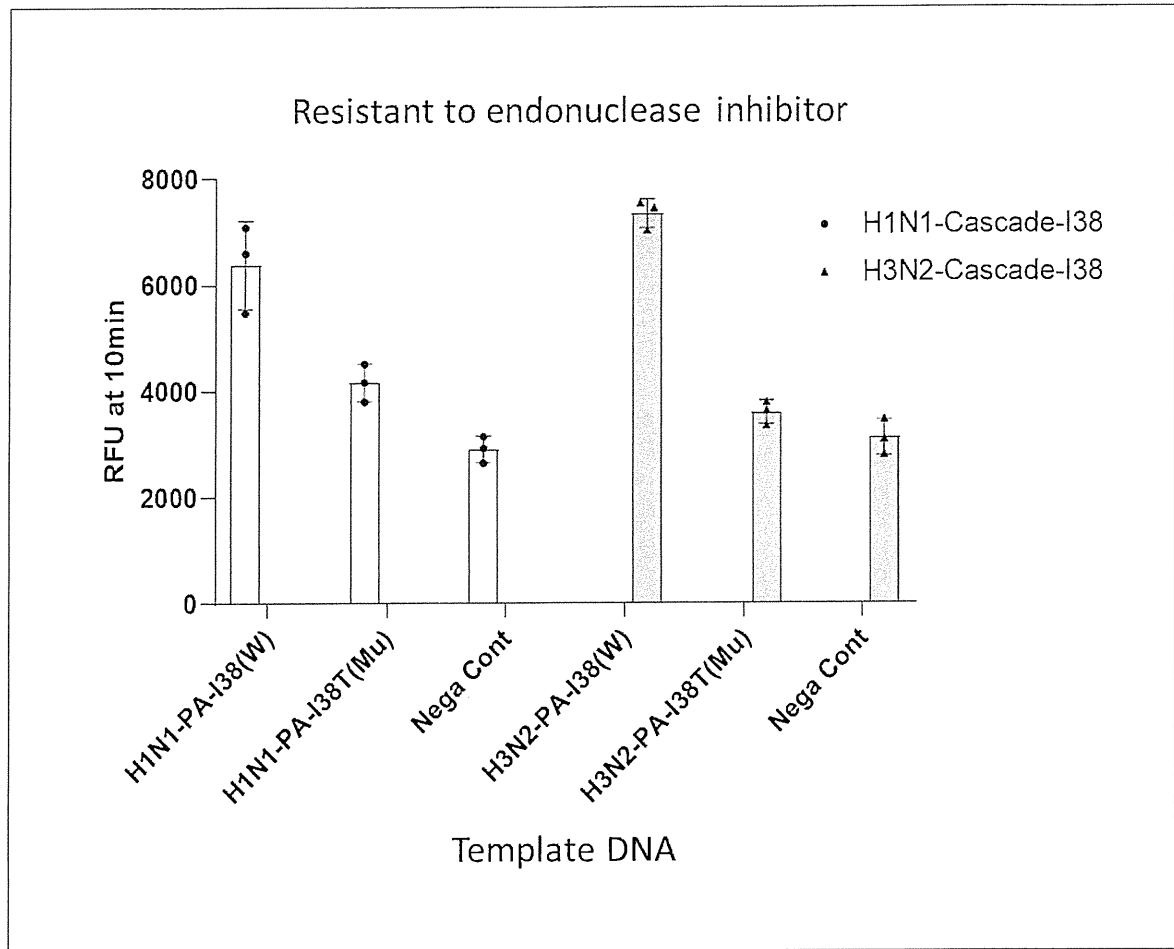


Fig. 17

