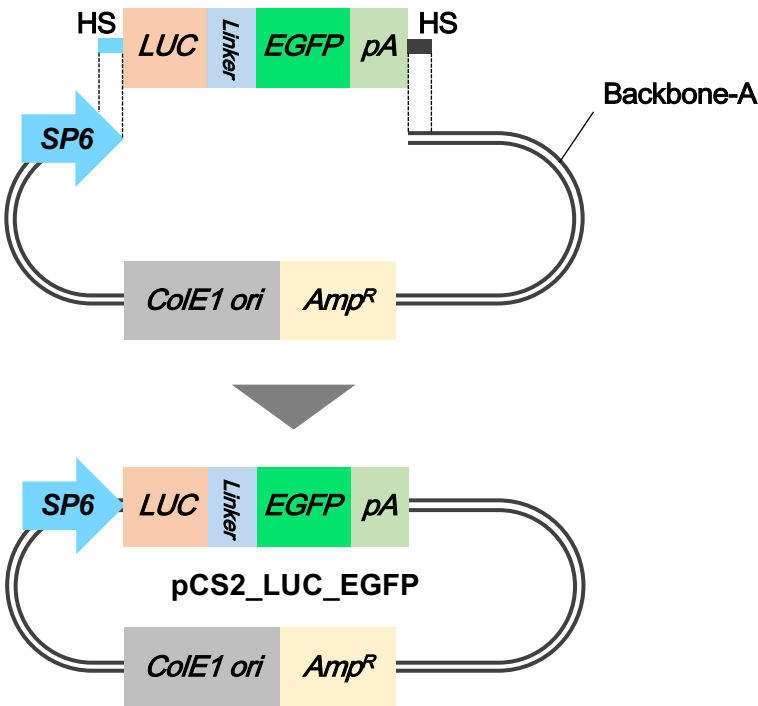
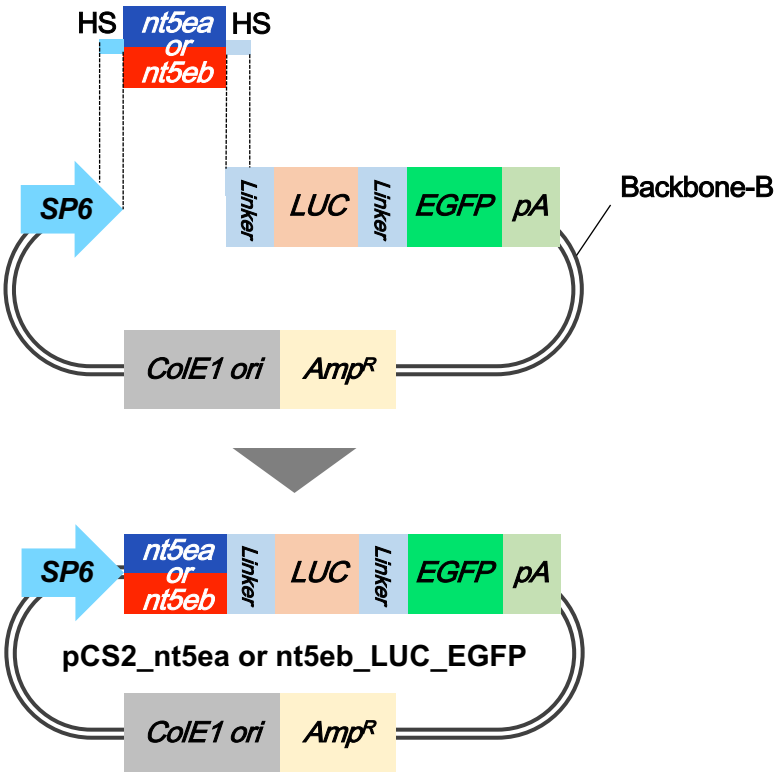


(a)



(b)



(a)

Cab_nt5ea	541	AAAGAAACCCCTGTCTTATCTGCTCCAGGTCCTTATCTGAAGTTTGAGGATGAGGTAGAA	600
H-drR_nt5ea	541	AAAGAAACCCCTGTCTTATCTGCTCCAGGTCCTTATCTGAAGTTTGAGGATGAGGTAGAA	600

Cab_nt5ea	1561	CATAACACAGGAAATTTGGACACTTTGGTTTTTTCGAATACATAAAGGACATGAGGCGC	1620
H-drR_nt5ea	1561	CATAACACAGGAAATTTGGACACTTTGGTTTTTTCGAATACATAAAGGACATGAGGCGC	1620

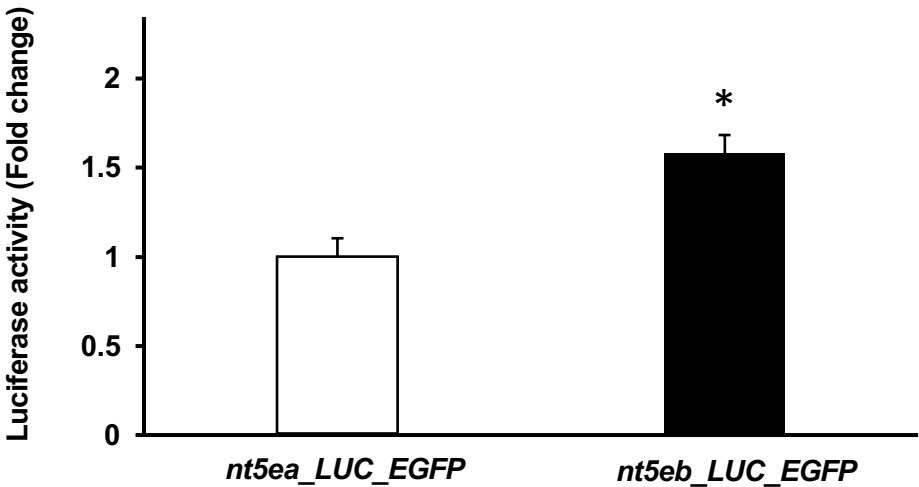
Cab_nt5ea	1621	GTCTACCCCTGCAGTGGAAGGCCGCATCACCTTCAGGAACTCTGCAGCTTTTGCAGCTCAC	1680
H-drR_nt5ea	1621	GTCTACCCCTGCAGTGGAAGGCCGCATCACCTTCAGGAACTCTGCAGCTTTTGCAGCTCAC	1680
** *****			

(b)

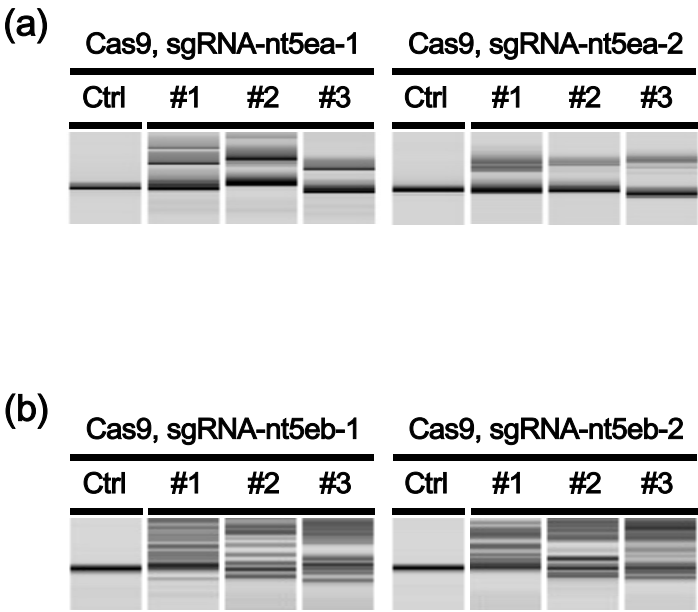
Cab_nt5eb	241	ACCAACGTGCTGCTGCTGGACGCTGGGGATCAGTTCAGGGAACAGTCTGGTTCAACTAC	300
H-drR_nt5eb	241	ACCAACGTGCTGCTGCTGGACGCTGGGGATCAGTTCAGGGAACAGTCTGGTTCAACTAC	300

Cab_nt5eb	301	TACAAAGGAAGAGAGGCAGCGCACTTCATGAACCTGCTGCGATATGACGCCATGGCTTTT	360
H-drR_nt5eb	301	TACAAAGGAAGAGAGGCAGCGCACTTCATGAACCTGCTGCGATATGACGCCATGGCTTTT	360

Cab_nt5ea	1081	CAGGAATGCAACCTTGGTAACCTCATTGTGACGCCATGGTTGAAAAACAACATCAGGTTC	1140
H-drR_nt5eb	1081	CAGGAGTGCAACCTTGGTAACCTCATTGTGACGCCATGGTTGAAAAACAACATCAGGTTC	1140



Student's *t*-test
p-value = 0.003184



(a)

<i>nt5ea_WT</i>	1	MTLRWRCCALGALLGLLLRLDSWSGASGFELTLLHTNDVHARIEETSEDSSKCHEAGSCF	60
<i>nt5ea_Δ2</i>	1	MTLRWRCCALGALLGLLLRLDSWSGASGFELTLLHTNDVHARIEETSEDSSKCHEAGSCF	60

<i>nt5ea_WT</i>	61	AGVARMFTKVTEIRRKETHVLFLDAGDQFQGTWVFNYYKGKEAAHFMNKLGYDVMTFGNH	120
<i>nt5ea_Δ2</i>	61	AGVARMFTKDGDPEKGDARAVSGRWRSISRHGQVQLLQQRSCAFHEQTWL*-----	111

<i>nt5ea_WT</i>	121	EFDNGVDSLTONFLQRVNFSVVCATIKPLHSLVANMSRFYRPFVFNVGSEKVAVVGYYT	180
<i>nt5ea_Δ2</i>		-----	
<i>nt5ea_WT</i>	181	KETPVLSAPGPYLKFEDEVEALQDQVNQLEKLGVNKIIALGHSGFEVDKDIKRVRGIDV	240
<i>nt5ea_Δ2</i>		-----	
<i>nt5ea_WT</i>	241	VIGGHTNTFLYTGKPPSTEVPRGPYPFNVSSNDGRWVPVVQAFAGKYLGYLKVTFDQAG	300
<i>nt5ea_Δ2</i>		-----	
<i>nt5ea_WT</i>	301	KVVKAVGNPILMNSSIPQDPGILSDVEKWKKGLEQYSSQYIGQTLVYLNGTFEECRFREC	360
<i>nt5ea_Δ2</i>		-----	
<i>nt5ea_WT</i>	361	NLGNLICDAMIYNYIRYSNKLQWNHVGVCMLNSGSIRATIDERSTNGSITMEEILSVLPF	420
<i>nt5ea_Δ2</i>		-----	
<i>nt5ea_WT</i>	421	GGTFDLVQLKGSTLKKAFEHSVHRYGGMSGEFLQVSGIRVEYDLSKPVNQRVVSLMRCT	480
<i>nt5ea_Δ2</i>		-----	
<i>nt5ea_WT</i>	481	ECRVPKFEPLDPQKTYTVVMTSFMVGGDGYSMIQDELLKHNTGNLDTLVFSEYIKDMRR	540
<i>nt5ea_Δ2</i>		-----	
<i>nt5ea_WT</i>	541	VYPAVEGRITFRNSAAFAAHSLSLMLLSLCLFLNLCM*	577
<i>nt5ea_Δ2</i>		-----	

(b)

<i>nt5eb_WT</i>	1	MDAVRPERSAAQLLRFCPVLLILSGPCMTAAWDLVLLHTNDVHARIEETSVHSGKCGATG	60
<i>nt5ea_Δ10</i>	1	MDAVRPERSAAQLLRFCPVLLILSGPCMTAAWDLVLLHTNDVHARIEETSVHSGKCGATG	60

<i>nt5eb_WT</i>	61	GCYGGVARRATAIQSIRGETNVLLLDAGDQFQGTWVFNYKGEAAHFMNLLRYDAMAF	120
<i>nt5eb_Δ10</i>	61	GCYGGVARRSKAYAGRPPTCCCWTLGISSREQSGSTTTKEKRQRTS*-----	106

<i>nt5eb_WT</i>	121	GNHEFDNEVEGLMKPFLEDIKCTILSANIKTDTTTLASTFGTTYVPFKIFTFGTEKVGVG	180
<i>nt5eb_Δ10</i>		-----	
<i>nt5eb_WT</i>	181	YTSKETPTLSRPGPRLRFEDVSALQLQVDKQLQTLGINKIIALGHSGFTVDKEIAKRVRG	240
<i>nt5eb_Δ10</i>		-----	
<i>nt5eb_WT</i>	241	VDVVIGGHTNTFLYTGTTPSTEVRAGPYPFMVTSLDGRQVPVVQAYAYGKYLKGLKVTFD	300
<i>nt5eb_Δ10</i>		-----	
<i>nt5eb_WT</i>	301	ENGNVIRSSGNPILLDSSIQQDPVVLSDVEEWKKS LANYSSQVVGKTMVFLNGSAEACRF	360
<i>nt5eb_Δ10</i>		-----	
<i>nt5eb_WT</i>	361	QECNLGNLICDAMVENNIRFSGGNQWNHVSASIFNGGGIRTSIDEQTRNGSITMEDLISV	420
<i>nt5eb_Δ10</i>		-----	
<i>nt5eb_WT</i>	421	LPFGGTFDLVQLSGSTLKKIFEYSVRRYGGQRAGEFLQVSGFHIEYDPSKEPGNRVRSLEI	480
<i>nt5eb_Δ10</i>		-----	
<i>nt5eb_WT</i>	481	LCTHCRVPMYEPVQDSMDYKVVMPSYLVTGGDGFSMIPEEMKKHDSGDLDL SVVSNYISQ	540
<i>nt5eb_Δ10</i>		-----	
<i>nt5eb_WT</i>	541	RQRVYPLVEGRIKIVWSSAPGLQGPTVLLILMALLWSFHGIM*	581
<i>nt5eb_Δ10</i>		-----	

Name	Sequence (5'-3')	Used for
nt5ea-RT-FW	CATCGATTAAAGCTATGACTCTCCGCTGGCGCTGCTGGC	Isolation of nt5ea
nt5ea-RT-RV	TCCACCGCTACCTCCATGATGATGATGATGCA TGCAGAGGTTTCAGGAAAAGACAC	Isolation of nt5ea
nt5eb-RT-FW	CATCGATTAAAGCTATGATGCGGTGCGCCGGAGCGCA	Isolation of nt5eb
nt5eb-RT-RV	TCCACCGCTACCTCCATGATGATGATGATGATGCA TGTTCATGAAAACTCCAGAGC	Isolation of nt5eb
LUC-GFP-FW	CATCGATTAAAGCTATGGAAGATGCCAAAAACAT	Construction of plasmid
LUC-GFP-RV	CCGCGGCCGCGAATTAAAAAACCTCCACACCTCC	Construction of plasmid
Backbone1-FW	AAATTGCGGCGCGCGGCCCAATGCATTGGGCCCGG	Construction of plasmid
Backbone1-RV	AGCTTTAAATCGATGGGATCCTCCAAAAAG	Construction of plasmid
Backbone2-FW	GGAGGTAGCGGTGGAAC TACTAGTATGGAAGATGCCAAAAACATTTAAG	Construction of plasmid
OligoA-nt5ea-Target1	CTAATACGACTCAC TATAGCAGGATGTTTCACAAAGTGAGTTTTAGAGCTAGAAAATAGCA	Synthesis of sgRNA-nt5ea-1
OligoA-nt5ea-Target2	CTAATACGACTCAC TATAGGTGATGCGGCTTCCACTGCGTTTTTAGAGCTAGAAAATAGCA	Synthesis of sgRNA-nt5ea-2
nt5ea-HMA1-FW	GTCCGGCTTCGAGCTGACTCTGTCTCCACACC	HMA analysis for nt5ea
nt5ea-HMA1-RV	CCAAGTTTGTTCATGAAATGCCGA	HMA analysis for nt5ea
nt5ea-HMA2-FW	AGGTTTAGACAGAAAAACAAGTTT TAGAGC	HMA analysis for nt5ea
nt5ea-HMA2-RV	GCAGAGGTT CAGGAAAAAGACACAGACTC	HMA analysis for nt5ea
nt5ea-Large1-FW	ACCTGAATGGAACGTTTGAAGAGTG	Detection of large deletion at nt5ea
nt5ea-Large1-RV	CGTTTGTACTGCGTTTCATCGATTGT	Detection of large deletion at nt5ea
nt5ea-Large2-FW	GCGTGTGTCGCGCCCTCGGGCGCCTTG	Detection of large deletion at nt5ea
nt5ea-Large2-RV	CTGAACCTGTAGAGCTTCTCCGTTG	Detection of large deletion at nt5ea
OligoA-nt5eb-Target1	CTAATACGACTCAC TATAGCGGGGTGGCGGAGAGCCAGTTTTAGAGCTAGAAAATAGCA	Synthesis of sgRNA-nt5eb-1
OligoA-nt5eb-Target2	CTAATACGACTCAC TATAGTAGAGGACGCATTAAAGTCGTTTTTAGAGCTAGAAAATAGCA	Synthesis of sgRNA-nt5eb-2
nt5eb-HMA1-FW	GCCCTGTTCTCCTCATCCTCTC	HMA analysis for nt5eb and detection of large deletion at nt5eb
nt5eb-HMA1-RV	CATGGCGTCATATCGCAGCAAGTTC	HMA analysis for nt5eb
nt5eb-HMA2-FW	TCGTGACTGGAGGAGATGGA TTTAG	HMA analysis for nt5eb
nt5eb-HMA2-RV	CATGATTC CATGAAAACTCCAG	HMA analysis for nt5eb and detection of large deletion at nt5eb
nt5eb-Large1-FW	GTGACCTTTGATGAGAAACGGGAACG	Detection of large deletion at nt5eb
nt5eb-Large1-RV	CTGGGATCAGTAATTAGCCAGAC	Detection of large deletion at nt5eb