

Supplementary Tables

Table 1: Sequences of the antisense oligonucleotides (ASOs) targeting the 2,924 nt segment of SARS-CoV-2 RNA.

Group	ASO	Sequence
1	1	GGCAGCACAAAGACATCTGTCGTAGTGCAACAGGACTAAGC- TCATTATT
	2	TGTAGTAAGCTAACGCATTGTCATCAGTGCAAGCAGTTTGT- GTAGTACC
	3	TGTAAATCGGATAACAGTGCAAGTACAAACCTACCTCCCTT- TGTTGTGT
	4	GATAGTACCAGTTCCATCACTCTTAGGGAATCTAGCCCATT- TCAAATCC
	5	CTTTAGGTGTGTCTGTAACAAACCTACAAGGTGGTTCCAGT- TCTGTATA
2	1	ATACCTCTATTTAGGTTGTTTAATCCTTTAATAAAGTATAAA- TACTTCACTTTAGGAC
	2	CACTTCTGTTGCATTACCAGCTTGTAGACGTACTGTGGCAG- CTAAACTACCAAGTACC
	3	AAGCTTTAGCAGCATCTACAGCAAAAGCACAGAAAGATAA- TACAGTTGAATTGGCAGG
	4	CACAACATCTTAACACAATTAGTGATTGGTTGTCCCCCACT- AGCTAGATAATCTTTGT
3	1	GATCCATATTGGCTTCCGGTGTAAGTGTATTGCCTGACCA- GTACCAGTGTGTGTA
	2	ATGATCTATGTGGCAACGGCAGTACAGACAACACGATGCA- CCACCAAAGGATTCTT

Continued on next page

Table 1: Sequences of the antisense oligonucleotides (ASOs) targeting the 2,924 nt segment of SARS-CoV-2 RNA. (Continued)

	3	GTTGTAGGTATTTGTACATACTTACCTTTTAAGTCACAAAAT-CCTTTAGGATTTGG
	4	CCGCAGACGGTACAGACTGTGTTTTTAAGTGTAACCCAC-AGGGTCATTAGCACAA
4	1	CTGAAGCATGGGTTCGCGGAGTTGATCACAACCTACAGCCA-TAACCTTTCCACATA
	2	GGAAGCGACAACAATTAGTTTTTAGGAATTTAGCAAAACCA-GCTACTTTATCATTG
5	1	TGTCTCTTAACCTACAAAGTAAGAATCAATTAAATTGTCATCT-TCGTCCTTTTCTT
	2	GACAATCCTTAAGTAAATTATAAATTGTTTCTTCATGTTGGT-AGTTAGAGAAAGTG
	3	GGTACCATGTCACCGTCTATTCTAACTTAAAGAAGTCATG-TTTAGCAACAGCTG
	4	AAGCATAGACGAGGTCTGCCATTGTGTATTTAGTAAGACGT-TGACGTGATATATGT
6	1	TGTATGTGACAAGTATTTCTTTTAATGTGTCACAATTACCTT-CATCAAAATGCCTTA
	2	GGTTTTCTACAAAATCATACCAGTCCTTTTTATTGAAATAAT-CATCATCACAACAAT
	3	TTAACAAAGCTTGGCGTACACGTTACCTAAGTTGGCGTAT-ACGCGTAATATATCTG
	4	ATGTCAGTACACCAACAATACCAGCATTTTCGCATGGCATCA-CAGAATTGTAAGTTT

Continued on next page

Table 1: Sequences of the antisense oligonucleotides (ASOs) targeting the 2,924 nt segment of SARS-CoV-2 RNA. (Continued)

7	1	GTTTGTATGAAATCACCGAAATCATACCAGTTACCATTGAG- ATCTTGATTATCTA
	2	TAGGCATTAACAATGAATAATAAGAATCTACAACAGGAACT- CCACTACCTGGCGTG
	3	GTAAAGTCAGTGTCAACATGTGACTCTGCAGTTAAAGCCCT- GGTCAAGGTTAATA
	4	TTAACCTCTCTTCCGTGAAGTCATATTTTAACAAATCCCACT- TAATGTAAGGCTTT
8	1	AACACAATTTGGGTGGTATGTCTGATCCCAATATTTAAAAT- AACGGTCAAAGAGTT
	2	GAGAATAAAACATTAAAGTTTGCACAATGCAGAATGCATCT- GTCATCCAAACAGTT
	3	CATCAACAAATATTTTTCTCACTAGTGGTCCAAAACCTTGTA- GGTGGGAACACTGTA
	4	ATGTACAACACCTAGCTCTCTGAAGTGGTATCCAGTTGAAA- CTACAAATGGAACAC
9	1	TACACAAGTAATTCCTTAAAACTAAGTCTAGAGCTATGTAA- GTTTACATCCTGATT
	2	TGCGTTTATCTAGTAATAGATTACCAGAAGCAGCGTGCATA- GCAGGGTCAGCAGCA
	3	TTTGACAGTTTGAAAAGCAACATTGTTAGTAAGTGCAGCTA- CTGAAAAGCACGTAG
	4	CTTAAAGAAACCCTTAGACACAGCAAAGTCATAGAAGTCTT- TGTTAAAATTACCGGG

Continued on next page

Table 1: Sequences of the antisense oligonucleotides (ASOs) targeting the 2,924 nt segment of SARS-CoV-2 RNA. (Continued)

10	1	CAGCATTACCATCCTGAGCAAAGAAGAAGTGTTTTAATTCA- ACAGAACTTCCTTC
	2	CTGATATCACACATTGTTGGTAGATTATAACGATAGTAGTC- ATAATCGCTGATAG
	3	ACCATCGTAACAATCAAAGTACTTATCAACAACTTCAACTA- CAAATAGTAGTTGT
	4	AACCAGCTGATTTGTCTAGGTTGTTGACGATGACTTGGTTA- GCATTAATACAGCC
11	1	CCTCATAACTCATTGAATCATAATAAAGTCTAGCCTTACCC- CATTTATTAAATGGAA
	2	ATTTGAGTTATAGTAGGGATGACATTACGTTTTGTATATGC- GAAAAGTGCATCTTGAT
	3	GAGACACCAGCTACGGTGCGAGCTCTATTCTTTGCACTAAT- GGCATACTTAAGATTC
	4	GGCTATTGATTTCAATAATTTTTGATGAAACTGTCTATTGGT- CATAGTACTACAGATA
12	1	CAACCACCATAGAATTTGCTTGTTCCAATTACTACAGTAGC- TCCTCTAGTGGC
	2	CCATAAGGTGAGGGTTTTCTACATCACTATAAACAGTTTTT- AACATGTTGTGC
	3	CATAATTCTAAGCATGTTAGGCATGGCTCTATCACATTTAG- GATAATCCCAAC
	4	ACGGTGTGACAAGCTACAACACGTTGTATGTTTGCGAGCA- AGAACAAGTGAGGC

Continued on next page

Table 1: Sequences of the antisense oligonucleotides (ASOs) targeting the 2,924 nt segment of SARS-CoV-2 RNA. (Continued)

13	1	ACACATGACCATTTCCTCAATACTTGAGCACACTCATTAG- CTAATCTATAGAA
	2	AGTTGTGGCATCTCCTGATGAGGTTCCACCTGGTTTAACAT- ATAGTGAACCGCC
	3	ATTAACATTGGCCGTGACAGCTTGACAAATGTTAAAAACAC- TATTAGCATAAGC
	4	TAAATTGCGGACATACTTATCGGCAATTTTGTTACCATCAG- TAGATAAAAGTGC

Table 2: Sequences of the forward (F) and reverse (R) primers for amplifying the target site of each ASO group in the 2,924 nt segment of SARS-CoV-2 RNA.

Group	Primer	Sequence
1	F	AATAATGAGCTTAGTCCTGTTGCACTACG
	R	AGGTTGTTTAATCCTTTAATAAAGTATAAATACTTCACTTT- AGG
2	F	ACCTTG TAGGTTTGTTACAGACACACCTAA
	R	TTGCCTGACCAGTACCAGTGTGTG
3	F	GGACAACCAATCACTAATTGTGTTAAGATGTTG
	R	TCACA ACTACAGCCATAACCTTTCCACA
4	F	CTTAAAAACACAGTCTGTACCGTCTGC
	R	GTAAGAATCAATTAAATTGTCATCTTCGTCCTTTTC
5	F	TGCTAAATTCCTAAAACTAATTGTTGTCGCTT
	R	ATGTGTCACAATTACCTTCATCAAAATGCCT
6	F	CAATGGCAGACCTCGTCTATGC
	R	GAAATCATACCAGTTACCATTGAGATCTTGATTATC
7	F	CGAAATGCTGGTATTGTTGGTGTACTGAC
	R	GTCTGATCCCAATATTTAAAATAACGGTCAAAGAG
8	F	TGTTAAAATATGACTTCACGGAAGAGAGGTT
	R	AAGTCTAGAGCTATGTAAGTTTACATCCTGA
9	F	CCACTTCAGAGAGCTAGGTGTTGTAC
	R	CAAAGAAGAAGTGTTTTAATTCAACAGAACTTCCT
10	F	TGACTTTGCTGTGTCTAAGGGTTTCTTTA
	R	CATAATAAAGTCTAGCCTTACCCCATTTATTAAATGG
11	F	CGTCAACAACCTAGACAAATCAGCTGG

Continued on next page

Table 2: Sequences of the forward (F) and reverse (R) primers for amplifying the target site of each ASO group in the 2,924 nt segment of SARS-CoV-2 RNA. (Continued)

	R	TTCCAATTACTACAGTAGCTCCTCTAGTG
12	F	GACCAATAGACAGTTTCATCAAAAATTATTGAAATCAATA- G
	R	ATACTTGAGCACACTCATTAGCTAATCTATAG
13	F	ACAACGTGTTGTAGCTTGTCACACC
	R	TAAATTGCGGACATACTTATCGGCAATTTTG

Table 3: Sequences of the antisense oligonucleotides (ASOs) targeting the 1,799 nt segment of SARS-CoV-2 genomic RNA. A plus sign (+) indicates that the following nucleotide is locked nucleic acid (LNA).

ASO	Sequence
Anti-LS1	GTAATTC+CTTAAAA+CTAAG
Anti-LS2a	TGAAA+AGCAA+CATTGTT
Anti-LS2b	TA+CCGGGTTTGACAG
Anti-LS3b	A+CCCTTAGACACAGCA
Anti-AS1	TGGGTTCGCG+GAGTTG
Anti-PS2-overlap	GT+TAAAATTA+CCG+GG

Table 4: **PCR primer annealing temperatures for coronavirus gene fragments.**

Coronavirus	Annealing Temperature (°C)
Bat Coronavirus 1A	55
Bat Coronavirus BM48-31	60
Common Moorhen Coronavirus	55
Human Coronavirus OC43	55
Infectious Bronchitis Virus	60
MERS Coronavirus	60
Murine Hepatitis Virus	60
SARS Coronavirus 1	60
SARS Coronavirus 2	55
Transmissible Gastroenteritis Virus	55

Table 5: Sequences of the forward (F), forward with T7 promoter (F+T7), and reverse (R) primers for amplifying the 239 nt segment of each 1,799 nt segment of coronaviral RNAs.

Coronavirus	Primer	Sequence
Bat Coronavirus 1A	F	GGACCCTATACGGTTTTGTCT-TGAAAA
	F+T7	TAATACGACTCACTATAGGAC-CCTATACGGTTTTGTCTTGAA-AA
	R	TTTTACAATAAAGAAAGCATC-ATGCTT
Bat Coronavirus BM48-31	F	GGGTTTTATTCTTAGAAACAC-AGTCTG
	F+T7	TAATACGACTCACTATAGGGT-TTTATTCTTAGAAACACAGTC-TG
	R	GGAGTCTAATAAGTTGCCCTC-TTCATC
Common Moorhen Coronavirus	F	GGATAAAGATAAGGAACCTG-TTTCTTT
	F+T7	TAATACGACTCACTATAGGAT-AAAGATAAGGAACCTGTTTCT-TT
	R	ACTATTAGGTATTGGCAAATT-AATGCG
Human Coronavirus OC43	F	GGCTGTGTCTTATGTTTTGAC-ACATGA

Continued on next page

Table 5: Sequences of the forward (F), forward with T7 promoter (F+T7), and reverse (R) primers for amplifying the 239 nt segment of each 1,799 nt segment of coronaviral RNAs. (Continued)

Infectious Bronchitis Virus	F+T7	TAATACGACTCACTATAGGCT- GTGTCTTATGTTTTGACACAT- GA
	R	ATCTAATTTATCACCGTTCTC- ATCAAC
	F	GGTTTGCACTGTTTGCCAGTG- TTGGAT
MERS Coronavirus	F+T7	TAATACGACTCACTATAGGTT- TGCACTGTTTGCCAGTGTTGG- AT
	R	CTCAAGATTTCCATCTTCAGT- ATCGCG
	F	GGGATTTTGTGGTCAAATAC- CCCCTG
Murine Hepatitis Virus	F+T7	TAATACGACTCACTATAGGGA- TTTTGTTTGTCAAATACCCCCT- G
	R	ATGATGCCCTTGGTCATCTAA- TTCTAC
	F	GGCTGTGTCATATGTGTTGAC- GCATGA
	F+T7	TAATACGACTCACTATAGGCT- GTGTCATATGTGTTGACGCAT- GA

Continued on next page

Table 5: Sequences of the forward (F), forward with T7 promoter (F+T7), and reverse (R) primers for amplifying the 239 nt segment of each 1,799 nt segment of coronaviral RNAs. (Continued)

	R	ATCCAAC TTGTTGCCGTCCTC- ATCTAC
SARS Coronavirus 1	F	GGGTTTTACACTTAGAAACAC- AGTCTG
	F+T7	TAATACGACTCACTATAGGGT- TTTACACTTAGAAACACAGTC- TG
	R	AGAGTCTAATAAATTGCCTTC- CTCATC
SARS Coronavirus 2	F	GGGTTTTACACTTAAAAACAC- AGTCTG
	F+T7	TAATACGACTCACTATAGGGT- TTTACACTTAAAAACACAGTC- TG
	R	AGAATCAATTAAATTGTCATC- TTCGTC
Transmissible Gastroenteritis Virus	F	GGCAATTCGGTTCTGTATTGA- AAATGA
	F+T7	TAATACGACTCACTATAGGCA- ATTCGGTTCTGTATTGAAAAT- GA
	R	TTTGACAATGTAGTAGGCATC- ATGTTT

Table 6: Sequences of the antisense oligonucleotides (ASOs) targeting the 1,799 nt segments of coronaviral RNAs.

Coronavirus	ASO	Sequence
Bat Coronavirus 1A	1	CAGGGCTCTAGTCGAGCTGCAC- TAGAGCCCCTTGCTCGTTTAAA- TAAGCCTGATCAACAG
	2	GCAACTTCTTTATTGTAAATATC- AAAGGCGCGTACAACATGCTCC- GGTTCAGTACCATTA
Bat Coronavirus BM48-31	1	GACATCAGTGCTTGTGCCTGTG- CCGCACGGTGTAAGACGGGCC- GCACTTACACCGCAAAC
	2	TTTAGGAACTTTGCAAAACCA- GCAACTTTCTCATTATAAATATC- AAAAGCCCTGTAAAC
	3	AAAATAGGAGTCTAATAAGTTG- CCCTCTTCATCAACTTCCTGGAA- ACGGCAACAATTTGT
Common Moorhen Coronavirus	1	TGGGGTTCTAGACGGGCATCAC- TAGAACCCTTTACTCGTTTAAAT- AAGCTGTATTTTGCA
	2	GTTATATTATTATGTACATGAAA- CGCCCTTTTTACAATATCCGGCT- GAGTGCCAGACTGT
Infectious Bronchitis Virus	1	ACATCAAAGGCTCGCTTTACAA- CATCAGGATCACATCCACTAGC- AAGGGGTATCAGCCGA

Continued on next page

Table 6: Sequences of the antisense oligonucleotides (ASOs) targeting the 1,799 nt segments of coronaviral RNAs. (Continued)

Murine Hepatitis Virus	1	AAGCCACTGGCACAGGGTACAA- GACGGGCATTTACACTTGTACC- CCGAATCCGTTTAAAA
	2	CCAATGCCAGCTCGATTAGCAT- TACAAATGTCAAATGCCCTTAA- TTGAACATCAGTGTCC
	3	AACTTGTTGCCGTCCTCATCTAC- ACGCTGGAAGCGGCAGCAATTC- ACTTTATAATACAAA
SARS Coronavirus 1	1	TTTGCAAACCAGCAACTTTTTTC- GTTGTAAATATCAAAAGCCCTG- TAGACGACATCAGTA
	2	TCTAATAAATTGCCTTCCTCATC- CTTCTCCTGGAAGCGACAGCAA- TTAGTTTTTAGGAAC
SARS Coronavirus 2	1	GACATCAGTACTAGTGCCTGTG- CCGCACGGTGTAAGACGGGCT- GCACTTACACCGCAAAC
	2	TTTAGGAATTTAGCAAAACCA- GCTACTTTATCATTGTAGATGTC- AAAAGCCCTGTATAC
Transmissible Gastroenteritis Virus	1	TAAATAACTTTGATCAACAGTA- AAACTCTGCATAGAAGTACGAT- CGCACATGCAACCATT

Continued on next page

Table 6: Sequences of the antisense oligonucleotides (ASOs) targeting the 1,799 nt segments of coronaviral RNAs. (Continued)

2 GGTCTGGATCAGTACCATTGCA-
GGGTTCTAGTCGAGCTGCACTA-
GAACCCCGCACTCGTT