

Table S1. Specific reaction of the NIID-ORF1a set.

Virus	Name of Isolate	GenBank Accession or GISAID ID	Amount	Results
SARS-CoV-2	Japan/TY/WK-521/2020	EPI_ISL_407084	2.5×10 ⁵ copies	+
SARS-CoV	Frankfurt-1	AY291315	5×10 ⁴ copies	-
MERS-CoV	EMC	NC_019843	2.5×10 ⁵ copies	-
HCoV-229E	VR-740	DQ243963	1.8×10 ⁹ copies	-
	Sendai-H/1121/04	AB691764	4.9×10 ⁶ copies	-
	Niigata/01/08	AB691767	2×10 ⁵ copies	-
	Fukushima/H829/2020	LC654445	2.1×10 ⁷ copies	-
	Fukushima/H832/2020	LC654446	6.8×10 ⁸ copies	-
HCoV-NL63	Amsterdam I	NC_005831	2×10 ⁹ copies	-
	Tokyo/SGH-15/2017	LC488390	2.7×10 ⁶ copies	-
	Tokyo/SGH-24/2018	LC488388	4.8×10 ⁵ copies	-
	Fukushima/H219/2018	LC654455	3.6×10 ⁷ copies	-
HCoV-OC43	VR-1558	AY391777	5.1×10 ¹⁰ copies	-
	Tokyo/SGH-36/2014	LC315646	6.8×10 ⁷ copies	-
	Tokyo/SGH-61/2014	LC315647	3.3×10 ⁸ copies	-
	Tokyo/SGH-06/2015	LC315648	1.1×10 ⁸ copies	-
	Tokyo/SGH-65/2016	LC315649	2.9×10 ⁸ copies	-
	Fukushima/H148/2018	LC654454	3.3×10 ⁷ copies	-
	Fukushima/H189/2018	LC654453	7.5×10 ⁸ copies	-
	Fukushima/H478/2019	LC654452	5.1×10 ⁹ copies	-
	Fukushima/H509/2019	LC654451	6.8×10 ⁸ copies	-
	Fukushima/O120/2017	LC654450	2.5×10 ⁹ copies	-
HCoV-HKU1	Tokyo/SGH-15/2014	LC315650	1.5×10 ⁸ copies	-
	Tokyo/SGH-18/2016	LC315651	3.3×10 ⁷ copies	-
	Fukushima/H815/2020	LC654447	3.0×10 ⁸ copies	-
	Fukushima/H821/2020	LC654448	1.5×10 ⁷ copies	-
	Fukushima/O943/2020	LC654449	7.0×10 ⁶ copies	-
ADV 3	G.B.	unregistered	7×10 ⁵ TCID ₅₀	-
ADV 4	RI-67	KX384949	7×10 ⁵ TCID ₅₀	-
ADV 7	Gomen	unregistered	7×10 ⁵ TCID ₅₀	-
Human respirovirus 1	PIV1, C-35	unregistered	4 ×10 ⁵ copies	-
	PIV1, NIID/79081/1/2019	LC654457	1.3 ×10 ³ copies	-
	PIV1, NIID/79082/2/2019	unregistered	2.4 ×10 ⁴ copies	-
Human respirovirus 3	PIV3, C-243	EU346887	5.1 ×10 ⁷ copies	-
	PIV3, NIID/79133/1/2019	LC654459	3.6 ×10 ³ copies	-
Human Rubulavirus 2	PIV2, NIID/56606/2/2019	LC654458	7.3×10 ² TCID ₅₀	-
	PIV2, NIID/56607/1/2019	unregistered	7.3×10 ¹ TCID ₅₀	-
Influenza viruses				
H1N1pdm	A/California/7/2009	unregistered	1×10 ⁵ copies	-
H3N2	A/Victoria/210/2009	unregistered	8.4×10 ⁴ copies	-
B	B/Brisbane/60/2008	unregistered	4.2×10 ⁵ copies	-
Human orthopneu- movirus	RSV, Long	AY911262	5.7×10 ⁴ copies	-
	RSV, A2	KT992094	2.5 ×10 ⁶ copies	-
	RSV, CH/18537	JX198143	4.8×10 ⁵ copies	-
	RSV, B1	AF013254	2.5 ×10 ³ copies	-

	RSV/A/NIID/2347/14	LC474556	5 ×10 ⁴ copies	-
	RSV/A/NIID/2367/14	LC474557	5 ×10 ⁴ copies	-
	RSV/A/NIID/2370/14	LC474558	5 ×10 ⁴ copies	-
	RSV/B/NIID/2472/14	LC474559	5 ×10 ⁴ copies	-
	RSV/B/NIID/2474/14	LC474560	5 ×10 ⁴ copies	-
Human metapneumovirus	IA10-2003	DQ312451	7.5 ×10 ⁶ IU	-
	Sendai/0256/2015	unregistered	2 ×10 ⁵ IU	-
	Sendai/414/2013	unregistered	3 ×10 ⁶ FFU	-
	Sendai/1052/2011	unregistered	3 ×10 ⁶ IU	-

Table S2. Detection of SARS-CoV-2 by the NIID-ORF1a set in clinical specimens.

Specimen No.	NIID-N2	NIID-S2	NIID-ORF1a
1	-	-	-
2	-	-	-
3	-	-	-
4	-	-	-
5	-	-	-
6	-	-	-
7	-	-	-
8	-	-	-
9	-	-	-
10	-	-	-
11	-	-	-
12	-	-	-
13	-	-	-
14	-	-	-
15	-	-	-
16	23.3	24.15	26.44
17	25.08	25.87	28.58
18	27.4	28.15	30.7
19	29.68	30.57	33.19
20	29.65	30.46	32.73
21	28.91	30.43	32.75
22	30.51	32.16	35.19
23	32.70	33.54	37.58
24	35.86	36.14	-
25	36.19	38.53	-

Cp values were shown.

Table S3. Primer/probe mismatches on NIID assays for Omicron variant.

Primer/Probe Set		The Number of Available Sequences	The Number of Mismatched Sequences	Rate (%)	Distinctive Mismatch	The Number of Mismatched Sequences	Rate (%)
NIID-N2	Forward	347,853	527	0.152			
	Probe	345,046	411	0.119			
	Reverse	347,724	944	0.271			
	Total		1882	0.542			
NIID-S2	Forward	347,624	140	0.040	T to G substitution on 11th nucleotide (TGCTCCTGCCATTTGTCATGATGG →TGCTCCTGCC <u>G</u> TTTGTTCATGATGG)	5341	1.537
	Probe	347,520	6262	1.802			
	Reverse	347,845	346	0.002			
	Total		6748	1.844			
NIID-ORF1a	Forward	287,892	34,845	12.103	T to G substitution on 18th nucleotide (GGAGCTGGTGGCCATAGTTA →GGAGCTGGTGGCCATAG <u>G</u> TA)	34,108	11.847
	Probe	287,925	469	0.163			
	Reverse	287,802	425	0.148			
	Total		35,739	12.414			