


Research Report

Single institution, randomization, single-blind, and retrospective validation clinical trial to evaluate the clinical positive percent agreement and negative percent agreement of Asan Easy Test COVID-19[®] Ag using nasopharyngeal swab specimens of patients suspected of having SARS-CoV-2.

November 30, 2020

Principal Investigator: Ryu, Hye Jin (Signature)


2020.11.30

1. Research title

Single institution, randomization, single-blind, and retrospective validation clinical trial to evaluate the clinical positive percent agreement and negative percent agreement of Asan Easy Test® COVID-19 Ag using nasopharyngeal swab specimens of patients suspected of having SARS-CoV-2.

2. Name and Address of the participating site

Samkwang Medical Lab, 57, Baumoe-ro 41-gil, Seocho-gu, Seoul, Republic of Korea

3. Research participants

Role	Name	Major	Position
Principal investigator	Ryu, Hye Jin	Laboratory medicine	Laboratory medicine Specialist
Investigator	Oh, Rae Won	Molecular microbiology	Molecular Microbiology Team Leader
Statistics manager	Choi, Sam Kyu	Medical Management	National Project Team Leader
Investigational device manager	Lee, Jong Pil	Clinical pathology	Team Leader

4. Name and Address of the trial sponsor

Asan Pharma. Co., Ltd. 163, Yeongcheon-ro, Hwaseong-si, Gyeonggi-do

5. Purpose

The purpose of this clinical trial is to evaluate positive percent agreement (PPA) and negative percent agreement (NPA) of Asan Easy Test® COVID-19 Ag using retrospective nasopharyngeal swab specimens of patients infected or uninfected with SARS-CoV-2. This study is conducted in accordance with the study protocol approved by the IRB for sufficient review of the ethical and legal requirements of this study.

6. Trial period

November 20~ November 29, 2020

7. Materials

(1) Sample Number

No	Target Specimen Type	Number of test specimens
1	COVID-19 positive nasopharyngeal swab	110
2	COVID-19 negative nasopharyngeal swab	290

Total number of specimens	400
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(2) Inclusion criteria

- ① Residual specimens derived from nasopharyngeal swab from patients who have been tested according to the COVID-19 laboratory diagnostic guidelines regardless of this clinical trial and confirmed to be positive or negative for COVID-19 by a real-time RT-PCR test (Real-Q 2019-nCoV Detection Kit, EUA approved)
- ② Specimens that have undergone anonymization process after obtaining IRB approval from Samkwang Medical Foundation
- ③ Specimens stored in a designated container and stored at -70°C or less for 6 months
- ④ Specimens with a residual volume of 200 μL or more

(3) Exclusion criteria

- ① Specimens that do not belong to selection criteria
- ② Specimens contaminated with mold, microorganisms, etc.
- ③ Specimens stored improperly or whose storage method cannot be determined

8. Methods

This clinical trial was designed as a single institution, randomized, single-blind, retrospective validation study to evaluate the positive percent agreement and negative percent agreement of Asan Easy Test® COVID-19 Ag using residual nasopharyngeal swab specimens.

The specimens have completed a real-time RT-PCR test (Real-Q 2019-nCoV Detection Kit, EUA). Therefore, in this clinical trial, the specimens were tested with Asan Easy Test® COVID-19 Ag only, and the test results that were previously examined by confirmatory test (Real-Q 2019-nCoV Detection Kit) were used to evaluate the clinical performance of Asan Easy Test® COVID-19 Ag. Specimens of patients identified as positive or negative through confirmatory tests were selected according to the inclusion and exclusion criteria.

The number of random numbers as many as the number of positive and negative specimens required for the clinical trial was made. A random number was assigned to the anonymized specimen during excluding information on the specimens (positive and negative), and then a subject identification code was given.

The specimens with the subject's identification code were delivered to the investigator, and the investigator measures the specimens with Asan Easy Test® COVID-19 Ag according to the sequence of a random number to determine positive and negative.

If the result of the first test is judged invalid, the test is repeated. If the retest result is positive, the test result is judged as positive, and if it is negative, the test result is judged as negative. If invalidity is found in the retest it is considered invalid and eliminated. The positive percent

agreement and negative percent agreement of Asan Easy Test® COVID-19 Ag were evaluated based on the results of the confirmatory test of the specimens used in the clinical trial.

9. Results

To evaluate the clinical performance of the Asan Easy Test® COVID-19 Ag, 400 retrospective COVID-19 positive and negative samples (110 specimens from positive nasopharyngeal swabs, 290 specimens from negative nasopharyngeal swabs) were tested. The results are as follows:

Table 1. Summary of positive percent agreement and negative percent agreement

Asan Easy Test® COVID-19 Ag	Real-Q 2019-nCoV Detection Kit as confirmatory test	
	Positive	Negative
Positive	105	4
Negative	5	286
Total	110	290

- Positive percent agreement: 95.5 %(105/110) (95% CI: 89.7% ~ 98.5%)

- Negative percent agreement: 98.6 %(286/290) (95% CI: 96.5% ~ 99.6%)

10. Conclusion

To evaluate the positive percent agreement and negative percent agreement of the Asan Easy Test® COVID-19 Ag, a total of 400 samples suitable for the inclusion and exclusion criteria were analyzed. The Positive percent agreement is 95.5% (105/110, 95% CI: 89.7% ~ 98.5%) and Negative percent agreement is 98.6% (286/290, 95% CI: 96.5% ~ 99.6%), respectively. Considering such clinical performance, the Asan Easy Test® COVID-19 Ag is speculated to be useful to confirm the infection of SARS-CoV-2 in the clinical field.

11. Attachment

Case report form

Case Report Form

Confirmatory test kit	Real-Q 2019-nCoV Detection Kit
Clinical trial kit	Asan Easy Test® COVID-19 Ag

No.	Identification number	Confirmatory test kit			Clinical trial test kit	Suitability for Inclusion/exclusion criteria
		E gene	RdRP gene	Results		
1	COVID-001	-	-	-	-	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
2	COVID-002	26.92	26.76	+	+	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
3	COVID-003	-	-	-	-	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
4	COVID-004	-	-	-	-	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
5	COVID-005	-	-	-	-	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
6	COVID-006	26.30	26.44	+	+	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
7	COVID-007	30.21	30.18	+	+	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
8	COVID-008	-	-	-	-	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
9	COVID-009	-	-	-	-	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
10	COVID-010	-	-	-	-	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
11	COVID-011	27.81	27.50	+	+	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
12	COVID-012	-	-	-	-	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
13	COVID-013	-	-	-	-	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
14	COVID-014	-	-	-	-	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
15	COVID-015	23.27	23.51	+	+	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
16	COVID-016	15.63	16.22	+	+	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
17	COVID-017	22.29	22.15	+	+	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
18	COVID-018	-	-	-	-	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
19	COVID-019	28.12	27.06	+	+	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
20	COVID-020	30.67	30.14	+	-	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
21	COVID-021	-	-	-	-	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
22	COVID-022	-	-	-	-	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
23	COVID-023	24.96	24.72	+	+	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
24	COVID-024	-	-	-	-	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
25	COVID-025	-	-	-	-	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
26	COVID-026	-	-	-	-	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
27	COVID-027	28.48	28.48	+	+	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
28	COVID-028	-	-	-	-	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
29	COVID-029	-	-	-	-	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
30	COVID-030	24.47	24.22	+	+	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
31	COVID-031	18.34	18.07	+	+	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
32	COVID-032	-	-	-	-	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
33	COVID-033	-	-	-	-	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO

34	COVID-034	-	-	-	-	■YES □NO
35	COVID-035	25.35	25.48	+	+	■YES □NO
36	COVID-036	16.12	16.25	+	+	■YES □NO
37	COVID-037	24.51	24.44	+	+	■YES □NO
38	COVID-038	-	-	-	-	■YES □NO
39	COVID-039	-	-	-	-	■YES □NO
40	COVID-040	30.00	29.82	+	+	■YES □NO
41	COVID-041	-	-	-	-	■YES □NO
42	COVID-042	29.17	28.91	+	+	■YES □NO
43	COVID-043	-	-	-	-	■YES □NO
44	COVID-044	22.47	21.98	+	+	■YES □NO
45	COVID-045	-	-	-	-	■YES □NO
46	COVID-046	-	-	-	-	■YES □NO
47	COVID-047	-	-	-	-	■YES □NO
48	COVID-048	23.73	24.31	+	+	■YES □NO
49	COVID-049	32.24	32.58	+	-	■YES □NO
50	COVID-050	-	-	-	-	■YES □NO
51	COVID-051	29.42	29.43	+	+	■YES □NO
52	COVID-052	-	-	-	-	■YES □NO
53	COVID-053	-	-	-	-	■YES □NO
54	COVID-054	25.08	24.83	+	+	■YES □NO
55	COVID-055	-	-	-	-	■YES □NO
56	COVID-056	-	-	-	-	■YES □NO
57	COVID-057	27.06	26.37	+	+	■YES □NO
58	COVID-058	18.18	18.03	+	+	■YES □NO
59	COVID-059	22.27	21.84	+	+	■YES □NO
60	COVID-060	-	-	-	-	■YES □NO
61	COVID-061	22.66	22.40	+	+	■YES □NO
62	COVID-062	-	-	-	-	■YES □NO
63	COVID-063	30.00	29.82	+	+	■YES □NO
64	COVID-064	-	-	-	-	■YES □NO
65	COVID-065	-	-	-	-	■YES □NO
66	COVID-066	-	-	-	-	■YES □NO
67	COVID-067	-	-	-	-	■YES □NO
68	COVID-068	30.45	30.10	+	+	■YES □NO
69	COVID-069	26.73	27.18	+	+	■YES □NO
70	COVID-070	-	-	-	-	■YES □NO
71	COVID-071	25.62	25.14	+	+	■YES □NO
72	COVID-072	-	-	-	-	■YES □NO
73	COVID-073	-	-	-	-	■YES □NO
74	COVID-074	24.06	24.57	+	+	■YES □NO
75	COVID-075	-	-	-	-	■YES □NO
76	COVID-076	-	-	-	-	■YES □NO

77	COVID-077	25.53	24.86	+	+	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
78	COVID-078	-	-	-	-	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
79	COVID-079	-	-	-	-	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
80	COVID-080	-	-	-	-	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
81	COVID-081	-	-	-	-	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
82	COVID-082	19.88	19.61	+	+	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
83	COVID-083	-	-	-	-	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
84	COVID-084	28.99	29.16	+	+	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
85	COVID-085	27.60	27.27	+	+	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
86	COVID-086	-	-	-	-	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
87	COVID-087	28.72	27.54	+	+	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
88	COVID-088	26.38	26.18	+	+	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
89	COVID-089	-	-	-	-	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
90	COVID-090	-	-	-	-	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
91	COVID-091	-	-	-	-	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
92	COVID-092	-	-	-	-	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
93	COVID-093	-	-	-	-	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
94	COVID-094	25.23	24.76	+	+	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
95	COVID-095	-	-	-	-	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
96	COVID-096	18.96	18.35	+	+	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
97	COVID-097	-	-	-	-	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
98	COVID-098	27.52	26.98	+	+	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
99	COVID-099	-	-	-	-	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
100	COVID-100	-	-	-	-	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
101	COVID-101	16.51	16.51	+	+	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
102	COVID-102	-	-	-	-	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
103	COVID-103	27.60	27.37	+	+	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
104	COVID-104	30.80	30.25	+	+	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
105	COVID-105	-	-	-	-	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
106	COVID-106	-	-	-	-	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
107	COVID-107	-	-	-	-	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
108	COVID-108	17.82	18.10	+	+	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
109	COVID-009	-	-	-	-	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
110	COVID-110	-	-	-	-	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
111	COVID-111	28.11	27.92	+	+	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
112	COVID-112	30.21	30.45	+	+	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
113	COVID-113	-	-	-	-	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
114	COVID-114	-	-	-	-	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
115	COVID-115	-	-	-	-	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
116	COVID-116	19.35	19.14	+	+	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
117	COVID-117	-	-	-	-	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
118	COVID-118	25.44	25.54	+	+	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
119	COVID-119	-	-	-	-	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO

120	COVID-120	-	-	-	-	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
121	COVID-121	-	-	-	-	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
122	COVID-122	-	-	-	-	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
123	COVID-123	-	-	-	-	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
124	COVID-124	-	-	-	-	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
125	COVID-125	26.12	25.60	+	+	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
126	COVID-126	-	-	-	-	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
127	COVID-127	27.40	26.72	+	+	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
128	COVID-128	-	-	-	-	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
129	COVID-129	25.40	25.18	+	+	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
130	COVID-130	21.27	20.60	+	+	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
131	COVID-131	-	-	-	-	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
132	COVID-132	-	-	-	-	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
133	COVID-133	23.88	23.55	+	+	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
134	COVID-134	-	-	-	-	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
135	COVID-135	-	-	-	-	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
136	COVID-136	-	-	-	-	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
137	COVID-137	-	-	-	-	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
138	COVID-138	25.29	25.68	+	+	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
139	COVID-139	-	-	-	-	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
140	COVID-140	23.52	23.93	+	+	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
141	COVID-141	-	-	-	-	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
142	COVID-142	-	-	-	-	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
143	COVID-143	-	-	-	-	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
144	COVID-144	-	-	-	-	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
145	COVID-145	-	-	-	-	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
146	COVID-146	21.23	20.97	+	+	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
147	COVID-147	-	-	-	-	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
148	COVID-148	22.03	21.90	+	+	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
149	COVID-149	22.18	21.61	+	+	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
150	COVID-150	-	-	-	-	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
151	COVID-151	-	-	-	-	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
152	COVID-152	-	-	-	-	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
153	COVID-153	-	-	-	-	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
154	COVID-154	-	-	-	-	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
155	COVID-155	-	-	-	-	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
156	COVID-156	-	-	-	-	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
157	COVID-157	-	-	-	-	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
158	COVID-158	25.08	24.33	+	+	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
159	COVID-159	-	-	-	-	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
160	COVID-160	-	-	-	-	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
161	COVID-161	-	-	-	-	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
162	COVID-162	28.17	28.14	+	+	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO

163	COVID-163	-	-	-	-	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
164	COVID-164	-	-	-	-	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
165	COVID-165	-	-	-	-	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
166	COVID-166	-	-	-	-	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
167	COVID-167	-	-	-	-	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
168	COVID-168	-	-	-	-	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
169	COVID-169	-	-	-	+	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
170	COVID-170	-	-	-	-	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
171	COVID-171	-	-	-	-	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
172	COVID-172	29.46	29.06	+	+	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
173	COVID-173	-	-	-	-	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
174	COVID-174	-	-	-	-	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
175	COVID-175	18.75	18.46	+	+	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
176	COVID-176	-	-	-	-	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
177	COVID-177	-	-	-	-	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
178	COVID-178	-	-	-	-	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
179	COVID-179	-	-	-	-	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
180	COVID-180	-	-	-	-	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
181	COVID-181	-	-	-	-	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
182	COVID-182	-	-	-	-	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
183	COVID-183	-	-	-	-	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
184	COVID-184	-	-	-	-	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
185	COVID-185	-	-	-	-	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
186	COVID-186	-	-	-	-	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
187	COVID-187	-	-	-	-	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
188	COVID-188	-	-	-	-	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
189	COVID-189	-	-	-	-	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
190	COVID-190	-	-	-	-	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
191	COVID-191	-	-	-	-	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
192	COVID-192	-	-	-	-	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
193	COVID-193	-	-	-	-	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
194	COVID-194	-	-	-	-	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
195	COVID-195	27.44	27.66	+	+	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
196	COVID-196	-	-	-	-	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
197	COVID-197	-	-	-	-	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
198	COVID-198	-	-	-	-	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
199	COVID-199	-	-	-	-	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
200	COVID-200	22.23	21.78	+	+	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
201	COVID-201	-	-	-	-	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
202	COVID-202	-	-	-	-	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
203	COVID-203	-	-	-	-	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
204	COVID-204	20.28	20.47	+	+	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
205	COVID-205	-	-	-	-	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO

206	COVID-206	26.08	25.52	+	+	■YES □NO
207	COVID-207	-	-	-	-	■YES □NO
208	COVID-208	-	-	-	-	■YES □NO
209	COVID-209	-	-	-	-	■YES □NO
210	COVID-210	-	-	-	-	■YES □NO
211	COVID-211	-	-	-	-	■YES □NO
212	COVID-212	28.35	27.84	+	+	■YES □NO
213	COVID-213	-	-	-	-	■YES □NO
214	COVID-214	15.43	14.98	+	+	■YES □NO
215	COVID-215	21.14	21.18	+	+	■YES □NO
216	COVID-216	-	-	-	-	■YES □NO
217	COVID-217	-	-	-	-	■YES □NO
218	COVID-218	28.76	28.05	+	-	■YES □NO
219	COVID-219	17.68	17.20	+	+	■YES □NO
220	COVID-220	-	-	-	-	■YES □NO
221	COVID-221	17.57	17.59	+	+	■YES □NO
222	COVID-222	-	-	-	-	■YES □NO
223	COVID-223	21.95	21.27	+	+	■YES □NO
224	COVID-224	-	-	-	-	■YES □NO
225	COVID-225	-	-	-	-	■YES □NO
226	COVID-226	-	-	-	-	■YES □NO
227	COVID-227	-	-	-	+	■YES □NO
228	COVID-228	-	-	-	-	■YES □NO
229	COVID-229	-	-	-	-	■YES □NO
230	COVID-230	-	-	-	-	■YES □NO
231	COVID-231	27.71	27.68	+	+	■YES □NO
232	COVID-232	25.84	25.11	+	+	■YES □NO
233	COVID-233	-	-	-	-	■YES □NO
234	COVID-234	28.04	27.56	+	+	■YES □NO
235	COVID-235	-	-	-	-	■YES □NO
236	COVID-236	28.08	27.85	+	+	■YES □NO
237	COVID-237	-	-	-	-	■YES □NO
238	COVID-238	22.44	22.18	+	+	■YES □NO
239	COVID-239	-	-	-	-	■YES □NO
240	COVID-240	26.44	26.09	+	+	■YES □NO
241	COVID-241	-	-	-	-	■YES □NO
242	COVID-242	19.74	19.58	+	+	■YES □NO
243	COVID-243	-	-	-	-	■YES □NO
244	COVID-244	23.36	23.06	+	+	■YES □NO
245	COVID-245	-	-	-	-	■YES □NO
246	COVID-246	-	-	-	-	■YES □NO
247	COVID-247	25.29	25.68	+	+	■YES □NO
248	COVID-248	-	-	-	-	■YES □NO

249	COVID-249	-	-	-	-	■YES □NO
250	COVID-250	-	-	-	-	■YES □NO
251	COVID-251	-	-	-	-	■YES □NO
252	COVID-252	-	-	-	-	■YES □NO
253	COVID-253	-	-	-	-	■YES □NO
254	COVID-254	29.08	28.42	+	+	■YES □NO
255	COVID-255	-	-	-	-	■YES □NO
256	COVID-256	-	-	-	-	■YES □NO
257	COVID-257	-	-	-	-	■YES □NO
258	COVID-258	-	-	-	-	■YES □NO
259	COVID-259	27.14	27.28	+	+	■YES □NO
260	COVID-260	-	-	-	-	■YES □NO
261	COVID-261	-	-	-	-	■YES □NO
262	COVID-262	29.57	29.03	+	-	■YES □NO
263	COVID-263	-	-	-	-	■YES □NO
264	COVID-264	31.91	31.77	+	+	■YES □NO
265	COVID-265	27.59	27.57	+	+	■YES □NO
266	COVID-266	-	-	-	-	■YES □NO
267	COVID-267	-	-	-	-	■YES □NO
268	COVID-268	23.94	23.59	+	+	■YES □NO
269	COVID-269	-	-	-	-	■YES □NO
270	COVID-270	25.10	24.43	+	+	■YES □NO
271	COVID-271	16.75	16.00	+	+	■YES □NO
272	COVID-272	-	-	-	-	■YES □NO
273	COVID-273	-	-	-	-	■YES □NO
274	COVID-274	-	-	-	-	■YES □NO
275	COVID-275	-	-	-	-	■YES □NO
276	COVID-276	21.45	21.00	+	+	■YES □NO
277	COVID-277	-	-	-	-	■YES □NO
278	COVID-278	-	-	-	-	■YES □NO
279	COVID-279	29.4	28.53	+	+	■YES □NO
280	COVID-280	-	-	-	-	■YES □NO
281	COVID-281	24.77	24.01	+	+	■YES □NO
282	COVID-282	-	-	-	-	■YES □NO
283	COVID-283	-	-	-	-	■YES □NO
284	COVID-284	-	-	-	-	■YES □NO
285	COVID-285	-	-	-	-	■YES □NO
286	COVID-286	17.15	17.43	+	+	■YES □NO
287	COVID-287	22.75	22.28	+	+	■YES □NO
288	COVID-288	-	-	-	-	■YES □NO
289	COVID-289	19.22	18.75	+	+	■YES □NO
290	COVID-290	-	-	-	-	■YES □NO
291	COVID-291	-	-	-	-	■YES □NO

292	COVID-292	-	-	-	-	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
293	COVID-293	-	-	-	-	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
294	COVID-294	-	-	-	-	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
295	COVID-295	-	-	-	-	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
296	COVID-296	28.16	27.45	+	+	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
297	COVID-297	-	-	-	-	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
298	COVID-298	-	-	-	-	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
299	COVID-299	-	-	-	-	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
300	COVID-300	-	-	-	-	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
301	COVID-301	31.96	31.61	+	-	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
302	COVID-302	-	-	-	+	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
303	COVID-303	-	-	-	-	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
304	COVID-304	-	-	-	-	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
305	COVID-305	22.81	22.35	+	+	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
306	COVID-306	-	-	-	-	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
307	COVID-307	-	-	-	-	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
308	COVID-308	-	-	-	-	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
309	COVID-309	-	-	-	-	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
310	COVID-310	-	-	-	-	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
311	COVID-311	-	-	-	-	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
312	COVID-312	-	-	-	-	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
313	COVID-313	-	-	-	-	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
314	COVID-314	-	-	-	-	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
315	COVID-315	-	-	-	-	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
316	COVID-316	-	-	-	-	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
317	COVID-317	-	-	-	-	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
318	COVID-318	-	-	-	-	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
319	COVID-319	-	-	-	-	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
320	COVID-320	-	-	-	-	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
321	COVID-321	-	-	-	-	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
322	COVID-322	-	-	-	-	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
323	COVID-323	-	-	-	-	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
324	COVID-324	-	-	-	-	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
325	COVID-325	-	-	-	-	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
326	COVID-326	-	-	-	-	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
327	COVID-327	-	-	-	-	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
328	COVID-328	-	-	-	-	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
329	COVID-329	-	-	-	-	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
330	COVID-330	-	-	-	-	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
331	COVID-331	-	-	-	-	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
332	COVID-332	-	-	-	-	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
333	COVID-333	-	-	-	-	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
334	COVID-334	-	-	-	-	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO

335	COVID-335	-	-	-	-	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
336	COVID-336	28.42	27.76	+	+	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
337	COVID-337	-	-	-	-	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
338	COVID-338	-	-	-	-	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
339	COVID-339	-	-	-	-	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
340	COVID-340	-	-	-	-	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
341	COVID-341	-	-	-	-	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
342	COVID-342	15.32	15.41	+	+	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
343	COVID-343	-	-	-	-	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
344	COVID-344	-	-	-	-	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
345	COVID-345	-	-	-	-	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
346	COVID-346	-	-	-	-	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
347	COVID-347	-	-	-	-	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
348	COVID-348	-	-	-	-	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
349	COVID-349	-	-	-	-	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
350	COVID-350	30.45	30.10	+	+	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
351	COVID-351	-	-	-	-	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
352	COVID-352	-	-	-	-	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
353	COVID-353	20.18	19.16	+	+	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
354	COVID-354	-	-	-	-	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
355	COVID-355	-	-	-	-	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
356	COVID-356	-	-	-	-	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
357	COVID-357	26.49	26.21	+	+	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
358	COVID-358	-	-	-	-	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
359	COVID-359	-	-	-	-	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
360	COVID-360	20.40	20.58	+	+	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
361	COVID-361	-	-	-	-	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
362	COVID-362	-	-	-	-	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
363	COVID-363	-	-	-	-	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
364	COVID-364	27.06	26.37	+	+	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
365	COVID-365	18.18	18.03	+	+	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
366	COVID-366	-	-	-	-	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
367	COVID-367	-	-	-	-	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
368	COVID-368	-	-	-	-	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
369	COVID-369	15.63	16.22	+	+	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
370	COVID-370	-	-	-	-	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
371	COVID-371	-	-	-	-	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
372	COVID-372	22.54	22.26	+	+	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
373	COVID-373	-	-	-	-	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
374	COVID-374	-	-	-	-	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
375	COVID-375	-	-	-	-	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
376	COVID-376	-	-	-	-	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
377	COVID-377	27.26	27.29	+	+	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO

378	COVID-378	-	-	-	-	■YES □NO
379	COVID-379	-	-	-	-	■YES □NO
380	COVID-380	-	-	-	-	■YES □NO
381	COVID-381	-	-	-	-	■YES □NO
382	COVID-382	-	-	-	+	■YES □NO
383	COVID-383	-	-	-	-	■YES □NO
384	COVID-384	24.64	24.12	+	+	■YES □NO
385	COVID-385	-	-	-	-	■YES □NO
386	COVID-386	-	-	-	-	■YES □NO
387	COVID-387	-	-	-	-	■YES □NO
388	COVID-388	-	-	-	-	■YES □NO
389	COVID-389	-	-	-	-	■YES □NO
390	COVID-390	-	-	-	-	■YES □NO
391	COVID-391	-	-	-	-	■YES □NO
392	COVID-392	-	-	-	-	■YES □NO
393	COVID-393	-	-	-	-	■YES □NO
394	COVID-394	-	-	-	-	■YES □NO
395	COVID-395	-	-	-	-	■YES □NO
396	COVID-396	28.75	28.12	+	+	■YES □NO
397	COVID-397	-	-	-	-	■YES □NO
398	COVID-398	26.07	26.18	+	+	■YES □NO
399	COVID-399	-	-	-	-	■YES □NO
400	COVID-400	-	-	-	-	■YES □NO

*** Results determination method of Samkwang Medical Lab(Biosewoom Real-Q 2019-nCOV Detection Kit)**

: If the Ct value of each sample is ≤ 38 , it is determined as positive, and if it is > 38 , it is determined as negative.