

Experimental comparative statistical report

Statistics of the results of the assessment reagent and the nucleic acid test results

Table: 255 samples test results

Assessment reagent	Nucleic acid test (RT-PCR)		Total
	Positive(+)	Negative(-)	
Positive (+)	103	1	104
Negative (-)	2	149	151
Total	105	150	255

① Positive and negative coincidence rate, total coincidence rate and Kappa value:

Clinical sensitivity (positive coincidence rate):

$$A/(A+C) \times 100\% = 103/(103+2) \times 100\% = 98.10\%$$

$$95\% \text{ confidence interval: } p \pm 1.96 \times [p(1-p)/n]^{1/2} = 0.9810 \pm 1.96 \times [0.9810 \times (1-0.9810)/105]^{1/2} \\ = [0.9549, 1.000]$$

Clinical specificity (negative coincidence rate):

$$D/(B+D) \times 100\% = 149/(1+149) \times 100\% = 99.33\%$$

$$95\% \text{ Confidence interval: } p \pm 1.96 \times [p(1-p)/n]^{1/2} = 0.9933 \pm 1.96 \times [0.9933 \times (1-0.9933)/150]^{1/2} \\ = [0.9802, 1.000]$$

Overall coincidence rate:

$$(A+D)/(A+B+C+D) \times 100\% = (103+149)/(103+1+2+149) \times 100\% = 98.82\%$$

$$95\% \text{ Confidence interval: } p \pm 1.96 \times [p(1-p)/n]^{1/2} = 0.9882 \pm 1.96 \times [0.9882 \times (1-0.9882)/255]^{1/2} \\ = [0.9749, 1.000]$$

② Consistency coefficient Kappa value (K):

$$Kappa = (P_A - P_e) / (1 - P_e)$$

$$P_A = (A + D) / (A + B + C + D) = (103 + 149) / (103 + 1 + 2 + 149) = 0.9882$$

$$P_e = [(A + B)(A + C) + (C + D)(B + D)] / (A + B + C + D)^2 \\ = [(103 + 1)(103 + 2) + (2 + 149)(1 + 149)] / (103 + 1 + 2 + 149)^2 \\ = 0.5163$$

$$Kappa = (P_A - P_e) / (1 - P_e) = (0.9882 - 0.5163) / (1 - 0.5163) = 0.9756$$

Kappa=0.9756 (K>0.75), it can be considered that the strength of agreement between the assessment reagent result and the nucleic acid test result is extremely high. (K=0.9756>0.75)



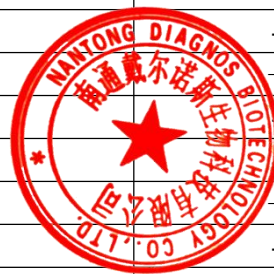
Subject number	Gender	Assessment reagent test results	Nucleic acid test results
1	Male	+	+
2	Female	+	+
3	Female	-	-
4	Male	-	-
5	Male	+	+
6	Male	-	-
7	Male	+	+
8	Female	-	-
9	Male	-	-
10	Male	+	+
11	Male	-	-
12	Male	+	+
13	Female	-	-
14	Male	+	+
15	Female	-	-
16	Female	-	-
17	Male	+	-
18	Female	-	-
19	Female	+	+
20	Female	-	-
21	Male	-	-
22	Male	+	+
23	Female	+	+
24	Female	-	-
25	Female	-	-
26	Female	+	+
27	Male	-	-
28	Male	-	-
29	Female	+	+
30	Female	+	+
31	Male	-	-
32	Male	-	-
33	Female	-	-
34	Female	+	+
35	Male	-	-



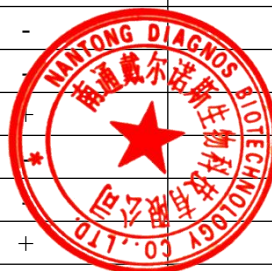
36	Male	-	-
37	Male	-	-
38	Male	-	-
39	Male	-	-
40	Male	-	-
41	Female	+	+
42	Male	-	-
43	Male	-	-
44	Male	-	-
45	Female	+	+
46	Female	-	-
47	Male	-	-
48	Female	+	+
49	Female	+	+
50	Male	-	-
51	Female	+	+
52	Female	-	-
53	Male	+	+
54	Male	+	+
55	Female	+	+
56	Female	+	+
57	Female	-	-
58	Female	-	-
59	Male	-	-
60	Female	+	+
61	Male	+	+
62	Male	-	-
63	Male	-	-
64	Male	-	-
65	Female	-	-
66	Male	-	-
67	Female	+	+
68	Male	+	+
69	Male	-	-
70	Male	+	+
71	Female	+	+
72	Male	+	+
73	Female	-	-



74	Male	-	-
75	Male	+	+
76	Female	-	-
77	Male	-	-
78	Male	-	-
79	Male	-	-
80	Male	-	-
81	Female	-	-
82	Female	+	+
83	Male	-	-
84	Female	+	+
85	Male	-	+
86	Male	-	+
87	Male	-	-
88	Male	-	-
89	Male	-	-
90	Female	+	+
91	Male	-	-
92	Male	-	-
93	Male	-	-
94	Female	+	+
95	Female	+	+
96	Male	-	-
97	Male	-	-
98	Male	+	+
99	Male	-	-
100	Female	-	-
101	Male	-	-
102	Male	+	+
103	Male	-	-
104	Female	-	-
105	Male	+	+
106	Male	-	-
107	Male	+	+
108	Female	+	+
109	Male	+	+
110	Female	-	-
111	Male	-	-



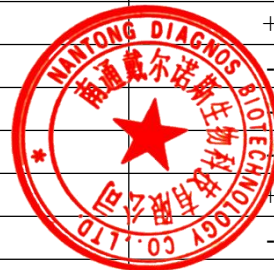
112	Female	+	+
113	Male	-	-
114	Female	+	+
115	Female	-	-
116	Female	-	-
117	Male	-	-
118	Male	-	-
119	Female	+	+
120	Male	-	-
121	Female	-	-
122	Female	+	+
123	Male	-	-
124	Female	+	+
125	Female	+	+
126	Female	-	-
127	Male	+	+
128	Male	-	-
129	Male	-	-
130	Male	+	+
131	Male	-	-
132	Male	+	+
133	Male	+	+
134	Female	-	-
135	Male	-	-
136	Male	+	+
137	Male	-	-
138	Female	+	+
139	Male	-	-
140	Male	-	-
141	Male	-	-
142	Male	-	-
143	Male	+	+
144	Female	-	-
145	Female	-	-
146	Male	+	+
147	Female	+	+
148	Female	-	-
149	Male	-	-



150	Male	+	+
151	Female	-	-
152	Female	-	-
153	Male	-	-
154	Female	-	-
155	Male	-	-
156	Female	+	+
157	Female	+	+
158	Female	-	-
159	Female	-	-
160	Male	+	+
161	Male	-	-
162	Female	-	-
163	Male	+	+
164	Female	-	-
165	Female	-	-
166	Male	+	+
167	Female	-	-
168	Male	-	-
169	Male	-	-
170	Female	+	+
171	Male	+	+
172	Male	-	-
173	Female	+	+
174	Male	-	-
175	Female	-	-
176	Male	-	-
177	Male	-	-
178	Male	+	+
179	Male	-	-
180	Male	-	-
181	Male	-	-
182	Female	+	+
183	Male	+	+
184	Male	-	-
185	Female	-	-
186	Female	+	+
187	Female	-	-



188	Male	-	-
189	Male	-	-
190	Female	+	+
191	Male	-	-
192	Female	-	-
193	Male	-	-
194	Female	+	+
195	Female	+	+
196	Male	-	-
197	Female	+	+
198	Male	+	+
199	Male	+	+
200	Female	-	-
201	Male	-	-
202	Female	+	+
203	Male	-	-
204	Female	+	+
205	Female	-	-
206	Male	-	-
207	Female	-	-
208	Female	+	+
209	Male	-	-
210	Male	+	+
211	Male	-	-
212	Female	-	-
213	Male	+	+
214	Female	+	+
215	Female	+	+
216	Male	+	+
217	Female	-	-
218	Male	-	-
219	Female	-	-
220	Female	+	+
221	Male	-	-
222	Male	-	-
223	Female	+	+
224	Male	+	+
225	Male	+	+



226	Male	-	-
227	Male	-	-
228	Male	-	-
229	Female	+	+
230	Male	+	+
231	Female	-	-
232	Male	+	+
233	Female	-	-
234	Male	+	+
235	Male	+	+
236	Female	-	-
237	Male	-	-
238	Female	-	-
239	Male	+	+
240	Male	+	+
241	Male	-	-
242	Female	+	+
243	Male	-	-
244	Male	+	+
245	Female	+	+
246	Male	-	-
247	Male	-	-
248	Female	-	-
249	Male	+	+
250	Male	+	+
251	Female	-	-
252	Male	+	+
253	Female	-	-
254	Male	+	+
255	Male	+	+

Signature: *Tang Shi Jun 2020.11.30*

