

## **COVID-19 IgM/IgG Antibody Test (Colloidal Gold)**

### **Diagnostic Sensitivity and Specificity Study Report**

**Final report date: 2020-02-20**

## Table of Contents

Title Page

Table of Contents

Study Director Signature and Verification Dates

Study Summary

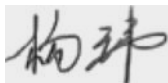
1. Purpose
2. Reference and Compliance
3. Materials
4. Study Design
5. Evaluation Criteria
6. Result
7. Conclusion
8. Report

## Study Director Signature and Verification Dates

**This study meets with the technical requirements of the protocol. The study also meets with technical specification for the test.**

**Study**

**Director:**



**Company:** Atlas Link Technology Co., Ltd

**Position:** Head of R & D Department

**Verification Dates:**2020-02-20

## Study Summary

The purpose of this study was to obtain accurate information about the diagnostic sensitivity and specificity of the COVID-19 IgM/IgG Antibody test (Colloidal Gold), and we have evaluated the clinical effects of the COVID-19 IgM/IgG Antibody Test (Colloidal Gold).

A total of 300 samples were tested by using the 2019-new coronavirus IgM / IgG combined detection kit (by colloidal gold method) produced by Innovita (TangShan) Biological Technology Co.,Ltd as control reagents, of which the diagnostic sensitivity of IgM detection is 96.3%; diagnostic specificity is 97.6%; total compliance is 97.0%; diagnostic sensitivity of IgG detection is 95.8%; diagnostic specificity is 96.2%; total compliance is 96.0%%.

Of which all positive samples the diagnostic sensitivity of IgM detection is 100%; diagnostic specificity of IgM detection is 97.67%; total compliance is 99.3%; the diagnostic sensitivity of IgG detection is 100%; diagnostic specificity of IgG detection is 97.1%; total compliance is 99.2%;

Samples collected included healthy volunteers, confirmed covid-19 samples, OC43, HKU1, NL63, 229E, Dengue, CMV, EBV samples. According to the test results, the sensitivity of IgM conforms to the rule of rapid increase in the initial concentration of COVID-19. Meanwhile, IgG mainly reaches the peak concentration in 14 days after the onset of the disease and in the recovery stage, and its formation process in vivo lags behind that of IgM. Combined with the sensitivity of IgG and IgM, it conforms to the correlation rule.

## 1. Purpose

To validate the diagnostic sensitivity and specificity of COVID-19 IgM/IgG Antibody Test (Colloidal Gold).

## 2. Reference and Compliance

FDA guidance for In vitro diagnostic medical device

SFDA guidance

The present study conformed to all applicable laws and regulations.

## 3. Materials

- Patient samples collected by Wuhan CDC
- COVID-19 IgM/IgG Antibody Test (Colloidal Gold), Lot No.: COVID20200203, Production Date: 2020-02-03.
- 2019-new coronavirus IgM / IgG combined detection kit (by colloidal gold method) produced by Innovita (TangShan) Biological Technology Co.,Ltd (Chinese medical device registration certificate: 20203400177/CE Mark), LOT: 20200203

## 4. Study Design:

### 4.1 Making evaluation for patient samples collected by Wuhan CDC.

- Subject was a patient admitted to the hospital due to a respiratory virus infection;
- Total about 300 samples were collected;
- Total 138 sera/plasma and 25 fingerstick whole bloods from COVID-19 infected patients and 94 non-COVID-19 infected sera and 43 non-COVID-19 infected whole bloods were tested.
- The confirmed COVID-19 samples were divided into three stages according to the course of the disease:
  - Early stage (I): 7 to 13 days after onset;
  - Middle stage (II): 14 to 20 days after onset;
- Late stage (III): >21 days after onset.

### 4.2 Examiner and clinical laboratories

- Wuhan CDC

### 4.3 Sample requirement:

All the samples were confirmed.

Samples were to be randomly chosen and double-black labeled.

### 4.4 Test conduction:

- All tests were performed by the clinical technicians in each clinical

laboratory according to the manufacturer's instructions using the confirmed samples.

- Visual interpretations of the results of 2019-nCov (Atlas Link) Rapid Test were made independently by the clinical technician. The testing center was responsible to summarize the result and send to Atlas Link

## 5. Evaluation Criteria

### Negative

If only the C band is present, the absence of any burgundy color in the both test bands (M and G) indicates that no SARS-CoV-2 antibody is detected in the specimen. The result is negative.

### Positive

In addition to the presence of C band, if only M band is developed, the test indicates for the presence of SARS-CoV-2 IgM antibody. The result is positive.

In addition to the presence of C band, if only G band is developed, the test indicates for the presence of SARS-CoV-2 IgG antibody. The result is positive.

In addition to the presence of C band, both M and G bands are developed, the test indicates for the presence of both IgG and IgM SARS-CoV-2. The result is also positive.

### Invalid

If no C band is developed, the assay is invalid regardless of any burgundy color in the test bands as indicated below. Repeat the assay with a new device.

## 6. Results

300 samples were collected from selected subjects, all samples were tested with COVID-19 IgM/IgG Antibody Test (Colloidal Gold) and the 2019-new coronavirus IgM/IgG combined detection kit (by colloidal gold method) produced by Innovita (TangShan) Biological Technology Co.,Ltd. Calculated the specificity and sensitivity, in which COVID-19 IgM/IgG Antibody Test (Colloidal Gold) are all positive samples of IgM analysis, see Table1; IgG analysis, see Table2 and all samples analysis of IgM analysis, see Table3; IgG analysis, see Table4

Table1

IgM/ IgG of Innovita	NOVA Test® IgM of COVID-19 IgM/IgG Antibody Test (Colloidal Gold)		Total
	IgM (+)/IgG(+)	IgM (-)/IgG(+)	
IgM (+)/IgG(+)	99	0	99
IgM (-)/IgG(+)	1	42	43
Total	100	42	142

IgM Diagnostic Sensitivity:  $99/(0+99) \times 100\% = 100\%$  (95% CI: 0.946%-99.8%)

IgM Diagnostic Specificity:  $42/(1+42) \times 100\% = 97.67\%$  (95% CI: 91.6%-100%)

IgM Overall Agreement:  $(99+42)/143 \times 100\% = 99.3\%$  (95% CI: 96.1%-99.9%)

Table2

IgM/ IgG of Innovita	NOVA Test® IgM of COVID-19 IgM/IgG Antibody Test (Colloidal Gold)		Total
	IgG (+)/IgM(+)	IgG (-)/IgM(+)	
IgG (+)/IgM(+)	99	0	99
IgG (-)/IgM(+)	1	34	35
Total	100	34	134

IgG Diagnostic Sensitivity:  $99/(0+99) \times 100\% = 100\%$  (95% CI: 0.946%-99.8%)

IgG Diagnostic Specificity:  $34/(1+34) \times 100\% = 97.1\%$  (95% CI: 89.8%-100%)

IgG Overall Agreement:  $(34+99)/134 \times 100\% = 99.2\%$  (95% CI: 95.9%-99.9%)

Table3

		NOVA Test® IgM of COVID-19 IgM/IgG Antibody Test (Colloidal Gold)		Total
		POS	NEG	
IgM of Innovita	POS	130	5	135
	NEG	4	161	165
Total		134	166	300

Diagnostic Sensitivity:  $130/(5+130) \times 100\% = 96.3\%$  (95% CI: 91.6%-98.4%)

Diagnostic Specificity:  $161/(4+161) \times 100\% = 97.6\%$  (95% CI: 93.9%-99.0%)

Overall Agreement:  $(130+161)/300 \times 100\% = 97.0\%$  (95% CI: 94.4%-98.4%)

Table4

		NOVA Test® IgG of COVID-19 IgM/IgG Antibody Test (Colloidal Gold)		Total
		POS	NEG	
IgG of Innovita	POS	136	6	142
	NEG	6	152	158
Total		142	158	300

Diagnostic Sensitivity:  $136/(6+136) \times 100\% = 95.8\%$  (95% CI: 91.1%-98.0%)

Diagnostic Specificity:  $152/(6+152) \times 100\% = 96.2\%$  (95% CI: 92.0%-98.2%)

Overall Agreement:  $(136+152)/300 \times 100\% = 96.0\%$  (95% CI: 93.1%-97.7%)

## 7. Conclusion

The clinical evaluation was carried out for the clinical performance of COVID-19 IgM/IgG Antibody Test (Colloidal Gold). A total of 300 samples were tested by using the 2019-new coronavirus IgM / IgG combined detection kit (by colloidal gold method) produced by Innovita (TangShan) Biological Technology Co.,Ltd as control reagents, of which the diagnostic sensitivity of IgM detection is 96.3%; diagnostic specificity is 97.6%; total compliance is 97.0%; diagnostic sensitivity of IgG detection is 95.8%; diagnostic specificity is 96.2%; total compliance is 96.0%.

Of which all positive samples the diagnostic sensitivity of IgM detection is 100%; diagnostic specificity of IgM detection is 97.67%; total compliance is 99.3%; the diagnostic sensitivity of IgG detection is 100%; diagnostic specificity of IgG detection is 97.1%; total compliance is 99.2%.

## 8. Report

8.1 Original raw data is archived at Quality Control Department

8.2 The original final report is archived in Quality Control Department.

9. Annex A Test result

No	Gender	Age	Clinical diagnosis	Stage	Sample type	Collection date	Test date	Result					
								Innovita		Atlaslink		Result	
								IgM	IgG	IgM	IgG	IgM	IgG
001	Female	64	Health		sera	2020.03.02	2020.03.03	-	-	-	-	-	-
002	Male	48	COVID	II	sera	2020.03.02	2020.03.03	+	+	+	+	+	+
003	Female	34	COVID	II	sera	2020.03.02	2020.03.03	+	+	+	+	+	+
004	Male	47	Health		sera	2020.03.02	2020.03.03	-	-	-	-	-	-
005	Male	54	COVID	III	sera	2020.03.02	2020.03.03	-	+	-	-	+	+
006	Female	63	COVID	I	sera	2020.03.02	2020.03.03	+	+	+	+	+	+
007	Female	72	COVID	I	sera	2020.03.02	2020.03.03	+	-	+	+	-	-
008	Male	78	Health		sera	2020.03.02	2020.03.03	-	-	-	-	-	-
009	Male	71	COVID	I	sera	2020.03.02	2020.03.03	+	+	+	+	+	+
010	Male	55	COVID	II	sera	2020.03.02	2020.03.03	+	+	+	+	+	+
011	Male	43	COVID	III	sera	2020.03.02	2020.03.03	-	+	-	-	+	+
012	Female	60	Health		sera	2020.03.02	2020.03.03	-	-	-	-	-	-
013	Female	40	COVID	I	sera	2020.03.02	2020.03.03	+	-	-	-	-	-
014	Male	44	Health		sera	2020.03.02	2020.03.03	-	-	-	-	-	-
015	Male	38	Health		sera	2020.03.02	2020.03.03	-	-	-	-	-	-
016	Male	39	COVID	II	sera	2020.03.02	2020.03.03	+	+	+	+	+	+
017	Male	65	COVID	I	sera	2020.03.02	2020.03.03	+	-	+	+	-	-
018	Female	61	COVID	II	sera	2020.03.02	2020.03.03	+	+	+	+	+	+
019	Male	62	COVID	III	sera	2020.03.02	2020.03.03	-	-	-	-	-	-
020	Female	61	Health		sera	2020.03.02	2020.03.03	-	-	-	-	-	-

021	Male	63	Health		sera	2020.03.02	2020.03.03	-	-	-	-	-
022	Female	57	COVID	I	sera	2020.03.02	2020.03.03	+	-	-	-	-
023	Female	66	COVID	III	sera	2020.03.02	2020.03.03	-	+	-	-	+
024	Male	38	COVID	III	sera	2020.03.02	2020.03.03	+	+	+	+	+
025	Male	73	Health		sera	2020.03.02	2020.03.03	-	-	-	-	-
026	Male	36	COVID	I	sera	2020.03.02	2020.03.03	+	+	+	+	+
027	Male	38	COVID	III	sera	2020.03.02	2020.03.03	-	+	-	-	+
028	Female	70	COVID	III	sera	2020.03.02	2020.03.03	+	+	+	+	+
029	Male	77	Health		sera	2020.03.02	2020.03.03	-	-	-	-	-
030	Male	44	COVID	II	sera	2020.03.02	2020.03.03	+	+	+	+	+
031	Female	36	Health		sera	2020.03.02	2020.03.03	-	-	-	-	-
032	Male	62	COVID	II	sera	2020.03.02	2020.03.03	+	+	+	+	+
033	Male	49	Health		sera	2020.03.02	2020.03.03	-	-	-	-	-
034	Male	34	COVID	III	sera	2020.03.02	2020.03.03	-	-	-	-	-
035	Male	50	COVID	III	sera	2020.03.02	2020.03.03	-	-	-	-	-
036	Male	53	COVID	II	sera	2020.03.02	2020.03.03	+	+	+	+	+
037	Male	54	Health		sera	2020.03.02	2020.03.03	-	-	-	-	-
038	Male	44	Health		sera	2020.03.02	2020.03.03	-	-	-	-	-
039	Male	47	Health		sera	2020.03.02	2020.03.03	-	-	-	-	-
040	Female	45	COVID	I	sera	2020.03.02	2020.03.03	+	+	+	+	+
041	Female	43	COVID	I	sera	2020.03.02	2020.03.03	+	+	+	+	+
042	Male	48	COVID	II	sera	2020.03.02	2020.03.03	+	+	+	+	+
043	Male	62	Health		sera	2020.03.02	2020.03.03	-	-	-	-	-

044	Female	41	COVID	III		sera	2020.03.02	2020.03.03	+		+	+	+	+	+
045	Female	56	COVID	I		sera	2020.03.02	2020.03.03	-		-	+	+	-	-
046	Male	32	Health			sera	2020.03.02	2020.03.03	-		-	-	-	-	-
047	Male	74	Health			sera	2020.03.02	2020.03.03	-		-	-	-	-	-
048	Male	74	Health			sera	2020.03.02	2020.03.03	-		-	-	-	-	-
049	Female	33	COVID	II		sera	2020.03.02	2020.03.03	+		+	+	+	+	+
050	Female	38	COVID	III		sera	2020.03.02	2020.03.03	-		+	-	-	+	+
051	Male	60	COVID	II		sera	2020.03.02	2020.03.03	+		+	+	+	+	+
052	Female	47	COVID	III		sera	2020.03.02	2020.03.03	-		+	-	-	+	+
053	Male	45	Health			sera	2020.03.02	2020.03.03	-		-	-	-	-	-
054	Male	67	COVID	II		sera	2020.03.02	2020.03.03	+		+	+	+	+	+
055	Male	50	COVID	II		sera	2020.03.02	2020.03.03	+		+	+	+	+	+
056	Female	48	COVID	III		sera	2020.03.02	2020.03.03	-		+	-	-	-	-
057	Male	62	COVID	II		sera	2020.03.02	2020.03.03	+		+	+	+	+	+
058	Female	61	COVID	I		sera	2020.03.02	2020.03.03	+		+	+	+	+	+
059	Male	63	Health			sera	2020.03.02	2020.03.03	-		-	-	-	-	-
060	Male	32	Health			sera	2020.03.02	2020.03.03	-		-	-	-	-	-
061	Female	53	Health			sera	2020.03.02	2020.03.03	-		-	-	-	-	-
062	Female	72	COVID	I		sera	2020.03.02	2020.03.03	+		-	+	+	-	-
063	Female	63	COVID	II		sera	2020.03.02	2020.03.03	+		+	+	+	+	+
064	Female	61	COVID	III		sera	2020.03.02	2020.03.03	-		+	-	-	-	-
065	Female	59	Health			sera	2020.03.02	2020.03.03	-		-	-	-	-	-
066	Male	41	COVID	I		sera	2020.03.02	2020.03.03	+		+	+	+	+	+

067	Male	61	COVID	II	sera	2020.03.02	2020.03.03	+		+	+	+	+
068	Male	38	Health		sera	2020.03.02	2020.03.03	-		-	-	-	-
069	Male	69	Health		sera	2020.03.02	2020.03.03	-		-	-	-	-
070	Male	37	Health		sera	2020.03.02	2020.03.03	-		-	-	-	-
071	Male	58	COVID	I	sera	2020.03.02	2020.03.03	+		-	+	-	-
072	Female	68	Health		sera	2020.03.02	2020.03.03	-		-	-	-	-
073	Female	57	COVID	III	sera	2020.03.02	2020.03.03	+		+	+	+	+
074	Female	51	COVID	II	sera	2020.03.02	2020.03.03	+		+	+	+	+
075	Male	61	COVID	I	sera	2020.03.02	2020.03.03	+		-	+	-	-
076	Male	32	COVID	II	sera	2020.03.02	2020.03.03	+		+	+	+	+
077	Male	59	Health		sera	2020.03.02	2020.03.03	-		-	-	-	-
078	Male	45	Health		sera	2020.03.02	2020.03.03	-		-	-	-	-
079	Female	58	COVID	I	sera	2020.03.02	2020.03.03	+		-	+	-	-
080	Female	41	COVID	II	sera	2020.03.02	2020.03.03	+		+	+	+	+
081	Male	72	COVID	I	sera	2020.03.02	2020.03.03	+		+	+	+	+
082	Male	66	COVID	III	sera	2020.03.02	2020.03.03	-		-	-	-	-
083	Male	42	Health		sera	2020.03.02	2020.03.03	-		-	-	-	-
084	Female	33	COVID	I	sera	2020.03.02	2020.03.03	+		-	+	-	-
085	Male	50	Health		sera	2020.03.02	2020.03.03	-		-	-	-	-
086	Male	44	Health		sera	2020.03.02	2020.03.03	-		-	-	-	-
087	Male	46	Health		sera	2020.03.02	2020.03.03	-		-	-	-	-
088	Male	35	COVID	II	sera	2020.03.02	2020.03.03	+		+	+	+	+
089	Female	67	COVID	III	sera	2020.03.02	2020.03.03	-		-	-	-	-

090	Female	63	COVID	II		sera	2020.03.02	2020.03.03	+		+	+	+	+	+	+
091	Female	73	Health			sera	2020.03.02	2020.03.03	-		-	-	-	-	-	-
092	Female	47	COVID	I		sera	2020.03.02	2020.03.03	+		-	-	-	-	-	-
093	Female	65	COVID	II		sera	2020.03.02	2020.03.03	+		+	+	+	+	+	+
094	Female	68	COVID	I		sera	2020.03.02	2020.03.03	+		+	+	+	+	+	+
095	Male	52	COVID	II		sera	2020.03.02	2020.03.03	+		+	+	+	+	+	+
096	Female	75	Health			sera	2020.03.02	2020.03.03	-		-	-	-	-	-	-
097	Male	75	Health			sera	2020.03.02	2020.03.03	-		-	-	-	-	-	-
098	Male	69	COVID	III		sera	2020.03.02	2020.03.03	-		+	-	-	-	-	+
099	Female	37	Health			sera	2020.03.02	2020.03.03	-		-	-	-	-	-	-
100	Male	70	COVID	I		sera	2020.03.02	2020.03.03	+		-	-	-	-	-	-
101	Female	70	COVID	II		sera	2020.03.02	2020.03.03	+		+	+	+	+	+	+
102	Male	54	Health			sera	2020.03.02	2020.03.03	-		-	-	-	-	-	-
103	Female	56	COVID	III		sera	2020.03.02	2020.03.03	-		+	-	-	-	-	-
104	Female	52	COVID	II		sera	2020.03.02	2020.03.03	+		+	+	+	+	+	+
105	Female	41	Health			sera	2020.03.02	2020.03.03	-		-	-	-	-	-	-
106	Female	62	Health			sera	2020.03.02	2020.03.03	-		-	-	-	-	-	-
107	Female	75	COVID	I		sera	2020.03.02	2020.03.03	+		-	-	-	-	-	-
108	Female	68	COVID	I		sera	2020.03.02	2020.03.03	+		+	+	+	+	+	+
109	Female	34	Health			sera	2020.03.02	2020.03.03	-		-	-	-	-	-	-
110	Female	37	COVID	I		sera	2020.03.02	2020.03.03	+		-	-	-	-	-	-
111	Female	76	Health			sera	2020.03.02	2020.03.03	-		-	-	-	-	-	-
112	Female	51	Health			sera	2020.03.02	2020.03.03	-		-	-	-	-	-	-

113	Female	34	COVID	II	sera	2020.03.02	2020.03.03	+	+	+	+	+	+
114	Male	63	COVID	I	sera	2020.03.02	2020.03.03	+	-	-	+	+	-
115	Female	52	COVID	III	sera	2020.03.02	2020.03.03	-	+	-	-	-	-
116	Female	60	Health		sera	2020.03.02	2020.03.03	-	-	-	-	-	-
117	Male	64	COVID	II	sera	2020.03.02	2020.03.03	+	+	+	+	+	+
118	Female	36	Health		sera	2020.03.02	2020.03.03	+	+	+	+	+	+
119	Male	46	Health		sera	2020.03.02	2020.03.03	-	-	-	-	-	-
120	Female	56	Health		sera	2020.03.02	2020.03.03	-	-	-	-	-	-
121	Male	32	COVID	III	sera	2020.03.02	2020.03.03	-	+	-	-	+	+
122	Male	36	COVID	I	sera	2020.03.02	2020.03.03	+	+	+	+	+	+
123	Female	40	Health		sera	2020.03.02	2020.03.03	-	-	-	-	-	-
124	Male	77	Health		sera	2020.03.02	2020.03.03	-	-	-	-	-	-
125	Male	56	Health		sera	2020.03.02	2020.03.03	-	-	-	-	-	-
126	Male	60	COVID	III	sera	2020.03.02	2020.03.03	-	+	-	-	+	+
127	Female	60	COVID	I	sera	2020.03.02	2020.03.03	+	+	+	+	+	+
128	Female	65	COVID	I	sera	2020.03.02	2020.03.03	+	+	-	+	+	-
129	Male	68	COVID	III	sera	2020.03.02	2020.03.03	-	-	-	-	-	+
130	Male	72	Health		sera	2020.03.02	2020.03.03	-	-	-	-	-	-
131	Female	33	COVID	II	sera	2020.03.02	2020.03.03	+	+	+	+	+	+
132	Male	47	COVID	II	sera	2020.03.02	2020.03.03	+	+	+	+	+	+
133	Male	75	Health		sera	2020.03.02	2020.03.03	-	-	-	-	-	-
134	Female	57	COVID	III	sera	2020.03.02	2020.03.03	-	+	-	-	+	+
135	Male	50	COVID	I	sera	2020.03.02	2020.03.03	-	-	-	+	+	-

136	Male	49	COVID	II	sera	2020.03.02	2020.03.03	+	+	+	+	+	+
137	Female	42	Health		sera	2020.03.02	2020.03.03	-	-	-	-	-	-
138	Female	61	COVID	II	sera	2020.03.02	2020.03.03	+	+	+	+	+	+
139	Male	42	Health		sera	2020.03.02	2020.03.03	-	-	-	-	-	-
140	Female	58	COVID	III	sera	2020.03.02	2020.03.03	-	+	-	-	+	+
141	Male	64	COVID	I	sera	2020.03.02	2020.03.03	+	+	+	+	+	+
142	Female	35	COVID	I	sera	2020.03.02	2020.03.03	+	-	+	+	-	-
143	Male	71	Health		sera	2020.03.02	2020.03.03	-	-	-	-	-	-
144	Female	45	COVID	III	sera	2020.03.02	2020.03.03	-	+	-	-	+	+
145	Female	38	COVID	II	sera	2020.03.02	2020.03.03	+	+	+	+	+	+
146	Male	67	COVID	I	sera	2020.03.02	2020.03.03	+	-	+	+	-	-
147	Male	52	Health		sera	2020.03.02	2020.03.03	-	-	-	-	-	-
148	Male	32	Health		sera	2020.03.02	2020.03.03	-	-	-	-	-	-
149	Male	41	Health		sera	2020.03.02	2020.03.03	-	-	-	-	-	-
150	Female	58	COVID	III	sera	2020.03.02	2020.03.03	-	+	-	-	+	+
151	Male	75	Health		plasma	2020.03.02	2020.03.03	-	-	-	-	-	-
152	Male	73	Health		plasma	2020.03.02	2020.03.03	-	-	-	-	-	-
153	Male	73	COVID	II	plasma	2020.03.02	2020.03.03	+	+	+	+	+	+
154	Female	74	COVID	II	plasma	2020.03.02	2020.03.03	+	+	+	+	+	+
155	Female	49	Health		plasma	2020.03.02	2020.03.03	-	-	-	-	-	-
156	Male	35	COVID	III	plasma	2020.03.02	2020.03.03	-	+	-	-	+	+
157	Male	63	Health		plasma	2020.03.02	2020.03.03	-	-	-	-	-	-
158	Female	64	COVID	III	plasma	2020.03.02	2020.03.03	+	+	+	+	+	+

159	Male	50	Health		plasma	2020.03.02	2020.03.03	-	-	-	-	-
160	Female	58	COVID	III	plasma	2020.03.02	2020.03.03	-	+	-	-	+
161	Female	61	Health		plasma	2020.03.02	2020.03.03	-	-	-	-	-
162	Male	55	COVID	III	plasma	2020.03.02	2020.03.03	-	+	-	-	+
163	Female	62	Health		plasma	2020.03.02	2020.03.03	-	-	-	-	-
164	Female	44	COVID	I	plasma	2020.03.02	2020.03.03	-	-	+	-	-
165	Female	49	COVID	II	plasma	2020.03.02	2020.03.03	+	+	-	-	+
166	Male	73	COVID	III	plasma	2020.03.02	2020.03.03	-	+	-	-	+
167	Female	66	COVID	II	plasma	2020.03.02	2020.03.03	+	+	-	-	+
168	Female	49	Health		plasma	2020.03.02	2020.03.03	-	-	-	-	-
169	Male	57	Health		plasma	2020.03.02	2020.03.03	-	-	-	-	-
170	Male	43	COVID	I	plasma	2020.03.02	2020.03.03	+	-	+	-	-
171	Female	46	COVID	III	plasma	2020.03.02	2020.03.03	-	+	-	-	+
172	Female	53	COVID	I	plasma	2020.03.02	2020.03.03	+	+	-	-	+
173	Male	55	COVID	III	plasma	2020.03.02	2020.03.03	-	-	-	-	+
174	Female	43	COVID	II	plasma	2020.03.02	2020.03.03	+	+	-	-	+
175	Male	38	COVID	I	plasma	2020.03.02	2020.03.03	+	-	+	-	-
176	Female	48	Health		plasma	2020.03.02	2020.03.03	-	-	-	-	-
177	Male	60	COVID	II	plasma	2020.03.02	2020.03.03	+	+	-	-	+
178	Male	43	Health		plasma	2020.03.02	2020.03.03	-	-	-	-	-
179	Female	52	COVID	II	plasma	2020.03.02	2020.03.03	+	+	-	-	+
180	Female	76	Health		plasma	2020.03.02	2020.03.03	-	-	-	-	-
181	Female	71	COVID	III	plasma	2020.03.02	2020.03.03	-	+	-	-	+

182	Male	39	Health		plasma	2020.03.02	2020.03.03	-	-	-	-	-
183	Male	69	COVID	I	plasma	2020.03.02	2020.03.03	+	+	+	+	+
184	Male	48	COVID	I	plasma	2020.03.02	2020.03.03	+	-	+	+	-
185	Male	65	COVID	III	plasma	2020.03.02	2020.03.03	+	+	+	+	+
186	Male	43	Health		plasma	2020.03.02	2020.03.03	-	-	-	-	-
187	Female	75	Health		plasma	2020.03.02	2020.03.03	-	-	-	-	-
188	Female	44	Health		plasma	2020.03.02	2020.03.03	-	-	-	-	-
189	Male	74	COVID	I	plasma	2020.03.02	2020.03.03	+	-	+	+	-
190	Female	43	COVID	II	plasma	2020.03.02	2020.03.03	+	+	+	+	+
191	Female	44	Health		plasma	2020.03.02	2020.03.03	-	-	-	-	-
192	Female	74	COVID	III	plasma	2020.03.02	2020.03.03	+	+	+	+	+
193	Male	72	COVID	II	plasma	2020.03.02	2020.03.03	+	+	+	+	+
194	Male	77	COVID	I	plasma	2020.03.02	2020.03.03	+	+	+	+	+
195	Female	32	COVID	III	plasma	2020.03.02	2020.03.03	-	+	-	-	+
196	Female	66	COVID	I	plasma	2020.03.02	2020.03.03	-	-	+	+	-
197	Male	57	Health		plasma	2020.03.02	2020.03.03	-	-	-	-	-
198	Male	67	COVID	III	plasma	2020.03.02	2020.03.03	+	+	+	+	+
199	Female	71	Health		plasma	2020.03.02	2020.03.03	-	-	-	-	-
200	Female	70	Health		plasma	2020.03.02	2020.03.03	-	-	-	-	-
201	Male	43	COVID	II	plasma	2020.03.02	2020.03.03	+	+	+	+	+
202	Female	77	Health		plasma	2020.03.02	2020.03.03	-	-	-	-	-
203	Female	58	COVID	II	plasma	2020.03.02	2020.03.03	+	+	+	+	+
204	Female	75	COVID	III	plasma	2020.03.02	2020.03.03	-	+	-	-	+

205	Male	54	COVID	I	plasma	2020.03.02	2020.03.03	+	-	-	+	-
206	Male	73	COVID	III	plasma	2020.03.02	2020.03.03	-	+	+	-	+
207	Female	49	Health		plasma	2020.03.02	2020.03.03	-	-	-	-	-
208	Male	66	COVID	I	plasma	2020.03.02	2020.03.03	+	-	-	-	-
209	Male	45	Health		plasma	2020.03.02	2020.03.03	-	-	-	-	-
210	Male	46	Health		plasma	2020.03.02	2020.03.03	-	-	-	-	-
211	Male	65	COVID	III	plasma	2020.03.02	2020.03.03	-	+	+	-	+
212	Female	41	COVID	III	plasma	2020.03.02	2020.03.03	-	+	+	-	+
213	Male	39	COVID	III	plasma	2020.03.02	2020.03.03	-	+	+	-	+
214	Male	46	COVID	I	plasma	2020.03.02	2020.03.03	+	+	+	+	+
215	Male	48	COVID	III	plasma	2020.03.02	2020.03.03	-	+	+	-	+
216	Female	61	COVID	III	plasma	2020.03.02	2020.03.03	-	+	+	-	+
217	Female	37	COVID	II	plasma	2020.03.02	2020.03.03	+	+	+	+	+
218	Male	76	COVID	III	plasma	2020.03.02	2020.03.03	-	+	+	-	+
219	Male	75	Health		plasma	2020.03.02	2020.03.03	-	-	-	-	-
220	Female	42	COVID	I	plasma	2020.03.02	2020.03.03	+	+	+	+	+
221	Male	36	Health		plasma	2020.03.02	2020.03.03	-	-	-	-	-
222	Female	66	COVID	II	plasma	2020.03.02	2020.03.03	+	+	+	+	+
223	Male	42	COVID	III	plasma	2020.03.02	2020.03.03	-	+	+	-	+
224	Female	73	Health		plasma	2020.03.02	2020.03.03	-	-	-	-	-
225	Female	58	COVID	III	plasma	2020.03.02	2020.03.03	-	+	+	-	+
226	Male	45	Health		plasma	2020.03.02	2020.03.03	-	-	-	-	-
227	Female	48	COVID	I	plasma	2020.03.02	2020.03.03	+	-	-	+	-

228	Female	61	COVID	III	plasma	2020.03.02	2020.03.03	+	+	+	+	+	+
229	Female	39	COVID	I	plasma	2020.03.02	2020.03.03	+	-	+	+	-	-
230	Male	55	COVID	II	plasma	2020.03.02	2020.03.03	+	+	+	+	+	+
231	Male	52	COVID	III	plasma	2020.03.02	2020.03.03	-	+	-	-	+	+
232	Female	44	COVID	II	plasma	2020.03.02	2020.03.03	+	+	+	+	+	+
233	Male	64	Health		plasma	2020.03.02	2020.03.03	-	-	-	-	-	-
234	Female	72	COVID	I	plasma	2020.03.02	2020.03.03	+	-	+	+	-	-
235	Female	58	Health		plasma	2020.03.02	2020.03.03	-	-	-	-	-	-
236	Male	78	COVID	I	plasma	2020.03.02	2020.03.03	+	+	+	+	+	+
237	Female	38	Health		plasma	2020.03.02	2020.03.03	-	-	-	-	-	-
238	Male	68	COVID	II	plasma	2020.03.02	2020.03.03	+	+	+	+	+	+
239	Male	61	Health		plasma	2020.03.02	2020.03.03	-	-	-	-	-	-
240	Male	33	COVID	III	plasma	2020.03.02	2020.03.03	+	+	+	+	+	+
241	Female	34	COVID	III	plasma	2020.03.02	2020.03.03	-	+	-	-	+	+
242	Male	33	Health		plasma	2020.03.02	2020.03.03	-	-	-	-	-	-
243	Male	62	COVID	II	plasma	2020.03.02	2020.03.03	+	+	+	+	+	+
244	Male	65	COVID	I	plasma	2020.03.02	2020.03.03	+	-	-	-	-	-
245	Female	75	COVID	II	plasma	2020.03.02	2020.03.03	+	+	+	+	+	+
246	Female	40	COVID	I	plasma	2020.03.02	2020.03.03	+	-	-	-	-	-
247	Male	42	Health		plasma	2020.03.02	2020.03.03	-	-	-	-	-	-
248	Male	54	Health		plasma	2020.03.02	2020.03.03	-	-	-	-	-	-
249	Female	34	COVID	II	plasma	2020.03.02	2020.03.03	+	+	+	+	+	+
250	Male	60	COVID	III	plasma	2020.03.02	2020.03.03	-	+	-	-	-	+

251	Male	45	COVID	II	plasma	2020.03.02	2020.03.03	+	+	+	+	+	+
252	Male	46	COVID	II	plasma	2020.03.02	2020.03.03	+	+	+	+	+	+
253	Male	72	Health		plasma	2020.03.02	2020.03.03	-	-	-	-	-	-
254	Male	36	COVID	II	plasma	2020.03.02	2020.03.03	+	+	+	+	+	+
255	Male	65	COVID	III	plasma	2020.03.02	2020.03.03	+	+	+	+	+	+
256	Female	58	COVID	I	plasma	2020.03.02	2020.03.03	+	+	+	+	+	+
257	Male	69	COVID	II	plasma	2020.03.02	2020.03.03	+	+	+	+	+	+
258	Female	51	COVID	I	plasma	2020.03.02	2020.03.03	+	-	-	+	+	-
259	Female	35	COVID	III	plasma	2020.03.02	2020.03.03	-	+	-	-	-	-
260	Male	47	COVID	II	plasma	2020.03.02	2020.03.03	+	+	+	+	+	+
261	Female	35	Health		plasma	2020.03.02	2020.03.03	-	-	-	-	-	-
262	Male	32	Health		plasma	2020.03.02	2020.03.03	-	-	-	-	-	-
263	Female	48	COVID	II	plasma	2020.03.02	2020.03.03	+	+	+	+	+	+
264	Male	70	COVID	I	plasma	2020.03.02	2020.03.03	+	+	+	+	+	-
265	Female	47	Health		plasma	2020.03.02	2020.03.03	-	-	-	-	-	-
266	Female	76	COVID	III	plasma	2020.03.02	2020.03.03	-	+	-	-	-	+
267	Female	54	Health		plasma	2020.03.02	2020.03.03	-	-	-	-	-	-
268	Male	77	COVID	II	plasma	2020.03.02	2020.03.03	+	+	+	+	+	+
269	Female	58	Health		plasma	2020.03.02	2020.03.03	-	-	-	-	-	-
270	Male	61	COVID	III	plasma	2020.03.02	2020.03.03	-	+	-	-	-	+
271	Female	77	Health		plasma	2020.03.02	2020.03.03	+	+	+	+	+	+
272	Male	72	Health		plasma	2020.03.02	2020.03.03	-	-	-	-	-	-
273	Male	39	COVID	I	plasma	2020.03.02	2020.03.03	+	+	+	+	+	+

274	Female	72	COVID	II	plasma	2020.03.02	2020.03.03	+	+	+	+	+	+
275	Female	78	Health		plasma	2020.03.02	2020.03.03	-	-	-	-	-	-
276	Female	33	COVID	III	plasma	2020.03.02	2020.03.03	-	+	+	+	+	+
277	Female	54	COVID	III	plasma	2020.03.02	2020.03.03	-	+	+	+	+	-
278	Female	47	Health		plasma	2020.03.02	2020.03.03	-	-	-	-	-	-
279	Male	43	COVID	I	plasma	2020.03.02	2020.03.03	+	-	-	-	-	-
280	Male	56	COVID	I	plasma	2020.03.02	2020.03.03	+	+	+	+	+	+
281	Male	69	COVID	II	plasma	2020.03.02	2020.03.03	+	+	+	+	+	+
282	Male	47	Health		plasma	2020.03.02	2020.03.03	-	-	-	-	-	-
283	Female	37	COVID	I	plasma	2020.03.02	2020.03.03	+	+	+	+	+	-
284	Female	39	COVID	II	plasma	2020.03.02	2020.03.03	+	+	+	+	+	+
285	Female	44	Health		plasma	2020.03.02	2020.03.03	-	-	-	-	-	-
286	Male	45	COVID	I	plasma	2020.03.02	2020.03.03	+	+	+	+	+	+
287	Male	77	Health		plasma	2020.03.02	2020.03.03	-	-	-	-	-	-
288	Female	38	COVID	III	plasma	2020.03.02	2020.03.03	-	+	+	+	+	+
289	Male	41	Health		plasma	2020.03.02	2020.03.03	-	-	-	-	-	-
290	Male	62	COVID	I	plasma	2020.03.02	2020.03.03	+	-	-	-	-	-
291	Male	72	Health		plasma	2020.03.02	2020.03.03	-	-	-	-	-	-
292	Female	67	COVID	I	plasma	2020.03.02	2020.03.03	+	+	+	+	+	+
293	Female	49	Health		plasma	2020.03.02	2020.03.03	-	-	-	-	-	-
294	Female	67	Health		plasma	2020.03.02	2020.03.03	-	-	-	-	-	-
295	Male	39	Health		plasma	2020.03.02	2020.03.03	-	-	-	-	-	-
296	Male	68	COVID	I	plasma	2020.03.02	2020.03.03	+	-	-	-	-	-

297	Female	58	COVID	III	plasma	2020.03.02	2020.03.03	+	-	+	+	+
298	Female	50	COVID	I	plasma	2020.03.02	2020.03.03	+	-	+	+	-
299	Male	77	COVID	I	plasma	2020.03.02	2020.03.03	+	+	+	+	+
300	Male	70	Health		plasma	2020.03.02	2020.03.03	-	-	-	-	-