

Clinical Study Report

For

**COVID-19 Antigen Rapid Detection Kit
(Colloidal Gold)**

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Study Summary

The COVID-19 Antigen Rapid Detection Kit (Colloidal Gold) produced by Pro-med (Beijing) Technology Co., Ltd. was clinically validated according to the requirements of the "Management Measures for Registration of In Vitro Diagnostic Reagents (Trial Implementation)". Here, we evaluated the analytical specificity and diagnostic Sensitivity and Specificity of the kit.

See the following for specific assessment methods, results, analysis and evaluation.

1. Analytical Specificity

1.1 Cross-Reactivity Study

1.1.1 Main product

COVID-19 Antigen Rapid Detection Kit (Colloidal Gold)
LOT 1: COA20G1001A LOT 2:COA20G1002A LOT 3:COA20G1001A

1.1.2 Purpose

The following study was done to assess the cross-reactivity and exclusivity of the COVID-19 Antigen Rapid Detection Kit (Colloidal Gold) in high concentration.

1.1.3 Method

Some related pathogens, high prevalence disease agents and pathogenic flora that are reasonably likely to be encountered in the clinical specimen with certain concentration were tested by each batch of the COVID-19 Antigen Rapid Test. Every specimen was tested for three times.

1.1.4 Interpretation of results

- Negative: There is only a red line appears in the quality control area (C), and no line appears in the test area (T).
- Positive: There are two red lines appear. One is in the test area (T) and the other is in the quality control area (C).
- Invalid: There is no red line displays in the quality control area (C). This indicates that the incorrect operation or the test cassette has deteriorated or damaged. Repeat the test with a new kit. If the problem persists, stop using this lot number immediately and contact your local supplier.

1.1.5 Acceptance criteria

The Virus or Bacteria positive sample should not influence the negative results.

1.1.6 Results

Microorganism	Concentration	COA20G1001A	COA20G1001A	COA20G1001A
human coronaviruses 229E	2.0x10 ⁶ TCID ₅₀ /mL	- (3/3)	- (3/3)	- (3/3)
human coronaviruses OC43	2.0x10 ⁶ TCID ₅₀ /mL	- (3/3)	- (3/3)	- (3/3)
human coronaviruses NL63	2.0x10 ⁶ TCID ₅₀ /mL	- (3/3)	- (3/3)	- (3/3)
human coronaviruses HKU1	1.0x10 ⁶ TCID ₅₀ /mL	- (3/3)	- (3/3)	- (3/3)
Adenovirus 1	2.0x10 ⁶ TCID ₅₀ /mL	- (3/3)	- (3/3)	- (3/3)
Adenovirus 2	2.0x10 ⁶ TCID ₅₀ /mL	- (3/3)	- (3/3)	- (3/3)
Adenovirus 3	2.0x10 ⁶ TCID ₅₀ /mL	- (3/3)	- (3/3)	- (3/3)
Adenovirus 5	2.0x10 ⁶ TCID ₅₀ /mL	- (3/3)	- (3/3)	- (3/3)
Adenovirus 7	2.0x10 ⁶ TCID ₅₀ /mL	- (3/3)	- (3/3)	- (3/3)
Adenovirus 55	2.0x10 ⁶ TCID ₅₀ /mL	- (3/3)	- (3/3)	- (3/3)
Parainfluenza virus type 1	2.0x10 ⁶ TCID ₅₀ /mL	- (3/3)	- (3/3)	- (3/3)
Parainfluenza virus type 1	2.0x10 ⁶ TCID ₅₀ /mL	- (3/3)	- (3/3)	- (3/3)
Parainfluenza virus type 1	2.0x10 ⁶ TCID ₅₀ /mL	- (3/3)	- (3/3)	- (3/3)
Parainfluenza virus type 1	1.0x10 ⁶ TCID ₅₀ /mL	- (3/3)	- (3/3)	- (3/3)
EB virus	2.0x10 ⁶ TCID ₅₀ /mL	- (3/3)	- (3/3)	- (3/3)
Measles virus	2.0x10 ⁶ TCID ₅₀ /mL	- (3/3)	- (3/3)	- (3/3)

human cytomegalovirus	2.0x10 ⁶ TCID ₅₀ /mL	- (3/3)	- (3/3)	- (3/3)
MERS coronavirus	1.0x10 ⁶ TCID ₅₀ /mL	- (3/3)	- (3/3)	- (3/3)
Human metapneumovirus	1.0x10 ⁶ TCID ₅₀ /mL	- (3/3)	- (3/3)	- (3/3)
Mumps virus	2.0x10 ⁶ TCID ₅₀ /mL	- (3/3)	- (3/3)	- (3/3)
Rotavirus	2.0x10 ⁶ TCID ₅₀ /mL	- (3/3)	- (3/3)	- (3/3)
Norovirus	2.0x10 ⁶ TCID ₅₀ /mL	- (3/3)	- (3/3)	- (3/3)
Varicella-zoster virus	2.0x10 ⁶ TCID ₅₀ /mL	- (3/3)	- (3/3)	- (3/3)
Enterovirus	2.0x10 ⁶ TCID ₅₀ /mL	- (3/3)	- (3/3)	- (3/3)
Rhinovirus	2.0x10 ⁶ TCID ₅₀ /mL	- (3/3)	- (3/3)	- (3/3)
Mycoplasma pneumonia	2.0x10 ⁶ TCID ₅₀ /mL	- (3/3)	- (3/3)	- (3/3)
Mycobacterium tuberculosis	2.0x10 ⁶ TCID ₅₀ /mL	- (3/3)	- (3/3)	- (3/3)
Chlamydia pneumoniae	2.0x10 ⁶ TCID ₅₀ /mL	- (3/3)	- (3/3)	- (3/3)
Legionella pneumophila	2.0x10 ⁶ TCID ₅₀ /mL	- (3/3)	- (3/3)	- (3/3)
Haemophilus influenzae	2.0x10 ⁶ TCID ₅₀ /mL	- (3/3)	- (3/3)	- (3/3)
Streptococcus pyogenes A	2.0x10 ⁶ TCID ₅₀ /mL	- (3/3)	- (3/3)	- (3/3)
Streptococcus pneumoniae	2.0x10 ⁶ TCID ₅₀ /mL	- (3/3)	- (3/3)	- (3/3)
Staphylococcus aureus	2.0x10 ⁶ TCID ₅₀ /mL	- (3/3)	- (3/3)	- (3/3)
Candida albicans	2.0x10 ⁶ TCID ₅₀ /mL	- (3/3)	- (3/3)	- (3/3)
Bordetella pertussis	2.0x10 ⁶ TCID ₅₀ /mL	- (3/3)	- (3/3)	- (3/3)
Pseudomonas arruginosa	2.0x10 ⁶ TCID ₅₀ /mL	- (3/3)	- (3/3)	- (3/3)
Escherichia coli	2.0x10 ⁶ TCID ₅₀ /mL	- (3/3)	- (3/3)	- (3/3)
Influenza A (H1N1)	2.0x10 ⁶ TCID ₅₀ /mL	- (3/3)	- (3/3)	- (3/3)
Influenza A (H1N1p drn09)	1.0x10 ⁶ TCID ₅₀ /mL	- (3/3)	- (3/3)	- (3/3)
Influenza A (H3N2)	2.0x10 ⁶ TCID ₅₀ /mL	- (3/3)	- (3/3)	- (3/3)
Influenza B (yamagata)	2.0x10 ⁶ TCID ₅₀ /mL	- (3/3)	- (3/3)	- (3/3)
Influenza B (victoria)	2.0x10 ⁶ TCID ₅₀ /mL	- (3/3)	- (3/3)	- (3/3)
Respiratory syncytial virus	2.0x10 ⁶ TCID ₅₀ /mL	- (3/3)	- (3/3)	- (3/3)

—: Only the C line appears, indicates negative.

+: Two red lines appear, indicates Positive.

1.1.7 Conclusion

Related pathogens, high prevalence disease agents and pathogenic flora that are reasonably likely to be encountered in the clinical specimen were tested. It showed that no cross-reactivity was found in these tests with the COVID-19 Antigen Rapid Detection Kit (Colloidal Gold).

1.2 Interference Study

1.2.1 Main product

COVID-19 Antigen Rapid Detection Kit (Colloidal Gold)

LOT 1: COA20G1001A LOT 2: COA20G1002A LOT 3: COA20G1001A

1.2.2 Purpose

The following study was done to confirm that the substances do not interfere with the performance of the COVID-19 Antigen Rapid Detection Kit (Colloidal Gold) in certain concentration.

1.2.3 Method

A group of 19 kinds of potentially interference substances were tested by each batch of COVID-19 Antigen Rapid Detection Kit (Colloidal Gold) to assess the potential for interference that are reasonably likely to be encountered in the clinical

specimen. Each sample was tested in ten times.

1.2.4 Interpretation of results

- Negative: There is only a red line appears in the quality control area (C), and no line appears in the test area (T).
- Positive: There are two red lines appear. One is in the test area (T) and the other is in the quality control area (C).
- Invalid: There is no red line displays in the quality control area (C). This indicates that the incorrect operation or the test cassette has deteriorated or damaged. Repeat the test with a new kit. If the problem persists, stop using this lot number immediately and contact your local supplier.

1.2.5 Acceptance criteria

All of potentially interference substances spiked into the negative samples should be tested negative.

All of potentially interference substances spiked into the positive samples should be tested positive.

1.2.6 Results

Interfering samples	concentration	Results					
		LOT 1		LOT 2		LOT 3	
		Negative sample	Positive sample	Negative sample	Positive sample	Negative sample	Positive sample
Whole blood	1% v/v	- (10/10)	+ (10/10)	- (10/10)	+ (10/10)	- (10/10)	+ (10/10)
Mucin	2% v/v	- (10/10)	+ (10/10)	- (10/10)	+ (10/10)	- (10/10)	+ (10/10)
Ricola (menthol)	0.15% w/V	- (10/10)	+ (10/10)	- (10/10)	+ (10/10)	- (10/10)	+ (10/10)
Chloraseptic (benzocaine)	0.15% w/v	- (10/10)	+ (10/10)	- (10/10)	+ (10/10)	- (10/10)	+ (10/10)
Mupirocin	0.25% w/v	- (10/10)	+ (10/10)	- (10/10)	+ (10/10)	- (10/10)	+ (10/10)
Tamiflu (oseltamivir phosphate)	0.5% w/v	- (10/10)	+ (10/10)	- (10/10)	+ (10/10)	- (10/10)	+ (10/10)
Homeopathic (alkalol)	10% v/v	- (10/10)	+ (10/10)	- (10/10)	+ (10/10)	- (10/10)	+ (10/10)
CVSNassl drops (phenylephine)	15% v/v	- (10/10)	+ (10/10)	- (10/10)	+ (10/10)	- (10/10)	+ (10/10)
Afrin (oxymetazoline)	15% v/v	- (10/10)	+ (10/10)	- (10/10)	+ (10/10)	- (10/10)	+ (10/10)
CVSNassal spray (cromolyn)	15%v/v	- (10/10)	+ (10/10)	- (10/10)	+ (10/10)	- (10/10)	+ (10/10)
Fluticasone propionate	5% v/v	- (10/10)	+ (10/10)	- (10/10)	+ (10/10)	- (10/10)	+ (10/10)
Zicam	5% v/v	- (10/10)	+ (10/10)	- (10/10)	+ (10/10)	- (10/10)	+ (10/10)
Oseltamivir phosphate	10mg/mL	- (10/10)	+ (10/10)	- (10/10)	+ (10/10)	- (10/10)	+ (10/10)

Arbidol	5mg/mL	- (10/10)	+ (10/10)	- (10/10)	+ (10/10)	- (10/10)	+ (10/10)
Triamcinolone	10mg/mL	- (10/10)	+ (10/10)	- (10/10)	+ (10/10)	- (10/10)	+ (10/10)
Histamine dihydrochloride	10mg/mL	- (10/10)	+ (10/10)	- (10/10)	+ (10/10)	- (10/10)	+ (10/10)
Zanamivir	5mg/mL	- (10/10)	+ (10/10)	- (10/10)	+ (10/10)	- (10/10)	+ (10/10)
Ribavirin	5mg/mL	- (10/10)	+ (10/10)	- (10/10)	+ (10/10)	- (10/10)	+ (10/10)
Dexamethasone	5mg/mL	- (10/10)	+ (10/10)	- (10/10)	+ (10/10)	- (10/10)	+ (10/10)

Interfering substances: The results are not affected by allergic symptoms (histamine hydrochloride), alleviating drugs and antiviral drugs (α-interferon, zanamivir, ribavirin, oseltamivir, peramivir, lopinavir and Tonavir, Arbidol) antibiotics (levofloxacin, azithromycin, ceftriaxone, meropenem), systemic antibacterial drugs (tobramycin), nasal spray (oxymetazoline) nasal skin steroid drugs (Budesonide, mometasone, fluticasone) interference.

1.2.7 Conclusion

No interference was observed between any of the potentially interference substances tested with the COVID-19 Antigen Rapid Detection Kit (Colloidal Gold).

2. Diagnostic Sensitivity And Specificity

2.1 Purpose

To validate the diagnostic sensitivity and specificity of COVID-19 Antigen Rapid Detection Kit (Colloidal Gold)

2.2 Materials

- COVID-19 Antigen Rapid Detection Kit (Colloidal Gold), LotNo.:COA20G1001A
- COVID-19 Coronavirus Real Time PCR Kit produced by Jiangsu Bioperfectus Technologies Co, Ltd.

2.3 Experimental design and research method selection

2.3.1 Sample size and Sample size determination basis

- (1) Should meet statistical requirements. This study uses a single target value method to calculate the sample size. In order to meet statistical requirements, and take into account the possible fall-off and other factors.

2.3.2 Sample selection basis, selection criteria, exclusion criteria and elimination criteria.

- (1) Crowd selection criteria :

- Suspected cases and clinically diagnosed cases of COVID-19 infection;
- The remaining samples after routine clinical testing;
- The collection and processing of samples meet the requirements of standard laboratory operations and product instructions;
- The relevant information of the sample is complete, including subject number, age, gender, sample type, etc.

- (2) Exclusion criteria:

- The sample collection time or information is not clear;
- Insufficient sample size due to errors in test operation;

- It was found that the specimen preservation process was contaminated before the test operation;
- (3) Elimination criteria:
 - Samples with human error in the test;
 - Other samples that failed to complete the test due to various reasons;
 - Any other reason considered by the principal investigator of each clinical trial institution.

Among them, after excluding or excluding some samples according to the above standards, it must be ensured that the sample size meets the requirements of this test plan.

2.4 Study Design

2.4.1 Sample collection

- Subject was a patient admitted to the hospital due to a respiratory virus infection;
- Total about 312 samples were collected;
- Total 133 nasal samples from COVID-19 infected patients and 179 non-COVID-19 infected nasal samples were tested.

2.4.2 Sample requirement

- All the samples were confirmed by COVID-19 Coronavirus Real Time PCR Kit produced by Jiangsu Bioperfectus Technologies Co, Ltd.. Samples were to be randomly chosen and double-black labeled.

2.4.3 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 COVID-19 Antigen Test were made independently by the clinical technician.

2.5 Evaluation Criteria

- Negative: Only a red line appears in the quality control area (C), and no line appears in the test area (T).
- Positive: Two red lines appear. One is in the test area (T) and the other is in the quality control area (C).
- Invalid : No red line displays in the quality control area (C). This indicates that the incorrect operation or the test cassette has deteriorated or damaged. Repeat the test with a new kit. If the problem persists, stop using this lot number immediately and contact your local supplier.

2.6 Results

312 samples were collected from selected subjects, total 133 nasal samples from COVID-19 infected patients and 179 non- COVID-19 infected nasal samples were tested. All samples were confirmed by nucleic acid test (RT-PCR). Calculated the specificity and sensitivity, the results are as follows:

Table: 312 samples test results

Assessment	Nucleic acid test (PCR)	Total
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reagent	Positive(+)	Negative(-)	
Positive(+)	125	1	126
Negative(-)	8	178	186
Total	133	179	312

① Clinical sensitivity (positive coincidence rate):

$$A/(A+C) \times 100\% = 93.98\%$$

$$95\% \text{ confidence interval: } p \pm 1.96 \times [p(1-p)/n]^{1/2} = 88.58\% - 96.92\%$$

Clinical specificity (negative coincidence rate):

$$D/(B+D) \times 100\% = 99.44\%$$

$$95\% \text{ Confidence interval: } p \pm 1.96 \times [p(1-p)/n]^{1/2} = 96.90\% - 99.90\%$$

Overall coincidence rate:

$$(A+D)/(A+B+C+D) \times 100\% = 97.12\%$$

$$95\% \text{ Confidence interval: } p \pm 1.96 \times [p(1-p)/n]^{1/2} = 94.61\% - 98.48\%$$

② Consistency coefficient Kappa value (K)

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

$$P_A = (A + D) / (A + B + C + D) = 0.9711$$

$$P_e = [(A + B)(A + C) + (C + D)(B + D)] / (A + B + C + D)^2 = 0.5141$$

$$Kappa = (P_A - P_e) / (1 - P_e) = 0.9406$$

Kappa = 0.9406 (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 = 0.9406 > 0.75)

Clinical Record

Sample No.	test results	Nucleic acid test				Sample No.	test results	Nucleic acid test			
		Results	CY5	FAM	VIC			Results	CY5	FAM	VIC
1	+	positive	31.30	29.10	27.50	157	-	negative	29.70	43.00	42.80
2	-	positive	28.20	34.40	33.20	158	+	positive	25.90	27.10	29.40
3	-	negative	28.70	43.40	42.70	159	-	negative	25.70	40.50	42.10
4	-	negative	30.50	43.00	43.70	160	+	positive	32.70	33.70	34.60
5	-	negative	29.20	41.90	42.50	161	-	negative	27.70	41.90	44.40
6	-	negative	25.10	41.20	44.60	162	+	positive	30.30	32.10	27.10
7	-	negative	31.20	40.10	42.00	163	-	negative	29.80	40.60	43.10
8	-	negative	31.40	43.60	41.70	164	-	negative	28.00	40.40	44.70
9	-	negative	30.50	44.70	44.40	165	-	negative	25.00	44.50	41.10
10	+	positive	31.40	33.80	31.60	166	-	negative	33.20	40.40	41.40
11	+	positive	33.10	32.90	28.70	167	-	negative	26.90	41.60	42.00
12	-	negative	26.40	40.20	41.40	168	-	negative	30.10	41.30	40.20
13	-	negative	28.50	40.50	40.30	169	-	negative	29.50	42.60	40.40
14	-	negative	27.30	43.50	40.40	170	-	positive	34.90	31.80	32.70

15	-	negative	33.70	43.50	44.30	171	-	negative	30.30	42.90	41.90
16	-	negative	27.50	42.90	40.30	172	-	negative	31.80	42.40	43.00
17	+	positive	29.00	30.60	32.50	173	-	negative	33.50	40.20	43.70
18	+	positive	31.20	25.40	30.80	174	-	negative	28.60	40.20	43.00
19	+	positive	33.90	25.30	29.10	175	-	negative	27.50	41.90	41.80
20	+	positive	28.80	33.40	26.80	176	-	negative	29.00	40.90	44.70
21	+	positive	30.50	27.20	27.20	177	+	positive	33.30	29.90	30.30
22	+	positive	31.00	30.30	29.90	178	+	positive	33.40	25.50	34.60
23	-	negative	27.00	41.00	40.70	179	-	negative	33.50	42.10	42.80
24	+	positive	31.10	28.90	35.20	180	-	negative	31.20	44.10	44.40
25	+	positive	25.10	29.40	25.30	181	+	positive	32.30	30.00	28.90
26	-	negative	27.20	43.60	41.20	182	+	positive	32.00	33.30	34.20
27	+	positive	25.70	28.50	30.50	183	-	negative	34.80	41.70	42.80
28	+	positive	33.90	33.30	29.80	184	+	positive	34.70	34.40	28.80
29	-	negative	28.30	41.20	41.70	185	-	negative	28.70	44.10	44.60
30	+	positive	30.40	27.30	28.20	186	-	negative	31.50	42.60	41.70
31	-	negative	32.10	42.10	41.90	187	+	positive	30.50	35.00	27.70
32	+	positive	25.70	33.30	30.30	188	-	negative	29.70	35.80	33.60
33	+	positive	25.20	29.20	32.20	189	+	positive	25.40	27.70	26.10
34	-	negative	28.90	44.30	43.60	190	-	negative	31.20	44.40	42.10
35	-	negative	32.70	45.00	41.60	191	+	negative	34.20	43.60	41.60
36	+	positive	29.20	33.10	30.30	192	-	negative	27.50	41.30	41.20
37	-	negative	34.30	42.80	41.60	193	-	negative	28.40	44.00	41.90
38	-	negative	32.70	40.60	44.10	194	+	positive	33.60	30.30	28.10
39	-	negative	25.50	43.60	44.60	195	-	negative	26.30	43.60	44.10
40	+	positive	31.20	33.40	32.50	196	+	positive	32.60	25.70	34.30
41	+	positive	35.00	25.00	27.40	197	+	positive	27.10	27.00	35.10
42	-	negative	34.70	41.90	45.00	198	-	negative	33.80	43.00	44.00
43	-	positive	31.30	26.40	35.60	199	-	negative	27.90	40.60	41.10
44	-	negative	30.20	40.10	44.90	200	+	positive	30.70	35.10	25.00
45	+	positive	25.00	26.80	32.90	201	-	negative	28.90	44.80	41.30
46	-	negative	34.20	42.60	40.90	202	+	positive	32.40	33.50	28.60
47	-	negative	25.20	40.60	42.50	203	-	negative	31.10	44.50	42.00
48	-	negative	27.50	41.50	40.80	204	-	negative	33.80	41.30	42.90
49	-	negative	35.00	43.70	44.60	205	+	positive	26.40	28.30	28.10
50	+	positive	34.00	29.40	26.00	206	-	negative	28.40	42.60	40.30
51	-	negative	33.30	42.90	43.30	207	-	negative	33.50	42.40	41.80
52	-	negative	31.00	40.10	40.80	208	+	positive	31.50	25.90	29.50
53	-	negative	32.60	41.10	44.30	209	-	negative	25.80	40.40	44.70
54	-	negative	30.30	43.60	41.10	210	-	negative	33.80	44.30	42.50
55	-	negative	34.70	44.30	42.30	211	-	positive	32.20	36.00	35.00
56	+	positive	25.40	25.10	32.00	212	-	negative	26.60	44.70	44.60
57	+	positive	33.70	34.30	25.20	213	+	positive	33.20	33.50	31.60

58	-	negative	31.50	25.90	29.50	214	+	positive	31.60	26.50	26.60
59	-	negative	31.80	41.20	42.90	215	+	positive	30.50	26.90	33.40
60	-	negative	34.30	44.30	42.30	216	-	negative	25.30	43.70	42.40
61	+	positive	29.10	25.50	25.10	217	-	negative	29.50	43.20	42.30
62	-	negative	25.80	40.50	43.30	218	-	negative	25.00	40.40	42.60
63	+	positive	32.00	29.30	34.20	219	-	negative	32.30	42.00	43.60
64	+	positive	32.00	29.30	31.50	220	-	negative	27.20	41.50	42.90
65	+	positive	27.20	28.10	32.90	221	+	positive	34.70	33.00	33.40
66	-	negative	30.80	42.50	41.00	222	-	negative	34.20	43.00	42.30
67	-	negative	34.60	44.30	44.80	223	-	negative	32.20	41.00	41.90
68	-	positive	26.40	33.90	35.70	224	-	negative	34.50	40.50	40.20
69	-	negative	29.10	43.50	41.10	225	+	positive	34.60	31.20	29.30
70	-	negative	27.00	40.90	44.70	226	-	negative	29.60	41.80	43.30
71	+	positive	33.10	27.70	31.80	227	+	positive	33.30	33.20	34.60
72	-	positive	31.60	34.50	36.80	228	-	negative	27.80	44.30	44.90
73	-	negative	31.90	43.40	44.70	229	-	negative	31.00	40.10	40.70
74	-	negative	33.40	43.90	42.40	230	+	positive	26.50	34.60	27.70
75	-	negative	26.10	42.50	44.10	231	+	positive	29.70	29.60	29.40
76	+	positive	29.00	29.60	31.90	232	+	positive	25.50	28.50	34.90
77	+	positive	32.20	27.90	30.10	233	-	negative	29.00	44.60	42.20
78	+	positive	27.60	29.10	33.70	234	-	negative	26.30	41.30	44.70
79	-	negative	30.40	41.40	42.60	235	-	positive	33.70	30.30	36.60
80	-	negative	30.00	43.00	41.80	236	+	positive	30.80	25.30	34.60
81	+	positive	26.50	33.50	27.60	237	+	positive	31.70	28.90	26.50
82	+	positive	28.00	29.10	28.00	238	-	negative	31.70	43.40	40.70
83	-	negative	33.00	43.40	41.30	239	+	positive	29.50	30.10	33.50
84	+	positive	33.20	30.60	33.30	240	+	positive	28.50	31.40	28.20
85	+	positive	32.40	32.50	34.30	241	-	negative	30.40	43.20	42.40
86	-	negative	31.90	40.80	43.00	242	-	negative	34.40	43.70	42.30
87	-	negative	30.80	41.10	43.80	243	-	negative	33.90	42.30	40.40
88	-	negative	28.60	41.30	40.90	244	-	negative	27.40	42.10	43.80
89	-	negative	27.60	44.70	42.50	245	+	positive	28.50	28.50	34.50
90	-	negative	25.30	41.40	44.10	246	-	negative	28.60	40.90	41.30
91	-	negative	30.20	40.70	43.70	247	-	negative	27.00	43.30	43.80
92	-	negative	26.20	43.80	42.40	248	+	positive	32.20	28.40	35.00
93	-	negative	27.30	40.90	42.00	249	-	negative	33.70	45.00	43.20
94	-	negative	34.80	41.90	41.90	250	-	negative	25.20	44.80	42.70
95	-	negative	33.80	43.10	44.80	251	+	positive	31.30	32.20	26.50
96	+	positive	26.70	30.40	34.40	252	-	negative	30.90	44.00	40.10
97	-	negative	27.50	41.00	44.20	253	+	positive	29.90	30.60	29.80
98	+	positive	31.30	29.10	31.20	254	+	positive	30.40	34.30	31.40
99	-	negative	26.60	43.00	44.60	255	-	negative	28.20	41.80	41.10

100	+	positive	30.30	30.10	31.10	256	+	positive	32.10	28.30	30.50
101	+	positive	25.60	30.50	28.80	257	+	positive	31.80	33.80	26.50
102	-	negative	25.90	41.50	44.30	258	+	positive	32.60	27.60	33.40
103	-	negative	31.00	45.00	43.20	259	+	positive	29.70	31.10	33.90
104	-	negative	33.60	42.50	43.40	260	-	negative	25.60	43.40	43.80
105	+	positive	30.10	34.00	34.00	261	+	positive	34.70	25.90	26.20
106	+	positive	30.30	26.90	33.30	262	-	negative	33.20	42.30	40.80
107	-	negative	34.10	42.00	40.20	263	-	negative	29.20	40.90	41.90
108	+	positive	27.70	33.10	30.80	264	+	positive	26.10	30.50	26.70
109	+	positive	27.00	26.50	33.00	265	+	positive	32.30	29.20	33.80
110	-	negative	29.30	44.60	45.00	266	-	negative	30.20	44.30	44.00
111	-	negative	31.10	41.30	43.60	267	+	positive	25.40	27.80	28.70
112	+	positive	27.10	33.10	34.30	268	-	negative	32.30	43.20	40.10
113	+	positive	25.30	27.00	32.80	269	+	positive	27.10	32.00	26.50
114	-	negative	33.40	43.40	42.20	270	-	negative	31.70	40.80	42.10
115	-	negative	27.90	42.20	42.30	271	+	positive	25.50	29.80	33.50
116	+	positive	27.00	30.70	32.50	272	-	negative	35.00	40.60	40.50
117	+	positive	26.00	31.20	33.50	273	-	negative	27.10	44.40	43.50
118	-	negative	25.70	40.90	43.50	274	-	negative	31.90	44.40	40.80
119	+	positive	29.10	25.90	30.10	275	-	negative	31.40	40.60	41.50
120	-	negative	34.70	41.30	43.80	276	-	negative	32.40	42.10	45.00
121	+	positive	26.70	33.00	33.00	277	+	positive	30.60	28.70	30.60
122	-	negative	27.10	42.40	40.50	278	-	negative	26.40	42.20	41.30
123	+	positive	32.90	26.50	29.60	279	-	negative	30.90	43.10	43.40
124	+	positive	25.90	34.90	35.00	280	+	positive	27.80	32.30	27.40
125	+	positive	27.50	30.50	26.70	281	+	positive	32.90	29.50	33.30
126	-	negative	25.40	43.10	40.40	282	-	positive	28.40	34.30	35.20
127	+	positive	31.40	32.70	27.20	283	+	positive	25.40	30.00	29.10
128	-	negative	34.00	40.90	43.20	284	-	negative	30.10	44.70	41.20
129	+	positive	30.20	29.70	32.60	285	-	negative	27.30	43.50	42.40
130	+	positive	27.20	28.50	32.10	286	-	negative	25.00	43.20	42.50
131	-	negative	30.90	42.00	42.60	287	+	positive	26.90	32.00	28.00
132	+	positive	28.40	34.20	34.80	288	-	negative	28.20	40.70	42.40
133	+	positive	26.20	30.00	28.70	289	+	positive	31.40	29.20	32.00
134	-	negative	34.20	42.60	43.10	290	-	negative	27.90	41.90	43.90
135	+	positive	30.50	33.90	29.30	291	-	negative	25.20	40.90	41.70
136	-	negative	33.50	44.20	41.10	292	-	negative	26.70	42.40	45.00
137	+	positive	32.20	27.30	34.60	293	-	negative	25.10	44.10	43.30
138	-	negative	25.00	41.20	44.80	294	-	negative	34.40	42.20	43.20
139	-	negative	29.50	40.10	42.20	295	+	positive	32.60	33.20	32.40
140	+	positive	26.70	30.20	31.60	296	+	positive	32.20	34.30	32.70
141	+	positive	29.00	33.80	25.00	297	-	negative	30.20	41.40	40.90

142	-	negative	29.30	40.50	42.40	298	-	negative	34.50	40.70	43.60
143	-	negative	33.20	41.60	41.90	299	+	positive	27.80	35.10	26.60
144	+	positive	30.90	31.90	25.40	300	+	positive	32.60	31.80	28.10
145	+	positive	33.40	30.10	30.70	301	-	negative	26.70	42.70	44.70
146	-	negative	32.40	44.30	44.90	302	-	negative	26.50	44.50	40.10
147	-	negative	33.00	40.70	43.60	303	-	negative	28.60	42.20	40.30
148	+	positive	29.90	25.80	28.90	304	-	negative	27.60	42.00	44.90
149	-	negative	27.30	44.00	42.30	305	-	negative	33.40	43.80	40.70
150	-	negative	27.00	42.20	41.60	306	-	negative	30.40	43.60	42.50
151	-	negative	30.40	43.50	44.40	307	-	negative	26.30	43.00	42.90
152	-	negative	26.60	44.40	40.70	308	+	positive	34.10	30.30	31.30
153	-	negative	30.40	42.80	42.60	309	+	positive	33.10	28.90	26.30
154	+	positive	31.00	34.80	29.50	310	+	positive	33.60	29.90	25.30
155	+	positive	31.40	30.70	28.10	311	-	negative	33.40	43.50	44.90
156	-	negative	34.50	42.60	43.60	312	+	positive	26.80	31.70	34.00