Supplementary material

Supplementary Table 1. List of LFD kits tested and summary of phase 2 and phase 3 methods and evaluation results. Pages 2-17

Supplementary Figure 1. Summary of phase 3 LFD band intensity values compared to viral concentration. Page 18

# Supplementary Table 1. List of LFD kits tested and summary of phase 2 and phase 3 methods and evaluation results.

NA = not applicable, NT = not tested

|  |  |  |
| --- | --- | --- |
| LFD kit | Phase 2 | Phase 3 |
| Kit reference | **Kit name** | **Version** | **Date tested** | **Virus** | **Sensitivity diluent** | **Sensitivity sample volume (µL)** | **Specificity sample** | **Specificity sample volume (µL)** | **Outcome** | **Phase 3 panel tested** | **Specificity (%)** | **95% CI** | **Sensitivity (%) at 10,000 RNA copies** | **95% CI** | **Sensitivity (%) at 100,000 RNA copies** | **95% CI** | **Predicted prop infectiousness in 18291 test set**  | **95% CI** | **Outcome** |
| 1 | RapiGen Biocredit COVID-19 Ag | 1 | Aug 2020 | Fresh lab grown | Saliva | 200 | Saliva | 200 | Sensitivity failure | NT | NT | NT | NT | NA | NT | NA | NT | NT | NA |
| 2 | SD Biosensor Standard Q COVID-19 Ag Test (swab) | 1 | Aug 2020 | Fresh lab grown | Saliva | 200 | Saliva | 200 | Specificity & sensitivity failure | NT | NT | NT | NT | NA | NT | NA | NT | NT | NA |
| 3 | SD Biosensor Standard Q COVID-19 Ag Saliva | 1 | Aug 2020 | Fresh lab grown | Saliva | 200 | Saliva | 200 | Passed | SEP 20 | 99·9 | 99·45-100·0 | 39·80 | 28·5-52·0 | 91·90 | 85·0-97·7 | 83·6 | 81·0-85·8 | Passed |
| 4 | AccessBio CareStart COVID-19 Antigen  | 1 | Aug 2020 | Fresh lab grown | Saliva | 200 | Saliva | 200 | Kit failures | NT | NT | NT | NT | NA | NT | NA | NT | NT | NA |
| 5 | Imutest Vstrip COVID-19 Antigen Rapid Test | 1 | Aug 2020 | Fresh lab grown | Saliva | 200 | Saliva | 200 | Specificity & sensitivity failure | NT | NT | NT | NT | NA | NT | NA | NT | NT | NA |
| 6 | Coris BioConcept COVID-19 Ag Respi-Strip | 1 | Aug 2020 | Fresh lab grown | Saliva | 200 | Saliva | 200 | Kit failures & sensitivity failure | NT | NT | NT | NT | NA | NT | NA | NT | NT | NA |
| 7 | BioNote NowCheck COVID-19 Ag Test  | 1 | Aug 2020 | Fresh lab grown | Saliva | 200 | Saliva | 200 | Sensitivity failure | NT | NT | NT | NT | NA | NT | NA | NT | NT | NA |
| 8 | Innova SARS-CoV-2 Antigen Rapid Qualitative Test | 1 | Aug 2020 | Fresh lab grown | Saliva | 200 | Saliva | 200 | Passed | SEP 20 | 100 | 99·61-100·0 | 69·2 | 61·2-80·8 | 94·6 | 91·4-98·4 | 88·6 | 86·5-90·5 | Passed |
| 9 | Orient Gene / Healgen Coronavirus Ag Rapid Test (swab) | 1 | Sep 2020 | Fresh lab grown | Saliva | 200 | Saliva | 200 | Passed | SEP 20 | 99·9 | 99·49-100·0 | 87·0 | 52·0-75·2 | 98·6 | 91·1-99·0 | 87·3 | 85·2-89·2 | Passed |
| 10 | Formosa One Sure SARS-CoV-2 Ag Rapid Test Kit | 1 | Sep 2020 | Fresh lab grown | Saliva | 200 | Saliva | 200 | Kit failures & sensitivity failure | NT | NT | NT | NT | NA | NT | NA | NT | NT | NA |
| 11 | BD Veritor System for Rapid Detection of SARS-CoV-2 | 1 | Sep 2020 | Fresh lab grown | Saliva | 200 | Saliva | 200 | Passed | NT | NT | NT | NT | NA | NT | NA | NT | NT | Acceptance testing failure |
| 12 | Abbott Panbio COVID-19 Ag Rapid Test Device | 1 | Sep 2020 | Fresh lab grown | Saliva | 200 | Saliva | 200 | Passed | SEP 20 | 99·7 | 99·27-99·90 | 72·3 | 62·7-82·0 | 96·1 | 92·7-98·6 | 89·0 | 86·5-90·9 | Variant sensitivity failure (Delta. BA.1) |
| 13 | GenBody COVID-19 Ag | 1 | Sep 2020 | Fresh lab grown | Saliva | 200 | Saliva | 200 | Sensitivity failure | NT | NT | NT | NT | NA | NT | NA | NT | NT | NA |
| 14 | SureScreen Diagnostics COVID-19 Rapid Antigen Test | 1 | Sep 2020 | Fresh lab grown | Saliva | 200 | Saliva | 200 | Sensitivity failure | NT | NT | NT | NT | NA | NT | NA | NT | NT | NA |
| 15 | Jiangsu Bioperfectus Technologies Novel Corona Virus (SARS-CoV-2) Ag Rapid Test Kit | 1 | Sep 2020 | Fresh lab grown | Saliva | 200 | Saliva | 200 | Sensitivity failure | NT | NT | NT | NT | NA | NT | NA | NT | NT | NA |
| 16 | VirAlert COVID-19 Antigen Home Test Kit  | 1 | Sep 2020 | Fresh lab grown | Saliva | 200 | Saliva | 200 | Kit failures | NT | NT | NT | NT | NA | NT | NA | NT | NT | NA |
| 17 | SD Biosensor Standard Q COVID-19 Ag Test | 2 | Sep 2020 | Fresh lab grown | Saliva | 200 | Saliva | 200 | Specificity failure | NT | NT | NT | NT | NA | NT | NA | NT | NT | NA |
| 18 | LionRun SARS-CoV-2 Antigen Rapid Test | 1 | Sep 2020 | Fresh lab grown | Saliva | 200 | Saliva | 200 | Specificity & sensitivity failure | NT | NT | NT | NT | NA | NT | NA | NT | NT | NA |
| 19 | VivaChek Biotech (Hangzhou) Co LtdVivaDiag SARS-CoV-2 Ag Rapid Test | 1 | Sep 2020 | Fresh lab grown | Saliva | 200 | Saliva | 200 | Sensitivity failure | NT | NT | NT | NT | NA | NT | NA | NT | NT | NA |
| 20 | Liming Bio StrongStep SARS-CoV-2 Antigen Rapid Test | 1 | Sep 2020 | Fresh lab grown | Saliva | 200 | Saliva | 200 | Specificity failure | NT | NT | NT | NT | NA | NT | NA | NT | NT | NA |
| 21 | Sono Nanotech COVID-19 Lateral Flow Assay | 1 | Sep 2020 | Fresh lab grown | Saliva | 200 | Saliva | 200 | Specificity & sensitivity failure | NT | NT | NT | NT | NA | NT | NA | NT | NT | NA |
| 22 | GenesPrint COVID-19 Ag Test | 1 | Oct 2020 | Fresh lab grown | Saliva | 200 | Saliva | 200 | Sensitivity failure | NT | NT | NT | NT | NA | NT | NA | NT | NT | NA |
| 23 | Nadal COVID-19 Ag Test  | 1 | Oct 2020 | Fresh lab grown | Saliva | 200 | Saliva | 200 | Sensitivity failure | NT | NT | NT | NT | NA | NT | NA | NT | NT | NA |
| 24 | Anhui DeepBlue COVID-19 Antigen Test Kit | 1 | Oct 2020 | Fresh lab grown | Saliva | 200 | Saliva | 200 | Passed | SEP 20 | 100 | 99·64-100·0 | 57·8 | 45·2-70·3 | 96·6 | 92·6-99·2 | 86·7 | 84·7-88·4 | Variant sensitivity failure (BA.2) |
| 25 | Joinstar Biomedical Technology COVID-19 Antigen Rapid Test (Latex) | 1 | Oct 2020 | Fresh lab grown | Saliva | 200 | Saliva | 200 | Sensitivity failure | NT | NT | NT | NT | NA | NT | NA | NT | NT | NA |
| 26 | Lumiratek COVID-19 Antigen Rapid Test Cassette | 1 | Oct 2020 | Fresh lab grown | Saliva | 200 | Saliva | 200 | Passed | SEP 20 | 100 | 99·42-100·0 | 10·2 | 4·6-19·3 | 68·2 | 61·0-83·2 | 74·8 | 72·0-77·9 | Sensitivity failure |
| 27 | Huaketai New Coronavirus (SARS-CoV-2) N Protein Detection Kit | 1 | Oct 2020 | Fresh lab grown | Saliva | 200 | Saliva | 200 | Sensitivity failure | NT | NT | NT | NT | NA | NT | NA | NT | NT | NA |
| 28 | MEDsan SARS-CoV-2 Antigen Rapid Test | 1 | Oct 2020 | NT | Saliva | 200 | Saliva | 200 | Specificity failure | NT | NT | NT | NT | NA | NT | NA | NT | NT | NA |
| 29 | Mologic Saliva | 1 | Oct 2020 | NT | Saliva | 200 | Saliva | 200 | Specificity failure | NT | NT | NT | NT | NA | NT | NA | NT | NT | NA |
| 30 | Humasis COVID-19 Ag Test | 1 | Oct 2020 | Fresh lab grown | Saliva | 200 | Saliva | 200 | Passed | JAN 21 | 99·5 | 98·83-99·98 | 45·5 | 36·8-53·3 | 73·7 | 66·9-80·0 | 78·3 | 74·7-81·8 | Variant sensitivity failure (Alpha) |
| 31 | New Gene (Hangzhou) Bioengineering Novel Coronavirus Glycoprotein Detection Kit | 1 | Oct 2020 | Fresh lab grown | Saliva | 200 | Saliva | 200 | Sensitivity failure | NT | NT | NT | NT | NA | NT | NA | NT | NT | NA |
| 32 | JOYSBIO (Tianjin) Biotechnology Co Ltd SARS-CoV-2 Antigen Rapid Test Kit (Colloidal Gold) | 1 | Oct 2020 | NT | Saliva | 200 | Saliva | 200 | Specificity failure | NT | NT | NT | NT | NA | NT | NA | NT | NT | NA |
| 33 | Sugentech Inc SGTi-flex COVID-19 Ag | 1 | Oct 2020 | Fresh lab grown | Saliva | 200 | Saliva | 200 | Sensitivity failure | NT | NT | NT | NT | NA | NT | NA | NT | NT | NA |
| 34 | My110 Senseutics Prototype | 1 | Oct 2020 | Fresh lab grown | Saliva | 200 | Saliva | 200 | Sensitivity failure | NT | NT | NT | NT | NA | NT | NA | NT | NT | NA |
| 35 | Hangzhou Really Tech Co Ltd Novel Coronavirus (SARS-CoV-2) Antigen Rapid Test Cassette (swab) | 1 | Oct 2020 | NT | Saliva | 200 | Saliva | 200 | Specificity failure | NT | NT | NT | NT | NA | NT | NA | NT | NT | NA |
| 36 | Wenzhou OJA Biotechnology Co Ltd SARS-CoV-2 (COVID-19) Antigen Detection Kit (Colloidal Gold Method) | 1 | Oct 2020 | NT | Saliva | 200 | Saliva | 200 | Specificity failure | NT | NT | NT | NT | NA | NT | NA | NT | NT | NA |
| 37 | Hangzhou AllTest Biotech Co Ltd Blnk COVID-19 Antigen Rapid Test (Nasopharyngeal Swab) | 1 | Oct 2020 | Fresh lab grown | Saliva | 200 | Saliva | 200 | Passed | SEP 20 | NT | NT | 22·5 | 13·6-34·3 | 78·4 | 73·1-89·1 | 78·4 | 75·7-80·9 | Sensitivity failure |
| 38 | Fortress Diagnostics Coronavirus Ag Rapid Test | 1 | Oct 2020 | Fresh lab grown | Saliva | 200 | Saliva | 200 | Passed | SEP 20 | 99·9 | 99·63-100·0 | 73·3 | 64·9-83·6 | 95·1 | 90·8-98·4 | 89·2 | 86·6-91·5 | Passed |
| 39 | My 110 Lateral Flow Antigen Test | 2 | Nov 2020 | Fresh lab grown | Saliva | 200 | Saliva | 200 | Sensitivity failure | NT | NT | NT | NT | NA | NT | NA | NT | NT | NA |
| 40 | MediPort Diagnostics COVID-19 Antigen Rapid Test Kit  | 1 | Nov 2020 | Fresh lab grown | Saliva | 200 | Saliva | 200 | Passed | JAN 21 | 100 | 99·63-100·0 | 5·8 | 1·4-12·1 | 88·1 | 80·8-95·8 | 78·6 | 76·6-80·2 | Sensitivity failure |
| 41 | Nantong Diagnos Biotechnology COVID-19 Ag Test PPE MedPro | 1 | Nov 2020 | Fresh lab grown | Saliva | 200 | Saliva | 200 | Passed | JAN 21 | 100 | 99·63-100·0 | 37·9 | 28·0-45·7 | 74·5 | 67·6-81·5 | 78·2 | 75·4-80·9 | Variant sensitivity failure (Delta) |
| 42 | Camtech Diagnostics Pte Ltd COVID-19 Antigen Rapid Test | 1 | Nov 2020 | Fresh lab grown | Saliva | 200 | Saliva | 200 | Kit failures | NT | NT | NT | NT | NA | NT | NA | NT | NT | NA |
| 43 | Pro-Lab Diagnostics Proflow SARS-CoV-2 Antigen | 1 | Nov 2020 | Fresh lab grown | Saliva | 200 | Saliva | 200 | Sensitivity failure | NT | NT | NT | NT | NA | NT | NA | NT | NT | NA |
| 44 | PRIME4DIA Co Ltd P4DETECT COVID-19 Ag | 1 | Nov 2020 | Fresh lab grown | Saliva | 200 | Saliva | 200 | Sensitivity failure | NT | NT | NT | NT | NA | NT | NA | NT | NT | NA |
| 45 | Sona Nanotech Rapid antigen Lateral Flow Test for saliva | 2 | Nov 2020 | Fresh lab grown | Saliva | 200 | Saliva | 200 | Sensitivity failure | NT | NT | NT | NT | NA | NT | NA | NT | NT | NA |
| 46 | DNA Diagnostic COVID-19 Antigen Detection Kit | 1 | Nov 2020 | Fresh lab grown | Saliva | 200 | Saliva | 200 | Passed | JAN 21 | 100 | 99·63-100·0 | 84·6 | 79·3-90·6 | 97·3 | 95·2-99·0 | 92·1 | 90·5-93·6 | Passed |
| 47 | ZandCell AB COVID-19 Antigen Test (hypersensitive colloidal gold) | 1 | Nov 2020 | Fresh lab grown | Saliva | 200 | Saliva | 200 | Sensitivity failure | NT | NT | NT | NT | NA | NT | NA | NT | NT | NA |
| 48 | Surescreen SARS-CoV-2 Antigen Rapid Test Cassette | 2 | Nov 2020 | Fresh lab grown | Saliva | 200 | Saliva | 200 | Passed | SEP 20 | 99·9 | 99·44-100·0 | 40·0 | 24·7-52·9 | 96·8 | 92·2-99·7 | 84·9 | 83·2-86·4 | Sensitivity failure |
| 49 | Roche SD Biosensor Standard Q COVID-19 Ag Saliva Test | 2 | Nov 2020 | Irradiated virus | Saliva | 200 | Saliva | 200 | Passed | JAN 21 | 100 | 99·63-100·0 | 61·10 | 52·2-68·9 | 90·40 | 85·3-94·4 | 86·1 | 83·8-88·4 | Passed |
| 50 | Roche SD Biosensor Standard Q COVID-19 Ag Test | 3 | Nov 2020 | Irradiated virus | Saliva | 200 | Saliva | 200 | Passed | SEP 20 | 99·9 | 99·40-100·0 | 43·30 | 31·0-56·5 | 94·90 | 90·1-98·5 | 84·7 | 82·5-86·9 | Sensitivity failure |
| 51 | Bioperfectus Technologies Novel Corona Virus Ag Rapid Test Kit | 2 | Nov 2020 | Fresh lab grown | Saliva | 200 | Saliva | 200 | Passed | JAN 21 | 99·3 | 98·57-99·72 | 47·6 | 35·9-57·4 | 90·7 | 85·6-95·4 | 84·2 | 82·5-86·0 | Passed |
| 52 | Rapigen BIOCREDIT COVID-19 Ag One Step SARS-CoV-2 Antigen Rapid Test  | 2 | Nov 2020 | Fresh lab grown | Saliva | 200 | Saliva | 200 | Passed | JAN 21 | 100 | 99·63-100·0 | 24·4 | 14·3-33·0 | 69·4 | 61·4-76·6 | 75·8 | 72·6-78·4 | Sensitivity failure |
| 53 | Liming Bio StrongStep SARS-CoV-2 Antigen Rapid Test | 2 | Nov 2020 | Fresh lab grown | Saliva | 200 | Saliva | 200 | Passed | JAN 21 | 100 | 99·63-100·0 | 65·5 | 58·4-72·6 | 85·2 | 79·5-90·2 | 85·4 | 82·0 – 88·3 | Passed |
| 54 | Beijing Hotgen Biotech Co Ltd Novel Coronavirus 2019-nCoV Antigen Test (Colloidal Gold) | 1 | Nov 2020 | Fresh lab grown | Saliva | 200 | Saliva | 200 | Sensitivity failure | NT | NT | NT | NT | NA | NT | NA | NT | NT | NA |
| 55 | Mologic Saliva | 2 | Nov 2020 | Fresh lab grown | Saliva | 200 | Saliva | 200 | Sensitivity failure | NT | NT | NT | NT | NA | NT | NA | NT | NT | NA |
| 56 | BIOSYNEX COVID-19 Ag BSS | 1 | Nov 2020 | NT | Saliva | 200 | Saliva | 200 | Specificity failure | NT | NT | NT | NT | NA | NT | NA | NT | NT | NA |
| 57 | My 110 Lateral Flow Antigen Test | 3 | Nov 2020 | Fresh lab grown | Saliva | 200 | Saliva | 200 | Sensitivity failure | NT | NT | NT | NT | NA | NT | NA | NT | NT | NA |
| 58 | Excalibur Rapid SARS-CoV-2 Antigen Test Card | 1 | Nov 2020 | Fresh lab grown | Saliva | 200 | Saliva | 200 | Passed | JAN 21 | 100 | 99·64-100·0 | 64·8 | 55·5-72·9 | 92·4 | 87·9-96·0 | 87·2 | 85·2-89·1 | Passed |
| 59 | Intelligent Fingerprinting Ltd SARS-CoV-2 Virus Screening Strip (VSS-1) | 2 | Nov 2020 | NT | Saliva | 200 | Saliva | 200 | Specificity failure | NT | NT | NT | NT | NA | NT | NA | NT | NT | NA |
| 60 | MP Biomedical Rapid SARS-CoV-2 Antigen Test Card | 1 | Dec 2020 | Fresh lab grown | Saliva | 200 | Saliva | 200 | Passed | JAN 21 | 100 | 99·61-100·0 | 50·8 | 41·3-59·4 | 87·6 | 82·2-92·7 | 83·9 | 81·6-86·2 | Variant sensitivity failure (BA.1) |
| 61 | Joinstar Biomedical Technology COVID-19 Antigen Rapid Test (Latex) | 2 | Dec 2020 | NT | Saliva | 200 | Saliva | 200 | Specificity failure | NT | NT | NT | NT | NA | NT | NA | NT | NT | NA |
| 62 | University of Warwick and GlycanDx Ltd | 1 | Dec 2020 | NT | Saliva | 200 | Saliva | 200 | Specificity failure | NT | NT | NT | NT | NA | NT | NA | NT | NT | NA |
| 63 | Mologic Nose and Throat Swab | 3 | Dec 2020 | NT | Saliva | 200 | Saliva | 200 | Specificity failure | NT | NT | NT | NT | NA | NT | NA | NT | NT | NA |
| 64 | Spring Healthcare Services SARS-CoV-2 Antigen Rapid Test Cassette (swab) | 1 | Jan 2021 | Fresh lab grown | Saliva | 200 | Saliva | 200 | Sensitivity failure | NT | NT | NT | NT | NA | NT | NA | NT | NT | NA |
| 65 | Avacta AffiDX SARS-CoV-2 Lateral Flow Test | 1 | Jan 2021 | Fresh lab grown | Saliva | 200 | Saliva | 200 | Sensitivity failure | NT | NT | NT | NT | NA | NT | NA | NT | NT | NA |
| 66 | ZandCell AB COVID-19 Antigen Test (Colloidal Gold) | 2 | Jan 2021 | Fresh lab grown | Saliva | 200 | Saliva | 200 | Passed | JAN 21 | 99·9 | 99·45-100·0 | 74·2 | 68·5-80·4 | 93·2 | 90·0-96·5 | 89·4 | 87·4-91·1 | Passed |
| 67 | Beijing Lepu Medical Technology Company Co Ltd SARS-CoV-2 Antigen Rapid Test Kit (Colloidal Gold Immunochromotography) | 1 | Jan 2021 | Fresh lab grown | Saliva | 200 | Saliva | 200 | Sensitivity failure | NT | NT | NT | NT | NA | NT | NA | NT | NT | NA |
| 68 | ACON Biotech Flowflex SARS-CoV-2 Antigen Rapid Test | 1 | Jan 2021 | Fresh lab grown | Saliva | 200 | Saliva | 200 | Passed | JAN 21 | 100 | 99·64-100·0 | 42·4 | 30·8-54·9 | 95·8 | 91·0-99·2 | 84·7 | 82·8-86·5 | Passed |
| 69 | CTK Biotech Inc OnSite COVID-19 Ag Rapid Test | 1 | Jan 2021 | Fresh lab grown | Saliva | 200 | Saliva | 200 | Kit failures & sensitivity failure | NT | NT | NT | NT | NA | NT | NA | NT | NT | NA |
| 70 | AptaDx SARS-CoV-2 | 1 | Jan 2021 | NT | Saliva | 200 | Saliva | 200 | Specificity failure | NT | NT | NT | NT | NA | NT | NA | NT | NT | NA |
| 71 | LooK SPOT Covid-19 Rapid Antigen Test  | 1 | Jan 2021 | Fresh lab grown | Saliva | 200 | Saliva | 200 | Sensitivity failure | NT | NT | NT | NT | NA | NT | NA | NT | NT | NA |
| 72 | 2San Global SARS-CoV-2 Antigen Rapid Test Kit (Colloidal Gold) | 1 | Jan 2021 | Fresh lab grown | Saliva | 200 | Saliva | 200 | Sensitivity failure | NT | NT | NT | NT | NA | NT | NA | NT | NT | NA |
| 73 | Wondfo 2019-nCoV Antigen Test | 1 | Jan 2021 | Fresh lab grown | Saliva | 200 | Saliva | 200 | Sensitivity failure | NT | NT | NT | NT | NA | NT | NA | NT | NT | NA |
| 74 | Beijing Jinwofu Bioengineering Technology Co Ltd Novel Coronavirus (SARS-CoV-2) Antigen Rapid Test Kit  | 1 | Jan 2021 | NT | Saliva | 200 | Saliva | 200 | Specificity failure | NT | NT | NT | NT | NA | NT | NA | NT | NT | NA |
| 75 | BIOSYNEX COVID-19 Ag+ BSS | 2 | Jan 2021 | Fresh lab grown | Saliva | 200 | Saliva | 200 | Sensitivity failure | NT | NT | NT | NT | NA | NT | NA | NT | NT | NA |
| 76 | EMMO PHARMA Encode SARS-CoV-2 Antigen Rapid Test Device  | 1 | Jan 2021 | NT | Saliva | 200 | Saliva | 200 | Specificity failure | NT | NT | NT | NT | NA | NT | NA | NT | NT | NA |
| 77 | Ameda AMP Rapid Test SARS-CoV-2 Ag | 1 | Feb 2021 | Fresh lab grown | Saliva | 200 | Saliva | 200 | Passed | JAN 21 | 99·3 | 98·60-99·70 | 65·3 | 54·7-77·0 | 98·4 | 95·6-99·9 | 87·9 | 86·4-89·1 | Passed |
| 78 | Amazing Biotech (Shanghai) Co Ltd Birmingham Biotech BMH COVID-19 Antigen Sealing Tube Test Strip | 1 | Feb 2021 | Fresh lab grown | Saliva | 200 | Saliva | 200 | Passed | JAN 21 | 99·8 | 98·80-100·0 | 36·9 | 26·2-46·4 | 72·6 | 64·6-81·0 | 77·3 | 73·5-80·7 | Sensitivity failure |
| 79 | AptaDx SARS-CoV-2 | 2 | Feb 2021 | Fresh lab grown | Synthetic mucus | 80 | Saliva | 80 | Kit failures | NT | NT | NT | NT | NA | NT | NA | NT | NT | NA |
| 80 | Getein Biotech One Step Test for SARS-CoV-2 Antigen | 1 | Feb 2021 | Frozen lab grown panel | Synthetic mucus | 200 | Saliva | 200 | Passed | JAN 21 | 100 | 99·63-100·0 | 59·5 | 49·6-68·3 | 92·0 | 87·5-96·0 | 86·3 | 84·3-88·3 | Passed |
| 81 | Chongqing Novegent Biotech Co Ltd COVID-19 Antigen Rapid Test Kit  | 1 | Feb 2021 | Frozen lab grown panel | Synthetic mucus | 200 | Saliva | 200 | Sensitivity failure | NT | NT | NT | NT | NA | NT | NA | NT | NT | NA |
| 82 | New Gene (Hangzhou) Bioengineering COVID-19 Antigen Detection Kit | 2 | Feb 2021 | NT | NT | NT | Saliva | 200 | Specificity failure | NT | NT | NT | NT | NA | NT | NA | NT | NT | NA |
| 83 | Wenzhou OJA Biotechnology Company OJABIO SARS-CoV-2 Antigen Detection Kit (Colloidal Gold Method) | 2 | Feb 2021 | NT | NT | NT | Saliva | 200 | Specificity failure | NT | NT | NT | NT | NA | NT | NA | NT | NT | NA |
| 84 | Surescreen SARS-CoV-2 Antigen Rapid Test Cassette | 3 | Feb 2021 | Frozen lab grown panel | Synthetic mucus | 200 | Saliva | 200 | Passed | JAN 21 | 100 | 99·63-100·0 | 56·9 | 47·1-65·2 | 90·3 | 85·9-94·7 | 85·5 | 83·2-87·2 | Passed |
| 85 | Mologic Ltd COVID 19 RAPID ANTIGEN TEST | 4 | Feb 2021 | Frozen lab grown panel | Synthetic mucus | 200 | Saliva | 200 | Kit failures | NT | NT | NT | NT | NA | NT | NA | NT | NT | NA |
| 86 | Multibrands Trading (Suzhou) Co Ltd Panodyne SARS-CoV-2 Antigen Nasal Swab Antigen Test Kit  | 1 | Feb 2021 | Frozen lab grown panel | Synthetic mucus | 200 | Saliva | 200 | Sensitivity failure | NT | NT | NT | NT | NA | NT | NA | NT | NT | NA |
| 87 | Jiangsu Medomics Medical Technology Co Ltd SARS-CoV-2 antigen Test Kit (LFIA) | 1 | Feb 2021 | Frozen lab grown panel and repeated with Irradiated virus | Synthetic mucus | 200 | Saliva | 200 | Passed | APR 21 | 100 | 99·63-100·0 | 21·1 | 12·9-28·6 | 88·8 | 82·1-94·6 | 87·8 | 78·5-82·7 | Sensitivity failure |
| 88 | Anuhi Formaster Biosci Co Ltd HygienePRO New Coronavirus (COVID-19) Antigen Rapid Test (swab) | 1 | Feb 2021 | NT | NT | NT | Saliva | 200 | Specificity failure | NT | NT | NT | NT | NA | NT | NA | NT | NT | NA |
| 89 | SG Diagnostics COVID-19 Antigen Rapid Test Kit Colloidal Gold Based | 1 | Feb 2021 | Frozen lab grown panel and repeated with Irradiated virus | Synthetic mucus | 200 | Saliva | 200 | Passed | APR 21 | 100 | 99·63-100·0 | 4·6 | 0·6-10·3 | 98·8 | 96·4-99·9 | 81·7 | 80·5-82·9 | Sensitivity failure |
| 90 | Wuhan EasyDiagnosis COVID-19 (SARS-CoV-2) Antigen Test Kit | 1 | Feb 2021 | Frozen lab grown panel and repeated with Irradiated virus | Synthetic mucus | 200 | Saliva | 200 | Passed | APR 21 | 100 | 99·63-100·0 | 55·0 | 45·5-63·7 | 94·8 | 91·0-98·1 | 86·0 | 84·4-87·4 | Variant sensitivity failure (BA.2) |
| 91 | Edinburgh Genetics Limited ActivXpress+ COVID-19 Antigen Complete Testing Kit  | 1 | Feb 2021 | NT | NT | NT | Saliva | 200 | Specificity failure | NT | NT | NT | NT | NA | NT | NA | NT | NT | NA |
| 92 | Nanjing Liming Bio-Products Co Ltd StrongStep System Device for SARS-CoV-2 Antigen Rapid Test | 3 | Feb 2021 | Frozen lab grown panel | Synthetic mucus | 200 | Saliva | 200 | Kit failures | NT | NT | NT | NT | NA | NT | NA | NT | NT | NA |
| 93 | Jiangsu Konsung Bio-Medical Science and Technology Co Ltd COVID-19 Antigen Rapid Test Kit (Colloidal Gold) | 1 | Feb 2021 | NT | NT | NT | Saliva | 200 | Specificity failure | NT | NT | NT | NT | NA | NT | NA | NT | NT | NA |
| 94 | VivaChek Biotech (Hangzhou) Co Ltd VivaDiag Pro SARS-CoV-2 Ag Rapid Test  | 2 | Feb 2021 | Frozen lab grown panel and repeated with Irradiated virus | Synthetic mucus | 200 | Saliva | 200 | Passed | APR 21 | 100 | 99·63-100·0 | 23·5 | 12·2-32·5 | 98·5 | 94·7-99·9 | 83·9 | 82·5-85·0 | Sensitivity failure |
| 95 | SD Biosensor SARS-CoV-2 Rapid Antigen Test Nasal  | 4 | Mar 2021 | Frozen lab grown panel | Synthetic mucus | 200 | Saliva | 200 | Passed | JAN 21 | 100 | 99·61-100·0 | 29·30 | 19·4-37·6 | 71·80 | 63·7-79·1 | 76·7 | 73·6-79·5 | Sensitivity failure |
| 96 | TaiDoc Technology Corporation VTRUST COVID-19 Antigen Rapid Test Model: TD-4531 | 1 | Mar 2021 | NT | NT | NT | Saliva | 200 | Specificity failure | NT | NT | NT | NT | NA | NT | NA | NT | NT | NA |
| 97 | Mologic Ltd COVID 19 RAPID ANTIGEN TEST  | 5 | Mar 2021 | Frozen lab grown panel | Synthetic mucus | 200 | Saliva | 200 | Kit failures & sensitivity failure | NT | NT | NT | NT | NA | NT | NA | NT | NT | NA |
| 98 | Beijing Tigsun Diagnostics Co Ltd Tigsun COVID-19 Antigen Rapid Test | 1 | Mar 2021 | NT | NT | NT | Saliva | 200 | Specificity failure | NT | NT | NT | NT | NA | NT | NA | NT | NT | NA |
| 99 | Intelligent Fingerprinting SARS-CoV-2 Virus Screening Strip (VSS-GP) | 1 | Mar 2021 | Frozen lab grown panel | Synthetic mucus | 200 | Saliva | 200 | Sensitivity failure | NT | NT | NT | NT | NA | NT | NA | NT | NT | NA |
| 100 | GenSure Biotech Inc COVID-19 Antigen Rapid Test Kit  | 1 | Mar 2021 | Frozen lab grown panel and repeated with Irradiated virus | Synthetic mucus | 200 | Saliva | 200 | Passed | APR 21 | 100 | 99·63-100·0 | 82·7 | 76·7-89·6 | 98·4 | 96·7-99·5 | 90·1 | 89·6-92·1 | Passed |
| 101 | Shenzhen YHLO Biotech Co Ltd GLINE-2019-nCoV Ag | 1 | Mar 2021 | Frozen lab grown panel and repeated with Irradiated virus | Synthetic mucus | 200 | Saliva | 200 | Passed | APR 21 | 100 | 99·63-100·0 | 83·5 | 76·6-91·2 | 98·7 | 96·9-99·8 | 90·9 | 89·7-92·0 | Passed |
| 102 | Biocan Diagnostics Inc Tell Me Fast COVID-19 Antigen Test  | 1 | Mar 2021 | Frozen lab grown panel and repeated with Irradiated virus | Synthetic mucus | 200 | Saliva | 200 | Passed | APR 21 | 100 | 99·63-100·0 | 33·6 | 25·6-40·6 | 81·9 | 73·1-90·7 | 80·2 | 77·0-83·0 | Sensitivity failure |
| 103 | Shenzen Huian Biosci Technology Co Ltd SARS-CoV-2 Antigen Test Kit (Colloidal Gold) | 1 | Mar 2021 | NT | NT | NT | Saliva | 200 | Specificity failure | NT | NT | NT | NT | NA | NT | NA | NT | NT | NA |
| 104 | Beijing Kewei Clinical Diagnostic Reagent Inc COVID-19 Antigen Rapid Test Kit | 1 | Mar 2021 | Frozen lab grown panel and repeated with Irradiated virus | Synthetic mucus | 200 | Saliva | 200 | Passed | APR 21 | 100 | 99·63-100·0 | 54·1 | 44·7-63·4 | 95·5 | 91·6-98·6 | 86·1 | 84·6-87·7 | Passed |
| 105 | Biolidics Limited ClearEpi SARS-CoV-2 Antigen Rapid Test  | 1 | Mar 2021 | Frozen lab grown panel and repeated with Irradiated virus | Synthetic mucus | 200 | Saliva | 200 | Sensitivity failure | NT | NT | NT | NT | NA | NT | NA | NT | NT | NA |
| 106 | Mologic Ltd COVID 19 RAPID ANTIGEN TEST | 6 | Mar 2021 | NT | NT | NT | Saliva | 200 | Specificity failure | NT | NT | NT | NT | NA | NT | NA | NT | NT | NA |
| 107 | Humasis Co Ltd COVID-19 Ag Test | 2 | Mar 2021 | Frozen lab grown panel and repeated with Irradiated virus | Synthetic mucus | 200 | Saliva | 200 | Passed | APR 21 | 99·9 | 99·63-100·0 | 87·3 | 82·1-92·4 | 97·4 | 95·0-99·0 | 93·0 | 91·5-94·3 | Passed |
| 108 | Hangzhou Laihe Biotech Co Ltd LYHER Novel Coronavirus (COVID-19) Antigen Test Kit (Colloidal Gold) | 1 | Mar 2021 | Frozen lab grown panel and repeated with Irradiated virus | Synthetic mucus | 200 | Saliva | 200 | Passed | APR 21 | 100 | 99·63-100·0 | 89·9 | 84·7-95·2 | 99·5 | 98·6-99·9 | 92·1 | 91·2-93·1 | Passed |
| 109 | Arista Biotech Pte Ltd ARISTA COVID-19 Antigen Rapid Test | 1 | Mar 2021 | Irradiated virus | Synthetic mucus | 200 | Saliva | 200 | Passed | APR 21 | 100 | 99·63-100·0 | 86·8 | 81·3-91·8 | 96·4 | 93·0-98·7 | 93·1 | 91·5-94·6 | Passed |
| 110 | Goldsite Diagnostics Inc SARS-CoV-2 Antigen Kit (Colloidal Gold) | 1 | Mar 2021 | Irradiated virus | Synthetic mucus | 200 | Saliva | 200 | Passed | APR 21 | 100 | 99·63-100·0 | 74·1 | 66·5-82·5 | 96·8 | 93·7-98·9 | 89·2 | 87·7-90·7 | Passed |
| 111 | Hughes Biotech Limited Hughes Veritas SARS-CoV-2 Rapid Antigen Test | 1 | Mar 2021 | Irradiated virus | Synthetic mucus | 200 | Saliva | 200 | Passed | APR 21 | 100 | 99·63-100·0 | 52·6 | 37·6-65·9 | 99·8 | 99·4-100·0 | 86·7 | 85·9-87·8 | Passed |
| 112 | Beijing Beier Bioengineering Co Ltd MediPort COVID-19 Antigen Rapid Test Kit  | 2 | Mar 2021 | Irradiated virus | Synthetic mucus | 200 | Saliva | 200 | Passed | APR 21 | 100 | 99·63-100·0 | 86·5 | 80·2-92·3 | 99·0 | 97·4-99·7 | 92·0 | 0·90-0·93 | Passed |
| 113 | Avacta AffiDX SARS-CoV-2 lateral flow antigen test | 2 | Mar 2021 | Irradiated virus | Synthetic mucus | 200 | Saliva | 200 | Specificity & sensitivity failure | NT | NT | NT | NT | NA | NT | NA | NT | NT | NA |
| 114 | Safecare Biotech (Hangzhou) Co Ltd SAFECARE One Step Rapid Test COVID-19 Antigen Rapid Test Kit (swab) | 1 | Mar 2021 | Irradiated virus | Synthetic mucus | 200 | Saliva | 200 | Sensitivity failure | NT | NT | NT | NT | NA | NT | NA | NT | NT | NA |
| 115 | Shenzen Diasia Biomedical Technology Co Ltd SARS-CoV-2 Antigen Rapid Test Kit | 1 | Mar 2021 | NT | NT | NT | Saliva | 200 | Specificity failure | NT | NT | NT | NT | NA | NT | NA | NT | NT | NA |
| 116 | Xiamen Bosun Biotech Co Ltd Rapid SARS-CoV-2 Antigen Test Card | 1 | Mar 2021 | NT | NT | NT | Saliva | 200 | Kit failures | NT | NT | NT | NT | NA | NT | NA | NT | NT | NA |
| 117 | Joinstar Biomedical Technology Co Ltd COVID-19 Antigen Rapid Test (Colloidal Gold) | 3 | Mar 2021 | Irradiated virus | Synthetic mucus | 200 | Saliva | 200 | Passed | NT | 99·7 | NT | NT | NA | NT | NA | NT | NT | Kit failures |
| 118 | BGI PathoGenesis Pharmaceutical Technology Co Ltd SARS-CoV-2 Virus Antigen Detection Kit (colloidal gold method) | 1 | Mar 2021 | NT | NT | NT | Saliva | 200 | Specificity failure | NT | NT | NT | NT | NA | NT | NA | NT | NT | NA |
| 119 | Hangzhou Genesis Biodetection & Biocontrols Co Ltd KaiBiLi COVID-19 Antigen Rapid Test Device | 1 | Mar 2021 | NT | NT | NT | Saliva | 200 | Specificity failure | NT | NT | NT | NT | NA | NT | NA | NT | NT | NA |
| 120 | Guangzhou Wondfo Biotech Co Ltd Wondfo 2019-nCoV Antigen Test (Lateral Flow Method) | 2 | Mar 2021 | Irradiated virus | Synthetic mucus | 200 | Saliva | 200 | Passed | APR 21 | 100 | 99·63-100·0 | 60·4 | 50·5-70·4 | 98·0 | 95·5-99·6 | 87·2 | 86·0-88·3 | Passed |
| 121 | ECAM FastTEST SARS-CoV-2 Antigen Lateral Flow Diagnostic Anterior Nares device for self test | 1 | Apr 2021 | Irradiated virus | Synthetic mucus | 200 | Saliva | 200 | Kit failures | NT | NT | NT | NT | NA | NT | NA | NT | NT | NA |
| 122 | Beijing Lepu Medical Technology Company Co Ltd 2019-nCoV Antigen Rapid Test Kit (Colloidal Gold Immunochromotography) | 2 | Apr 2021 | Irradiated virus | Synthetic mucus | 200 | Saliva | 200 | Sensitivity failure | NT | NT | NT | NT | NA | NT | NA | NT | NT | NA |
| 123 | Roche SARS-CoV-2 Rapid Antigen Test Nasal / Self Test Nasal | 5 | Apr 2021 | Irradiated virus | Synthetic mucus | 200 | Nasal swab in HBSS | 100 | Passed | APR 21 | 100 | 99·63-100·0 | 77·30 | 69·1-86·1 | 98·00 | 95·7-99·5 | 89·8 | 88·4-91·0 | Passed |
| 124 | Mologic SARS-COV-2 Ag Home | 7 | Apr 2021 | Irradiated virus | Synthetic mucus | 200 | Saliva | NA | Sensitivity failure | NT | NT | NT | NT | NA | NT | NA | NT | NT | NA |
| 125 | Biopanda Reagents Ltd COVID-19 Rapid Antigen Test | 1 | Apr 2021 | Irradiated virus | Synthetic mucus | 200 | Nasal swab in HBSS | 100 | Passed | APR 21 | 100 | 99·63-100·0 | 95·4 | 92·7-97·8 | 99·4 | 98·8-99·8 | 95·3 | 94·5-96·1 | Passed |
| 126 | Hangzhou Clongene Biotech Co Ltd COVID-19 Antigen Rapid Test Cassette (Nasal Swab) Clungene | 1 | Apr 2021 | Irradiated virus | Synthetic mucus | 200 | Nasal swab in HBSS | 100 | Passed | APR 21 | 100 | 99·63-100·0 | 91·4 | 85·9-96·5 | 98·9 | 96·7-99·8 | 93·8 | 92·6-94·9 | Passed |
| 127 | ECOTEST Assure Tech (Hangzhou) Co Ltd MATRIX DIAGNOSTICS COVID-19 Antigen Rapid Test (Nasal Swab) | 1 | Apr 2021 | Irradiated virus | HBSS | 100 | Nasal swab in HBSS | 100 | Passed | APR 21 | 100 | 99·63-100·0 | 96·3 | 93·4-99·0 | 99·9 | 99·7-100·0 | 93·1 |  92·5-93·8 | Passed |
| 128 | Jiangsu Konsung Bio-Medical Science and Technology Co Ltd COVID-19 Antigen Rapid Test Kit (Colloidal Gold)  | 2 | Apr 2021 | Irradiated virus | HBSS | 100 | Nasal swab in HBSS | 100 | Passed | APR 21 | 100 | 99·63-100·0 | 83·2 | 77·3-89·2 | 97·5 | 95·3-99·1 | 91·5 | 90·1-92·7 | Passed |
| 129 | SureScreen Diagnostic Limited COVID-19 Antigen Rapid Test Cassette (Nasal Swab) | 4 | Apr 2021 | Irradiated virus | HBSS | 100 | Nasal swab in HBSS | 100 | Passed | NT | NT | NT | NT | NA | NT | NA | NT | NT | NA |
| 130 | SLS Bio Co Ltd SsmarTest COVID-19 Ag Detection Kit | 1 | Apr 2021 | Irradiated virus | HBSS | 100 | Saliva | 200 | Sensitivity failure | NT | NT | NT | NT | NA | NT | NA | NT | NT | NA |
| 131 | Vatic KnowNow SARS-CoV-2 Rapid Antigen Test VH1 015/A | 1 | Apr 2021 | Irradiated virus | HBSS | 100 | Nasal swab in HBSS | 100 | Sensitivity failure | NT | NT | NT | NT | NA | NT | NA | NT | NT | NA |
| 132 | Dynamiker Biotechnology (Tianjin) Co Ltd DenScreen SARSCoV2 Rapid Antigen Test Non-Invasive Nostril Swab | 1 | Apr 2021 | Irradiated virus | HBSS | 100 | Nasal swab in HBSS | 100 | Passed | APR 21 | 99·5 | 98·90-99·98 | 62·1 | 55·1-69·8 | 92·3 | 87·7-96·7 | 86·7 | 84·7-88·5 | Passed |
| 133 | Rapigen Inc BIOCREDIT COVID-19 Ag Test Nasal | 3 | Apr 2021 | Irradiated virus | HBSS | 100 | Nasal swab in HBSS | 100 | Passed | APR 21 | 100 | 99·63-100·0 | 38·4 | 27·4-47·7 | 93·5 | 88·2-97·8 | 83·8 | 82·3-85·3 | Sensitivity failure |
| 134 | Surge Medical Inc COVID-19 Antigen Test Kit | 1 | Apr 2021 | Irradiated virus | HBSS | 100 | Nasal swab in HBSS | 100 | Passed | APR 21 | 100 | 99·63-100·0 | 93·4 | 88·9-97·4 | 99·7 | 99·1-100·0 | 93·1 | 92·2-94·0 | Passed |
| 135 | Nanjing Liming Bio-products Co Ltd StrongStep System Device for SARS-CoV-2 Antigen Rapid Test | 4 | Apr 2021 | NT | NT | NT | Nasal swab in HBSS | 100 | Specificity failure | NT | NT | NT | NT | NA | NT | NA | NT | NT | NA |
| 136 | Inzek International Trading BV BIOZEK Covid-19 Antigen Rapid Test Cassette (Swab) | 1 | May 2021 | Irradiated virus | HBSS | 100 | Nasal swab in HBSS | 100 | Passed | APR 21 | 100 | 99·63-100·0 | 91·4 | 85·0-96·8 | 99·0 | 96·9-99·9 | 93·4 | 92·2-94·6 | Passed |
| 137 | Core Technology Co Ltd Coretests COVID-19 Ag Test | 1 | May 2021 | Irradiated virus | HBSS | 100 | Nasal swab in HBSS | 100 | Passed | JUL 21 | 100 | 99·63-100·0 | 41·7 | 31·3-51·6 | 93·7 | 89·4-97·4 | 84·2 | 82·5-86·0 | Variant sensitivity failure (BA.2) |
| 138 | Hangzhou Singclean Medical Products Co Ltd COVID-19 Test Kit (Colloidal Gold Method) | 1 | May 2021 | Irradiated virus | HBSS | 100 | Nasal swab in HBSS | 100 | Passed | NT | NT | NT | NT | NA | NT | NA | NT | NT | Variant sensitivity failure (Alpha, Gamma) |
| 139 | CTK Biotech Inc *Aria* COVID-19 Ag Rapid Test | 1 | May 2021 | Irradiated virus | HBSS | 100 | Nasal swab in HBSS | 100 | Passed | NT | NT | NT | NT | NA | NT | NA | NT | NT | Variant sensitivity failure (Gamma) |
| 140 | PerkinElmer COVID-19 Antigen Test | 1 | May 2021 | Irradiated virus | HBSS | 100 | Nasal swab in HBSS | 100 | Specificity failure | NT | 27·1 | 18·50-37·10 | NT | NA | NT | NA | NT | NT | NA |
| 141 | BIOSYNEX COVID-19 Ag+ BSS | 3 | May 2021 | Irradiated virus | HBSS | 100 | Nasal swab in HBSS | 100 | Passed | APR 21 | 100 | 99·63-100·0 | 69·0 | 57·5-79·6 | 99·7 | 98·9-100·0 | 88·0 | 87·1-88·8 | Passed |
| 142 | EMMO PHARMA SARS-CoV-2 Antigen Rapid Test Device Encode | 2 | May 2021 | Irradiated virus | HBSS | 100 | Nasal swab in HBSS | 100 | Passed | JUL 21 | 100 | 99·63-100·0 | 95·2 | 91·3-98·5 | 99·7 | 99·0-100·0 | 93·1 | 92·1-94·1 | Passed |
| 143 | Beijing Tigsun Diagnostics Co Ltd Tigsun COVID-19 Antigen Rapid Test | 2 | May 2021 | Irradiated virus | HBSS | 100 | Nasal swab in HBSS | 100 | Passed | JUL 21 | 100 | 99·63-100·0 | 66·6 | 57·1-75·4 | 96·9 | 94·2-98·9 | 82·7 | 84·7-87·8 | Passed |
| 144 | Omega Diagnostics Ltd VISITECT COVID-19 Antigen Self-Test  | 1 | Jun 2021 | Irradiated virus | HBSS | 100 | Fresh nasal swab | 100 | Kit failures | NT | NT | NT | NT | NA | NT | NA | NT | NT | NA |
| 145 | Xiamen Bosun Biotech Co Ltd Rapid SARS-CoV-2 Antigen Test Card | 2 | Jun 2021 | Irradiated virus | HBSS | 100 | Nasal swab in HBSS | 100 | Passed | APR 21 | 100 | 99·63-100·0 | 93·1 | 89·0-97·2 | 99·6 | 99·1-99·9 | 93·1 | 92·1-93·9 | Passed |
| 146 | Omega Diagnostics Ltd VISITECT COVID-19 Antigen Self-Test | 2 | Aug 2021 | Irradiated virus | HBSS | 100 | Fresh nasal swab | 100 | Kit failures | NT | NT | NT | NT | NA | NT | NA | NT | NT | NA |
| 147 | Amazing Biotech (Shanghai) Co Ltd Birmingham Biotech BMH COVID-19 Antigen Sealing Tube Test Strip | 2 | Aug 2021 | Irradiated virus | HBSS | 100 | Nasal swab in HBSS | 100 | Passed | JUL 21 | 100 | 99·63-100·0 | 94·3 | 89·6-98·3 | 99·6 | 98·5-100·0 | 93·9 | 93·0-94·8 | Passed |
| 148 | Multibrands Trading (Suzhou) Co Ltd Panodyne SARS-CoV-2 Antigen Rapid Qualitative Test | 2 | Aug 2021 | Irradiated virus | HBSS | 100 | Nasal swab in HBSS | 100 | Passed | JULY 21 | 100 | 99·63-100·0 | 97·0 | 93·3-99·5 | 99·9 | 99·3-100·0 | 94·7 | 93·8-95·4 | Passed |
| 149 | Shenzen Huian Biosci Technology Co Ltd SARS-CoV-2 Antigen Test Kit | 2 | Aug 2021 | Irradiated virus | HBSS | 100 | Nasal swab in HBSS | 100 | Passed | JUL 21 | 100 | 99·62-100·0 | 75·7 | 66·1-84·7 | 98·4 | 96·3-99·6 | 89·2 | 89·0-89·5 | Passed |
| 150 | Monocent Inc SARS-Cov-2-Antigen Rapid Test System | 1 | Aug 2021 | Irradiated virus | HBSS | 100 | Nasal swab in HBSS | 100 | Passed | JUL 21 | 100 | 99·63-100·0 | 21·0 | 11·5-29·9 | 90·2 | 84·8-95·6 | 81·0 | 80·6-81·7 | Sensitivity failure |
| 151 | JOYSBIO (Tianjin) Biotechnology Co Ltd SARS-CoV-2 Antigen Rapid Test Kit | 2 | Aug 2021 | Irradiated virus | HBSS | 100 | Nasal swab in HBSS | 100 | Passed | JUL 21 | 100 | 99·44-100·0 | 63·4 | 53·2-74·1 | 98·6 | 96·8-99·7 | 87·6 | 86·3-88·8 | Passed |
| 152 | Shenzhen Kisshealth Biotechnology Co Ltd SARS-Cov-2-Antigen Test Kit | 1 | Aug 2021 | Irradiated virus | HBSS | 100 | Nasal swab in HBSS | 100 | Passed | JUL 21 | 100 | 99·44-100·0 | 86·6 | 78·6-94·2 | 99·4 | 98·0-99·9 | 91·1 | 90·0-92·2 | Passed |
| 153 | möLab GmbH Mö-screen Corona Antigen Test | 1 | Aug 2021 | Irradiated virus | HBSS | 100 | Nasal swab in HBSS | 100 | Passed | JUL 21 | 100 | 99·44-100·0 | 89·4 | 82·7-95·3 | 99·7 | 99·0-99·9 | 91·8 | 91·6-92·0 | Passed |
| 154 | ACRO SARS-CoV-2 Antigen Rapid Test | 1 | Sep 2021 | Irradiated virus | HBSS | 100 | Nasal swab in HBSS | 100 | Passed | NT | 94·2 | 92·60-95·60 | NT | NA | NT | NA | NT | NT | Specificity failure |
| 155 | Anuhi Formaster Biosci Co Ltd HygienePRO New Coronavirus (COVID-19) Antigen Rapid Test | 2 | Sep 2021 | Irradiated virus | HBSS | 100 | Nasal swab in HBSS | 100 | Passed | JUL 21 | 100 | 99·63-100·0 | 51·5 | 41·7-61·0 | 94·8 | 91·2-98·0 | 86·2 | 85·1-87·6 | Passed |
| 156 | Guangdong Wesail Biotech Co. Ltd COVID-19 Ag Test kit | 1 | Sep 2021 | Irradiated virus | HBSS | 100 | Nasal swab in HBSS | 100 | Passed | NT | NT | NT | NT | NA | NT | NA | NT | NT | Variant sensitivity failure (Alpha, Gamma) |
| 157 | Nadal COVID-19 Ag Test  | 2 | Sep 2021 | Irradiated virus | HBSS | 100 | Nasal swab in HBSS | 100 | Passed | JUL 21 | 100 | 99·63-100·0 | 59·9 | 50·7-70·1 | 96·8 | 92·8-99·4 | 87·0 | 85·3-88·4 | Passed |
| 158 | ECAM FastTEST SARS-CoV-2 Antigen Lateral Flow Diagnostic Anterior Nares device for self test | 2 | Sep 2021 | Irradiated virus | HBSS | 100 | Nasal swab in HBSS | 100 | Passed | NT | NT | NT | NT | NA | NT | NA | NT | NT | Kit failures |
| 159 | ECOTEST Assure Tech (Hangzhou) Co Ltd COVID-19 Antigen Nasal Test Kit | 2 | Oct 2021 | Irradiated virus | HBSS | 100 | Nasal swab in HBSS | 100 | Passed | JUL 21 | 100 | 99·63-100·0 | 96·4 | 92·6-99·2 | 99·9 | 99·6-100·0 | 93·3 | 92·5-94·1 | Passed |
| 160 | Beijing Hotgen Biotech Co Ltd Novel Coronavirus 2019-nCoV Antigen Test  | 2 | Oct 2021 | Irradiated virus | HBSS | 100 | Nasal swab in HBSS | 100 | Passed | JUL 21 | 100 | 99·63-100·0 | 81·6 | 76·1-87·2 | 97·3 | 94·9-99·0 | 91·1 | 89·8-92·3 | Passed |
| 161 | New Gene (Hangzhou) Bioengineering COVID-19 Antigen Detection Kit | 3 | Nov 2021 | Irradiated virus | HBSS | 100 | Nasal swab in HBSS | 100 | Passed | JUL 21 | 100 | 99·63-100·0 | 98·3 | 95·4-99·8 | 100·0 | 99·8-100·0 | 94·2 | 93·5-95·0 | Passed |
| 162 | Türklab Tibbi Malzemeler San TOYO COID-19 Ag Home test | 1 | Nov 2021 | Irradiated virus | HBSS | 100 | Nasal swab in HBSS | 100 | Passed | NT | NT | NT | NT | NA | NT | NA | NT | NT | Acceptance testing failure |
| 163 | Hangzhou Alltest Biotech Co. Ltd SARS-CoV-2 Antigen Rapid Test (Nasal Swab) | 1 | Nov 2021 | Irradiated virus | HBSS | 100 | Nasal swab in HBSS | 100 | Passed | JUL 21 | 100 | 99·63-100·0 | 91·9 | 85·7-97·3 | 99·9 | 99·4-100·0 | 91·6 | 90·6-92·6 | Passed |
| 164 | Wantai SARS-CoV-2 Ag Rapid Test Collodial Gold | 1 | Nov 2021 | Irradiated virus | HBSS | 100 | Nasal swab in HBSS | 100 | Passed | JUL 21 | 100 | 99·63-100·0 | 61·0 | 50·9-71·7 | 97·9 | 94·8-99·6 | 87·2 | 85·6-88·5 | Passed |
| 165 | Omega Diagnostics Ltd VISITECT COVID-19 Antigen Self-Test | 3 | Nov 2021 | Irradiated virus | HBSS | 100 | Nasal swab in HBSS | 100 | Kit failures | NT | NT | NT | NT | NA | NT | NA | NT | NT | NA |
| 166 | Anbio RAPID COVID-19 Antigen test colloidal Gold | 1 | Feb 2022 | Irradiated virus | HBSS | 100 | Nasal swab in HBSS | 100 | Passed | APR 21 | 100 | 99·63-100·0 | 81·3 | 74·6-88·8 | 98·4 | 96·7-99·5 | 90·5 | 89·2-91·7 | Passed |
| 167 | Verino SARS-CoV-2 Ag Rapid Test | 1 | Feb 2022 | Irradiated virus | HBSS | 100 | Nasal swab in HBSS | 100 | Passed | JAN 23 | 100 | 99·63-100·0 | 91·1 | 87·1-95·0 | 98·8 | 97·5-99·7 | 93·6 | 92·6-94·6 | Passed |
| 168 | ACRO SARS-CoV-2 Antigen Rapid Test | 2 | Feb 2022 | Irradiated virus | HBSS | 100 | Nasal swab in HBSS | 100 | Passed | JAN 23 | 100 | 99·63-100·0 | 95·7 | 93·0-98·2 | 99·6 | 99·0-99·9 | 94·9 | 94·1-95·7 | Passed |
| 169 | COVIDFIND COVID-19 Antigen Self Test | 1 | Feb 2022 | Irradiated virus | HBSS | 100 | Nasal swab in HBSS | 100 | Passed | JUL 21 | 100 | 99·63-100·0 | 16·8 | 7·7-25·8 | 89·2 | 83·4-94·6 | 80·4 | 78·5-82·3 | Sensitivity failure |
| 170 | Intelligent Fingerprinting Anterior Nares Test for the Rapid Detection of SARS-CoV-2 Antigen (VSS-GP-AN) | 3 | Mar 2022 | Irradiated virus | HBSS | 100 | Nasal swab in HBSS | 100 | Passed | NT | NT | NT | NT | NA | NT | NA | NT | NT | Variant sensitivity failure (Alpha, Beta, Gamma, Delta) |
| 171 | Fluorecare SARS-Cov-2 Antigen Test Kit | 1 | Apr 2022 | Irradiated virus | HBSS | 100 | Nasal swab in HBSS | 100 | Passed | JAN 23 | 100 | 99·63-100·0 | 91·9 | 87·9-96·0 | 98·7 | 97·1-99·7 | 94·3 | 93·2-95·3 | Passed |
| 172 | Genrui SARS-CoV-2 Antigen Test Kit Colloidal Gold | 1 | Jun 2022 | Irradiated virus | HBSS | 100 | Nasal swab in HBSS | 100 | Passed | JAN 23 | 100 | 99·63-100·0 | 93·4 | 90·2-96·7 | 99·3 | 98·4-99·8 | 94·2 | 89·6-92·1 | Passed |
| 173 | MyLab Discovery Colutions CoviSelf COVID-19 Antigen Lateral Flow Test Device OTC Home Test | 1 | Jul 2022 | Irradiated virus | HBSS | 100 | Nasal swab in HBSS | 100 | Kit failures | NT | NT | NT | NT | NA | NT | NA | NT | NT | NA |
| 174 | CiTEST Diagnostics Inc SARS-CoV-2 (COVID-19) Antigen Rapid Test | 1 | Aug 2022 | Irradiated virus | HBSS | 100 | Nasal swab in HBSS | 100 | Passed | NT | NT | NT | NT | NA | NT | NA | NT | NT | Acceptance testing failure |
| 175 | Genefinder COVID-19 Ag Self-Test | 1 | Aug 2022 | Irradiated virus | HBSS | 100 | Nasal swab in HBSS | 100 | Passed | JAN 23 | 100 | 99·63-100·0 | 54·4 | 46·7-61·8 | 89·8 | 84·9-94·5 | 85·0 | 83·0-86·7 | Passed |
| 176 | CTK Biotech Inc Onsite Covid-19 Ag Self Test | 2 | Aug 2022 | Irradiated virus | HBSS | 100 | Nasal swab in HBSS | 100 | Passed | JAN 23 | 100 | 99·63-100·0 | 93·8 | 90·5-97·2 | 99·0 | 97·7-99·8 | 95·1 | 94·1-96·0 | Passed |
| 177 | Wuhan EasyDiagnosis COVID-19 (SARS-CoV-2) Antigen Test Kit | 2 | Aug 2022 | Irradiated virus | HBSS | 100 | Nasal swab in HBSS | 100 | Passed | JAN 23 | 100 | 99·63-100·0 | 97·4 | 95·1-99·2 | 99·7 | 99·0-100·0 | 96·5 | 95·7-97·4 | Passed |
| 178 | Surescreen SARS-CoV-2 Antigen Rapid Test Cassette | Tween | Aug 2022 | Irradiated virus | HBSS | 100 | Nasal swab in HBSS | 100 | Passed | JUL 21 | 100 | 99·63-100·0 | 94·6 | 90·6-98·1 | 99·7 | 99·1-100·0 | 93·7 | 92·9-94·5 | Passed |
| 179 | Getein Biotech COVID-19 Self Testing | 2 | Sep 2022 | Irradiated virus | HBSS | 100 | Nasal swab in HBSS | 100 | Passed | APR 21 & JUL 21 | 100 | 99·63-100·0 | 62·4 | 54·3-70·8 | 96·4 | 92·6-99·1 | 87·3 | 85·9-88·5 | Passed |
| 180 | Bioantibody Biotechnology Co Ltd SARS-CoV-2 Antigen Rapid Detection Kit (Latex Chromatography) | 1 | Oct 2022 | Irradiated virus | HBSS | 100 | Nasal swab in HBSS | 100 | Passed | NT | NT | NT | NT | NA | NT | NA | NT | NT | Not delivered |
| 181 | Innova SARS-CoV-2 Antigen Rapid Qualitative Test | Tween | Oct 2022 | Irradiated virus | HBSS | 100 | Nasal swab in HBSS | 100 | Passed | JUL 21 | 100 | 99·63-100·0 | 98·0 | 95·1-99·7 | 99·9 | 99·6-100·0 | 95·0 | 94·3-95·7 | Passed |
| 182 | Synthgene SARS-CoV-2 Nucleocapsid Antigen Rapid detection kit (colloidal gold method) | 1 | Nov 2022 | Irradiated virus | HBSS | 100 | Nasal swab in HBSS | 100 | Passed | JAN 23 | 100 | 99·63-100·0 | 95·2 | 92·2-97·9 | 99·5 | 98·7-99·9 | 94·9 | 94·1-95·8 | Passed |
| 183 | Flowflex SARS-Cov-2 Antigen Rapid Test | Tween | Dec 2022 | Irradiated virus | HBSS | 100 | Nasal swab in HBSS | 100 | Passed | JUL 21 | 100 | 99·63-100·0 | 95·8 | 91·5-98·9 | 100·0 | 99·9-100·0 | 91·8 | 90·9-92·6 | Passed |
| 184 | DeepBlue COVID-19 Antigen test kit Colloidal Gold | 2 | Dec 2022 | Irradiated virus | HBSS | 100 | Nasal swab in HBSS | 100 | Passed | JAN 23 | 100 | 99·63-100·0 | 86·6 | 81·5-91·8 | 97·4 | 95·1-99·1 | 92·7 | 91·2-94·0 | Passed |
| 185 | Orient Gene Rapid Covid-19 (Antigen) Self Test | Tween | Dec 2022 | Irradiated virus | HBSS | 100 | Nasal swab in HBSS | 100 | Passed | JUL 21 | 100 | 99·63-100·0 | 98·7 | 96·6-99·8 | 100·0 | 99·8-100·0 | 95·3 | 94·5-95·9 | Passed |

# Supplementary Figure 1. Relationship of viral concentration with intensity of LFD bands from phase 3 sensitivity testing LFD band intensity values compared to viral concentration.

Individual graph title number = kit reference listed in Supplementary Table 1, x-axis 0 to 7 = LFD band intensity values (negative to very strong), y-axis = viral concentration (log RNA copies/ml), dashed line represents phase 2 sensitivity pass cut-off. Higher band values with lower viral concentration indicate more sensitive tests. Box plot shows the median, IQR, the whiskers are 1.5\*IQR and the outliers are outside the 1.5\*IQR range.

