|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Author | Sample size | Country | Study design | Diagnostic method | Key findings | Sens | Spec |
| Chen et al 2024 | 1000 | China | DA | AI Microscopy | TB screening | 91.94 | 97.97 |
| John et al 2023 | 5297 | Nigeria | DA | AI CXR | TB screening | 89.4 | 62.8 |
| Moore et al 2023 | 100 | South Africa | DA | CAPTURE-XT | TB diagnosis | 87 | 100 |
| De vos et al 2021 | 1698 | South Africa | DA | Cobas MTB | TB diagnosis | 92 | 100 |
| Liu et al 2023 | 1492 | China | DA | Melt pro TB | TB diagnosis | 69 | 97.1 |
| Sossen et al 2024 | 1731 | Malawi | DA | Urine Xpert Ultra | TB diagnosis | 32.7 | 98 |
| Koo and yoon et al 2024 | 114 | Korea | DA | BD MAX MDR TB | PTB diagnosis | 79.4 | 88.8 |
| Shi et al 2021 | 5946 | China | DA | Genechip | TB Diagnosis | 70 | 99 |
| Huerga et al 2023 | 1575 | Uganda | DA | FujiLAM | POC | 60 | 87 |
| Phunphae et al 2024 | 129 | Thailand | DA | IC strip | TB diagnosis | 93.9 | 93 |
| Song et al 2021 | 103 | China | DA | TB LAMP | TB diagnosis | 82.6 | 94.5 |
| Muyoyeta et al 2021 | 151 | Zambia | DA | FujiLAM | TB detection | 77 | 92 |
| Dippenaar et al 2021 | 610 | South Africa | DA | FlouroType MTB | TB diagnostic | 91.6 | 93.8 |
| Li et al 2022 | 108 | China | DA | MALDI-TOF | TB diagnosis | 72.7 | 100 |
| Broger et al 2020 | 372 | Peru | DA | FujiLAM | TB diagnosis | 53.2 | 98.9 |
| Abdulgader et al 2024 | 498 | South Africa | DA | Truenaat MTB | TB diagnosis | 84 | 95 |
| Gao et al 2024 | 150 | China | DA | NGS | TB diagnosis | 88.1 | 94.1 |
| Sawatpanich et al 2022 | 6520 | Thailand | DA | Anyplex MTB | TB diagnosis | 79.7 | 94.5 |
| Fu et al 2022 | 5390 | Taiwan | RS | AI Microscopy | TB screening | 85.7 | 96.9 |
| Yuan et al 2024 | 2620 | China | CS | SIRI/CMI | MDR screening | 86.1 | 82.1 |
| Kagujje et al 2023 | 784 | Zambia | CS | CRP | TB screening | 86.4 | 34.8 |
| Ule Belotti et al 2022 | 1575 | Brazil | CS | GeneXpert | TB diagnosis | 94.55 | 95.97 |
| Coronel Texeira et al 2021 | 160 | Paraguay | CS | Electronic nose | TB screening | N/A | N/A |
| Garba et al 2023 | 1454 | Nigeria | RS | GeneXpert | TB diagnostic | N/A | N/A |
| Liu et al 2024 | 273 | China | CS | NanoTNGS | TB diagnosis | N/A | N/A |

Quality assessment using QUADAS-2

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Study | Risk of bias | | | | Applicability concern | | |
| Patient selection | Index test | Reference standard | Flow and timing | Patient selection | Index test | Reference standard |
| Chen et al 2024 | Low | Low | Low | Unclear | Low | Low | Low |
| John et al 2023 | Low | Unclear | Low | Low | Low | Low | Low |
| Moore et al 2023 | Low | Low | Low | Low | Low | Low | Unclear |
| De vos et al 2024 | Low | Low | Low | Unclear | Low | Low | Unclear |
| Liu et al 2023 | Low | Low | Low | Low | Low | Low | Low |
| Sossen et al 2024 | Low | Low | Low | Unclear | Low | Low | Unclear |
| Koo and Yoon 2024 | Low | Low | Unclear | Low | Low | Low | Low |
| Shi et al 2024 | Low | Low | Low | Unclear | Low | Low | Unclear |
| Huerga et al 2022 | Low | Low | Low | Low | Unclear | Low | Low |
| Phunphae et al 2024 | Unclear | Low | Low | Low | Unclear | Low | Unclear |
| Song et al 2021 | Low | Low | Low | Low | Low | Low | Low |
| Muyoyeta et al 2021 | Low | Low | Low | Low | Low | Low | Unclear |
| Dippenaar et al 2021 | High | Low | Unclear | Low | Unclear | Low | Low |
| Li et al 2022 | Low | low | High | Low | Low | Low | Unclear |
| Broger et al 2020 | Low | Low | Low | Unclear | Low | Low | Low |
| Abdulqader et al 2024 | Low | Low | Low | Unclear | Low | Low | Unclear |
| Gao et al 2024 | Low | Low | Low | Low | Low | Low | Low |
| Sawatpanich et al 2022 | Low | Low | Low | Low | Low | Low | Unclear |

Quality assessment using STROBE

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Studies | Title and Abstract | Backgrounds | Objectives | Study Design | Setting | Participants | Variables | Data measurement | Bias | Study size | Quantitative variables | Statistical methods | Results (Participants) | Descriptive data | Outcome data | Main results | Other analyses | Key results | Limitations | Interpretation | Generalizability | Funding | Overall score |
| Coronel Texeira et al 2021 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 0 | 70 |
| Fu et al 2022 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 1 | 1 | 75 |
| Yuan et al 2024 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 82 |
| Kagujje et al 2023 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 91 |
| Garba et al 2023 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 91 |
| Ule belotte et al 2022 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 0 | 1 | 86 |
| Liu et al 2024 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 95 |