Table S1. Rapid Assay Performance. Agreement between three rapid tests and reference standard MGIT for detection of resistance for isoniazid (INH), rifampin (RIF), moxifloxacin (MOX), ofloxacin (OFX), amikacin (AMK), kanamycin (KAN), and capreomycin (CAP) *Mtb* culture positive specimens.

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| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  | Sensitivity (95% CI) | Specificity (95% CI) | PPV (95% CI) | NPV (95% CI) | LR+ (95% CI) | LR- (95% CI) | Agreement (95% CI) |
| INH | LPA (n=790) | 0.939 (0.914, 0.958) | 0.996 (0.977, 1.000) | 0.998 (0.987, 1.000) | 0.900 (0.860, 0.930) | 264 (37, 1867) | 0.061 (0.043, 0.086) | 0.959 (0.943, 0.972) |
| MODS (n=729) | 0.970 (0.950, 0.982) | 0.987 (0.959, 0.997) | 0.994 (0.981, 0.998) | 0.938 (0.897, 0.964) | 74 (24, 228) | 0.030 (0.018, 0.050) | 0.975 (0.960, 0.985) |
| PSQ (n=779) | 0.953 (0.930, 0.968) | 0.961 (0.925, 0.981) | 0.983 (0.967, 0.992) | 0.895 (0.849, 0.929) | 24 (13, 46) | 0.049 (0.034, 0.072) | 0.955 (0.937, 0.968) |
| RIF | LPA (n=809) | 0.967 (0.945, 0.980) | 0.979 (0.955, 0.991) | 0.985 (0.968, 0.993) | 0.953 (0.923, 0.972) | 46 (22, 95) | 0.034 (0.021, 0.055) | 0.972 (0.957, 0.981) |
| MODS (n=729) | 0.996 (0.983, 0.999) | 0.978 (0.950, 0.991) | 0.987 (0.971, 0.995) | 0.992 (0.970, 0.999) | 45 (20, 99) | 0.004 (0.001, 0.018) | 0.989 (0.978, 0.995) |
| PSQ (n=661) | 0.938 (0.911, 0.958) | 0.991 (0.964, 0.998) | 0.995 (0.981, 0.999) | 0.891 (0.843, 0.925) | 104 (26, 414) | 0.062 (0.043, 0.089) | 0.956 (0.937, 0.970) |
| MOX | LPA (n=742) | 0.955 (0.918, 0.976) | 0.990 (0.975, 0.996) | 0.979 (0.949, 0.992) | 0.978 (0.960, 0.989) | 95 (40, 228) | 0.046 (0.026, 0.081) | 0.978 (0.964, 0.987) |
| MODS (n=727) | 0.978 (0.951, 0.991) | 0.971 (0.950, 0.984) | 0.954 (0.921, 0.974) | 0.986 (0.969, 0.994) | 34 (20, 58) | 0.022 (0.010, 0.049) | 0.974 (0.959, 0.984) |
| PSQ (n=744) | 0.938 (0.900, 0.962) | 0.983 (0.966, 0.992) | 0.970 (0.939, 0.986) | 0.965 (0.943, 0.979) | 55 (28, 110) | 0.064 (0.040, 0.101) | 0.966 (0.950, 0.978) |
| OFX | LPA (n=742) | 0.959 (0.924, 0.979) | 0.994 (0.981, 0.998) | 0.987 (0.960, 0.997) | 0.980 (0.963, 0.990) | 159 (52, 492) | 0.041 (0.022, 0.076) | 0.982 (0.969, 0.990) |
| MODS (n=729) | 0.982 (0.957, 0.993) | 0.980 (0.961, 0.990) | 0.969 (0.939, 0.985) | 0.989 (0.972, 0.996) | 49 (25, 93) | 0.018 (0.008, 0.043) | 0.981 (0.967, 0.989) |
| PSQ (n=745) | 0.942 (0.905, 0.965) | 0.991 (0.977, 0.997) | 0.985 (0.959, 0.995) | 0.967 (0.946, 0.980) | 111 (42, 294) | 0.059 (0.036, 0.094) | 0.973 (0.958, 0.983) |
| AMK | LPA (n=672) | 0.868 (0.740, 0.941) | 1.000 (0.992, 1.000) | 1.000 (0.904, 1.000) | 0.989 (0.976, 0.995) | - | 0.132 (0.066, 0.263) | 0.990 (0.978, 0.995) |
| MODS (n=729) | 0.900 (0.799, 0.955) | 0.995 (0.986, 0.999) | 0.955 (0.864, 0.988) | 0.989 (0.977, 0.995) | 198 (64, 613) | 0.100 (0.050, 0.203) | 0.986 (0.974, 0.993) |
| PSQ (n=801) | 0.836 (0.727, 0.909) | 0.993 (0.983, 0.997) | 0.924 (0.825, 0.972) | 0.984 (0.971, 0.991) | 122 (50, 293) | 0.166 (0.099, 0.278) | 0.979 (0.966, 0.987) |
| KAN | LPA (n=672) | 0.479 (0.377, 0.583) | 1.000 (0.992, 1.000) | 1.000 (0.904, 1.000) | 0.920 (0.895, 0.940) | - | 0.521 (0.430, 0.631) | 0.926 (0.902, 0.944) |
| MODS (n=729) | 0.619 (0.524, 0.705) | 0.998 (0.989, 1.000) | 0.986 (0.917, 0.999) | 0.931 (0.908, 0.949) | 378 (53, 2693) | 0.382 (0.304, 0.481) | 0.937 (0.916, 0.953) |
| PSQ (n=801) | 0.504 (0.412, 0.596) | 0.993 (0.982, 0.997) | 0.924 (0.825, 0.972) | 0.918 (0.896, 0.937) | 69 (28, 167) | 0.500 (0.417, 0.598) | 0.919 (0.897, 0.936) |
| CAP | LPA (n=672) | 0.863 (0.731, 0.938) | 0.997 (0.987, 0.999) | 0.957 (0.840, 0.992) | 0.989 (0.976, 0.995) | 268 (67, 1073) | 0.138 (0.069, 0.274) | 0.987 (0.974, 0.993) |
| MODS (n=729) | 0.851 (0.738, 0.922) | 0.994 (0.983, 0.998) | 0.934 (0.833, 0.979) | 0.985 (0.972, 0.992) | 141 (53, 376) | 0.150 (0.085, 0.266) | 0.981 (0.967, 0.989) |
| PSQ (n=801) | 0.843 (0.732, 0.915) | 0.990 (0.979, 0.996) | 0.894 (0.788, 0.953) | 0.985 (0.973, 0.992) | 88 (42, 185) | 0.159 (0.092, 0.273) | 0.978 (0.964, 0.986) |

Sensitivity was calculated as TP/(TP+FN), specificity as TN/FP+TN), PPV as TP/(TP+FP), NPV as TN/(TN+FN), LR+ as sensitivity/(1-specificity), LR- as (1-sensitivity)/specificity, and accuracy as (TP +TN)/(TN+FN+FP+TP). Proportion confidence intervals were calculated using the Wald score method with continuity correction.