

**TITLE:** COMPARISON OF GENOTYPE MTBDR ASSAY AND BACTEC MGIT 960 FOR THE DETECTION OF MULTI-DRUG-RESISTANT *MYCOBACTERIUM TUBERCULOSIS* STRAINS IN FEDERAL DISTRICT- BRAZIL

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**ABSTRACT:**

Rapid identification of drug resistance of *Mycobacterium tuberculosis* is important in determining treatment and helps to prevent transmission of drug resistant TB. The aim of this work was to compare the performance of GenoType MDRTB plus assay and conventional drug susceptibility testing (DST–SIRE BACTEC MGIT 960) for detecting drug-resistant strains of *M. tuberculosis* isolated in the Federal District-Brazil. The MTBDR plus assay was performed on 157 samples, and the results were retrospectively compared with the results DST. The turnaround time of the samples was calculated and compared. The sensitivity, specificity and positive and negative predictive values of the MTBDR plus assay were all 100% for the detection of rifampicin (RMP), isoniazid (INH) resistance and for multidrug-resistant TB (MDR-TB). The median interval from testing request to reporting of results was 19.8 days (IQR 9–26) for the MTBDR plus assay of cultured isolates and 43.2 days (IQR 31–52) for conventional DST ( $P < 0.05$ ). Therefore, the genotype MTBDR plus assay can readily be included in a routine laboratory work for the early diagnosis and control of MDR-TB in Federal District-Brazil.

**Keywords:** Validation Studies; Tuberculosis, Multidrug-Resistant; Multiplex Polymerase Chain Reaction; Sensitivity and Specificity.

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