

Mycobacteria Drug Susceptibility Testing



Fast, efficient and comprehensive!

A perfect fit for your diagnostics!

Your laboratory can offer efficient and rapid results with our molecular genetic test systems for the simultaneous detection of the MTB complex and its resistances to the most important first-line and second-line drugs!

GenoType MTBDR_{plus} – The globally established test for MDR-TB allows for fast results thus enabling reliable MDR-TB diagnostics. In case of suspected XDR-TB we recommend further diagnostics with **GenoType MTBDR_{sl}** – The PCR test for XDR-TB.



Your benefits

- **Fast results:** Processing is possible within 5 hours either directly from patient specimens or cultivated samples. Consequently, the test permits rapid communication of the results.
- **High sensitivity and specificity:** The detection of specific DNA target sequences guarantees the reliable identification of *M. tuberculosis* complex and its drug resistances. This is supported by many scientific publications.
- **Efficient diagnostics:** With only one single test procedure you will receive detailed information about the presence of mycobacteria causing tuberculosis and drug resistances.
- **CE-certified**

GenoType MTBDRplus

»The globally established test for MDR-TB!«

With numbers of multidrug resistant bacteria cases on the increase, fast and determined actions in the fight against TB are necessary. Nucleic acid amplification tests (NAT) allow for sensitive results within a few hours, thus enabling a clear time advantage compared to conventional drug susceptibility testing (DST). An affordable test system, which offers a simple test procedure for all types of laboratories, is in demand around the world.

Our solution for you

GenoType MTBDRplus is the globally established test for MDR-TB! With **GenoType MTBDRplus** you receive a NAT-based test system for the simultaneous detection of *M. tuberculosis* (MTB) complex and its resistance to rifampicin and isoniazid – the two most important first-line antituberculotics. The test can be performed either directly from patient specimens or culture material. The reliable result is available after about 5 hours.

A consequence of using the **GenoType MTBDRplus** is that rapid screening of samples can be achieved, saving valuable time and costs. The user-friendly test system can be performed either manually or automated. This means maximum flexibility for you, as low and high numbers of samples can be processed in a cost-efficient, easy and reliable manner. **GenoType MTBDRplus** is routinely used in many laboratories worldwide. Thus, the test system is a proven, valuable tool in the fight against TB!

At a glance

GenoType MTBDRplus is based on the **DNA•STRIP** technology: Mycobacterial DNA is extracted from the specimen, specifically amplified via PCR and detected on a membrane strip using reverse hybridization and an enzymatic color reaction. The test system enables the simultaneous detection of MTB complex and relevant mutations in the *rpoB* gene that are associated with the resistance to rifampicin. In addition, the most important mutations in the genes *katG* and *inhA* are detected that are associated with the resistance to isoniazid. The test can be performed starting from pulmonary patient specimens or cultivated samples.

Your benefits

- MTB complex and its resistance to rifampicin and/or isoniazid are simultaneously detected in a single patient specimen.
- The test is therefore perfectly suitable for MDR-TB screening, for the identification of MTB complex and the identification of mono-resistances.
- Pulmonary patient specimens and cultivated samples can be used as starting material.
- Fast results within a few hours compared to several months with conventional DST.
- The test is user-friendly, can be performed either manually or automated and is suitable for small and large throughput laboratories.



GenoType MTBDRsl

»The PCR test for XDR-TB«

The increase of extremely drug resistant (XDR) TB is alarming, especially in high burden countries. In most cases laboratory diagnostics is achieved by culture-based methods. In comparison to nucleic acid amplification tests, they need several weeks to produce consistent results. Whenever resistant mycobacteria are detected, a prompt response is necessary since rapid and reliable diagnostics are the basis of therapeutic and preventive measures.

Our solution for you

GenoType MTBDRsl is the first commercial NAT for the detection of second-line resistance and therefore the PCR test for XDR-TB. It allows for the simultaneous detection of *M. tuberculosis* complex and its resistance to fluoroquinolones, aminoglycosides/cyclic peptides and ethambutol. Here, the most important mutations in the corresponding resistance genes are detected.

The test procedure is performed either directly from patient specimens or cultivated samples. The result is available in about 5 hours. Thus, **GenoType MTBDRsl** is perfectly suitable for further diagnostics in case of previously diagnosed MDR-TB. The test system offers you an immense time advantage in comparison to conventional methods. Thus, patients can be isolated at an early stage, treated and a further spread of XDR-TB can be prevented.



At a glance

GenoType MTBDRsl is based on the **DNA•STRIP** technology: Mycobacterial DNA is extracted from the specimen, specifically amplified via PCR and detected on a membrane strip using reverse hybridization and an enzymatic color reaction. The test system thus permits the simultaneous detection of MTB complex as well as relevant mutations that are associated with resistance to fluoroquinolones, aminoglycosides/cyclic peptides and ethambutol. The test can be performed starting from pulmonary patient specimens or cultivated samples.

Your benefits

- MTB complex and its resistances to fluoroquinolones, aminoglycosides/cyclic peptides and ethambutol are simultaneously detected from a single patient specimen.
- Accordingly, the test is perfectly suitable for XDR-TB diagnostics in patients who were previously diagnosed with MDR-TB.
- As starting material pulmonary patient specimens and cultivated samples can be used.
- Fast results within a few hours in comparison to several weeks with conventional DST.
- Manual or automated processing is possible.

Comparison of our drug susceptibility tests: A perfect fit for your diagnostics!

	“The globally established test for MDR-TB!”	“The PCR test for XDR-TB”
Test name	GenoType MTBDR_{plus}	GenoType MTBDR_{sl}
Technology	DNA•STRIP technology DNA is extracted from sample material, specifically amplified via PCR and detected on a membrane strip using reverse hybridization and an enzymatic color reaction.	
Detection	<i>M. tuberculosis</i> complex and its resistance to rifampicin and/or isoniazid	<i>M. tuberculosis</i> complex and its resistance to fluoroquinolones, aminoglycosides/cyclic peptides and ethambutol
Starting material	Pulmonary patient specimens, cultivated samples (liquid/solid media)	Pulmonary, smear-positive patient specimens, cultivated samples (liquid/solid media)
Automated nucleic acid extraction	✓	✓
Automated detection	✓	✓
Turn-around time	Approx. 5 hours	Approx. 5 hours
Result		

Further information is directly available from Hain Lifescience or your local distributor.

Hain Lifescience GmbH

Hardwiesenstraße 1 | 72147 Nehren | Germany
 Tel.: +49 (0) 74 73- 94 51- 0 | Fax: +49 (0) 74 73- 94 51- 31
 E-Mail: info@hain-lifescience.de | www.hain-lifescience.de

