

Nucleotide sequences for the detection of *Mycoplasma genitalium* and related technologies

■ Researcher Information

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■ Research Ideas and Technological Innovations

■ Originality and Strengths of the Research

By using the first primer of the present invention, a method for specifically detecting *Mycoplasma genitalium* (MG)—which does not react with other *Mycoplasma* species—and a reagent therefor can be provided. Furthermore, by using the second primer of the present invention, MG can be detected with high sensitivity; furthermore, by using the labeled probe of the present invention, a method and reagents for identifying whether MG is resistant to macrolide antibiotics can be provided.

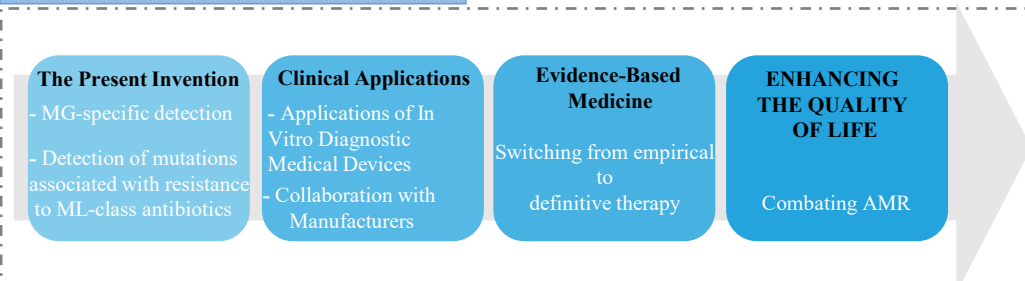
■ Key Results

We developed a detection system targeting ribosomal RNA and succeeded in creating a highly sensitive and specific detection reagent that does not cross-react with other bacterial species or other *Mycoplasma* species. After validating the system using clinical isolates and other samples, we confirmed its effectiveness and subsequently filed a patent application.

■ Background and Challenges to Be Addressed

- Globally, there has been an increase in cases of *Mycoplasma genitalium* (MG) infection that are difficult to treat and unresponsive to antimicrobial agents. In Japan, in particular, the rate of resistance to macrolide antibiotics is high, estimated to be over 40%. In private clinics, which serve many patients, the ability to determine the presence or absence of macrolide resistance in MG using clinical specimens would enable the proposal of effective macrolide treatment regimens that minimize the risk of treatment failure.

■ Research Overview Diagram



■ Future Plans, etc.

- Following performance validation using clinical specimens, Mizuho Medi Co., Ltd. aims to bring this test kit to market (obtain marketing authorization).
- Intellectual Property: Patent Application No. 2024-59173