



Recipients: Veterinarians from all sectors
Sender: EcL laboratory
Date: 2019-06-25
Objet: **O Serotyping by whole genome sequencing (WGS)**

Dear customers,

We wish to inform you that as of September 1, 2019, the E. coli Laboratory will now use Whole Genome Sequencing (WGS) to obtain serotype O. This test, already available in the laboratory, was previously performed by slide agglutination. Due to the depletion of our stocks of antisera, the continuation of the agglutination test would have involved a major investment of time to renew our stocks, and subsequently a significant increase in price of the test. Hence, we have decided that it is timely to change to the WGS.

This transition to whole genome sequencing (WGS) for serotyping is justified by improved performance. Thus, the WGS allows firstly to detect all known O serotypes (O1 to O188, except O14 and O57) against only 88 serotypes by slide agglutination as currently performed in our laboratory. In addition, the determination of O is obtained in approximately 95% of the isolates tested compared to 79% of the isolates by slide agglutination and this result obtained by WGS is 98% identical to that obtained by slide agglutination. Secondly, the determination of serotype O in auto-agglutinating isolates (about 6% of isolates) is now possible, unlike slide agglutination.

Unlike serotyping by slide agglutination, the use of WGS does not involve a sometimes laborious visual interpretation of the result and the production, storage and validation of several specific batches of antisera in rabbits.

Currently, the WGS test is offered at \$200 per isolate compared to the old price of \$74 for agglutination serotyping. This price difference can be compensated by the added value of the results obtained automatically by WGS. Thus, in addition to serotype O, confirmation of genus and bacterial species, serotype H, pathotype, virotype (from a list of more than 300 genes), phylogenetic group, ST (MLST) and prediction of antimicrobial resistance profile are obtained and included in a detailed report.

We are confident that this transition to WGS for O serotyping will greatly improve the quality and accuracy of our serotyping results.

If you have any questions, please do not hesitate to contact us.

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