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DIAGNOSTIC TOOLS

**EVALUATION OF 4 COMMERCIALIZED KITS USED IN THE MOLECULAR
DIAGNOSIS OF WHOOPING COUGH USING REAL TIME PCR**

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Objectives: simultaneous detection of DNA from *Bordetella pertussis* and from *B. parapertussis* is recommended. Several commercialized tests are now available to amplify simultaneously the both target. The aim of our study was to evaluate the performance of four kits: *Bordetella pertussis/parapertussis* triplex – PCR temps réel (Bio-Evolution), SmartCycler *B. pertussis/B. parapertussis* Assay (Cepheid), Diagenode *Bordetella pertussis* and *parapertussis* Real-Time PCR kit (Diagenode) et EurobioPlex *Bordetella pertussis* & *parapertussis* (Eurobio).

Methodes: Kits were evaluated by comparison to a in-house method. The amplification was realized using a SmartCycler (Cepheid). The limit of detection of each kit was determined using a quantification standard of dilution of DNA extracted from suspensions. The different kits were tested using DNA extracted from 140 nasopharyngeal, 58 positive and 82 negative.

Résultats: The limit of detection of the four techniques was at least 50 copies by assay for IS481 and also for IS1001. All the negative samples were found negative and all the positives were also detected whatever the method. The *IS481* was detected in 55 samples (54 *B. pertussis* and 1 *B. holmesii*) and the *IS1001* in 3 samples. The difference observed between the kits concerned only minor variation of the threshold cycle without impact on the result.

Conclusion: the equivalent and efficient performance of the different kits allows their use in routine laboratories for the diagnostic of whooping cough. The choice of the kits will depend of the format and the contents of the box the time of the RT-PCR and of course of the price.