VALIDATION OF REAL-TIME RT-PCR: MATRIX EFFECT, UNCERTAINTY OF MEASUREMENT AND PRECISION

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Introduction

Different real-time RT-PCRs have been developed and are routinely being used for the diagnosis of Foot-and-Mouth Disease Virus (FMDV), such as serotype independent assays targeting 3D and/or 5'UTR genome fragments…

Materials and methods

Different FMDV-negative matrices (cell culture, blood, foot/tongue epithelium spleen and faeces) were spiked with a 1:10 Dilution series of a FMDV Strain SAT 1 ZIM 27/89. The effect of the...

Results

Compared to cell-culture spiked virus control samples, n matrix effect of blood and foot epithelium on the detection limit was observed. An approximate 1 log_{10} reduction in detection limit was noted for faecal and tongue epithelium samples, whereas a 3 log_{10} decrease in detection signal...

Discussion

Validation of molecular techniques is a relatively new concept. In this study we have demonstrated the effect of different matrices on the detection limit of the assay. Furthermore, uncertainty of measurement and precision were also investigated...

Figure or graph (optional)

Figure 1. Effect of blood and foot epithelium on the detection limit…