**Supplementary Table S3.** Correlation between phenotypic and genotypic resistance for various Minimum Concentration Inhibition (MIC) values

| Antimicrobials | MIC Values | | |
|---|---|---|---|
| | Breakpoints[1] | Epidemiological cut-off values[2] | Best fitting MIC[3] |
| Amoxicillin-clavulanic acid | 8 | NONE | 16 |
| Ampicillin | 8 | 8 | 4–32 |
| Cefoxitin | 8 | 8 | 16 |
| Ceftriaxone | 1 | 0.25 | 2–4 |
| Ceftiofur | 2 | 1 | 2–4 |
| Meropenem | 1 | 0.064 | 0.064 |
| Gentamicin | 4 | 2 | 2–4 |
| Neomycin | 8 | 8 | 8 |
| Streptomycin | 32 | 16 | 8 |
| Spectinomycin | 32 | 64 | 16 |
| Chloramphenicol | 8 | 16 | 16 |
| Florfenicol | NONE | 16 | 8 |
| Nalidixic acid | 16 | 8 | 16 |
| Ciprofloxacin | 0.25 | 0.064 | 0.032 |
| Danofloxacin | 0.25 | NONE | 0.125 |
| Enrofloxacin | 0.25 | 0.125 | 0.125 |
| Azithromycin | 16 | 16 | 8 |
| Sulfisozaxole | 256 | NONE | 64–128 |
| Trimethoprim- sulfamethoxazole | 2 | 0.25 | 0.25 |
| Tetracycline | 4 | 8 | 4–8 |
| Sensitivity | 97 | 95 | 99 |
| Specificity | 93 | 94 | 97 |
| Overall agreement | 95 | 94 | 98 |

All MIC values in the table represent the highest concentration for a susceptible phenotype; [1]Breakpoints (intermediate considered as resistant) according to CLSI M100 [22] (*Enterobacterales* : amoxicillin/clavulanate, ampicillin, azithromycin, cefoxitin, ceftriaxone, chloramphenicol, ciprofloxacin, gentamicin, meropenem, nalidixic acid, sulfisoxazole, tetracycline and trimethoprim/sulfamethoxazole), CLSI VET01S [23] (Bovine Respiratory pathogens : ceftiofur, danofloxacin, enrofloxacin and spectinomycin), or CIPARS [24] (streptomycin). A breakpoint was not available for neomycin, thus the epidemiological cut-off value from EUCAST was used (MIC $\geq$ 16 µg/mL was defined as resistant). [2] Values from EUCAST to differentiate wild-type and non wild-type isolates; [3]Minimun inhibition concentration that best match the resistance genes found for isolates describe in this study (n=118)