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Abstract

In this study, two multiplex PCR assays were introduced and optimized for brucellosis diagnosis. The first assay was able to differentiate between the vaccine strains (S19 & RB51) and other Brucellae while the other one was able to differentiate between the most common virulent Brucella species (*B. abortus biotypes 1, 2 & 4 and B. melitensis*). These assays were successfully applied on Brucella references, vaccinal and field isolate strains as well as clinical samples (milk and aborted foeti).

Contents

List of Abbreviations

A_{260}: OD at wave length 260.
A_{280}: OD at wave length 260.
AMOS: A (abortus), M (melitensis), O (ovis) and S (suis).
B. : Brucella.
BAPAT: Buffered Acidified Plate Antigen Test.
bp: base pair.
BPDA: Bovine Pathogen Detection Assay.
CFU: Colony Forming Unit.
DNA: Deoxyribonucleic acid.
dNTPs: deoxy nucleotide triphosphates.
ELISA: Enzyme Linked Immunosorbent Assay.
ELS: erythrocyte lysis solution
ERIC: Enterobacterial Repetitive Intergenic consensus.
IgG: immunoglobuline G.
IS711: Insertion sequence 711.
KDa: kilodalton.
LIPA: line probe assay.
M: molar.
MRT: Milk Ring Test.
N: normal.
NET: N (Na Cl), E (EDTA) and T (Tris).
NLB: nucleic lysis buffer
NLB: nucleic lysis buffer.
OIE: Office International Des Epizootic.
Omp2A gene: outer membrane protein 2A gene.
PCR: polymerase chain reaction.
Pst 1: restriction enzyme.
RB51: *B. abortus strain RB51* (vaccine strain).
RBPT: Rose Bengal Plate Test.
REP: Repetitive Extragenic Palindromic sequence.
RFLP: Restriction fragment length polymorphism.
S19: *B. abortus strain 19* (vaccine strain).
SAT: Slow Tube Agglutination Test.
SDS: sodium dodocyle sulphate.
16 S rRNA: 16 subunit ribosomal ribonucleic acid.