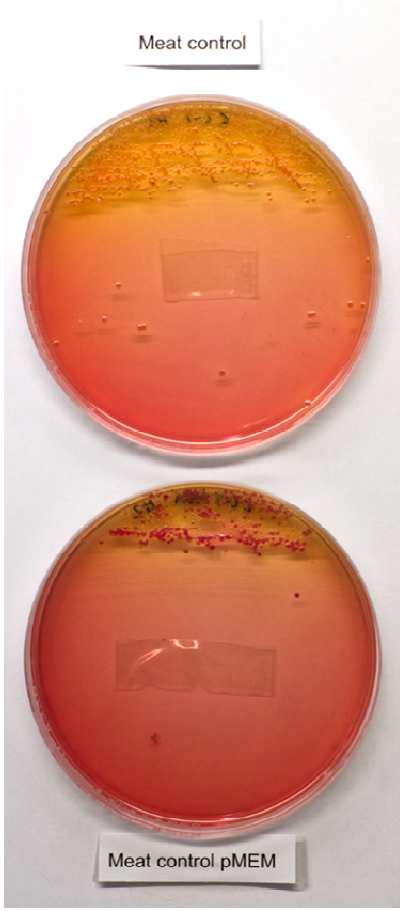
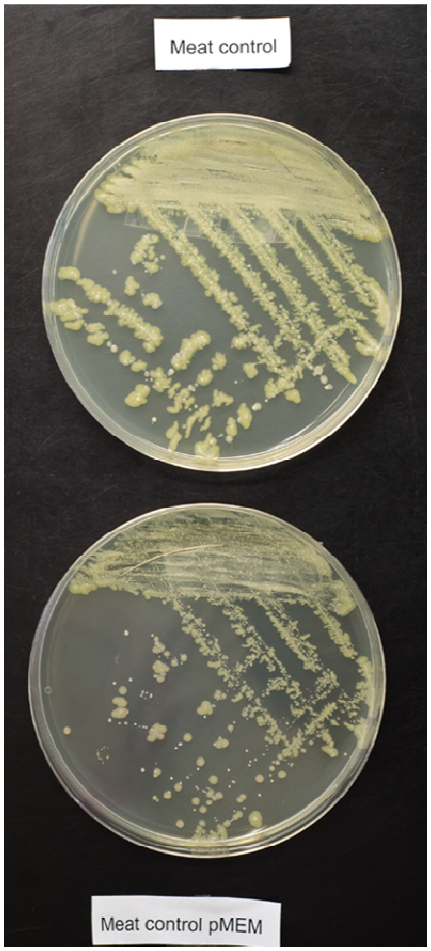
Evaluation of methods for detection of carbapenemase producing Enterobacteriaceae in bovine minced meat

Preliminar experiments (meat)



MC MEM 0.125



Mueller Hinton

Meat control

MC CTX

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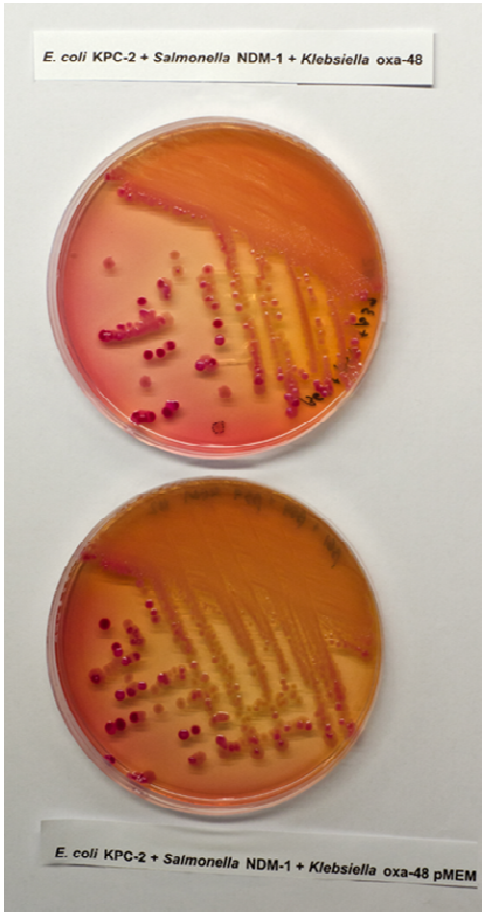
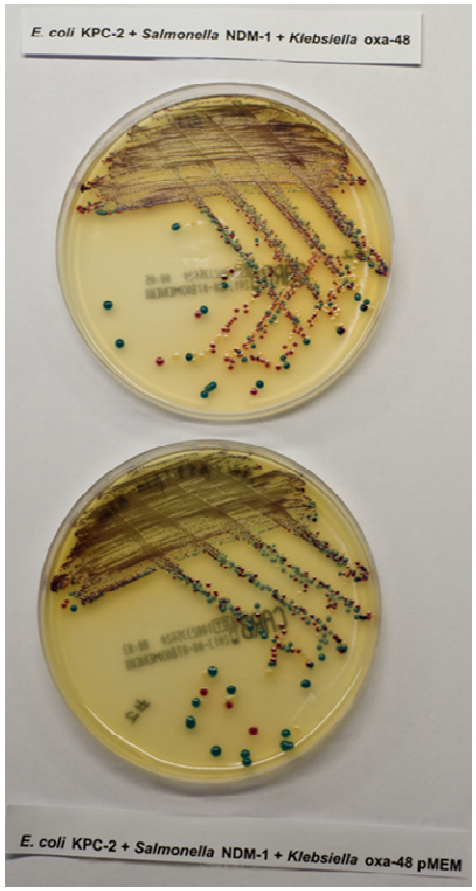
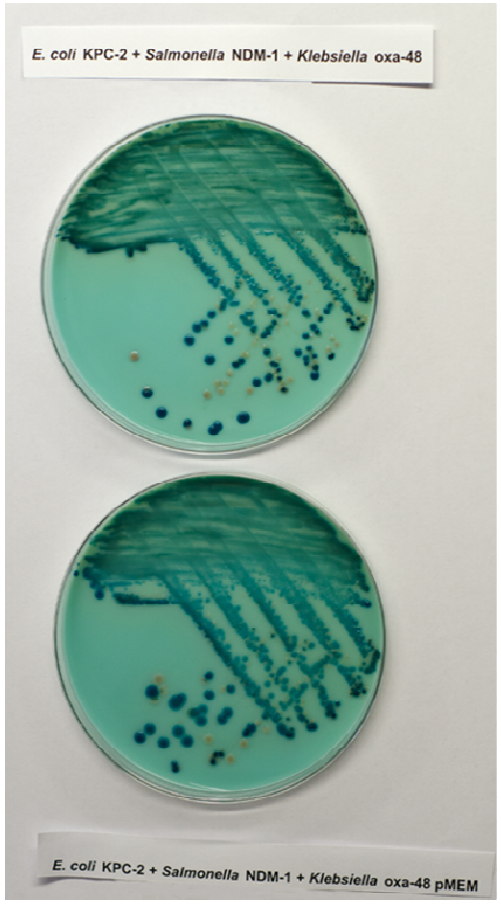
Mixture *E. coli* KPC-2 + *Salmonella* NDM-1 + *Klebsiella* oxa-48



MC MEM 0.125



chromID CARBA



Brilliance CRE

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Strains tested

E. coli R178 (VIM-1, ACC)

Salmonella R3 (VIM-1, ACC)

Salmonella β59 (NDM-1, CMY-16)

E. coli β38 (NDM-1, TEM, CTX)

Results

Sensitivity (detection limits) and specificity (accompanying flora)

Pre-enrichment with MEM
Pre-enrichment without MEM
} Preenrichment without MEM is more effective

MacConckey broth
Peptone water
} MC broth gives more specificity, but less sensitivity

MC MEM 0.5, MC MEM 0125, ChromID™ CARBA , Brilliance™ CRE Agar

ChromID™ CARBA is the medium with the highest sensitivity and specificity

37 °C vs. 44 °C: 44 °C gives more specificity, but less sensitivity