

## **Screening method for detection of immediate amino acid decarboxylases - producing bacteria implicated in food poisoning**

### **ABSTRACT**

Assessment of amino acid decarboxylase activity can be conducted using tubed broth or plated agar. In this study, the test was carried out in microtitre plates containing lysine, ornithine, arginine, tyrosine, tryptophan, phenylalanine or histidine as biogenic amine precursors. Møller decarboxylase base broth (MDB) with or without 1% of a known amino acid were added to wells of a 96 well-microtitre plate. The wells were inoculated with *Escherichia coli*, *Klebsiella pneumoniae*, *Acinetobacter anitratus* or *Staphylococcus aureus* to the final concentration of  $6.0 \times 10^7$  cfu/ml and incubated at 35°C. The absorbance of the culture broth was read at 570 nm at 0, 1.0, 2.0, 3.0, 4.0, 5.5, 6.5 and 7.5 hour. Comparison of means of  $A(570)$  between 0 hour and a specified incubation time was determined statistically. Positive decarboxylase activities were detected in the media inoculated with *E. coli* and *K. pneumoniae* in less than 6 hours. The current method is suitable for immediate producers of amino acid decarboxylase enzymes. It costs less as it uses less amino acid and it has the potential to be used for screening aliquots of food materials for amino acid decarboxylase activities.