

75554 Aminopeptidase Test (Gram-Positive-Test)

For the detection of gram-positive microorganisms with a test indicating the presence of L-alanine aminopeptidase.

Composition:

(1 package contains 50 Test Strips)

The reaction zone of each strip contains 0.5 µmole L-alanine-4-nitroanilide and buffering agents.

Store in a dry place.

Directions:

Remove a small sample from a single colony with an inoculation loop and suspend it in 0.2 ml distilled water in a tube. Place a test strip into the clear opalescent suspension. Incubate for 10-30 minutes at 37°C.

If the suspension turns yellow, L-alanine aminopeptidase is present. That means the microorganisms are Gram-negative. (Exceptions: *Bacteroides vulgatus*, *Bacteroides fragilis*, *Campylobacter* sp., *Veillonella parvula*)

If there is no yellow coloration, L-alanine aminopeptidase is absent and the microorganisms are Gram-positive.

Note: The growth medium from which the colonies were taken should not contain any dyes or indicators. It is not recommended to take any pigmented colonies.

Principle and Interpretation:

L-alanine aminopeptidase is an enzyme localised in the bacterial cell wall that cleaves L-alanine from various peptides. It is found almost only in Gram-negative microorganisms. Studied Gram-positive or Gram-variable microorganisms show no, or very weak activity. The Aminopeptidase Test is a reliable method for determining Gram behaviour. However, it does not replace Gram-staining, as it cannot show morphology.

Organisms	L-alanine aminopeptidase
Gram-negative bacteria (Exceptions: <i>Bacteroides vulgatus</i> , <i>Bacteroides fragilis</i> , <i>Campylobacter</i> sp., <i>Veillonella parvula</i>)	present (yellow)
Gram-positive bacteria	not present (no coloration)

References:

1. G.M. Carlone, M.J. Valdez, and M.J. Pickett. Method for Distinguishing Gram-positive from Gram-negative Bacteria., J. Clinical Microbiology., 16,1157 (1982)
2. E.H. Lennette, A. Balows, W.J. Haulser, and J.P. Truant (eds.), Manual of Clinical Microbiology, 3rd edition. American Society for Microbiology. (1980)
3. J.D. Costin, M. Kappner, W. Schmidt: Differenzierung von Gram-positiven Bakterien und Gram-negativen Bakterien mit dem L-Alanin Aminopeptidase Test, Forum Mikrobiol., 351 (1983)
4. G. Cerny, Method for Distinction of the Gram-Negative from Gram-Positive Bacteria, Eur. J. Appl. Microbiol., 3, 223 (1976)
5. G. Cerny, Studies on the Aminopeptidase-Test for the Distinction of the Gram-Negative from Gram-Positive Bacteria, Eur. J. Appl. Microbiol. Biotechnol., 5, 113 (1978)
6. I. Otte, A. Tolle, Aminopetidase- und Gram-Reaktion von Bakterien, Milchwiss., 35, 215 (1980)