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Czech J. Food Sci.

**M. Blažková, M. Koets,
J. H. Wichers, A. van**

**Amelongen, L. Fukai,
P. Rauch:
Nucleic Acid Lateral
Flow Immunoassay for
the Detection of
Pathogenic Bacteria
from Food**

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S353

Nucleic acid lateral flow immunoassay (NALFIA) is a method combining molecular biological principle of detection with immunochemical principle of visualisation. Following isolation of DNA from the sample, a duplex PCR with two primer sets, of which one was labelled with biotin and the other with digoxigenin or fluorescein, respectively, was performed. The PCR solution and carbon particles conjugated with avidin are directly added to the nitrocellulose membrane with two test lines of immobilised antibodies specific for digoxigenin and fluorescein. The appearance of a black line indicates the

presence of specific amplicon. We would like to present the NALFIA for the simultaneous detection of *L. monocytogenes* in particular and the genus *Listeria* in general, in food. Bacteria from the genus *Listeria* frequently contaminate a large variety of foods. Occurrence of *Listeria* strains in food may indicate errors in good hygienic and manufacturing practice, only *L. monocytogenes* is a significant human and animal pathogen responsible for the serious illness listeriosis. Conventional microbiological methods for *L. monocytogenes* detection are laborious and take several days to achieve a confirmed identification.

Keywords:

L. monocytogenes; Nucleic acid lateral flow immunoassay; DNA

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