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original scientific paper

Determination of Nonsteroidal Anti-Inflammatory Drugs (NSAIDs) in Milk and Fresh Cheese Based on the Inhibition of Cyclooxygenase

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Summary

A biosensor for rapid determination of nonsteroidal anti-inflammatory drugs (NSAIDs) is described based on the inhibition of cyclooxygenase enzyme (both isoforms) by NSAIDs. The results show the full validity of the method, which has also been optimized by comparing the inhibition of two enzyme isoforms, COX-1 and COX-2, in the presence of different tested pharmaceutical drugs (diclofenac, naproxen, ibuprofen, tolmetin). Also, recovery trials were performed in milk and fresh cheese adulterated with known quantities of NSAIDs, always obtaining recovery values >88 %.

Key words: food analysis, COX, inhibition biosensor

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