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Histamine is a biogenic amine naturally present in many body cells. It is also a contaminant that is mostly found in spoiled
food. The consumption of foods containing high levels of histamine may lead to an allergy-like food poisoning. Analytical
methods that can routinely screen histamine are thus urgently needed. In this paper, we developed a facile and cost-
effective molecularly imprinted polymer (MIP)-based fluorometric assay to directly quantify histamine. Histamine-specific
MIP nanoparticles (nanoMIPs) were synthesized using a modified solid-phase synthesis method. They were then
immobilized in the wells of a microplate to bind the histamine in aqueous samples. After binding, o-phthalaldehyd
(ODA) was used to label the bound histamine, which converted the binding events into fluorescent signals. The obtained
calibration curve of histamine showed a linear correlation ranging from 1.80 to 44.98 mM with the limit of detection of 1.80
μM. This method was successfully used to detect histamine in spiked dairy milk with a recovery rate of more than 85%.

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