

Method Validation of Aflatoxin M₁ in Iranian White Cheese by High Performance Liquid Chromatography and Immunoaffinity Columns

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Aflatoxin M₁ is a result fungal secondary metabolite in ruminants. This toxin remains in milk as one of the most important contaminants. In this work we modified the methods described by other researchers and presented it as a validated method for monitoring aflatoxin M₁ in Iranian white cheese for the first time. At first, toxin was extracted from a polar solution (dichloromethane) and then the extract was dried and dissolved in hexane, methanol and water solution. In the third step water phase separated and purified using immunoaffinity liquid chromatography. For method validation we calculated accuracy, precision and sensitivity factors. Measurement of accuracy of method was performed by fortification of conventional blank samples. For precision measurement method was evaluated in six working days under repeatability condition and calculated the mean, variance and relative standard deviation (RSD). Limit of detection in our method was 55 ppt and limit of quantification was 183 ppt.

Keywords: Aflatoxin M₁, Cheese, Validation, High performance liquid chromatography (HPLC)

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