

Fumonisin Derivatization for Efficient HPLC Analysis

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Fumonisin is a mycotoxin, mainly produced by *Fusarium* species and frequently found as natural contaminant in corn and corn-based products worldwide. Fumonisin contamination has hepatotoxic and nephrotoxic effects on animal health. Therefore fumonisin contamination levels in foods are monitored by international regulations using chromatographic analysis. In this context, an analytical method has been optimized to determine the amount of fumonisin in food and feed. For fumonisin analysis, immunoaffinity columns (IAC) are used for sample clean-up prior to standard high-performance liquid chromatography (HPLC) analysis. Therefore we have obtained an antibody against fumonisin to develop an IAC and design related clean-up protocol. The amount of fumonisin was analyzed with liquid chromatography HPLC by derivatization of fumonisin with o-phthaldialdehyde (OPA) reagent upon extraction with an acidic mixture of methanolacetonitrile-citrate/phosphate buffer and clean-up of this extract through IAC. It is known that reproducibility of time between addition of OPA reagent and injection to LC systems is critical. Fluorescence of OPA-fumonisin is affected by many factors as injection time, polarity of mobile phase, concentration of OPA reagent. In this study, we aimed to develop more efficient and reproducible HPLC analysis method for fumonisin quantification to design related clean-up protocol for fumonisin by the aid of chromatographic analysis data.

Biography

Sevecen Tuglu Gurpinar has completed her MSc at the age of 28 years from Yildiz Technical University, has been studying PhD at Yildiz Technical University Department of Bioengineering. She works as researcher at TUBITAK, Institute of Genetic Engineering and Biotechnology. She has published national and international articles in different journals. Her studies were presented as posters in several national and international congress.

Received: July 10, 2024; **Accepted:** July 12, 2024; **Published:** December 12, 2024
