

食品安全检测

鸡蛋中三聚氰胺的磁性强阳离子交换树脂吸附—LC-MS/MS快速分析

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摘要 本研究中, 我们成功制备出了磁性强阳离子交换(MSCX)树脂, 并将其用于萃取鸡蛋中的三聚氰胺(MEL)。通过将鸡蛋样品、萃取溶液和磁性树脂进行混合并搅拌10 min, 然后通过外加磁场将吸附有MEL的MSCX树脂与样品基质分离。实验中对MSCX树脂用量, 萃取时间及淋洗, 洗脱条件等影响萃取效率的诸多参数进行了优化。采用液相色谱串联质谱分析从树脂上洗脱的MEL, 方法的加标回收率在77.2%~99.3%之间。建立的方法可以成功地应用于测定鸡蛋中MEL的含量。

关键词 [磁性强阳离子交换树脂](#) [三聚氰胺](#) [鸡蛋样品](#) [液相色谱串联质谱](#)

分类号

Determination of Melamine in Egg Based on Extraction of Magnetic Strong Cation Exchange Resin Followed by Liquid Chromatography-Tandem Mass Spectrometry

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Abstract In the work, magnetic strong cation exchange(MSCX) resins were successfully prepared and applied to the extraction of melamine(MEL) from egg samples. The extraction procedure was carried out in a single step by blending and stirring the sample, extraction solvent and MSCX resins for 10 min. When the extraction was completed, the resins with adsorbed MEL were easily separated from the sample matrix by adscititious magnet field. Main factors affecting the extraction of MEL such as the amount of MSCX resins, extraction time, washing and eluting conditions were optimized. The MEL eluted from the resins was determined by liquid chromatography-tandem mass spectrometry. The recoveries of MEL are in the range of 77.2%-99.3%. The proposed method are successfully applied to the determination of MEL in eggs obtained from different local markets.

Key words [magnetic strong cation exchange resin](#) [melamine](#) [egg sample](#) [liquid chromatography-tandem mass spectrometry](#)

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