

3 讨论

运用毛细管电泳技术分析乳及其制品的成分,可以为政府部门制订标准提供科学依据,监测乳品在加工过程中的品质变化,以及检测乳品中的掺假情况(尤其是在乳粉中添加水解蛋白,常规方法难以检测)将为乳品的品质控制和提高乳品质量提供可靠的保证。此外,它还可以实现检测不同物种间乳中蛋白质的遗传变异类型,如牛乳、绵羊乳和山羊乳中所含不同表型的 β -乳球蛋白, α_{s1} -、 α_{s2} -、 β -和 κ -酪蛋白。此外,由于乳中酪蛋白特有的等电点,可以采用毛细管等电聚焦电泳(CIEF)来检测乳中酪蛋白的含量。CIEF是根据平板等电聚焦电泳(IEF)的原理建立的,CIEF与IEF相比具有耗时短、样品用量少、易于自动化和标准化等诸多优点,与毛细管区带电泳、毛细管电动力学色谱等其他分离模式相比,也具有峰容量大、对两性溶质的选择性好等特点,其精确性、稳定

性和可操作性都很好。所以,毛细管电泳技术在乳品原料质量检测及加工控制等方面应用潜力巨大。但由于毛细管电泳设备昂贵,操作人员需要一定的训练,是目前制约此项技术普及的主要原因。

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Application of Capillary Electrophoresis in Determination of Casein Quantity and Detection of Adulteration in Milk

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ABSTRACT The fraudulent addition to milk is usually occurred with the rapid development of dairy industry. Fast analysis of protein fraction and detection of adulterations in the milk can be done by capillary electrophoresis. Capillary electropherograms of raw milk, pasteurized milk and UHT milk were gained by capillary electrophoresis. The casein to total protein ratio(%) in different sample was calculated by 32 Karat Software. The SDS-CGE electropherograms of samples of milk powder containing different quantity soya protein were also gained in this paper. The advantages of this method are fast, efficient, less sample needed and economic.

Key words capillary electrophoresis, milk, detection of adulterations

市场动态

我国酵母进口大幅增长

酵母是目前世界上唯一年产量超过百万t的微生物,被广泛应用于酿酒、食品、医药、饲料、化妆品等领域。近年来,我国制药业和食品业迅猛发展,拉动了酵母进口大幅增长。来自天津海关的统计显示,2004年1~10月,天津口岸进口酵母29.1t,价值55.4万美元,比去年同期分别增长90.4%和95.9%。其中活性酵母与非活性酵母进口各占50%。

非活性酵母是生产V_B的原料。随着我国维生素类产品的热销,国外的进口酵母以其质量优、信誉好,迅速占领了这一原料市场。同时,我国食品企业不断扩大规模,也加速了活性酵母的进口。