

牛初乳水解物對酪胺酸?活性和黑色素細胞生長之抑制作用 = Inhibition on tyrosinase activity and melanoma cell growth by bovi

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摘要

近年來許多研究嘗試從動、植物與微生物中，尋求可以有效抑制酪胺酸?之活性物質，並應用於食品、醫藥以及化妝品等相關產業。本研究以第1至第5天牛初乳與常乳作為材料，製備成脫脂牛初乳及常乳後，利用兩種不同酵素進行水解(Alcalase 和 -Chymotrypsin)，接著進行酪胺酸?活性抑制，最後以第2天牛初乳及常乳水解物進行黑色素細胞試驗，包含細胞存活率、細胞內酪胺酸?活性與黑色素含量的探討。研究結果顯示：1. 水解物在酪胺酸?活性抑制結果方面，Alcalase 水解物抑制效果皆優於 -Chymotrypsin水解物，在濃度5 mg/mL時，以第2天牛初乳效果最好，其抑制率為23.99%；在濃度10 mg/mL時，以第2天牛初乳效果最好，其抑制率為32.96%；在濃度15 mg/mL時，以第2天牛初乳與常乳水解物其抑制率分別為37.48與35.59%。整體而言，以第2天牛初乳以Alcalase 水解4小時所得水解物對酪胺酸?活性抑制效果最佳，而常乳水解物之抑制酪胺酸?活性則隨著水解的時間增加而效果變大。2. 水解物在細胞存活率結果方面，第2天牛初乳及常乳水解物對黑色素細胞有降低其存活率之趨勢，且隨樣品濃度之增加而存活率有下降之趨勢。3. 水解物對黑色素細胞內酪胺酸?活性之抑制結果方面，Alcalase 水解物之抑制效果優於 -Chymotrypsin水解物。第2天牛初乳水解物在濃度為7.5 mg/mL時其抑制率最高，其值為54.01%。4. 水解物對細胞內黑色素含量之影響結果，Alcalase 與 -Chymotrypsin 兩種酵素水解物對細胞內的黑色素含量之降低能力相當，且初乳與常乳水解物皆有降低細胞內黑色素含量的效果。

關鍵詞：牛初乳、酵素水解、酪胺酸?、黑色素細胞(B16-F10)

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