

探討李斯特菌生物膜之處理方式

焦尚鴻 (5110)

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一、前言

二、不同時間下李斯特菌的生物膜形成

三、不同酵素處理對李斯特菌生物膜的影響

四、用食品級薑黃素光敏劑光動力殺滅李斯特菌生物膜

五、結論

摘要

單核增生性李斯特菌是一種在環境中普遍存在的病原體，其雖然感染力低，但卻有較長的潛伏期，且致死率極高，此外李斯特菌可以在惡劣的環境條件下生存，例如極端的 pH 值、高鹽濃度和廣泛的溫度範圍，包括冷藏溫度。而生物膜被描述為微生物聚集體，因為生物膜能夠承受不同的環境壓力，而持續存活著，並為某些在這些環境中幾乎沒有生存機會的微生物提供庇護。第一篇文獻中提到在各種時間下李斯特菌的生物膜形成，其中包含了分次培養，從研究結果表明，單核增生性李斯特菌需要特定的培養條件，需要一周時間進行不同的洗滌和營養物質的更新，以形成成熟、完善的生物膜，而構成基質的蛋白質和碳水化合物已被證明是在這些條件下產生的，調整生物膜形成的體外模型不僅可以模擬工業環境中的情況，而且還可以幫助研究人員模擬真實情況，了解生物膜如何生長並進一步消除食品工業中的生物膜。第二篇文獻中提到用不同酵素處理對李斯特菌生物膜的影響，可以發現在可附著的細胞上，這些酵素處理並沒有得到較好的效果，但是透過 CLSM 圖像分析後可以發現，不同酵素對於不同生物膜結構有不同的削弱程度。第三篇文獻可以發現薑黃素的光動力處理對李斯特菌生物膜的消毒效果是有效的。

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