

單核球增多性李斯特菌 CAMP TEST

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食品藥物管理署
Taiwan Food and Drug Administration

<http://www.fda.gov.tw/>

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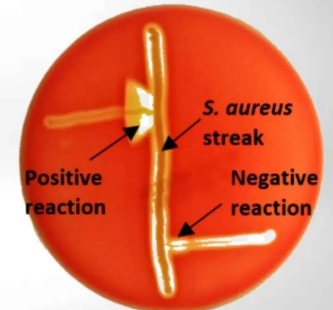
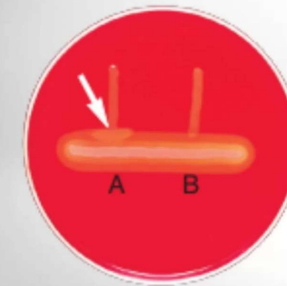
- 原理
- 操作方法
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 - 菌株種類
 - 培養基種類、狀態
 - 接種量
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原理

- CAMP TEST→觀察有無加強溶血現象
- β -溶血型 *L.monocytogenes* 產生CAMP因子(CAMP factor)
- *S. aureus*產生的 β -溶血素(β - hemolysin , β -lysin)發生加強溶解紅血球的活性
- 加強溶血：兩菌落交界處溶血圈變大，呈箭頭型、半月型或圓型的透明溶血區

1944年，Christis、Atkins及Munch-Peterson三位科學家首先描述此現象，取其字首命名為CAMP

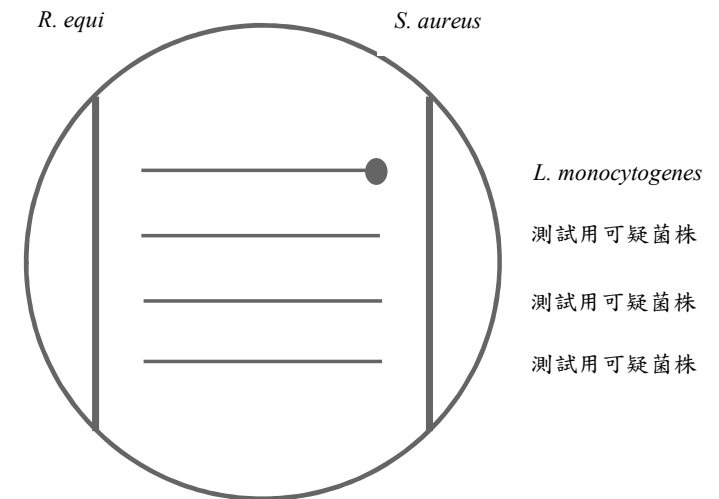
Christie-Atkins-Munch-Peterson test (CAMP)



公告檢驗方法

- *R. equi*及*S. aureus*接種於TSAYE，於35°C培養24 HR
- 以0.85%生理食鹽水配製菌液(濃度1.0 McFarland以上)
- 以棉花棒平行接種2菌於綿羊血培養基
- 以棉花棒垂直接種可疑菌株於二平行線之間
- 35°C培養24 ~ 48 HR後觀察結果
- 正反應：靠近*S. aureus*處溶血較多，近*R. equi*處溶血不明顯

- 1.菌液濃度2.0 McFarland
- 2.接種時不交互重疊，須距離平行線各2 ~ 3 mm
- 3.同時接種李斯特菌標準菌液為對照組



注意事項—菌株

方法	<i>S. aureus</i>	<i>R. equi</i>	<i>L. monocytogenes</i>	其他
TFDA	ATCC 49444 (BCRC 14980) ATCC 25923 (BCRC 10781)	ATCC 6939 (BCRC 12859)	ATCC 19111 (BCRC 14845)	<i>Listeria innocua</i> ATCC 33090 (BCRC 14843)
BAM	ATCC 49444 ATCC 25923	ATCC 6930	ATCC 19115	<i>Listeria innocua</i> ATCC 33090 <i>Listeria seeligeri</i> ATCC 35967 <i>Listeria ivanovii</i> ATCC 19119
ISO	WDCM 00034	WDCM 0028	WDCM 00021 WDCM 00109	<i>Listeria innocua</i> WDCM 00017 <i>Listeria ivanovii</i> WDCM 00018

Staphylococcus pseudintermedius (ATCC® 49444™)

Type Strain: **no** / Biosafety Level: **2**

GENERAL INFORMATION	CHARACTERISTICS	CULTURE METHOD	HISTORY	DOCUMENTATION
Preceptrol®	no			
Genome Sequenced Strain	Yes			
Type Strain	no			
Comments	Ribotyping and nucleotide sequence analysis of the 16s rRNA gene (GenBank FJ536211) and the sodA gene (GenBank FJ872832) indicate that this isolate is <i>Staphylococcus pseudintermedius</i> . This strain demonstrates the expected synergistic beta-hemolysis with <i>Listeria monocytogenes</i> in the CAMP test (FDA BAM).			



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<https://www.atcc.org/products/all/49444.aspx#characteristics>

注意事項—菌株

- 新鮮菌(24小時內)
- 有少許 *L. monocytogenes* 不會產生 β -溶血現象或者CAMP正反應
- 其他李斯特菌屬亦可能產生CAMP正反應

9.5.2.5 Haemolysis tests

9.5.2.5.1 General

Choose one of the haemolysis tests ([9.5.2.5.2](#) or [9.5.2.5.3](#)).

NOTE There exist rare strains of *L. monocytogenes* which do not show β -haemolysis or a positive reaction to the CAMP test under the conditions described in this document.

注意事項—菌株

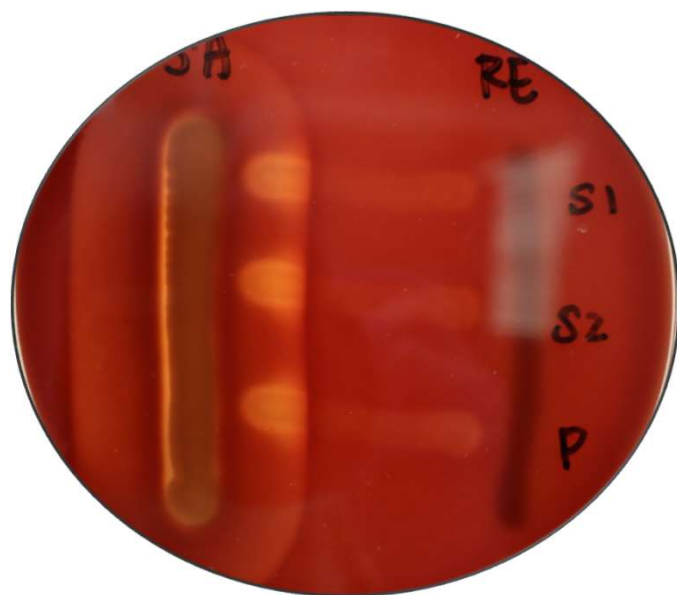
Detection and Enumeration of *Listeria monocytogenes*

Species	β -Hemolysis ^b	Hemolysis enhancement with <i>S. aureus</i> (S)	Hemolysis enhancement with <i>R. equi</i> (R)
<i>L. monocytogenes</i>	+	+	- ²
<i>L. ivanovii</i>	+	-	+
<i>L. innocua</i>	-	-	-
<i>L. welshimeri</i>	-	-	-
<i>L. seeligeri</i>	+ ¹	+	-
<i>L. grayi</i>	-		

1. Weakly hemolytic *L. seeligeri* strains may appear non hemolytic.
2. Rare strains are S+ and R+. The R+ reaction is less pronounced than that of *L. ivanovii*.

注意事項—培養基

- 血成分
 - 綿羊血、牛血
 - ✗ 人血、馬血、兔血
- 效期→放置過久血液氧化易失敗
- 培養基表面勿潮濕，容易使菌落擴散
- 從冰箱取出先回溫並確認表面乾燥



注意事項—接種量

- 接種工具→菌量多寡
- ✓ 接種針
- ✓ 1 μL 接種環
- ✓ 細棉花棒



<https://m.antpedia.com/news/2354560.html>



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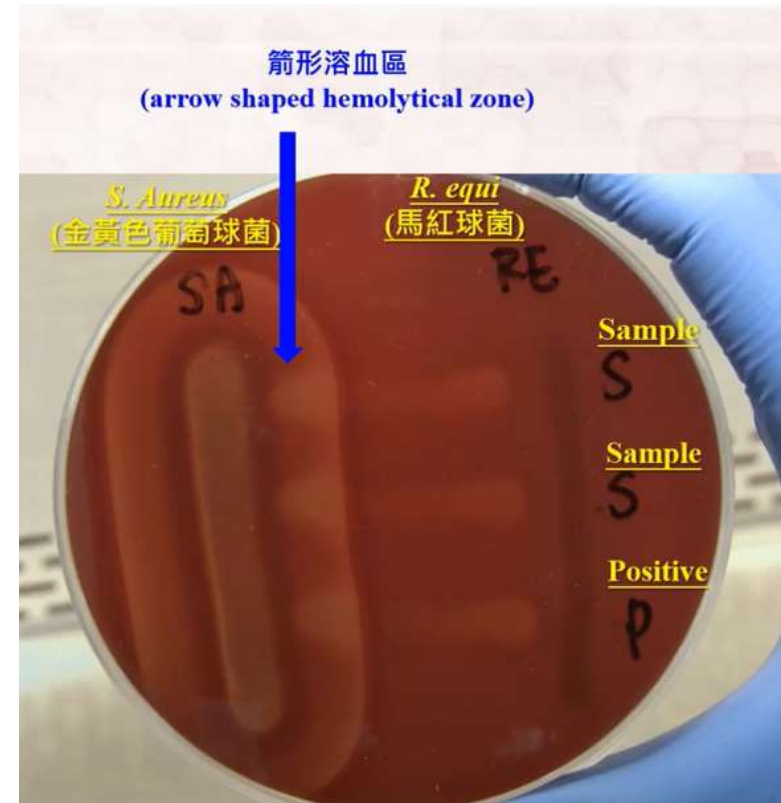
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注意事項—操作手法

- 棉花棒與培養基呈直角畫
- 建議先標示
- 不相互接觸，距離約2~3 mm

ISO 11290-1 9.5.2.6

Streak a well isolated colony of the strain under test (9.5.1.1) in a similar fashion at right angles to these cultures so that the test culture and *S. aureus* and *R. equi* cultures **do not touch but at their closest are about 1 mm to 2 mm apart.**



感謝聆聽

