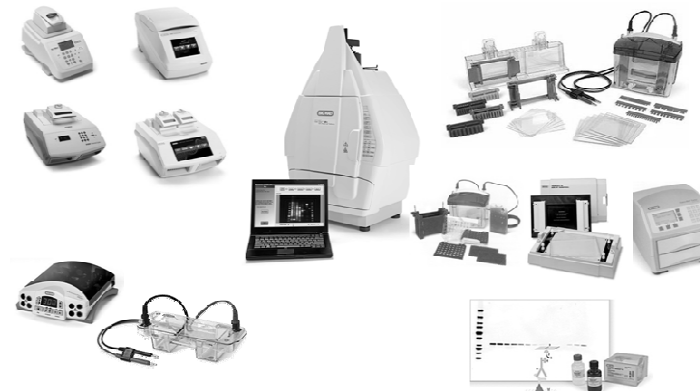


Imaging System Geldoc XR⁺

104年9月4日星期五


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Key Applications



Key Applications

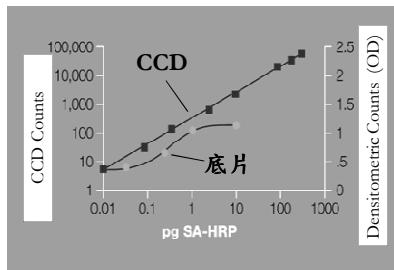
GelDoc XR+		
• Nucleic Acid Detection	• 1D & 2D Protein Gels/ Colorimetric Blots	
• Ethidium bromide	• Oriole	
• SYBR green	• Coomassie Blue	
• SYBR gold	• Silver Stain	
	• Color development (HRP, AP)	

Applications Testing

- Applications specific testing for camera validation:
- DNA Applications:
 - EtBR = 100 pg sensitivity
 - SYBR Green = 50 pg
- Protein Applications:
 - Oriole < 1ng
- Bio-Safe Coomassie = 4 ng

為什麼使用CCD技術

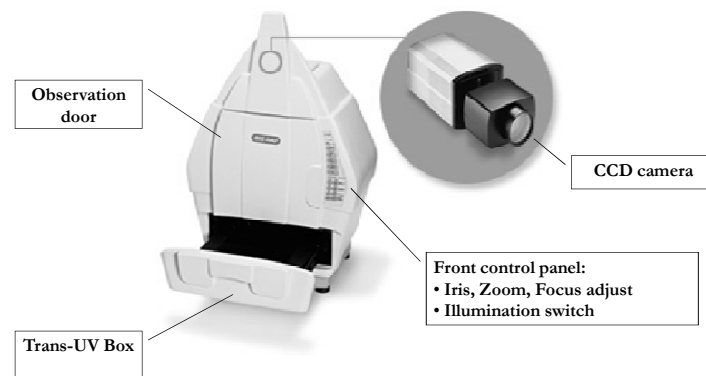
- CCD與光學強度具有真正的線性對應關係
 - 底片的反應是非線性的



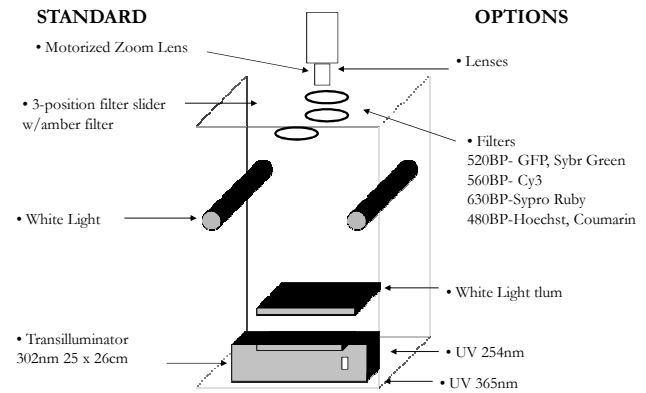
為什麼CCD技術優於底片成像？

- CCD具有更寬的動力學線性範圍(2.2~4.0個數量級)
 - 底片的動力學線性範圍低(1.5~1.9個數量級)
 - CCD可進行更精確的濃度比較
- CCD系統可提示過飽和反應
 - 過飽和圖元警示
 - 底片無法警示過飽和區域-----數據失真
- CCD系統無需任何消耗品
 - 無需底片及沖洗試劑
 - 無需沖洗設備及暗室
- 降低了輸出成本(底片)

GelDoc XR+



GelDoc XRS+
-Configurations



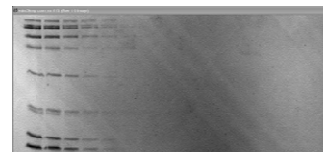
Unique Features – Dynamic Flat Fielding

- Patent-pending Bio-Rad technology
- Elimination non-uniformity caused by variations in the optical path due to zoom setting, illumination, and/or lens.
- Demonstrates the excellent uniformity of the system



Tech Note #2753

Benefit of Flat Fielding



No flat field



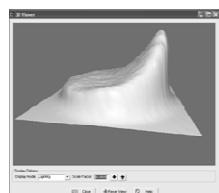
With flat field

BioSafe Coomassie stain was incubated overnight on a 8-16% Tris-HCl gel to detect Broad Range markers. Flat fielding removes background non-uniformity.

VersaDoc MP

GelDoc XR Comparison

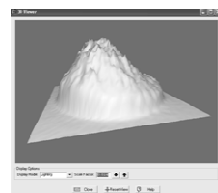
Slightly saturated Harta LED spot – displayed as single peak



Spot #1 – Slightly Saturated



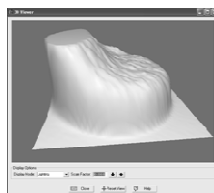
Un-saturated Harta LED Spot – displayed with rounded peak



Spot #3 – Not Saturated



Over-saturated Harta LED Spot – Displayed with flat peak



Over Saturated



使用注意事項

- 打開GelDoc XR+主機背後的開關與CCD獨立電源，之後點選電腦螢幕上
- 雙擊ImageLab的快捷鍵，打開軟體

Introduction to Software Image Lab

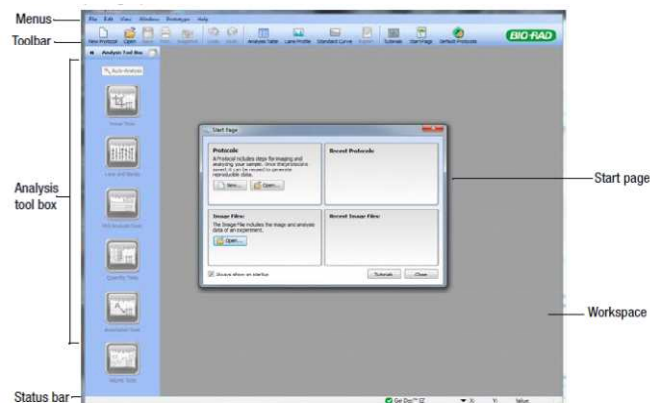
104年9月4日星期五

Easy Software Include

- **FAST**- One step imaging and analysis
- **Automatic Iris, Focus**
- **Resolution**
- **Reproducibility**
- **Saturation display**
- **Report**

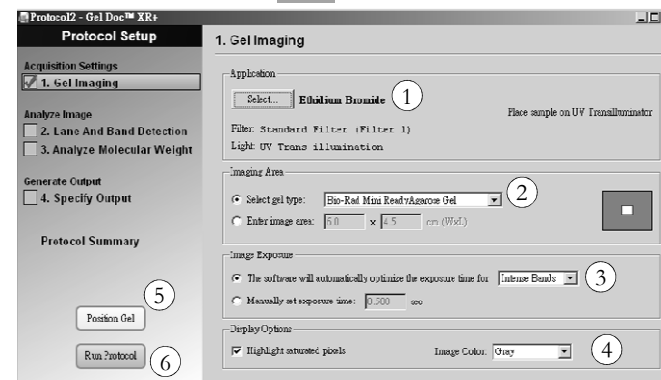


Image Lab Software

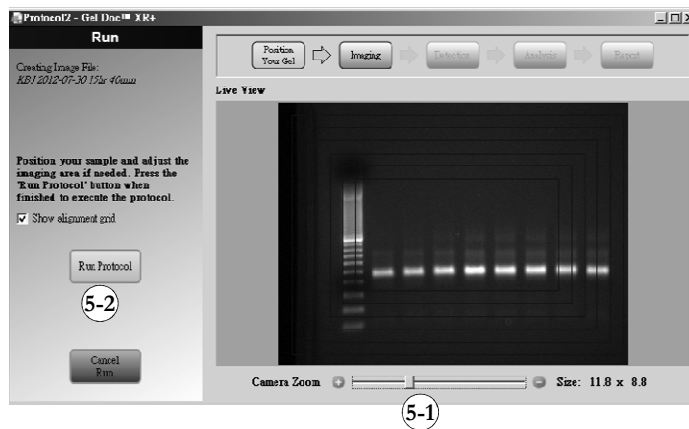


Protocol for imaging blot on GelDoc XRS+ using Image Lab software

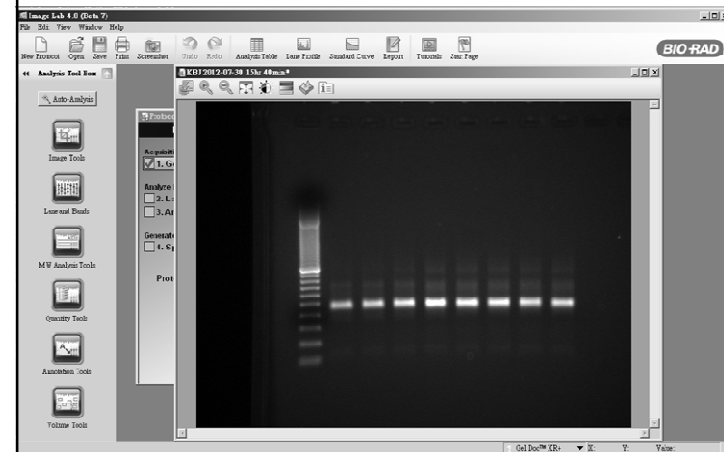
- Click on the new protocol icon



Step 5, Check gel size and zoom in/out



Get result and save it.



Export TIFF or Jpeg

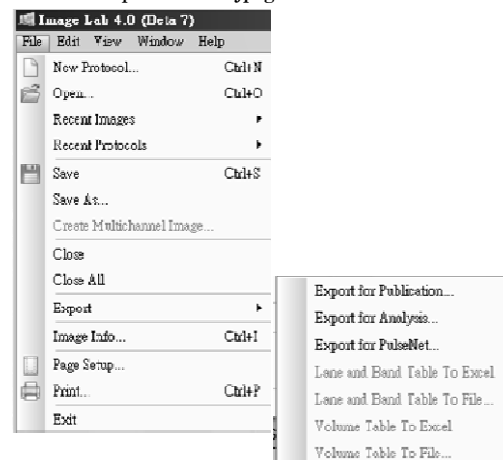
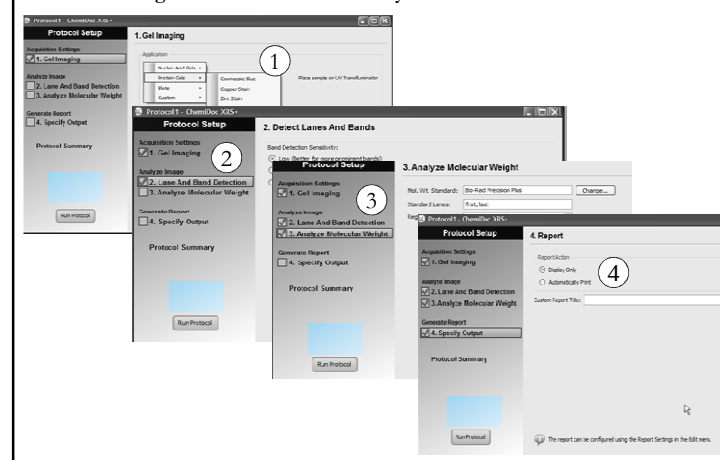
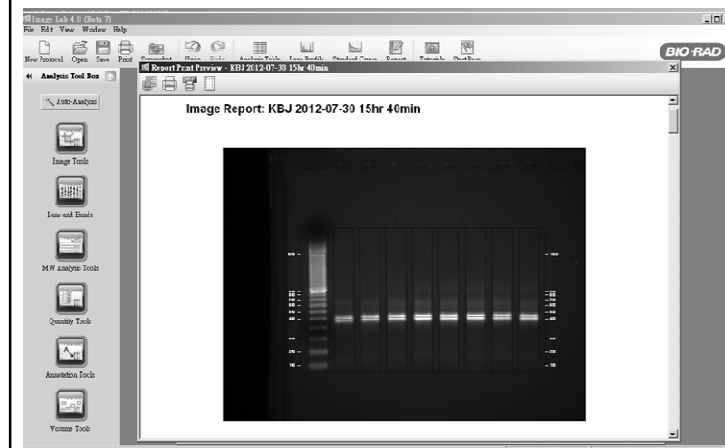


Image Lab – Get result and analysis it in the same time



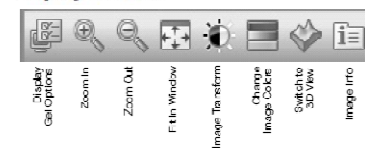
Display result



Toolbar



Display Toolbox



Analysis Tool Box

- (1) 影像擷取工具 (Image Tools)
- (2) 電泳條及電泳條帶工具 (Lane and Band Tools)
- (3) 分子量工具 (MW Molecular Weight)
- (4) 自動定量工具 (Quantity Tools)
- (5) 註釋工具 (Annotation Tools)
- (6) 手動定量工具 (Volume Tools)



若不繼續使用GelDoc 主機

- 請使用有防寫功能的隨身碟或是利用燒錄方式存取結果
- 利用ddH₂O, 酒精, 和 試鏡紙清潔樣品載台
- 請將暗箱之門打開, 使Gel之水氣散出
(保護CCD Camera之鏡頭, 避免水氣凝結)
- 每天最後一個使用者, 請關閉系統

(關閉軟體, 關閉CCD, 關閉主機背後的開關, 關閉電腦)

Thank you for attention !!