

Neutral fielding-for Syngene image capture systems

Introduction

Some of our competitors use a Flat Field Correction method in order to address uneven illumination of light sources. This involves subtracting the image information from an empty field of view or 'perfectly flat' fluorescent reference sample from that of the same field of view with the gel added. As this process involves the subtraction of one image from another, the integrity of the raw data of the initial captured image is compromised. Such manipulation is incompatible with Good Laboratory Practice (GLP) and therefore not adopted by Syngene.

The Neutral Fielding Correction method utilised by Syngene addresses uneven light illumination whilst maintaining GLP compliance.

Firstly an image of the gel is captured using an optimum exposure time, maximising the camera's dynamic range.

Then in the case of UV transillumination, an image of the Neutral Field screen is captured, whereas for visible light transillumination an image of the NovaGlo visible converter alone, which serves as the Neutral Field screen, is captured. The image of the gel now displayed has been Neutral Field corrected.

How does Neutral Fielding work?

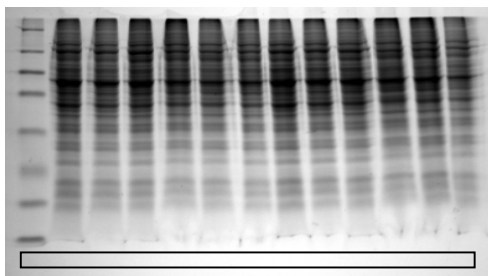
The image of the Neutral Field is normalised for light illumination. This normalisation is then applied to the gel image, such that the uneven light illumination generated by the light source is addressed.

Where can neutral Fielding be found?

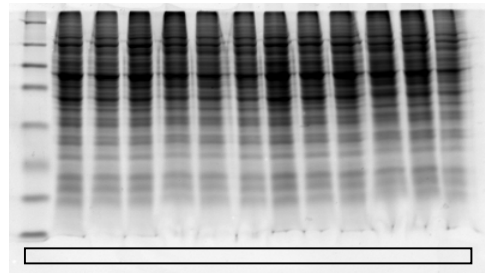
As Neutral Fielding is part of the capture process, it can be found as an option within the GeneSnap software that is supplied with Syngene image capture systems.

Example of the application of Neutral Fielding

Coomassie™ Brilliant Blue stained 1D gel of *Arabidopsis Thaliana* proteins.

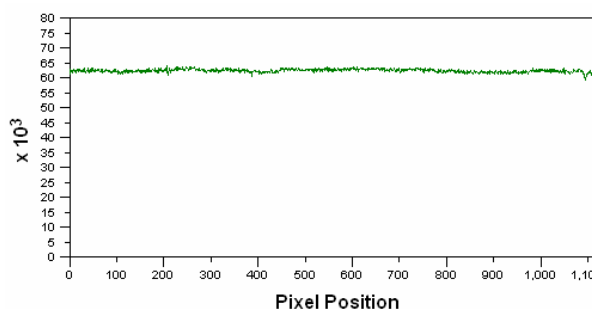
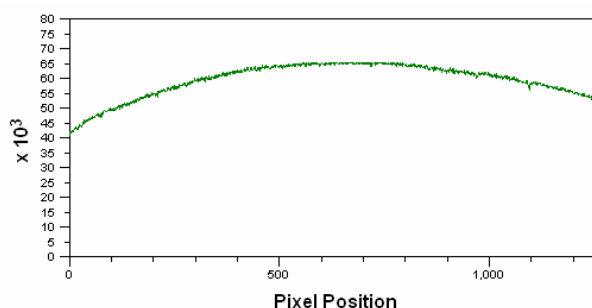


Neutral Fielding OFF



Neutral Fielding ON

A pixel profile has been drawn across both images, as represented by the rectangular box.



Observe the even background when Neutral Fielding has been applied.

Required accessories

Neutral Field screens (blue and frosty), obtainable from Syngene.

Please refer to the neutral fielding Quick guide for information on applying neutral fielding to your images.

Syngene reserves the right to amend or change specifications without prior notice. This Application Note supersedes all earlier versions.

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