

Internal calibration with GeneTools

Introduction

Internal calibration with GeneTools is recommended by Syngene instead of external calibration of each gel or autoradiograph to generate quantitative results every time. The calibration must take into account all the conditions used at the time of the experiment. Any differences in the gel, temperature, speed or buffer need to be considered as they may have an impact on how the DNA or protein bands appear on the gel.

In the case of autoradiography film, exposure time is important and needs to be determined. This is because each brand of autoradiography film has its own dynamic range and can easily be saturated (over exposed). Since overexposure is not always detected by scanners or cameras, the most accurate way to work with film is to perform a specific dilution series to ensure all exposures are within the linear range of the brand of film being used.

Performing a Molecular Weight (MW) or a Quantitative analysis

GeneTools software offers several different analysis options including molecular weights and quantities which can be easily calculated if there are known standards present on the image. Please refer to the GeneTools Gel analysis quick guide for instructions on how to perform both molecular weight and Quantities analysis.

N.B. If performing a quantitative analysis when the ratio between gel bands is required, the ratio can be calculated by the user programming the GeneTools software to assign each track its own calibration standard. To do this, users need to select the Quantity Calibration parameters' button then select (Each Track to a Separate Curve' tab. Then assign calibrated Quantities as instructed in the GeneTools Gel analysis quick guide.

Conclusions

Using the intuitive pull down menus and single mouse clicks makes internal calibration of gels with Syngene's GeneTools software so easy that it can be rapidly performed on a range of DNA/RNA or protein gels and blots. Calibration results are guaranteed to be safely stored in a tamper proof manner, as GeneTools is fully GLP compliant. In addition, since Syngene provides GeneTools software upgrades and expert technical support free of charge, users will always have access to any new calibration tools as well as advice on how to use them. All these GeneTools features ensure that even though gel running conditions are totally diverse, calibrating a gel with GeneTools will produce accurate quantification results time after time.

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

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