Benchmarks

Minimizing the Exposure to UV Light When Extracting DNA from Agarose Gels

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It is common practice to use agarose gel electrophoresis for the purification of DNA molecules before cloning steps. To this end, the gels are stained with ethidium bromide (EtdBr) and viewed under UV light. The bands of interest are then excised from the gel, and the DNA can be extracted from the agarose by several methods (1).

The main disadvantage of this method is the fact that the DNA and the experimenter are exposed to UV light for a considerable time, especially when several bands have to be excised. We describe a simple way (Table 1) to min-

Table 1. Method to Minimize Use of UV Light during Band Excision

1. After EtdBr staining, take a Polaroid® instant film (Polaroid, Cambridge, MA, USA) photo of the gel together with a size standard, e.g., a ruler.
2. Determine the length of the size standard on the photo and divide the actual size by the size on the photo.
3. Make a copy of the photo using the result of the division as a magnification factor.
4. The photocopy can now be placed underneath the gel. The size of the gel should match the size of the photocopy, and the position of the bands of interest can easily be determined without further exposure to UV light. Even faint bands can be seen through the gel.
5. The bands can now be excised accurately without further exposure to UV light.

imize the exposure to UV light, while at the same time drastically reducing the risk of DNA degradation and of cutting out the wrong bands.

REFERENCE

1. Sambrook, J., E.F. Fritsch and T. Maniatis. 1989. *Molecular Cloning: A Laboratory Manual*, 2nd ed. CSH Laboratory Press, Cold Spring Harbor, NY.

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