Dedicated Gel Documentation System for Bio-Safe Dyes

INTRODUCTION

Standalone imaging system, equipped with built-in computer and touch screen control panel, are commonly used because it can be operated without an extra computer system. With a standard 12 bits CCD camera, KETA S had defined a new standard for general standalone gel imaging systems under four different languages interfaces. Images captured can be stored within KETA S built-in memory or directly transferred onto USB memory stick through 8 kinds of image formats, including detailed file information for further analysis in standard band tool software. KETA S is also equipped with built-in power source for BW-20 blue and white light transilluminator for Bio-Safe applications. The following are some typical applications for standalone imaging systems.

MATERIALS

- BW-20 Blue and white light transilluminator(Wealtec)
- SYBR® Safe (Life Technology)
- 1.0% 0.5 x TAE agarose gel
- KETA S imaging system (Wealtec)
- 100 bp DNA ladder (MDBio)

PROCEDURES

1. Resolve the 100 bp DNA ladder in 1.2% 0.5x TAE SYBR® Safe precast agarose gel with following amount through 70 V for 70 minutes:
   8, 7, 6, 5, 4, 3, 2, 1, 0.5, and 0.25 μL.
2. Take picture with KETA S imaging system through UV transilluminator and high transparent amber filter.
3. Apply BW-20 and high transparence orange filter in KETA S system.
4. Take picture of agarose gel with KETA S imaging system through BW-20.
5. Replace the agarose gel with Coomassie Brilliant Blue stained SDS-PAGE into KETA S.

6. Switch the light source of BW-20 to white light LED and take picture.
7. Replace with X-ray film to capture the image with BW-20 white light.

Result

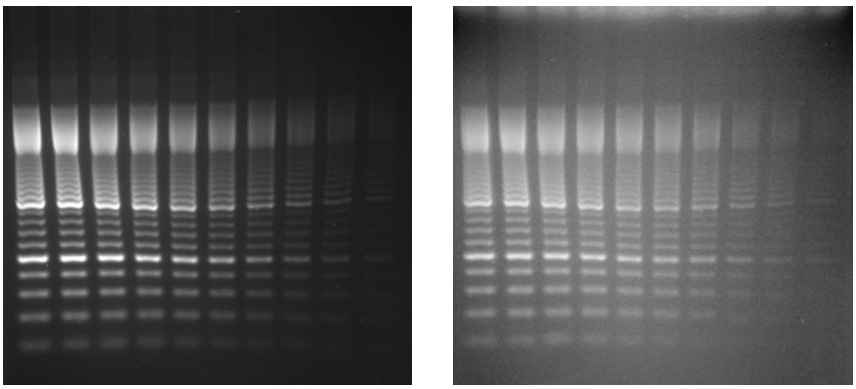

Figure 1. *SYBR Safe observation in KETA S through (A) UV transilluminator and (B) BW-20 Blue Light.*

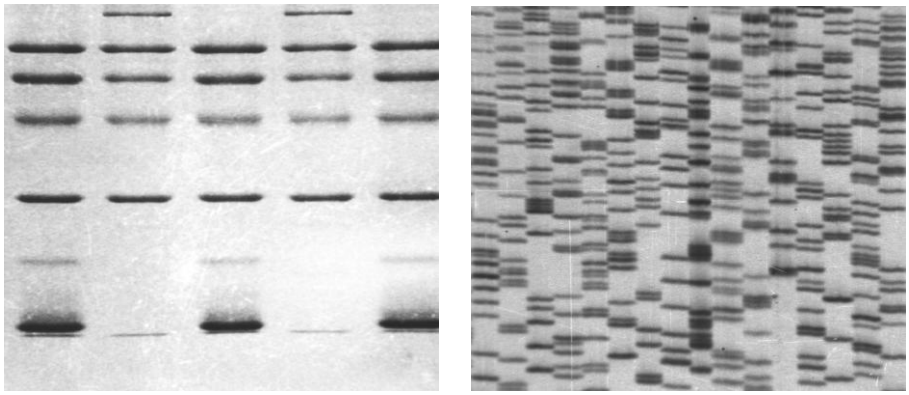

Figure 2. *Sample observation through BW-20 white light in KETA S. (A) SDS-PAGE. (B) X-ray film.*

DISCUSSION

Since the standalone system does not need an extra computer, it can save space in crowded laboratories and provide the fastest capturing methods. If your laboratory requires a separate EtBr contaminated area from clean areas, the standalone system is the best choice for image capturing. All capturing procedures can be done within one machine. KETA S is equipped with 12 bits gray level CCD camera providing the best documentation quality among all standalone gel imaging systems on the market. Whether captured with fluorescence sample as in figure 1 or visible stain sample as in figure 2, KETA S has excellent performance for both. All images captured through KETA S can be saved directly into 8 common file formats, such as ".jpg", ".bmp", ".tif", etc.

Integrated with a four language selection controlling interface, KETA S provides a more user-friendly and training-free operation surrounding. Combined, all these advantages with the standalone system, KETA S, provide higher quality images with higher specs and more flexible upgrade options for more applications. It is the most cost effective system among the whole series of imaging systems.

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