Comparing Midori Green Advance to Competitor RS

Cat. No. MG04

Introduction

Next generation nucleic acid dyes are a safe alternative for the carcinogenic Ethidium Bromide. Nonetheless, the dyes have different characteristics. Midori Green Advance is a dye from the latest generation being a further development of the original Midori Green, with better signal to background ratio than many competitors.

Methods

Two gels were prepared and loaded with equal amounts of DNA. 35 ml of 1% Agarose were prepared with 1 x TAE Buffer (IDsol, Cat. No. #ID1521). Competitor RS was diluted 50000 x, while Midori Green Advance was diluted 25000 x.

Electrophoresis was performed using the Mupid ONE electrophoresis system (Advance Inc., Cat. No. #MU2). Two images were taken after 20 minutes and 40 minutes at 100V, respectively.

Samples/lane:

I. FastGene (Cat. No. MWP100)
II.PCR fragment of 80 bp
III.PCR fragment of 80 bp
IV.Kapa Express ladder

Conclusions

1. **Stronger signals**
2. **Better signal to background ratio**
3. **No destaining of small fragments**

Results

The comparison of the gels showed that **Competitor RS has a substantially higher background** when compared to Midori Green Advance (Fig.1, white arrows). The DNA signal was therefore harder to detect.

After 40 minutes electrophoresis, **the staining of the DNA was more stable with Midori Green Advance than with Competitor RS** as seen after 40 minutes electrophoresis (Fig.1, red and green arrows). **The small DNA fragments disappeared when stained with Competitor RS (Fig.1, zoomed image)**. Therefore, the staining of small DNA fragments using Competitor RS has to be seen critically, as false negative results could lead to wrong scientific conclusions.

Midori Green Advance is the superior DNA dye

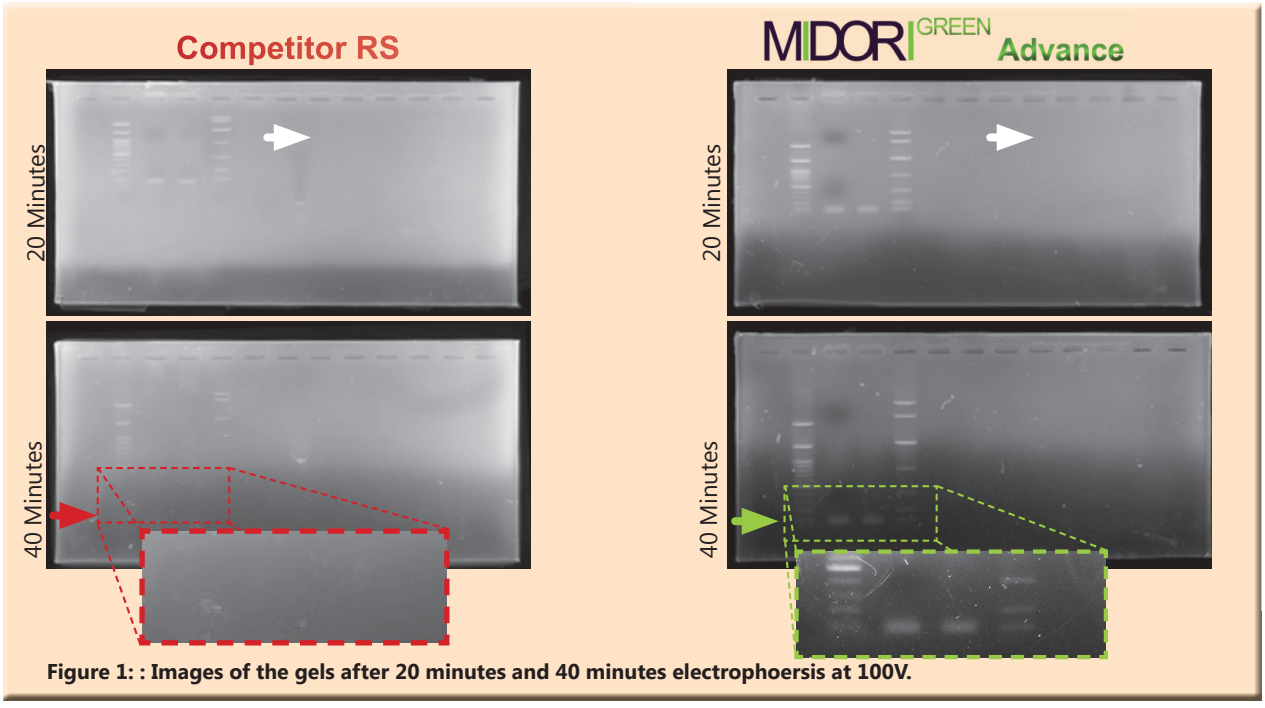

Figure 1: : Images of the gels after 20 minutes and 40 minutes electrophoersis at 100V.