

DNA Green Viewer™

Description:

DNA Green Viewer™ is a new and safe nucleic acid stain, an alternative to the traditional ethidium bromide (EB) stain for detecting double-stranded DNA, single-stranded DNA, and RNA in agarose gels. It emits either green fluorescence when bound to dsDNA or red fluorescence when bound to ssDNA or RNA. This new stain has two fluorescence excitation maxima when bound to nucleic acid, one centered at approximately 290 nm and one at approximately 490 nm. DNA Green Viewer™ is as sensitive as EB. The staining protocol for DNA Green Viewer™ is similar to that for EB. Compared to EB, known as a strong mutagen, DNA Green Viewer™ causes much fewer mutations in the Ames test. In contrast, DNA Green Viewer™ has a negative test in mouse marrow chromophilous erythrocyte micronucleus result and mouse spermary spermatocyte chromosomal aberration test. So it is wise to choose DNA Green Viewer™ instead of EB for detecting nucleic acid in agarose gels.

Content:

500 µl of DNA Green Viewer is sufficient for 5 L of agarose gel.

Protocol:

1. Prepare 100 ml of agarose gel solution (concentration from 0.8~3%) in a 250 ml flask and mix it thoroughly. Place the flask in the microwave, heat it until the solution is completely clear and no small floating particles are visible (about 2~3 minutes).
2. Add 10 µl of DNA Green Viewer™ to the solution. Swirl the flask gently to mix the solution and avoid forming bubbles.
3. While the agarose solution cools, pour it into the gel tray until the comb teeth are immersed about 1/4~1/2 into the agarose.
4. Allow the agarose gel to cool until solidified. Load samples on the gel and perform electrophoresis.
5. Detect the bands under UV illumination.

Note:

1. The thickness of gel should be less than 0.5 cm since thick gels may decrease sensitivity.
2. Repeated melting of gels containing DNA Green Viewer™ may result in low sensitivity.
3. DNA Green Viewer™ allows visualization of DNA (>100 ng) in the agarose gel under visible light.

This eliminates the need for exposure to UV light, which may damage DNA. The intact DNA

fragments purified from agarose gel can increase the efficiency of subsequent molecular biology manipulations such as cloning, transformation and transcription.

4. Although it is noncarcinogenic, DNA Green Viewer™ may irritate skin and eyes. Please wear gloves while handling.