proACE™ Green DNA Stain

#GS03.0001 (1ml 20,000X) | GS03.3001 (3x 1ml 20,000x) | GS03s (trial size)
(FOR RESEARCH ONLY)

Product: proACE™ Green DNA Stain is a new and safe alternative to ethidium bromide (EtBr) for the visualization of DNA (double-stranded and single-stranded DNA) and RNA in agarose and polyacrylamide gels. The dye has been developed for in-gel staining and post-staining and is compatible with both UV and Blue LED transilluminators.

Quantity: #GS03.0001 consists of 1ml of ready-to-use proACE™ Green DNA Stain at a 20.000x concentration. #GS03.3001 consists of 3x 1ml of ready-to-use proACE™ Green DNA Stain at a 20.000x concentration, and #GS03s is a trial sample (50 µl). One ml is sufficient for 400-500 mini-gels (50-40ml each).

Properties: proACE™ Green DNA Stain has fluorescence excitation wavelengths in the UV range (~270nm; ~290nm) and in the blue/green light range (470-488nm and 510-514nm). Maximum fluorescence emission is at 527-533nm (green). Therefore, proACE™ Green DNA Stain is compatible with a large variety of gel documentation systems. Yellow/orange filters should be used for photography.

Sensitivity: The detection limit of proACE™ Green DNA Stain is in the range of 0.5-2.0 ng/band (depending on agarose type and percentage, thickness of the gel, electrophoresis buffer, transilluminator, photo camera quality and settings, etc). proACE™ Green DNA Stain is also suitable for post-staining.

Safety: proACE™ Green DNA Stain is non-mutagenic as determined by the Ames-test. Moreover, genotoxicity analysis shows negative results for both the mouse marrow chromophilous erythrocyte micronucleus test and mouse spermatocyte chromosomal aberration test. The complete safety report can be found on the product page at our website. proACE™ Green DNA Stain is non-hazardous; however, one should always exercise common safe laboratory practices. Use goggles and gloves as proACE™ Green DNA Stain may cause skin or eye irritations.

Waste: proACE™ Green DNA Stain is not classified as hazardous waste and some institutions have approved the disposal of gels and solutions containing proACE™ Green DNA Stain directly into their wastewater systems. GRiSP recommends to dispose of proACE™ Green DNA Stain as you would of any other non-carcinogenic fluorescent dye (like propidium iodide). Naturally, always dispose in accordance to all Federal, state, and local environmental regulations.

Storage: This product is stable for at least 2 years at room temperature. Store protected from light. Do not store at +2ºC to +8ºC. Do not freeze. Gently spin down before use.

Usage

Agarose Gels (pre-staining)

1. Prepare agarose solution by mixing the desired amount of agarose and desired volume of electrophoresis buffer, and dissolving the agarose by heating.
2. Once the solution has become clear, remove from the microwave or heater, swirl gently, and allow the solution to cool down to ~60°C.
3. For each 100ml of agarose solution, add 5µl of proACE™ Green DNA Stain (for example: 2µl for a 40ml gel)
4. Mix gently by swirling. The solution should be devoid of air bubbles. Pour to cast the gel.
5. Run gel according to normal procedure.
6. Visualize using either UV or Blue LED light.

Agarose Gels (post-staining)

1. Prepare agarose solution by mixing the desired amount of agarose and desired volume of electrophoresis buffer, and dissolving the agarose by heating.
2. Once the solution has become clear, remove from the microwave or heater, swirl gently and allow the solution to cool down to ~60°C. Pour to cast the gel.
3. Run gel according to normal procedure.
4. Submerge the gel in post-staining solution that contains 3µl of proACE™ Green DNA Stain per 10ml of Electrophoresis Buffer. Ensure you use sufficient buffer to cover the gel completely.
5. Agitate gently, protected from light, at room temperature, for 30 minutes.
6. Visualize using either UV or Blue LED light.
7. The leftover staining solution can be stored, for re-use, in a sealed container, protected from light, at room temperature, for up to 1 week.

Notes

Ligation-transformation efficiency data indicate that the ratio of positive colonies: negative control is approximately 20x higher, when purifying the DNA insert from agarose gels stained with proACE™ Green DNA Stain than when stained with Ethidium bromide (EtBr). This positive effect is caused partly by the stain (proACE™ Green DNA Stain vs EtBr) and partly by the light emitted by the transilluminator (Blue/Green vs UV).