



Technical Bulletin

DNA Staining and Imaging



Safe DNA Gel Stain



SMARTBLUE™

Blue Light Transilluminator



When separating DNA via electrophoresis, it is most common for the gels to be stained so the DNA bands can be visualized.

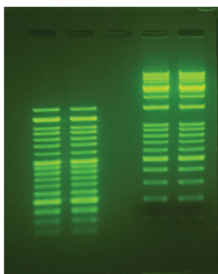
There are many options for DNA staining, including the very common, yet hazardous Ethidium Bromide (EtBr). This stain is inexpensive and widely used, but it is a known mutagen so many scientists are switching to less toxic options such as **Apex™ Safe DNA Stain** (cat# 20-278).

In addition, EtBr is usually viewed on a UV transilluminator. UV light can damage the DNA in the gel, and is also hazardous to lab personnel, so scientists are very interested in visible light options, such as the new Accuris™ SmartBlue, blue light transilluminator (cat# 31-456).

The following page provides some sample gel images to show typical staining results. All photos taken using the Accuris™ SmartDoc imaging enclosure (cat# 31-440) with an iPhone 6 camera.

Apex Safe DNA Stain **NEW!**

- Replaces hazardous and mutagenic Ethidium Bromide (EtBr)
- Better sensitivity than EtBr - detect as little as 0.1ng of DNA
- Compatible with both UV and blue light illuminators
- Compatible in both agarose and polyacrylamide gels
- Emits green fluorescence when bound to ssDNA/dsDNA
- Emits red fluorescence when bound to RNA
- Ships at ambient temperature and stored refrigerated



Replaces SYBR® Safe DNA Gel Stain

20,000x Safe DNA Gel Stain

- Supplied 20,000x - twice the concentration of similar products
- Add to the gel solution before pouring the gel
- 5µl per 100ml gel solution

Cat#	Description	Qty/Unit	List Price
20-278	Safe Stain 20,000x, in Water	1.0ml	170.00

6x Safe DNA Loading Dye

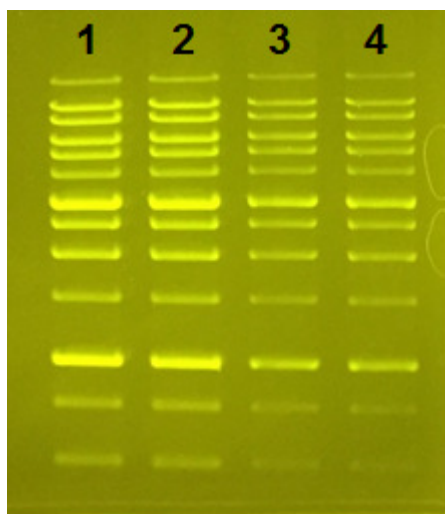
- Add directly to the sample before loading the gel
- No need to add any stain to the gel or running buffer
- Mix 1:5 (dye to sample)

Cat#	Description	Qty/Unit	List Price
20-278D	Safe Loading Dye 6X, in DMSO	1.0ml	170.00

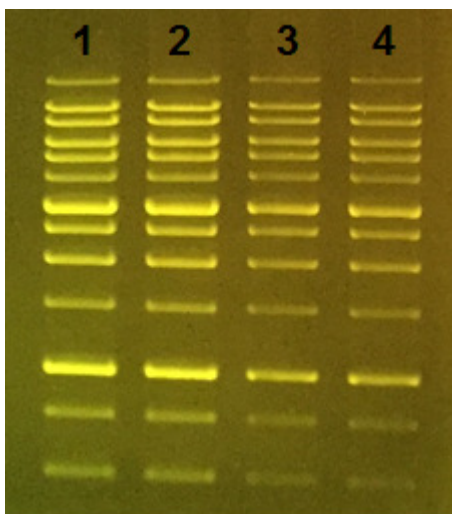
Literature and FAQ's are available from Genesee Scientific and at the Genesee website: www.geneseesci.com. Or feel free to contact Genesee Scientific at 800-789-5550.

DNA visualization using Apex™ Safe DNA Gel Stains and EtBr with UV and Blue Light excitation

Apex Safe DNA stain is compatible with the SmartBlue™, visible blue light transilluminator (cat # 31-456) and also works well with common UV transilluminators:

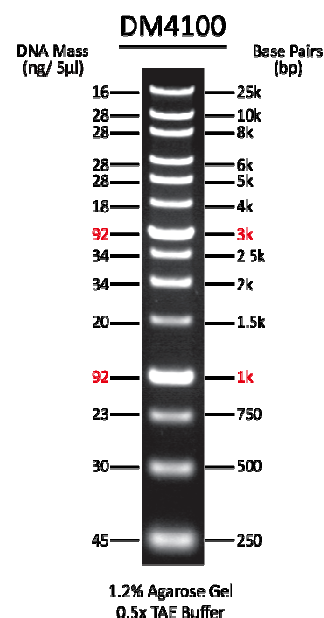


DNA ladder stained with Apex Safe Stain, visualized on **SmartBlue** Transilluminator

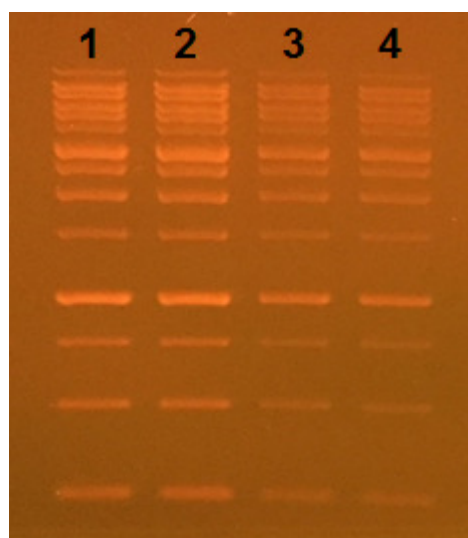


DNA ladder stained with Apex Safe Stain, visualized on **UV** Transilluminator

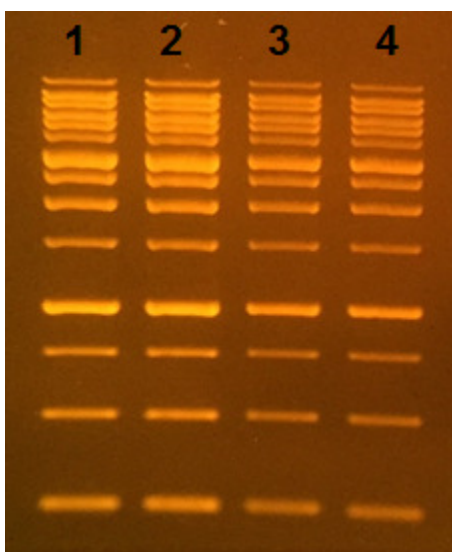
DNA Ladder used:



For labs that don't want to switch from EtBr (cat # 20-276): They can still use the **safe** and **economical** SmartBlue™ blue light transilluminator for EtBr stained gels instead of using UV light:



DNA ladder stained EtBr visualized on **SmartBlue™** Transilluminator



DNA ladder stained EtBr visualized on **UV** Transilluminator

Volume of ladder:

- Lane 1: 5ul
- Lane 2: 5ul
- Lane 3: 2.5ul
- Lane 4: 2.5ul

Note: recommended volume per lane is 5ul. Lanes 3 and 4 use 2.5ul to demonstrate sensitivity.