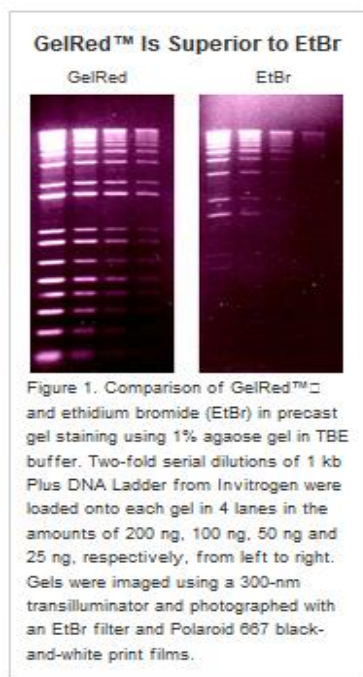


## GEL RED – A SAFER ALTERNATIVE TO TOXIC ETHIDIUM BROMIDE IN DNA RESEARCH

Gel Red is an innovative, stable, non-hazardous, and environmentally safe fluorescent nucleic acid dye designed by Biotium as an alternative to toxic ethidium bromide (EtBr) for staining dsDNA, ssDNA and RNA in agarose gels and polyacrylamide gels. Gel Red is very sensitive and can be used with existing EtBr UV imaging systems (Figure 1). The stained gel can be viewed with a standard transilluminator and photographed with an EtBr filter.



- **Safer than EtBr or other gel staining agents**
- **Super-sensitive**
  - It is much more sensitive than EtBr (see Figure 1)
  - Use only 2 uL per gel (*U-M study see below*)
- **Precast or Post gel staining**
  - Staining DNA can be done by precast or post gel
- **Stability**
  - It is photo-stable and stable when microwaved
  - No DNA mutations are reported
- **Toxicity**
  - Does not penetrate through gloves
  - Non permeable through cell membranes
  - Non-mutagenic and non-cytotoxic
  - Non-hazardous as tested by RCRA characteristics
- **Disposal**
  - Solid waste can be disposed of as regular trash
  - Discharge the liquid waste down the drain (approval in place)

Based on its superior sensitivity, non-toxicity and non-hazardous characteristics the Office of Campus Sustainability highly recommends this product in your DNA research. A study conducted by Kristin Evon on our campus showed only 2 uL/gel of Gel Red is enough for precast or post gel electrophoresis to obtain superior results. Use of this safer product is growing rapidly on our campus and is supported by the following endorsements:

*“Our lab has been using Gel Red and found multiple positive benefits to support its adoption. After transitioning we were able to clean all gel and imaging equipment to reduce the hazards posed by EtBr. Gel Red stained gels have been determined to be safe to dispose of into normal trash with no biohazard waste generated. We highly recommend this product to others for safety and sensitivity.”* **Dana Dolinoy, Ph.D. Searle Assistant Professor and Chris Faulk, Ph.D., Dolinoy Lab, School of Public Health, U-M.**

*“The UMHS MMGL Molecular Genetics Laboratory replaced Ethidium bromide with Gel Red approximately two years ago. We run thousands of agarose gels using Gel Red per year. The MMGL Molecular Genetics Laboratory has demonstrated that Gel Red is equally effective for staining genomic DNA, digested genomic DNA, PCR amplicons, and Methylation-sensitive PCR products. Using our validated clinical protocol, Gel Red has increased the level of safety in the laboratory, increased the sensitivity in detecting products, decreased the operating costs associated with running gels, and significantly decreased the amount of hazardous waste that we were collecting.”* **Todd Ackley, Manager, Michigan Medical Genetics Laboratories, UMHS, U-M.**

A discounted price from our preferred vendor and sole distributor, VWR has been negotiated for this product. Contact Sudhakar Reddy, Ph. D. for details at [redv@umich.edu](mailto:redv@umich.edu)

Adapt to Gel Red in your nucleic acid research and help with creating a safer more sustainable work place on the University of Michigan campus!