

## Thiazole Green I Nucleic Acid Gel Stain, 10,000 ×

Cat. No.	Product	Spec.
FLD0601	Thiazole Green I, 10,000 × in DMSO	0.5 mL
FLD0601-1	Thiazole Green I, 10,000 × in DMSO	1 mL

### Storage and Handling

- Store at -20°C, protected from light and moisture. The product remains stable for up to one year from the date of receipt.
- Before use, allow the dye to equilibrate to room temperature, vortex thoroughly, and briefly centrifuge to spin down the solution on the cap and sides of the tube.
- For optimal stability, aliquot the reagent upon first use to minimize repeated freeze-thaw cycles.

### Product Description

Thiazole Green I is a green fluorescent nucleic acid gel stain with high sensitivity, low cytotoxicity, and minimal mutagenicity. It designed for detecting double-stranded DNA (dsDNA) in agarose or polyacrylamide gels. Upon binding to dsDNA, it exhibits a marked increase in fluorescence intensity, delivering significantly greater sensitivity than ethidium bromide (EtBr). Thiazole Green I has an exceptional affinity for dsDNA, ensuring high signal-to-noise ratios in detection. Its sensitivity for single-stranded DNA and RNA is comparatively lower. For the complete safety report, please visit [www.msbio.com](http://www.msbio.com).

### Spectral Profile

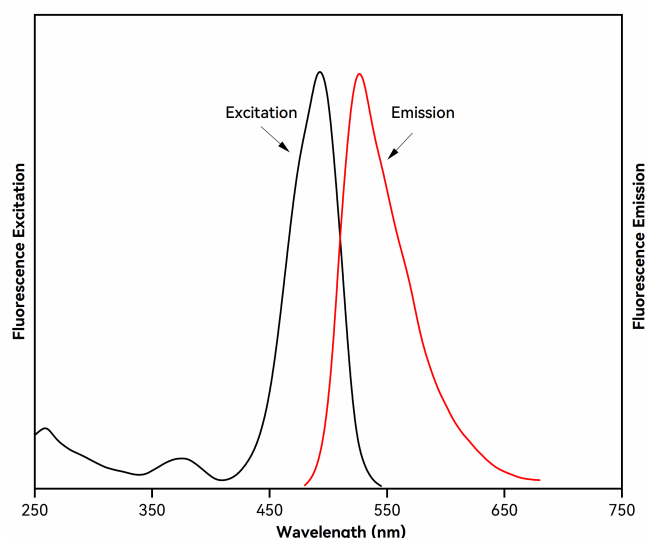


Figure 1: Excitation and emission spectra of Thiazole Green I nucleic acid gel stain.

### General Considerations

- Thiazole Green I can be used in both in-gel staining protocol and post-staining protocol. Post-staining generally provides higher sensitivity and is recommended for detecting low DNA concentrations. In-gel staining is not recommended for use with polyacrylamide gels.

- Slight precipitation may appear when diluting Thiazole Green I; this is normal and can be re-dissolved by gentle mixing.
- Recommended DNA load is 10 to 200 ng DNA per lane, or 2 to 5 µL PCR product. For large DNA load or maximum sensitivity, post-staining is preferred.
- While Thiazole Green I has passed multiple safety assessments at MSBIO, please follow all relevant laboratory safety practices and wear appropriate personal protective equipment (PPE).
- For disposal, dilute Thiazole Green I to lower than 1 ×, and consult your institution's biosafety or environmental officer for local disposal procedures.

### Post-Staining Protocol

- Run electrophoresis according to your standard protocol.
- Dilute Thiazole Green I to a 1 × staining solution using electrophoresis buffer.
- Place the gel in a staining tray or suitable container and fully cover with the Thiazole Green I 1 × staining solution.
- Stain at room temperature for 10 to 30 min, with gentle shaking.
- (Optional) Destain the gel with deionized water to reduce background.
- Image the gel using a UV illuminator or blue-light imager.

### In-Gel Staining Protocol

- Prepare molten agarose gel solution according to your standard procedure.
- Allow it to cool down to approximately 60°C and add 10,000 × Thiazole Green I at a 1:10,000 dilution.
- Mix thoroughly and cast the gel.
- Load samples and run electrophoresis.
- Image the gel using a UV illuminator or blue-light imager.

### Staining Results

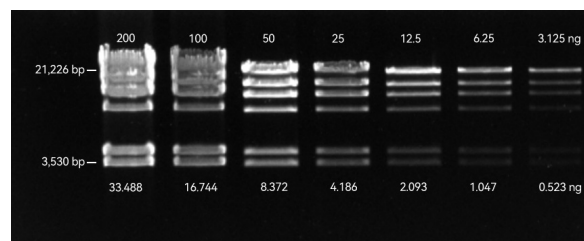


Figure 2: Post-staining of a 1 % agarose gel with Thiazole Green I. Two-fold serial dilutions of λ-DNA/Hind III digest were loaded in amounts of 200, 100, 50, 25, 12.5, 6.25 and 3.125 ng from left to right.

**Related Products**

Cat. No.	Product
FLD0601	Thiazole Green I ,10,000 × in DMSO
FLD0602	Thiazole Green II ,10,000 × in DMSO
FLD0701	JellyGreen, 10,000 × in DMSO
FLD0702	JellyRed, 10,000 × in water
FLD0703	GelViewer, 10,000 × in water

For Research Use Only. This product is intended for laboratory research purposes only and is not intended for use in diagnostic procedures, therapeutic applications, or in humans or animals.