CodexRed DNA Gel Stain (10,000 X in Water)

（Cat #: D003）

Introduction:

CodexRed DNA Gel Stain is a highly sensitive fluorescent stain for detecting nucleic acids in agarose and polyacrylamide gels. This non-toxic stain gives high sensitivity detection of dsDNA or ssDNA and RNA. Gels can be post┐stained, alternatively, the stain can be added to agarose gels during gel casting. CodexRed DNA Gel Stain is compatible with a standard 300 nm transilluminator, a 254 nm transilluminator, a blue-light transilluminator, or a gel reader equipped with visible light excitation such as a 488 nm laser┐based gel scanner. It is a 10,000 X concentrated solution that can be diluted 10,000 times for use in precast gel staining or 5,000 times for use in post gel staining according to the procedures described below.

Applications:

Gel staining with CodexRed is compatible with downstream applications such as gel extraction and cloning. It is efficiently removed from DNA by phenol/chloroform extraction and ethanol precipitation.

Table 1: Product Package & Storage

Cat #	Product Name	Volume	Storage
D003	CodexRed DNA Gel Stain (10,000 X in Water)	500 µL	2 ~ 25 °C, protect from light.

Specification:

Excitation/Emission (nm): 300/600 nm, bound to nucleic acid
Concentration: 10,000 X in water
Storage: Store at 2 ~ 25 °C, protect from light.

1. Post-staining Protocol

1.1 Run gels as usual according to your standard protocol.

1.2 Dilute the CodexRed 10,000X stock reagent 5,000-fold to make a 2X staining solution in TE, TBE or TAE buffer.

1.3 Carefully place the gel in a suitable polypropylene container. Gently add a sufficient amount of the 2X staining solution to submerge the gel.

1.4 Agitate the gel gently at room temperature for 30 min.

1.5 Wash the gel with deionized water to remove excess dye. Image the stained gel with a transilluminator, or a laser-based gel scanner using a long path green filter such as a SYBR® Filter or GelStar® filter.

2. Pre-cast Protocol

2.1 Prepare molten agarose gel solution using your standard protocol.

2.2 Dilute the CodexRed 10,000X stock reagent into the molten agarose gel solution at 1:10,000 and mix thoroughly.

2.3 Cast the gel and allow it to solidify.

2.4 Load samples and run the gels using your standard protocol.

2.5 Image the stained gel with a transilluminator, or a laser-based gel scanner using a long path green filter such as a SYBR® Filter or GelStar® filter.

Note: The pre-cast protocol is not recommended for polyacrylamide gels.
Use the post staining protocol for acrylamide gels.

Troubleshooting

Problem	Suggestion
Smeared DNA bands in precast gel	(1) Reduce the amount of DNA loading. Smeared bands can be caused by overloading; (2) Perform post-staining instead of pre-casting; (3) Prepare a lower percentage agarose gel for better resolution of large nucleic acid fragments; (4) Change the running buffer. TBE buffer has a higher buffering capacity than TAE.
Discrepant DNA migration in precast gel	(1) Reduce the amount of DNA loading; (2) Reduce the amount of dye used, i.e., use 0.5X in precast gels; (3) Perform post-staining instead of pre-casting.
Weak fluorescence signal	(1) The dye may be precipitated out of solution. Vortex to redissolve; (2) Increase the amount of dye used, i.e., use 2X in precast gels.