

Molecular Biology Certified Agarose

Lot Number: 130684*

*The single letter code following the numerical Lot Number found on the bottle is for internal reference only, and does not designate different lot numbers.

Each batch of agarose is tested for enzyme inhibitors and standard physical properties. Only batches that meet or exceed the specifications listed below are used in our Molecular Biology Certified Agarose.

Separation of DNA Restriction Digest Fragments Test

Different amounts of *Hind*III-digested lambda DNA are separated in a 1% gel in 1x TAE. At least six bands should be visible in each lane (Figure 1), while the smallest band (564 bp) may not be visible in the 80 ng of DNA lane.

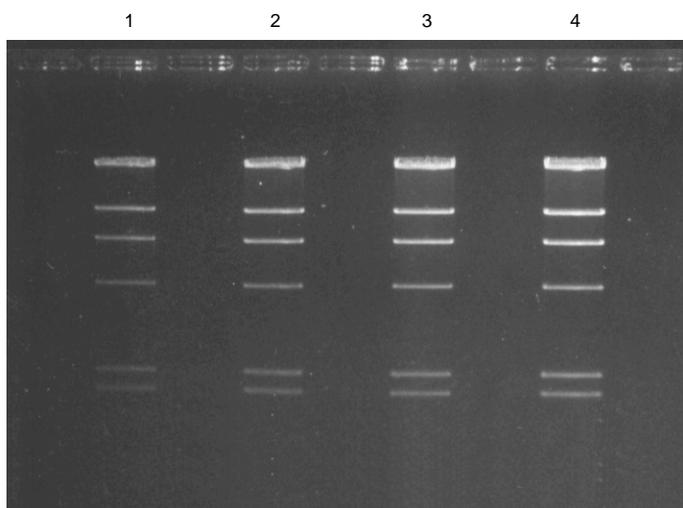


Fig. 1. Separation of *Hind*III-digested lambda DNA (1) 80 ng of total DNA; (2) 160 ng; (3) 240 ng; (4) 320 ng.

Enzyme Inhibition Test

The treated pBR322 samples (uncut) are electrophoresed in a 1% gel, then electro-eluted onto DEAE paper and recovered. The untreated pBR322 samples (uncut) are spotted directly onto DEAE paper and recovered. The recovered samples (both treated and untreated) are digested with either *Pst*I, *Eco*RI, or *Bam*HI at a concentration of 2U/μg DNA for 60 minutes at 37 °C in the manufacturer's supplied buffer, then separated on a 1% agarose gel (Figure 2). In a separate test,

treated and untreated samples of *Hind*III-digested pBR322 are recovered, ligated with 0.2 Weiss units of T4 DNA ligase for >16 hours at 4 °C, then separated on a 1% agarose gel (Figure 3).

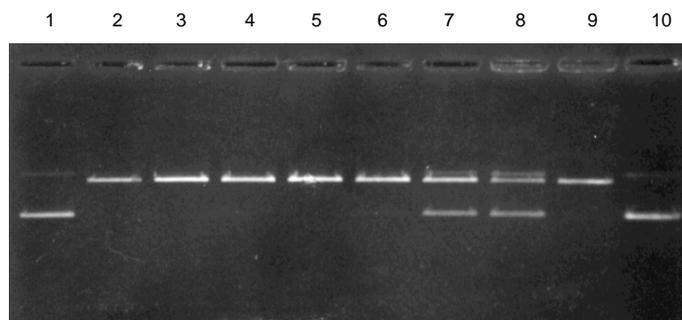


Fig. 2. Restriction enzyme inhibition test All lanes contain approximately 200 ng of pBR322 (1) uncut; (2) *Hind*III; (3) untreated, *Pst*I; (4) treated, *Pst*I; (5) untreated, *Eco*RI; (6) treated, *Eco*RI; (7) untreated, *Bam*HI; (8) treated, *Bam*HI; (9) *Hind*III; (10) uncut.

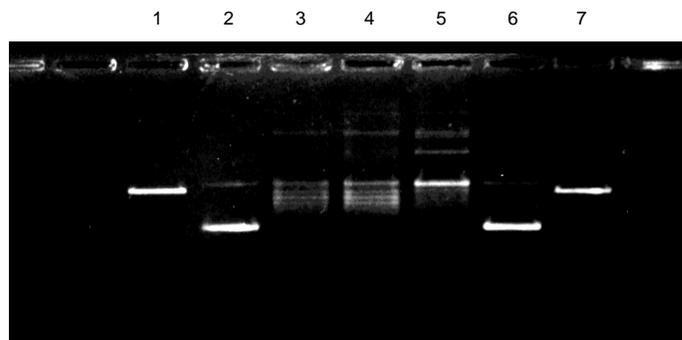


Fig. 3. T4 DNA Ligase inhibition test. All lanes contain approximately 200 ng of pBR322 (1) uncut; (2) *Hind*III; (3) *Hind*III, ligated; (4) untreated, ligated; (5) treated, ligated; (6) *Hind*III; (7) uncut.

Transformation Inhibition Test

Treated DNA samples (pBR322) are used to transform chemical-competent *E. coli* cells. The transformation efficiency of the treated DNA samples, in terms of ampicillin-resistant transformants/μg of DNA, must be no less than 50% of the transformation efficiency of the untreated DNA samples.

	Test Results	Specifications
Relative mobility:	0.06	<0.12
Gel strength (g/cm ²):	2,800	>2,000
Gelation temperature:	38.0 °C	>36.0 °C
SO ₄ :	0.07%	<0.10%
DNA separation test:	pass	>6 bands
Restriction enzyme test:	pass	>50% of untreated digestion
Ligase test:	pass	>50% of untreated ligation
Transformation test:	pass	>50% of untreated efficiency