



# DTI Agarose routine

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Instruction Manual for use



User Manual for DTI Agarose routine

Catalogue number: DT1701.500

*Note: Applicable to all pack sizes*

Manufactured by  
DSS Takara Bio India Pvt Ltd  
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### 1) Product Description:

Agarose electrophoresis is the most effective way to identify and separate DNA fragments. The purity of agarose directly affects the resolution of DNA and the clarity of electrophoresis results. If the agarose contains sugars, salts, proteins, it will affect the migration speed of DNA in the gel and subsequently the reaction performance of recovered DNA fragments during enzymatic reactions. Hence, using high quality agarose is important for success of the experiment.

DTI Agarose routine is a high-quality agarose product, suitable for making 1-3% agarose gel. When stained with EtBr, the electrophoretic separation performance is strong, bands are clear and is suitable for electrophoresis of various DNA fragments. It is an economical and ideal grade for conventional agarose electrophoresis.

### Gel Concentration:

Agarose gel concentration and ideal resolution of linear DNA

Agarose concentration	Ideal linear DNA resolution range (bp)
1.0%	500-10,000
1.2%	400-7000
1.5%	200-3000
2.0%	50-2000
3.0%	50-2000

### 2) Product specifications:

Gel Strength (1.5% gel)	>800 g/cm <sup>2</sup>
Gelling temperature	35-40°C
Electroendosmosis	0.09-0.12
Sulfate content	<0.2%

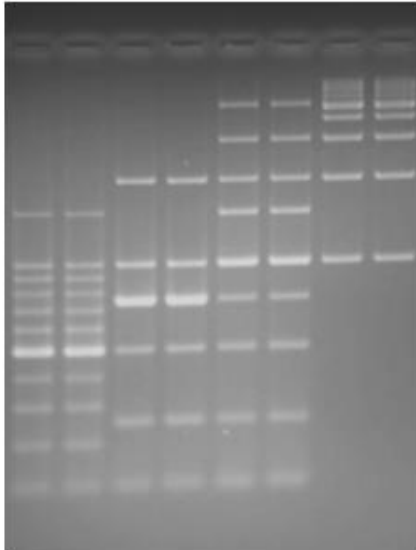
### 3) Procedure for preparation of Agarose gels:

- i. Prepare an appropriate amount of buffer for electrophoresis and gel preparation (usually 0.5X TBE or 1X TAE).
- ii. Depending on the gel required volume and gel concentration, add a 'X' amount of electrophoresis buffer to the Erlenmeyer flask. Add accurately weighed agarose powder (the total liquid volume should not exceed 50% of the Erlenmeyer flask capacity).  
**Note:** The buffer used for electrophoresis and the buffer used for gel preparation must be the same.

- iii. Cover the mouth of the Erlenmeyer flask with plastic wrap, poke some small holes in the film, and then place it in the microwave. Dissolve agarose over medium heat. Please wear heat-resistant gloves. Shake the Erlenmeyer flask carefully to dissolve the agarose evenly. This operation is repeated several times until the agarose is completely dissolved. It must be noted that the heating time in the microwave oven should not be too long. Stop heating when the solution boils, since this can cause change in concentration of gel.
- iv. Preset the temperature of an hot air oven at 60°C and place the flask in the oven for 30 mins to gradually cool the agarose solution to about 60°C. If necessary, add ethidium bromide solution at this time (final concentration 0.5 mg/ml) and mix thoroughly.  
**Note:** Ethidium bromide is a carcinogen. When using solutions containing ethidium bromide, please wear gloves. Alternately, SYBR green which is safer comparatively may be used using a blue-light transilluminator may also be used
- v. Pour the agarose solution into the gel mold and insert a comb at the appropriate position. The thickness of the gel is generally between 3 and 5 mm.
- vi. Let the gel solidify at room temperature (about 30 minutes to 1 hour), and then place it in the electrophoresis tank. Perform electrophoresis.  
**Note:** When the gel is not used immediately, please wrap the gel with plastic wrap and store it at 4°C. Generally, it can be stored for 2 to 5 days.

#### 4) Experimental sample:

The below image indicates the run of different DNA markers as indicated in the table, on a 2% TAE gel.

	Lane #	Description	Fragment size for reference
	1,2	Cat#DT1801.100, DTI 100bp Ladder (Dye Plus)	1500, 1000, 900, 800, 700, 600, 500, 400, 300, 200, 100 base pairs
	3,4	Cat#DT1803.100, DTI2000 DNA Ladder (Dye Plus)	2000, 1000, 750, 500, 250, 100 base pairs
	5,6	Cat#3428A, DL5000 DNA Ladder, Fragment size (bp)	5000, 3000, 2000, 1500, 1000, 750, 500, 250, 100 base pairs
	7,8	Cat#DT1802.100, DTI 1 kb Ladder (dye Plus)	10, 6, 5, 4, 3, 2, 1 Kilo base pairs

Visit <https://store.dsstakarabio.com/> for more detailed product information






For more information contact directly below;

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Toll-Free number 1800-212-4922

#### Description of Symbol Used:

-  Catalogue number
-  Batch Code
-  Date of Manufacturing
-  Use-by-date
-  Contains sufficient for <n> tests