

# Using the Learning Lab™ Companion Kit reagents with the MiniOne® Electrophoresis System

## miniPCR bio Learning Lab™ Companion Kit (KT-1510-01)

Contents	Provided	Storage
1.5 ml microtubes	50	Room temperature
0.2 ml PCR tubes	100	Room temperature
TBE electrophoresis buffer powder	5.1 g	Room temperature
SeeGreen™ All-in-one Agarose Tabs™	8 tabs	Room temperature

The Learning Lab Companion Kit (KT-1510-01) provides plastic tubes and gel electrophoresis reagents needed to complete a miniPCR bio Learning Lab™ with a class of up to 32 students. The gel electrophoresis reagents are sized for the blueGel™ or Bandit™ electrophoresis systems but can be adapted for use with other gel electrophoresis systems.

## Adapting the Companion Kit reagents for use with the MiniOne® Electrophoresis System

	blueGel™ electrophoresis system	MiniOne® Electrophoresis System
5.1 g TBE electrophoresis buffer powder	Makes 600 ml TBE buffer for use in a blueGel™ electrophoresis system. Sufficient for 20 gel runs.	Makes 1,200 ml buffer for use in the MiniOne® Electrophoresis system. Sufficient for 8 gel runs.
8 SeeGreen™ All-in-one Agarose Tabs™	1 tab makes 1 gel for use in the blueGel™ electrophoresis system. Makes 8 gels.	1 tab makes 2 gels for use in the MiniOne® Electrophoresis system. Makes 16 gels.

\* MiniOne is a registered trademark of C.C. IMEX



Protective gloves and eyewear should be worn for the entirety of this experiment.

## Prepare TBE Buffer

- Do NOT follow the instructions printed on the vial of TBE Powder, which are intended for the blueGel™ electrophoresis system.
  - Instead, follow the instructions below to prepare 1.2 L of a more dilute TBE running buffer solution, sufficient for eight runs in the MiniOne® Electrophoresis System.
1. Combine the contents of the TBE powder pouch (5.1 g) and 1,200 ml of distilled water.
  2. Stir or intermittently shake the solution until the TBE powder is dissolved. This may take up to 10 minutes. TBE buffer can be stored in an airtight container at room temperature for at least three months. If it becomes cloudy, discard unused TBE.

## Up to five days before the lab: Prepare agarose gels

- Do NOT follow the instructions that come with the SeeGreen™ All-in-One Agarose Tabs™, which are intended for the blueGel electrophoresis system.
  - Instead, follow the instructions below to use one SeeGreen™ Agarose Tab™ to make two gels for use in the MiniOne® Electrophoresis System.
  - These instructions will make 1.6 % agarose gels, which are compatible with all miniPCR Learning Labs™.
1. Follow the manufacturer's instructions to prepare your MiniOne® gel casting system.
  2. For **every two gels** you want to pour, combine one SeeGreen All-in-One Agarose Tab™ with 25 ml of room-temperature **distilled water** in a heat-resistant container.
  3. Allow the tabs to soak until they break up.
  4. Swirl the flask or beaker to ensure the tabs fully disintegrate before heating.
  5. Microwave for 60 seconds for every tab used, or until the solution begins to boil.
  6. Carefully remove the container and swirl to mix.
  7. Check if the agarose crystals are completely dissolved. If needed, microwave for another 10 seconds, then check again. Repeat this process until the agarose is completely dissolved.
  8. The 25 ml of agarose solution should make **two gels** for use in the MiniOne® Gel Electrophoresis System. Pour the agarose solution into the prepared casting system.
  9. Allow the gel to solidify until it is firm to the touch. This typically takes 10 minutes or less.
  10. Remove the combs by pulling firmly upwards.
  11. Gels can be stored in an airtight container protected from light for up to five days at room temperature before use.