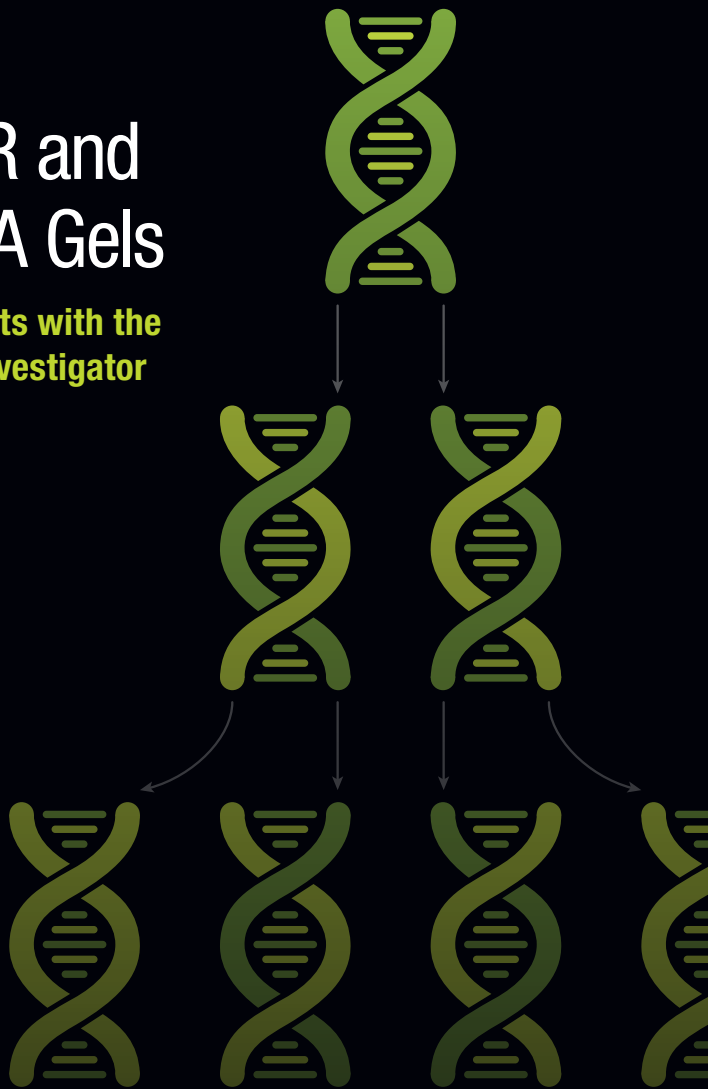


SAVE TIME!

Fast PCR and Fast DNA Gels

For faster results with the
Crime Scene Investigator
PCR Basics Kit



Time is of the essence when you're solving a crime, so Bio-Rad Explorer scientists have developed new, faster PCR and DNA gel protocols to let your class analyze DNA evidence and figure out "whodunit" within a 1.5-hr block period!

Fast PCR — PCR in 55 Minutes

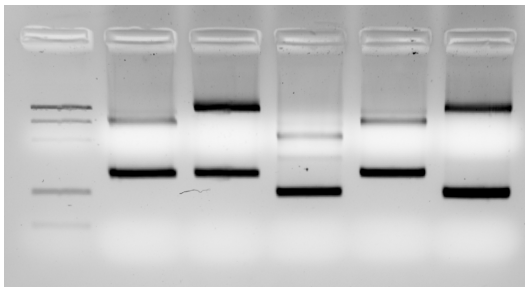
Simply prepare the PCR reactions as described in the kit instruction manual, then use the Fast PCR Protocol to complete PCR amplification in <1 hr.

Fast PCR Protocol (for use with the Crime Scene Investigator PCR Basics Kit)

Step	Temperature	Duration	Number of Cycles
Initial denaturation	94°C	2 min	1
Amplification	Denaturation	94°C	4 sec
	Annealing	52°C	4 sec
	Extension	72°C	20 sec
Hold	12°C		

After PCR, use the Bio-Rad Explorer Fast DNA Gel Protocol (next page) for clear results in 10 min!

Ladder Crime Scene Suspect 1 Suspect 2 Suspect 3 Suspect 4



Crime Scene Investigator PCR Basics Kit results.
Reaction products from the Fast PCR Protocol separated on a 3% agarose gel run at 300 V in 0.25% TAE buffer for 10 min (Fast DNA Gel Protocol).



Fast DNA Gels — Electrophoresis in 10 Minutes

Separate PCR products by agarose gel electrophoresis in just 10 min!

Follow these steps to make and run ten 7 x 10 cm gels. To cast different quantities or sizes of gels, scale as needed or refer to the Refresh Kit Components — Large Class/Multiple Class Preparation Guide (bulletin 5891). For added convenience, use 3% TAE Mini ReadyAgarose Precast Gels (see back page for ordering information).

Fast DNA Gel Protocol

1. Prepare 1x TAE.

Mix 490 ml distilled water with 10 ml 50x TAE

2. Prepare 3% agarose gels.

- Add 15 g agarose to 500 ml 1x TAE
- Melt the agarose and cast the gels as directed in the kit manual

3. Prepare 3 L 0.25x TAE running buffer.

Mix 2.9 L distilled water with 15 ml 50x TAE

4. Run gels at 300 V.

- Place the gel in the electrophoresis chamber
- Pour in just enough 0.25x TAE to submerge the gel
- Load the samples and run the gel at 300 V for 10 min

5. Share your success!

Post photos of stained gels and tag [@BioRadEducation](https://twitter.com/BioRadEducation)



on Twitter

Note: The Fast DNA Gel Protocol can be applied to all Explorer Kits using agarose gel electrophoresis.

Ordering Information

Catalog # Description

Classroom Kits

- 1662600EDU **Crime Scene Investigator PCR Basics Kit**, includes crime scene and suspect samples, PCR master mix, primers, allele ladder, test tubes, curriculum, and more for 32 students
- 1662650EDU **Crime Scene Investigator PCR Basics Kit Plus Small DNA Electrophoresis Reagent Pack**, includes Crime Scene Investigator PCR Basics Kit and agarose gel electrophoresis reagents for 16–48 mini (7 x 10 cm) gels
- 1662601EDU **Crime Scene Investigator PCR Basics Kit Reagent Refill Pack**, refill kit for use with Crime Scene Investigator PCR Basics Kit, contains PCR master mix, primers, crime scene and suspect DNA samples, and more

Electrophoresis Reagents and Gels

- 1660450EDU **Small Fast Blast DNA Electrophoresis Reagents Pack**, makes 16–48 mini gels, includes agarose powder, Fast Blast DNA Stain, and TAE buffer
- 1660462EDU **Small UView DNA Electrophoresis Reagents Pack**, makes 16–48 mini gels, includes agarose powder, UView 6x Loading Dye and Stain, and TAE buffer
- 1660451EDU **Small Ethidium Bromide DNA Electrophoresis Reagents Pack**, makes 16–48 mini gels, includes agarose powder, ethidium bromide, and TAE buffer
- 1610743EDU **50x Tris/Acetic Acid/EDTA (TAE)**, 1 L, premixed nucleic acid electrophoresis buffer, pH 8.0
- 1613017EDU **3% TAE Mini ReadyAgarose Precast Gel**, 7 x 10 cm, 8-well

Instruments

- 1645050EDU **PowerPac Basic Power Supply**
- 1664000EDU **Mini-Sub Cell GT Cell Tank and Lid**
- 1861096EDU **T100 Thermal Cycler**

All EDU products are for K–12 and undergraduate education use only.

The Fast Gel Protocol requires the use of a power supply that can deliver 300 V, such as Bio-Rad's PowerPac Basic Power Supply, which offers adjustable voltage up to 500 V and powers up to four electrophoresis cells at a time.

Visit explorer.bio-rad.com to view the full selection of classroom kits and related supplies.

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