Journal of Chromatography, 129 (1976) 382–383

CHROM. 9375

Note

Disposable tubes for acrylamide gel disc electrophoresis

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(First received March 5th, 1976; revised manuscript received May 21st, 1976)

One of the major difficulties in handling acrylamide electrophoresis gels is removing them from glass tubes after a run is completed. We have found, especially when working with high concentrations of acrylamide, that gels occasionally break or are scratched during removal from the tubes. This interferes with spectrophotometric

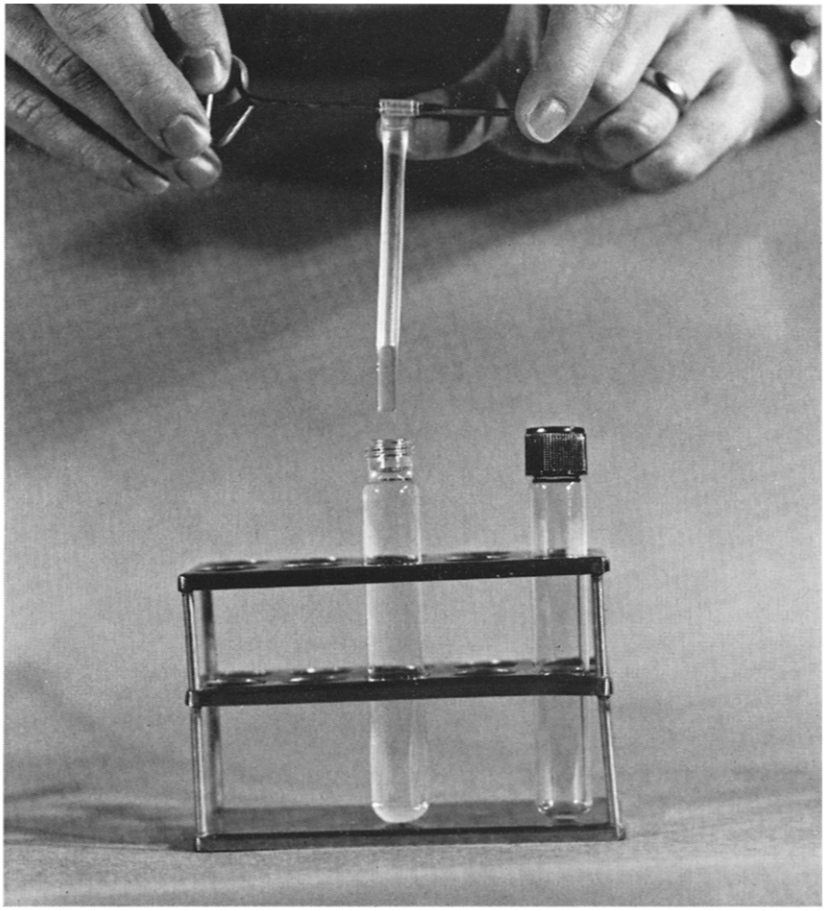

Fig. 1. Gel being forced from a plastic tube into staining reagents by winding down the top of the tube with a key from a sardine can.

scanning and with the ability to see minor bands of enzyme activity. Soaking the tubes in water to remove the gels allows some diffusion of the enzyme band. The following modification, which we have developed, eliminates these problems.

Clear plastic straws (6 mm O.D.) are cut to size (115 mm). The bottom of each straw is covered with Parafilm, and the tubes are placed upright in holders. The selected concentration of deaerated activated acrylamide[1] is added to the tubes to a height of 90 mm and overlaid with water. After 0.5 h the tubes are taken out of the holders, and the Parafilm is removed. A small piece of wet dialysis tubing held in place by either O-rings or rubber grommets is carefully placed over the bottom of each tube. The gels are placed in an electrophoresis apparatus modified by using grommets tooled to fit the plastic tube and are run. When the tubes are removed from the apparatus, the gel is forced out the bottom directly into the staining reagents by winding down the top of the tube with a key from a sardine can (Fig. 1).

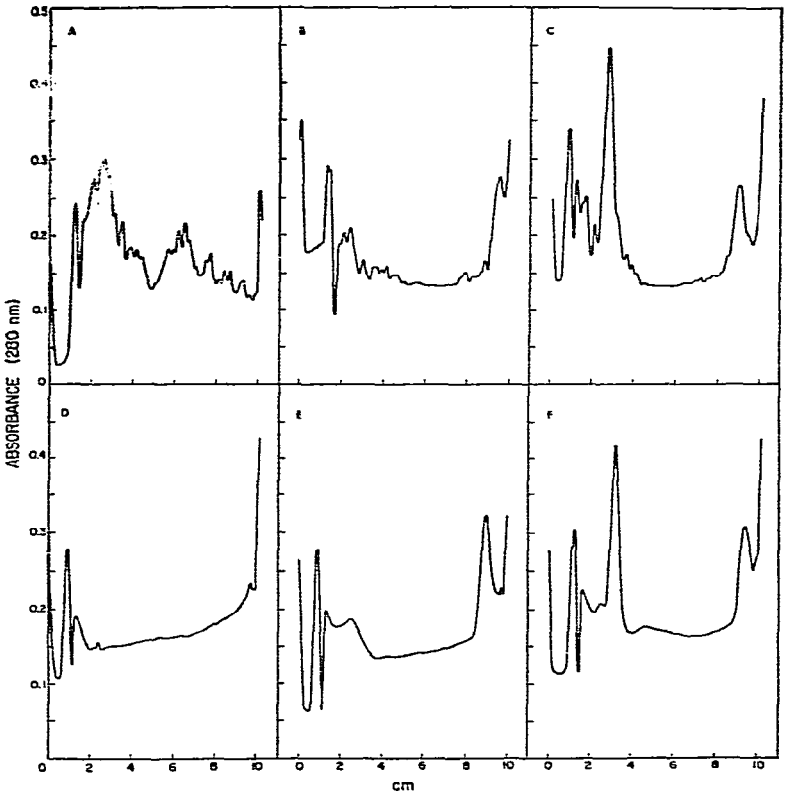

Fig. 2. Scan of acrylamide gel stained for bovine catalase and read at 280 nm in a Gelford spectrophotometer 2400. (A, B and C) from glass tubes; (D, E and F) from plastic tubes. (A and D) blank gels; (B and E) run with sucrose–dye solution; (C and F) run with catalase in sucrose–dye solution.

Use of the plastic tubes has resulted in fewer broken gels. Because gels from plastic tubes have no scratches, the scans show a smoother background and fewer imperfections than scans of gels from glass tubes (Fig. 2).

REFERENCE

1 H. Gruft and H. A. Gaafar, *Amer. Rev. Resp. Dis.*, 110 (1974) 320.