



Figure 2.2 Isoelectric focusing of TMVP and r-TMVP in 8 M urea. Lanes 1–3 correspond to r-TMVP, pI markers (Pharmacia), and wild-type TMVP, respectively. The marker proteins (with the respective pI values) from top to bottom are human carbonic anhydrase B (6.55), bovine carbonic anhydrase B (5.85), β -lactoglobulin A (5.20), soybean trypsin inhibitor (4.59), glucose oxidase (4.19), and amyloglucosidase (3.50). pI values are not corrected for urea.

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preparing a gradient of acrylamide that contains acrylamide moieties with buffer groups ([Righetti, Gelfi, & Chiari, 1996](#)). After the acrylamide is polymerized the gel network has covalently attached buffer groups leading to a highly stable pH gradient. Such an immobilized pH gradient IEF leads to resolution as low as 0.001 pH units ([Bjellqvist et al., 1982](#)).

Capillary electrophoresis

In capillary electrophoresis (CE) the electrophoresis is done in small capillary tubes, usually on the order of 50 μm in diameter to avoid overheating of samples when using high voltages ([Rabel & Stobaugh, 1993](#)). High voltages are used since the analysis can be done faster with higher resolution as the voltage increases (proportionately with the square of the voltage). Additional advantages over standard electrophoretic techniques are the decrease in convective flow in the narrow capillaries, the use