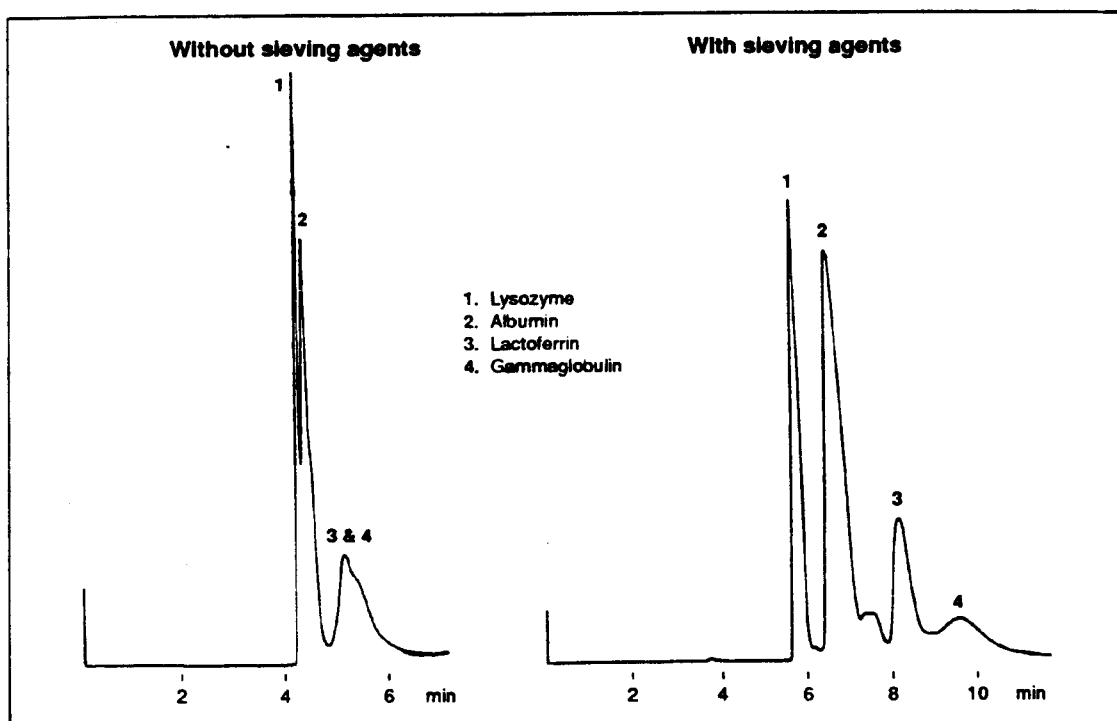


Non-gel Sieving of Tear Proteins

Application
Note: 10

Changes in tear protein concentrations may occur as a result of disease or contact lens use. Lysozyme, albumin, lactoferrin, and gammaglobulin are among proteins found in tears. Their isoelectric points range from 5 – 10 and their molecular weights from 14 to 150 kilodaltons. A run buffer < pH 4 is required to mobilize these proteins in the direction of the detector during capillary electrophoresis. Since close mass-to-charge ratios at low pH prevent resolution of all four proteins, a size separation can be achieved by the use of a longer capillary and addition of linear polymers to the run buffer.



Capillary: 20 cm x 25 μm (left) and 35 cm x 50 μm (right), coated

Buffer: 0.1 M sodium phosphate, pH 2.1 (linear polymers in separation on right)

Load Conditions: 8 kV, 8 seconds

Run Conditions: 10 kV, constant voltage, $\oplus \rightarrow \ominus$ polarity

Detection: UV, 200 nm, 0.5 AUFS