

ABSTRACT**POTENTIAL GRADIENT DETECTOR FOR ELECTROPHORESIS**

An on-column detector for electrophoresis samples based on the principles of potential gradient detection. in which the electrodes for detection are physically isolated from the electrophoretic separation process, but maintains the same electrical potential as the corresponding interior of the electrophoretic separation channel. Potential gradient detection is used to measure the applied electrical field at two points within the electrophoretic channel during electrophoresis. When sample components with conductivity different from the electrophoretic medium passes between these two points, it causes a change in the potential gradient between the two points, which would be sensed by the sensing electrodes of the detector and registered by a data acquisition system. The apparatus can make use of conventional separation channel as well as separation channels on microchips. In accordance with the present invention, a sensor reservoir with electrically conductive medium is added and connected to the separation channel via a conductive element on the surface of the separation channel.

FIGURE 2