PERCUTANEOUS BIOLOGICAL FLUID SAMPLING AND ANALYTE MEASUREMENT DEVICES AND METHODS

Abstract of the Disclosure

A device for sampling a biological fluid and measuring at least one target constituent within the biological fluid. The device has at least one electrochemical cell having an inner electrode and an outer electrode in a concentrically-spaced relationship. In a preferred embodiment, the outer electrode has a cylindrical configuration having an open distal end and the inner electrode has an elongated configuration positioned co-axially within the outer electrode and a distal end configured to penetrate the skin. The spacing between the electrodes exerts a capillary force on biological fluid present at the open distal end of the outer electrode. A system is also provided which includes a control unit in electrical communication with the electrochemical cell for controlling the selection and measurement of the target constituent. Methods of sampling of biological fluids within the skin and measuring the sampled fluids are also provided, as well as kits comprising one or more of the inventive devices and/or systems.

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