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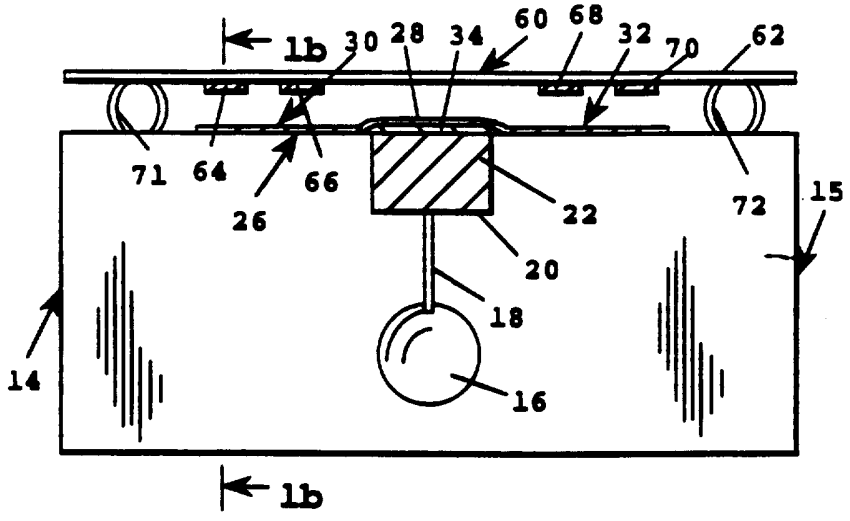

(57) Abstract

An assay device (14) for measuring the concentration of a soluble analyte, such as HDL-associated cholesterol, in a fluid sample containing interfering compounds, such as LDL- or VLDL-associated cholesterol, which can be selectively precipitated. The device includes a sieving matrix (26) capable of separating soluble and precipitated material migrating through the matrix, and a reservoir (34) which holds a precipitating agent which is effective, within a given concentration range, to selectively precipitate the interfering compounds. The reservoir is designed to delay the release of agent, on contact with the fluid sample, to maintain the concentration of precipitating agent in contact with the fluid sample within the given concentration range. The device additionally includes an assay pad (64, 66, 68, 70) in which the soluble analyte present in the fluid sample can be assayed. A method of separating high-density lipoproteins (HDL) from low- and very-low-density lipoproteins (LDL and VLDL) employs a coated glass fiber matrix which inhibits binding of HDL as a blood fluid sample containing HDL and precipitated LDL and VLDL passes through the matrix.

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