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(54) **Title:** A CLOSURE FOR A SAMPLE TUBE

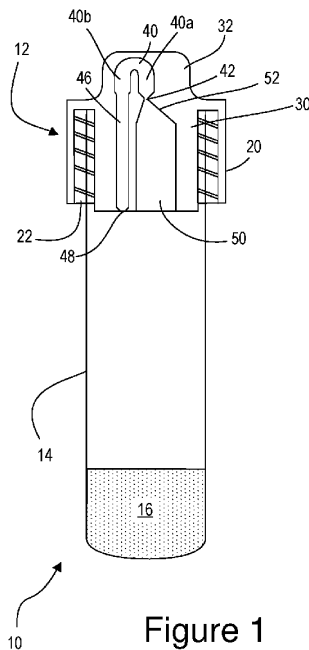


Figure 1

(57) **Abstract:** A closure for a sample tube comprises a reaction vessel. The reaction vessel comprises: at least one microfluidic mixing channel having an inlet and an outlet; at least one reaction chamber in fluid communication with the inlet and the outlet; an inlet chamber proximate the inlet of the at least one microfluidic mixing channel for introducing a portion of a sample solution from the sample tube into the at least one reaction chamber under hydrostatic pressure; and a diffusion-control feature for limiting egress of fluid from the outlet such that the portion of the sample solution introduced to the at least one reaction chamber is partitioned from the rest of the sample solution.

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