

RapiSep

Plasma Separation



MicroFAST Dx

MicroFAST Dx, a rapid diagnostics company, develops upstream sample collection and sample processing technologies to enable point of care and at home blood testing.

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OVERVIEW

RapiSep is simple-to-use, hand-held, and self-contained device for plasma separation from whole or diluted blood. It is an ideal yet low-cost tool for self and rapid diagnostics in either centralized or decentralized settings that requires clear, cell-free plasma.

The patent-pending innovation of RapiSep facilitates an untrained user to handle tens to hundreds of microliters of blood to deliver a volume of plasma that is sufficient for a specific downstream application. Currently RapiSep owns two versions in size which are RapiSep-S and RapiSep-M representing a small and a large plasma separation device to obtain a plasma volume of 12 and 45 microliters.

RapiSep provides flexible and exchangeable interfacings to accommodate downstream assays and devices.

Sip

automatically sample in a fixed volume of blood

Tap

spontaneously release blood preparing for separation

Cap

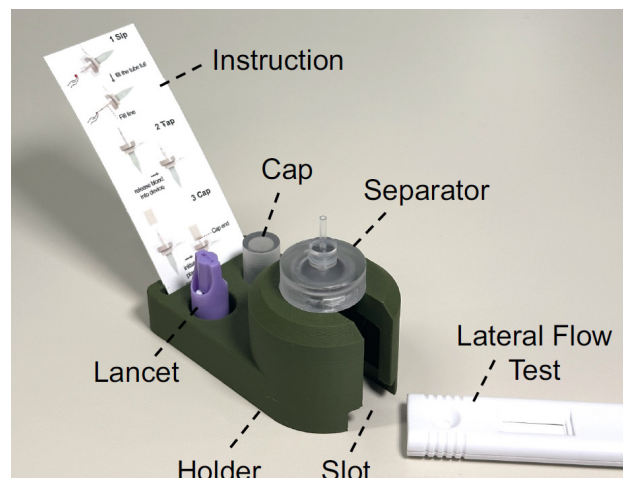
autonomously activate the plasma separation process

Plasma

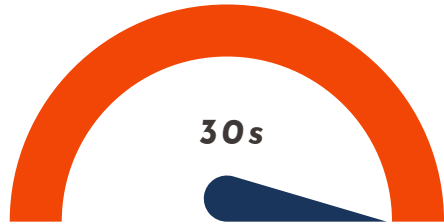
in

3

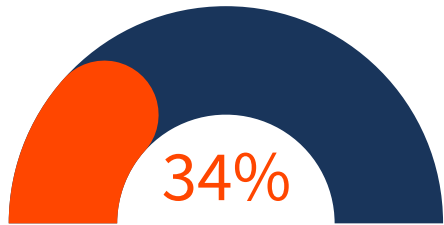
Actions



PERFORMANCE



Separation Time



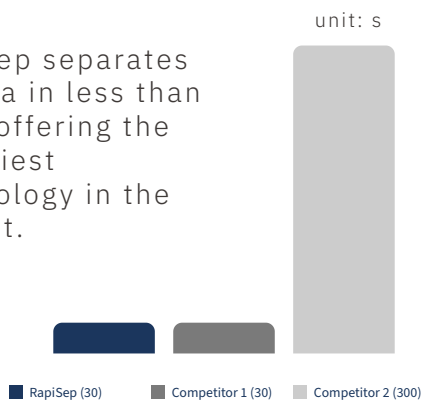
Plasma Yield

Blood in	35 μ L
Plasma out	12 μ L
RBC+WBC	0 K/ μ L
Platelet	0.1 K/ μ L
Hb	0.1 g/dL

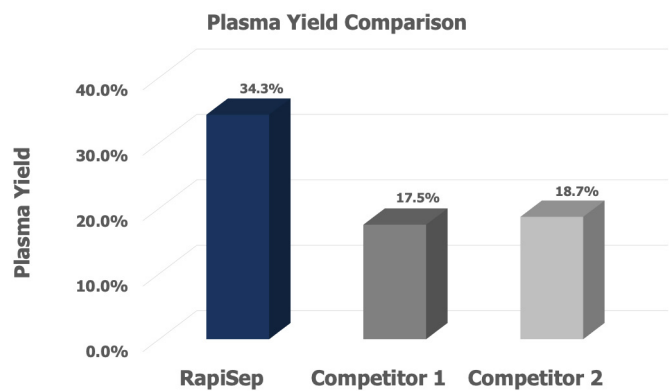
RapiSep-S data collected using whole blood with hematocrit of 42%

Separation Time

RapiSep separates plasma in less than 30 s, offering the speediest technology in the market.



Plasma Yield



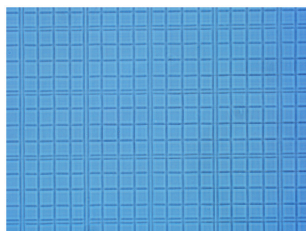
RapiSep collects ~2x more plasma volumes than competitors

Plasma Quality

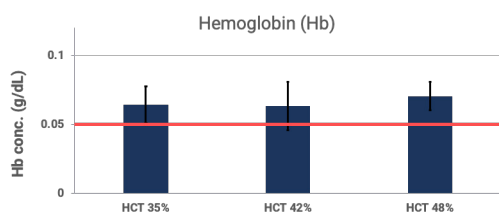
Plasma Separated by RapiSep-S



Collected in a Detachable Tube



Hemacytometer Imaging Showing No Blood Cells in Separated Plasma



*97.5% population has a Hematocrit (HCT) <48%

Comparable to Centrifugation Method

- **Plasma clearness and purity**

RapiSep produces clear, cell-free plasma, paving ways for achieving highly sensitive and specific assays at downstream to detect target analytes of clinical interest.

- **Hemoglobin**

Hemoglobin (Hb) is an indicator of cell lysis during a plasma separation process. RapiSep shows no bias on blood samples with varying hematocrits in minimizing cell lysis during the separation process, producing plasma with Hb value close to 0.05 g/dL of centrifuged plasma (orange line).

CMV IgG

An ELISA to quantify IgG antibody to cytomegalovirus (CMV) in human plasma, as an indicator of previous infection with CMV, showing no significant difference of assay results in centrifuged and RapiSeped plasma.

