CLAIMS

1. A cartridge assembly comprising:

a cartridge comprising a port that is configured to receive a blood sample of a subject from a blood collection device, the cartridge supporting one or more porous matrices for storing and stabilizing the blood sample; and

a cartridge holder configured to releasably couple to and support the cartridge,

wherein the cartridge assembly is configured to releasably couple to a deposition chamber of the blood collection device.

2. The cartridge assembly of claim 1, wherein the port is configured to releasably couple to and establish fluidic communication with a channel of the blood collection device.
3. The cartridge assembly of claim 2, wherein the blood sample is collected from penetrated skin of the subject using the blood collection device and transported through the channel into the cartridge via the port.
4. The cartridge assembly of claim 1, wherein the cartridge holder is configured to releasably couple to the cartridge via a quick release mechanism.
5. The cartridge assembly of claim 4, wherein the quick release mechanism comprises one or more spring-clips on the cartridge holder.
6. The cartridge assembly of claim 1, wherein the cartridge assembly is configured to be releasably coupled and decoupled from the deposition chamber without use of tools.
7. The cartridge assembly of claim 1, wherein the cartridge assembly is configured to be releasably coupled and decoupled from the deposition chamber using no more than two motion steps.
8. The cartridge assembly of claim 2, wherein the port comprises a luer-type fitting that is configured to mechanically engage with an opening to the channel of the blood collection device.
9. The cartridge assembly of claim 1, wherein the cartridge assembly is configured to be releasably coupled to the deposition chamber prior to use of the blood collection device to collect the blood sample from the subject.
10. The cartridge assembly of claim 1, wherein the cartridge assembly is configured to be released and decoupled from the deposition chamber after the blood sample has been collected from the subject and stored on the one or more porous matrices.

11. The cartridge assembly of claim 1, further comprising two or more porous matrices for storing and stabilizing the blood sample.
12. The cartridge assembly of claim 11, wherein the cartridge is configured to support the two or more porous matrices in a configuration that permits the blood sample to wick between and along the two or more porous matrices.
13. The cartridge assembly of claim 12, wherein the configuration permits the blood sample to be transported along a flow path from a proximal end to a distal end of the two or more porous matrices via wicking action or capillarity, or aided by gravity.
14. The cartridge assembly of claim 13, wherein the proximal end of the two or more porous matrices is located closer to the port of the cartridge than the distal end of the two or more porous matrices.
15. The cartridge assembly of claim 12, wherein the two or more porous matrices are disposed substantially parallel to each other.
16. The cartridge assembly of claim 12, wherein the two or more porous matrices are separated apart from each other using one or more spacers.
17. The cartridge assembly of claim 15, wherein the two or more porous matrices are separated apart by a gap of about 0.5 mm.
18. The cartridge assembly of claim 16, wherein two or more of the spacers are placed between the two or more porous matrices to form a flow channel through which the blood sample is transported.
19. The cartridge assembly of claim 1, wherein at least one of the porous matrices is configured to store at least 50 μL of the blood sample.
20. The cartridge assembly of claim 11, wherein each of the two or more porous matrices is configured to store at least 50 μL of the blood sample.
21. The cartridge assembly of claim 1, further comprising: one or more absorbent pads placed in fluidic communication with the one or more porous matrices, wherein the one or more absorbent pads are configured to hold an excess amount of the blood sample.
22. The cartridge assembly of claim 21, wherein the one or more absorbent pads aid in ensuring that a predefined volume of the blood sample is collected and stored on the one or more porous matrices.

23. The cartridge assembly of claim 21, wherein the cartridge holder comprises a slot for supporting the one or more absorbent pads.
24. The cartridge assembly of claim 21, wherein the one or more absorbent pads are in contact with a distal end of the one or more porous matrices, wherein the distal end is located further away from the port of the cartridge than a proximal end of the one or more porous matrices.
25. The cartridge assembly of claim 21, wherein the excess amount of the blood sample is at least 10 μL.
26. The cartridge assembly of claim 22, wherein the predefined volume of the blood sample is at least 100 μL.
27. The cartridge assembly of claim 1, wherein the cartridge holder comprises a cartridge tab that is configured to be releasably coupled to a distal end of the deposition chamber.
28. The cartridge assembly of claim 27, wherein the cartridge tab is configured to serve as a handle to the subject or a user for holding the cartridge assembly.
29. The cartridge assembly of claim 27, wherein the cartridge tab is configured to be pressed against the distal end of the deposition chamber in a first direction in order to couple the cartridge assembly to the blood collection device.
30. The cartridge assembly of claim 29, wherein the cartridge tab is configured to be pulled from the deposition chamber in a second direction to decouple the cartridge assembly from the blood collection device after the blood sample has been collected and stored on the one or more porous matrices, and wherein the first direction and the second direction are substantially opposite to each other.
31. The cartridge assembly of claim 1, wherein the one or more porous matrices are absorbent.
32. The cartridge assembly of claim 1, wherein the one or more porous matrices comprise paper.
33. The cartridge assembly of claim 32, wherein the paper comprises cellulose.