

5. The device of claim 1, wherein the mixture is disposed in a fluid, and wherein the transport mechanism is configured to apply at least one of a positive and a negative pressure to the fluid.

6. The device of claim 5, wherein the transport mechanism is configured to apply a negative pressure to the fluid downstream of the plurality of sorter units.

7. The device of claim 1, further comprising one or more receiver structures in fluid communication with the plurality of sorter units and downstream thereof.

8. The device of claim 7, wherein the one or more receiver structures include a single receiver configured to receive first particles from each of the sorter units.

9. The device of claim 7, wherein the transport mechanism is configured to apply a positive pressure to the fluid in the input reservoir.

10. The device of claim 7, wherein the one or receiver structures include a single receiver configured to receive the at least one second particle from at least two of the plurality of sorter units.

11. The device of claim 7, wherein each sorter unit is in fluid communication with a different receiver structure so that the at least one second particle moved by different sorter units are placed in different receiver structures.

12. The device of claim 11, wherein the different receiver structures are wells of a microplate.

13. The device of claim 1, wherein the mixture of first particles and one or more second particles is a mixture of different types of cells.

14. The device of claim 1, wherein the transport mechanism is configured to operate by dielectrophoresis.

15. A device for sorting particles, comprising:

an input reservoir configured to hold a mixture of first and second particles;

a fluid supply reservoir configured to hold a fluid; and

a plurality of sorter units in parallel fluid communication with each of the input and fluid supply reservoirs, each sorter unit including a pair of adjacent first and second channels in fluid communication, the first channel being configured to receive a portion of the mixture from the input reservoir, the second channel being configured to receive a portion of the fluid from the fluid supply reservoir, the sorter unit being configured to selectively move at least one of the second particles, if received in the portion from the input reservoir, to the second channel from the first channel.

16. The device of claim 15, further comprising a conduit network configured to place the input reservoir in fluid communication with the plurality of sorter units, the conduit network branching as it extends from the input reservoir to the sorter units.

17. The device of claim 15, wherein the first channel follows a path, and wherein each sorter unit includes a transport mechanism configured to selectively apply a transient pressure pulse to a segment of fluid disposed in the first channel, the transient pressure pulse being directed transversely of the path.

18. The device of claim 15, which further comprises a continuous transport mechanism configured to operate substantially continuously to move the portion of the mixture to each of the sorter units.

19. The device of claim 18, wherein the fluid of the fluid supply reservoir is a first fluid, the mixture of particles being

disposed in a second fluid, and wherein the continuous transport mechanism is configured to apply a pressure to each of the first and second fluids.

20. The device of claim 15, wherein the first and second particles are different types of cells.

21. The device of claim 15, which further comprises a transport mechanism configured to move the mixture by dielectrophoresis.

22. A device for sorting particles, comprising:

a substrate having a surface;

a fluid barrier connected to the substrate so that a plurality of branched channels are formed, each branched channel defining a first path and a second path;

an input reservoir configured to hold a mixture of first particles and one or more second particles and also configured to release portions of the mixture so that the portions travel substantially along the first path of the branched channels; and

thin-film electrical devices formed adjacent the surface of the substrate and selectively operable to move at least one of the second particles from the first path to the second path of the branched channels.

23. The device of claim 22, wherein the substrate is formed substantially of one of a semiconductor and glass.

24. The device of claim 22, wherein each branched channel includes an adjacent channel in fluid communication with the branched channel, and wherein the adjacent channel and the branched channel have different inlet and outlets.

25. The device of claim 22, wherein the thin-film electrical devices include thin-film heaters.

26. The device of claim 22, wherein the thin-film electrical devices include light sensors configured to sense optical properties of the first and second particles of the mixture.

27. A method of sorting particles, comprising:

creating a plurality of particle streams from a mixture of first particles and one or more second particles; and

selectively displacing a second particle from at least one of the plurality of streams.

28. The method of claim 27, which further comprises sensing particles disposed in each of the plurality of streams.

29. The method of claim 27, wherein selectively displacing a second particle includes selectively displacing at least one second particle from two or more of the streams.

30. The method of claim 29, which further comprises combining the at least one second particle selectively displaced from the two or more streams.

31. The method of claim 29, which further comprises separately processing the at least one second particle from each of the two or more streams after selectively displacing.

32. The method of claim 31, wherein the at least one second particle is at least one cell having a plurality of constituents, and wherein separately processing includes at least one of culturing the at least cell, lysing the at least one cells, and sensing one or more of the plurality of constituents.

33. The method of claim 27, wherein creating includes passing portions of the mixture through a manifold.

34. The method of claim 27, wherein the first particles and the one or more second particles are disposed in a fluid, and