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<212> TYPE: PRT
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<220> FEATURE:
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1           5           10          15

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What is claimed is:

1. A microfluidic sorting device comprising:
 - (a) at least one inlet channel configured to provide separate streams of
 - (i) a sample comprising a target species, non target species, and magnetic particles having an affinity for the target species in the sample, and
 - (ii) a buffer that is substantially free of the sample;
 - (b) a sorting station fluidly coupled to said at least one inlet and located in a path of the sample stream;
 - (c) a magnetic field gradient generator for interacting with an external magnetic field to produce a change in magnetic field gradient in the sorting station and thereby deflecting the magnetic particles toward the buffer stream; and
 - (d) at least one outlet channel configured to separately receive the buffer stream with deflected magnetic particles and a waste stream containing said sample at least partially depleted of the target species.
2. The microfluidic sorting device of claim 1, wherein the at least one inlet channel comprises a first inlet channel for

providing at least a portion of the buffer stream and a second inlet channel for providing at least a portion of the sample stream.

3. The microfluidic sorting device of claim 1, wherein the at least one inlet channel comprises

- (i) a first inlet channel for providing the buffer stream, and
- (ii) a second inlet channel and a third inlet channel for providing separate streams of the sample.

4. The microfluidic sorting device of claim 3, wherein the second and third inlet channels are located on opposite sides of the first inlet channel, such that, during operation, the buffer stream enters a sorting station straddled by 2 sample streams.

5. The microfluidic sorting device of claim 1, wherein the magnetic field gradient generator comprises a plurality of ferromagnetic elements patterned on the sorting device proximate the sorting station.

6. The microfluidic sorting device of claim 5, wherein the magnetic field gradient generator comprises a permanent magnet proximate the plurality of ferromagnetic elements.