MULTILAYER HYDRODYNAMIC SHEATH FLOW STRUCTURE

Abstract

A microfabricated sheath flow structure for producing a sheath flow includes a primary sheath flow channel for conveying a sheath fluid, a sample inlet for injecting a sample into the sheath fluid in the primary sheath flow channel, a primary focusing region for focusing the sample within the sheath fluid and a secondary focusing region for providing additional focusing of the sample within the sheath fluid. The secondary focusing region may be formed by a flow channel intersecting the primary sheath flow channel to inject additional sheath fluid into the primary sheath flow channel from a to selected direction. A sheath flow system may comprise a plurality of sheath flow structures operating in parallel on a microfluidic chip.

Fig. 1