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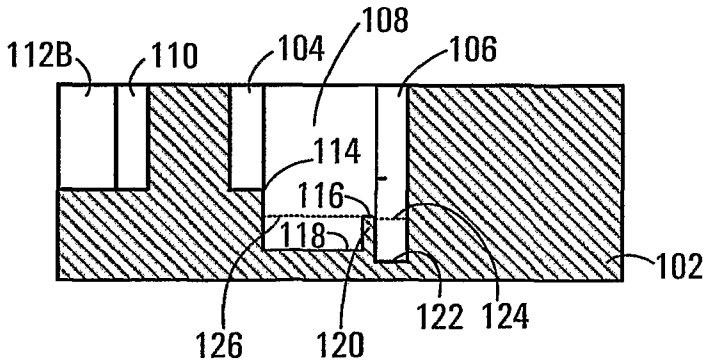
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(54) **Title:** MICROCHIP AND METHOD FOR DETECTING MOLECULES AND MOLECULAR INTERACTIONS



(57) **Abstract:** A microchip with flow-through inlet (104) and outlet (106) channels and test channels (108). The test channels (108) are in fluid communication with the inlet (104) and outlet (106) channels, through inlets (114) and outlets (116) respectively. Each test channel (108) has one test site therein for detection of specific molecules or molecular interactions. The inlet (114) in a test channel (108) is elevated from the outlet (116) of the test channel (108) and the outlet (116) is elevated from a fluid level (124) in the outlet channel (106). Back diffusion from outlet channel (106) to the test channels (108) and from the test channels (108) to the inlet channel (104) can thus be inhibited to reduce or eliminate cross-interference between different test sites. The microchip can be useful as a flow-through high density enzyme immunoassay array device with high-throughput.

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