NEEDLE ARRAY ASSEMBLY AND METHOD FOR DELIVERING THERAPEUTIC AGENTS

Abstract

A fluid delivery device includes an array of needles, each in fluid communication with a respective reservoir. Respective actuators are coupled so as to be operable to drive fluid from the reservoirs via needle ports. Each needle can have a plurality of ports, and the ports can be arranged to deliver a substantially equal amount of fluid at any given location along its length. A driver is coupled to the actuators to selectively control the rate, volume, and direction of flow of fluid through the needles. The device can simultaneously deliver a plurality of fluid agents along respective axes in solid tissue in vivo. If thereafter resected, the tissue can be sectioned for evaluation of an effect of each agent on the tissue, and based on the evaluation, candidate agents selected or deselected for clinical trials or therapy, and subjects selected or deselected for clinical trials or therapeutic treatment.

Fig. 5