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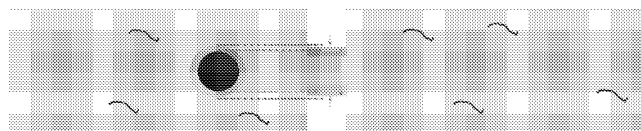


FIG. 3B

(57) Abstract: The present invention relates to a method and system for introducing one or more exogenous substances into an immune cell. The method comprises the steps of: providing a membrane having a plurality of pores configured to allow the immune cell to pass through, wherein the plurality of pores has an average pore diameter which is no less than an average diameter of the immune cell nucleus and no more than an average diameter of the immune cell, passing a fluid containing the immune cell and the one or more exogenous substances through the plurality of pores to induce a mechanical stress to the immune cell and facilitate introduction of the one or more exogenous substances into the immune cell, and recirculating the fluid containing the immune cell and the one or more exogenous substances such that the same immune cell passes through the membrane more than once. In some embodiments, the immune cell is T-cells and the exogenous substance is mRNA.



WO 2021/194427 A1