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(54) Title: METHOD AND APPARATUS FOR COMPUTER MODELING OF AN ADAPTIVE IMMUNE RESPONSE

(57) Abstract: The present invention relates generally to a computer model of an adaptive immune response. One embodiment of the invention relates to a computer model of an adaptive immune response within the framework of signals conveyed at the site of antigen exposure. Another embodiment of the model includes a representation of complex physiological regulatory mechanisms related to, for example, cellular dynamics, mediator production, antigen-presenting cell (APC) recruitment, APC maturation, lymphocyte activation, lymphocyte trafficking, and/or lymphocyte effector function. In another embodiment, the model can account for mediator production in response to antigen within a chronically inflamed peripheral tissue, as well as the regulatory effects of mediators on APC and lymphocyte population dynamics, including maturation, activation, and apoptosis, and the regulatory effects of mediators produced by APCs and lymphocytes on a chronically inflamed peripheral tissue. Another embodiment of the invention relates to an analytical model of an adaptive immune response.



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