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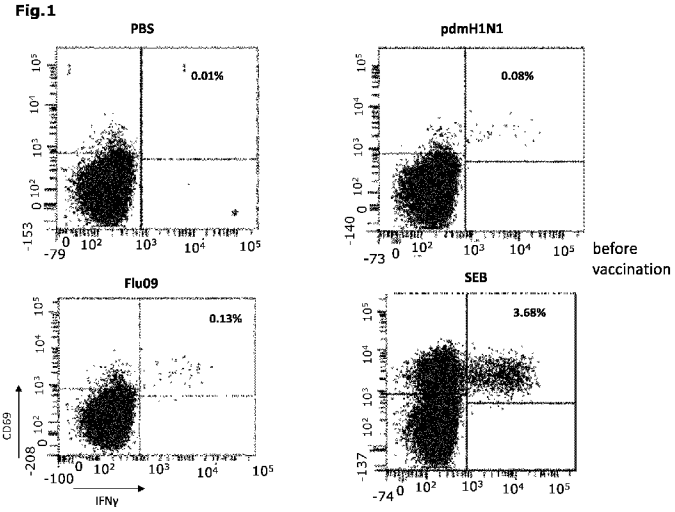
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(54) Title: AN IN-VITRO PROCESS FOR THE QUICK DETERMINATION OF THE INFECTION STATUS OF AN INFECTION WITH AN INFLUENZA VIRUS TYPE

Fig.1



(57) Abstract: An in-vitro process for the quick determination of the infection status of an infection with an influenza virus type from whole blood in terms of an acute influenza infection or a pre-immunized latent influenza infection, comprising the steps of: • stimulating an antigen-specific T cell that is present in a first sample of whole blood with antigens of the influenza virus type, optionally in the presence of antibodies against CD28, or CD28 and CD49d; • processing of the influenza antigens by antigen-presenting cells (APC) by incubation for a sufficient time, in particular by incubation of at least 1 h, particularly of 1.5 h to 2.5 h, especially for 2 h, at 35 °C to 39 °C, especially at 37 °C, optionally with adding CO_2; • then adding a secretion inhibitor; • effecting an intensive mixing; • followed by a second incubation step for a period of at least 1 h, in particular 2.5 h, at a temperature of from 35 °C to 39 °C, and • determining a profile from both the intracellular INF-γ production and the intracellular IL-2 production of the antigen-specific T cell; wherein • the presence of an acute influenza infection is indicated by a shift of the profile towards IFN-γ single positive cells accompanied by a larger ratio of IFN-γ/IL-2 single positive T cells compared to the ratio of IFN-γ/IL-2 single positive T cells of patients successfully vaccinated against, pre-infected or non-infected by the influenza virus.

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