evaluated the effect of the absolute count of specific marker expression on peripheral blood natural killer (NK) cells on implantation and miscarriage rates after Intra Vitro Fecondation (IVF) treatment. The authors have determined that an increase in the absolute count of activated NK cells in the peripheral blood is associated with a reduced rate of embryo implantation in IVF treatment. Furthermore, women with high peripheral blood NK cell absolute count, who are able to achieve pregnancy, have a significant higher miscarriage rate.

Summary

In one aspect, there is provided an ex-vivo method for testing whether a patient will respond therapeutically to a method of treatment comprising administration of an immunogenic composition, wherein the testing method comprises the steps of: measuring in a blood sample obtained from said patient levels of activated NK cells, wherein low levels of activated NK cells indicates that the patient will develop a prophylactic or therapeutic immune response towards the immunogenic composition.

In one aspect, there is provided the use of levels of activated NK cells as a biomarker for predicting whether a patient is or is not susceptible to developing prophylactic or therapeutic immune response to an administration of an immunogenic composition, wherein said levels of activated NK cells is to be measured in a blood sample obtained from said patient.

In one aspect, there is provided the use of the level of activated NK cells as a biomarker for predicting whether a patient is or is not susceptible to developing prophylactic or therapeutic immune response to an administration of an immunogenic composition, wherein low levels of activated NK cells indicates that the patient is predicted to have an increased susceptibility to develop a prophylactic or therapeutic immune response and wherein said levels of activated NK cells is to be measured in a blood sample obtained from said patient.

In one aspect, there is provided a kit for testing whether a patient will respond therapeutically to a method of treatment comprising administration of an immunogenic composition, wherein the kit comprises antibodies for determining the level of activated NK cells in a blood sample from the patient.

Description

The Applicant has now identified new tool and vaccination strategy. According to a first embodiment, the present Invention relates to a method for treating a patient for human disease by administering an immunogenic composition comprising at least one antigen wherein said patient is selected in a patient population composed of patients that have low levels of activated NK cells.

The present Invention thus relates to a method for treating a patient for human disease by administering an immunogenic composition comprising at least one antigen, said method comprising the following steps :

- selection of one patient in a patient population composed of patients that have low levels of activated NK cells,
- administering to said selected patient the said immunogenic composition.

According to another embodiment, the present Invention relates to a method for inducing an immune response (i.e. the raised immune response) in a patient for treating human disease by administering an immunogenic composition wherein said patient is selected in a patient population composed of patients that have low levels of activated NK cells.