CLAIMS

1. A multi-parameter automatic blood cell counting device, comprising:

a basic information generator; an immune cell subgroup detector;

an immunodynamic change analyzer;

a storage; and

a display,

wherein the basic information generator is configured to acquire examination information of a blood count of blood components and white blood cell fraction information comprising respective proportions of basophils, eosinophils, neutrophils, lymphocytes and monocytes in white blood cells, and analysis information of a CD classification of monoclonal antibodies that bind to lymphocyte surface antigens, and to store the acquired information in the storage,

the immune cell subgroup detector is configured to detect information of immune cell subgroups required for analyzing an immune status of a subject based on the examination information of the blood count of the blood components and the white blood cell fraction information, and the analysis information of the CD classification of the monoclonal antibodies that bind to lymphocyte surface antigens, and

the immunodynamic change analyzer is configured to identify at least information related to a change in immunodynamics of the subject based on the information examined in the basic information generator and the immune cell subgroup detector, and data stored in the storage, and to create and display an image of the identified information on the display; and

wherein the immunodynamic change analyzer comprises:

a pattern former that forms an immune status pattern;

an immunodynamic correlator configured to provide information related to an immunodynamic correlation of the subject with respect to the immune status pattern by generating and displaying, on the display, sequential images representing changes over time in the immune status of the subject based on immune status patterns of the subject formed by the pattern former from immune cell subgroup information obtained at different times; and

a self-learner that has a self-learning function of learning in accordance with blood count data, and that characterizes a correlation between components of the blood count.

2. The multi-parameter automatic blood cell counting device according to claim 1, wherein

the immune cell subgroup detector is configured to calculate the number of B cells, the number of NK cells, and the number of NKT cells as information required for analyzing the immune status of a subject, and to at least detect the number and the proportion of immune lymphocyte subgroups including the number of helper T cells, the number of killer T cells, the number of NK cells, the number of NKT cells, and the number of B cells.

3. The multi-parameter automatic blood cell counting device according to claim 1 or 2, wherein

the immune cell subgroup detector is configured to detect the total number of white blood cells and the number of each immune cell subgroup as immune cells in the body of the subject based on the examination information of the blood count of the blood components and the white blood cell fraction information, and the analysis information of the CD classification of the monoclonal antibodies that bind to the lymphocyte surface antigens, and

the immunodynamic change analyzer is configured to generate an immune status pattern or an immunodynamic model based on changes in the proportion and the number of the immune cell subgroups.

4. The multi-parameter automatic blood cell counting device according to claim 1, wherein

the self-learner is configured to specify a pattern range indicating a characteristic of an infectious disease based on the quantity of total granulocytes, total lymphoid cells, CD4 antigens, CD8 antigens, NK cells, NKT cells, and B cells stored in the storage, and to store the specified range in the storage.

5. The multi-parameter automatic blood cell counting device according to claim 4, wherein

the pattern former is configured to create an image of the proportions of the number of CD4 antigens, the number of CD8 antigens, the number of NK cells, the

number of NKT cells, and the number of B cells, stored in the storage, of an infected person, and to display the image on the display, and

information for determining whether or not the subject is infected with influenza by using comparative influenza infection pattern standard data stored in the storage is displayed on the display.

6. The multi-parameter automatic blood cell counting device according to claim 1, wherein

the immunodynamic change analyzer is configured to analyze information of the priority degree of Th1 cell-mediated immunity and Th2 humoral immunity for acquired immunity of the subject based on defined information related to the change in the immunodynamics of the subject.

7. The multi-parameter automatic blood cell counting device according to claim 1, wherein

the immunodynamic change analyzer is configured to analyze an immune-compensation state and an immune-decompensation state for a clinical status of the subject based on defined information related to the change in the immunodynamics of the subject.

8. The multi-parameter automatic blood cell counting device according to claim 1, wherein

the immunodynamic change analyzer is configured to analyze the priority degree of sympathetic nerves and parasympathetic nerves for autonomic nerves of the subject based on defined information related to the change in the immunodynamics of the subject.