The method of extracting red blood cells by the centrifugation requires a large amount of whole blood for the examination, especially for use in extracting the red blood cells, although it can provide an accurate measurement. This method is therefore not suitable for such applications as a simplified test that uses a little amount, e.g. about 1 microliter taken from a finger for the measurement.

Moreover, regions where the examinations for malaria and the like may be necessary, that sufficient supply of electric power is not available, and the infrastructure for maintaining and controlling expensive detecting apparatuses is not established adequately.

CITATION LIST:

PATENT LITERATURE

Patent Literature 1: WO2010/027003

SUMMARY OF THE INVENTION

In a first aspect, there is provided a diagnosis kit configured to detect whether or not an extraneous organism exists in a red blood cell by using a biological specimen containing the red blood cell, and a stain solution capable of staining nucleic acid, the kit comprising: a base plate; at least one diagnosis plate disposed at the base plate, the at least one diagnosis plate including a first chamber configured to store the stain solution and to have the biological specimen injected into the stain solution, the first chamber having a wall surface having a through-hole provided therein, a channel having one end -hole and another end opposite to the one end, the one end of the channel being connected to the first chamber via the through-hole, the channel being configured to extract the red blood cell from the

biological specimen and the stain solution, and a test plate connected to the another end of the channel, and configured to receive the extracted red blood cell, and a target-substance path provided in the channel for having the red blood cell pass through the target-substance path; and a second chamber provided in the base plate, and connected with the test plate for collecting a part of the biological specimen and a part of the stain solution, wherein the target-substance path includes a non-target substance trap having at least one of a fibrous material and a porous material, and being capable of capturing the white blood cell.

In a second aspect, there is provided a diagnosis method comprising: preparing the above diagnosis kit; preparing the biological specimen and the stain solution placed in the first chamber of the diagnosis kit; and moving the red blood cell, by a centrifugal force, from the first chamber to the test plate through the channel connected with the first chamber.

In a third aspect, there is provided a diagnosis method comprising: preparing the above diagnosis kit; preparing the biological specimen and the stain population placed in the first chamber of the diagnosis kit; and moving the red blood cell from the first chamber to the test plate through the channel by producing a difference in pressure between the first chamber and the channel.

In a fourth aspect, there is provided a diagnosis method comprising: preparing the above diagnosis kit; preparing the biological specimen and the stain solution placed in the first chamber of the diagnosis kit; moving the red blood cell from the first chamber to the test plate through the channel; causing the extraneous organism in the red blood cell to generate fluorescence by irradiating the moved red blood cell with light having an excitation wavelength through one of a first surface and a second surface opposite the first surface of the test plate after said moving of

the red blood cell from the first chamber to the test plate through the channel; and measuring an intensity of the fluorescence through one of the first surface and the second surface of the test plate.

A diagnosis kit is configured to detect whether or not an extraneous organism exists in a red blood cell by using a biological specimen containing the red blood cell, and a stain solution capable of staining nucleic acid. The kit includes at least one diagnosis plate. The diagnosis plate includes a first chamber configured to store the stain solution and to have the biological specimen injected into the stain solution, a channel connected to the first chamber, and a test plate connected to the channel. A second chamber is connected with the test plate. The channel is configured to extract the red blood cell. The second chamber can collect a part of the biological specimen and a part of the stain solution.

This diagnosis kit can detect extraneous organisms in the red blood