

CLAIMS

1. A method of characterising dendritic cells, the method comprising:
determining an expression of one or more of CD5, CD14 and
5 CD163 in the dendritic cells,

wherein where the dendritic cells are determined to be CD5⁻, CD14⁺
and CD163⁺, identifying the dendritic cells as pro-inflammatory dendritic
cells, and

wherein where the dendritic cells are determined to be
10 CD163⁺CD14⁺, identifying the dendritic cells as highly pro-inflammatory
dendritic cells that are more pro-inflammatory than CD163⁻ or CD14⁻
dendritic cells.

2. The method according to any one of the preceding claims, the
15 method further comprising determining a proportion of CD163⁺CD14⁺
dendritic cells.

3. The method according to any one of the preceding claims, the
method further comprising determining an expression of one or more of
20 CD11b, CD36, CD64, CD87, CD107a, CD206, CD274, CD354, FcεRIα,
HLA-DQ, CD2, CD59, CD81, CD166, CD229, CD271 and Integrin β7 in
the dendritic cells.

4. The method according to any one of the preceding claims, wherein
25 the dendritic cells have one or more of the following properties:

- (i) is a conventional dendritic cell 2 (cDC2);
- (ii) is dependent on IRF4 for differentiation;
- (iii) is dependent on KLF4 for differentiation;
- (iv) is dependent on FLT3 ligand (FLT3L) for differentiation; and
- 30 (v) is capable of activating and/or polarizing T cells.

5. A method of characterising inflammation and/or inflammatory disease in a subject, the method comprising:

determining a proportion of CD5⁻, CD14⁺, CD163⁺, and CD14⁺CD163⁺ dendritic cells in a subject's sample,

wherein the proportion positively correlates with the level of inflammation and/or the severity of inflammatory disease in the subject,

wherein the inflammation and/or inflammatory disease is selected from the group consisting of psoriasis, atopic dermatitis, Systemic Lupus Erythematosus (SLE), systemic sclerosis (SSc) and/or hepatocellular carcinoma.

6. The method according to claim 5, wherein where the proportion of CD5⁻, CD14⁺, CD163⁺, and CD14⁺CD163⁺ dendritic cells in the subject's sample is greater than a threshold proportion derived from a control sample, identifying the presence of inflammation and/or inflammatory disease in the subject,

wherein the control sample is a sample obtained from a person who is not suffering from the disease, or a healthy or undiseased sample.

7. The method according to claim 5, wherein where the proportion of CD5⁻, CD14⁺, CD163⁺, and CD14⁺CD163⁺ dendritic cells in the sample is greater than the proportion in an earlier sample from the same subject, identifying a worsening of inflammation and/or inflammatory disease in the subject, and

wherein where the proportion of CD5⁻, CD14⁺, CD163⁺, and CD14⁺CD163⁺ dendritic cells in the sample is lower than the proportion in the earlier sample, identifying an improvement of inflammation and/or inflammatory disease in the subject.

8. The method according to any one of claims 6-7, wherein where the presence and/or the worsening of inflammation and/or an inflammatory disease in the subject is identified, the subject is to be allocated to an inflammatory disease treatment regimen.

9. The method according to claim 8, wherein the inflammatory disease treatment regimen comprises the administration of one or more agent selected from the group consisting of: an anti-inflammatory agent, an immunosuppressant agent, an anti-cancer agent, an inhibitor of FLT3L, an agent capable of neutralising CD5⁻, CD14⁺, CD163⁺, and CD14⁺CD163⁺ dendritic cells, an antibody against CD5⁻, CD14⁺, CD163⁺, and/or CD14⁺CD163⁺ dendritic cells, an agent capable of reducing the proportion of CD5⁻, CD14⁺, CD163⁺, and CD14⁺CD163⁺ dendritic cells, an agent capable of reducing an activity of CD5⁻, CD14⁺, CD163⁺, and CD14⁺CD163⁺ dendritic cells, an agent capable of reducing a number of a precursor of CD5⁻, CD14⁺, CD163⁺, and CD14⁺CD163⁺ dendritic cells and an agent capable of inhibiting a differentiation of the precursor to CD5⁻, CD14⁺, CD163⁺, and CD14⁺CD163⁺ dendritic cells.

10. A dendritic cell, inflammation and/or inflammatory disease characterising kit, the kit comprising reagent for detecting CD5, CD14 and CD163.