CLAIMS

1. A method of identifying an early neutrophil progenitor, the method comprising:

determining an expression of CD71 and at least one biomarker selected from the group consisting of: LOX-1, CD164, CD112, CD181, TACSTD2, CD11b and CD49d in a cell;

identifying the cell as an early neutrophil progenitor when it is determined to have expression profile: $CD71^{hi/+}$, and at least one of the following expression profiles: $LOX\text{-}1^{int/lo/-}$, $CD164^{hi/+}$, $CD112^{hi/+}$, $CD181^{int/lo/-}$, $TACSTD2^{hi/+}$, $CD11b^{lo/-}$ and/or $CD49d^{int/hi/+}$,

wherein where the cell is identified as an early neutrophil progenitor, the method further comprises:

determining an expression of a further biomarker selected from CD49d and a side-scatter (SSC) property of the neutrophil progenitor; and

identifying a subtype of the neutrophil progenitor based on the expression of the further biomarker and/or the side-scatter property,

wherein where the cell is determined to be $CD49d^{hi/+}$ and SSC^{lo}, the cell is identified as an early committed neutrophil progenitor, and

wherein where the cell is determined to be $CD49d^{int/lo/-}$ and SSC^{hi}, the cell is identified as an intermediate neutrophil progenitor that is downstream in neutrophil lineage to the early committed neutrophil progenitor.

2. The method according to claim 1, wherein determination of the expression of the at least one biomarker and/or the further biomarker comprises contacting the cell with one or more antibodies against the biomarker and/or the further biomarker.

3. A method of sorting and/or separating early neutrophil progenitors from a cell population, the method comprising:

selecting for cells having $CD71^{hi/+}$, $CD49d^{int/hi/+}$, SSC^{lo}, and at least one of the following expression profiles: $LOX\text{-}1^{int/lo/-}$, $CD164^{hi/+}$, $CD112^{hi/+}$, $CD181^{int/lo/-}$, $TACSTD2^{hi/+}$, and/or $CD11b^{lo/-}$.

4. The method according to claim 3, wherein the cell population is derived from cord blood and/or bone marrow.

5. The method according to claim 3 or 4, the method further comprising culturing the neutrophil progenitors to obtain proliferation and/or differentiation of the neutrophil progenitors to obtain progenies thereof.

6. The method according to any one of claims 3 to 5, wherein the selecting step comprises contacting the cells with antibodies against CD71 and CD49d, and with one or more antibodies against one or more of LOX-1, CD164, CD112, CD181, TACSTD2, and CD11b.

7. A composition that is enriched in early neutrophil progenitors having $CD71^{hi/+}$, $CD49d^{int/hi/+}$, SSC^{lo} and at least one of the following expression profiles: $LOX\text{-}1^{int/lo/-}$, $CD164^{hi/+}$, $CD112^{hi/+}$, $CD181^{int/lo/-}$, $TACSTD2^{hi/+}$, and/or $CD11b^{lo/-}$.

8 . The composition according to claim 7 for use in therapy.

9. The composition according to claim 7 for use in treating neutropenia.

10. Use of the composition according to claim 7 in the manufacture of a medicament for treating neutropenia.

11. A method of preparing a transfusion composition, the method comprising:

enriching a composition for early neutrophil progenitors having $CD71^{hi/+}$, $CD49d^{int/hi/+,}$ SSC^{lo} and at least one of the following expression profiles: $LOX\text{-}1^{int/lo/-}$, $CD164^{hi/+}$, $CD112^{hi/+}$, $CD181^{int/lo/-}$, $TACSTD2^{hi/+}$, and/or $CD11b^{lo/-}$.

12. The method according to claim 11, wherein the enriching step comprises contacting the composition with antibodies against CD71, CD49d and with one

or more antibodies against one or more of LOX-1, CD164, CD112, CD181, TACSTD2, and CD11b.