CLAIMS

1. A neutrophil or stem cell (preferably neutrophil) for use in treating an infection, wherein the neutrophil or stem cell comprises:
   a. increased expression of one or more of *GM2A*, *CTSG*, *CAP37*, *ITGB1*, *CYBB*, *SYK*, *DOCK8*, *COMP*, *ATG7*, *SLC2A1*, *GZMK*, *ATM*, *IKBKB*, *BCAP31*, *TAPBP*, *PERM*, *PLEC*, *ACSL1*, *RAC1*, and *PSMB2* when compared to a reference standard, wherein the reference standard is from a neutrophil or stem cell unsuitable for treating an infection; and/or
   b. decreased expression of *ANXA1* and/or *PPP3CB* when compared to a reference standard, wherein the reference standard is from a neutrophil or stem cell unsuitable for treating an infection

2. The neutrophil or stem cell for use according to claim 1, wherein the neutrophil is differentiated from a stem cell that has been derived from a sample from a donor.

3. The neutrophil or stem cell for use according to claim 1 or claim 2, wherein the neutrophil or stem cell is obtainable from a sample from a donor above the age of 40 years old, or wherein the neutrophil is differentiated from a stem cell that has been derived from a sample from a donor above the age of 40 years old.

4. The neutrophil or stem cell for use according any one of the preceding claims, wherein the neutrophil or stem cell is obtainable from a sample from a female donor, or wherein the neutrophil is differentiated from a stem cell that has been derived from a sample from a female donor.

5. The neutrophil or stem cell for use according to any one of the preceding claims, wherein the infection is bacterial, fungal, viral, macroparasitic, or a combination thereof.

6. The neutrophil or stem cell for use according to any one of the preceding claims, wherein the infection is bacterial.

7. The neutrophil or stem cell for use according to any one of the preceding claims, wherein the infection is an infection with an antibiotic resistant bacterium, preferably a multi-antibiotic resistant bacterium.

8. The neutrophil or stem cell for use according to any one of the preceding claims, wherein the infection is an infection with one or more antibiotic resistant bacterium

selected from methicillin-resistant *Staphylococcus aureus* (MRSA), multidrug resistant Gram-negative bacteria (MDRGN bacteria), vancomycin-resistant *Enterococcus* (VRE), multi-drug-resistant *Mycobacterium tuberculosis* (MDR-TB), carbapenem-resistant *Enterobacteriaceae* (CRE) gut bacteria, or a combination thereof.

9. The neutrophil or stem cell for use according to any one of claims 1-5, wherein the infection is viral.

10. The neutrophil or stem cell for use according to any one of claims 1-5 or 9, wherein the infection is an infection selected from one or more family selected from Adenoviridae, Picornaviridae, Herpesviridae, Coronaviridae, Hepadnaviridae, Flaviviridae, Retroviridae, Orthomyxoviridae, Paramyxoviridae, Papovaviridae, Polyomavirus, Rhabdoviridae, Togaviridae and Bunyaviridae.

11. The neutrophil or stem cell for use according to any one of claims 1-5 or 9-10, wherein the infection is an infection selected from one or more of HIV-1 (Human immunodeficiency virus), HIV-2, Junin virus, BK virus, Machupo virus, Sabiá virus, Varicella zoster virus (VZV), Alphavirus, Colorado tick fever virus (CTFV), Rhinoviruses, Crimean-Congo hemorrhagic fever virus, Cytomegalovirus, Dengue virus, Ebolavirus (EBOV), Parvovirus B19, Human herpesvirus 6 (HHV-6), Human herpesvirus 7 (HHV-7), Enteroviruses (e.g. EV71), Coxsackie A virus, Sin Nombre virus, Heartland virus, Hanta virus, Hendra virus, Hepatitis A virus, Hepatitis B virus, Hepatitis C virus, Hepatitis D Virus, Hepatitis E virus, Herpes simplex virus 1 and 2 (HSV-1 and HSV-2), Human bocavirus (HBoV), Human metapneumovirus (hMPV), Human papillomaviruses, Human parainfluenza viruses (HPIV), Epstein–Barr virus (EBV), Lassa virus, Lymphocytic choriomeningitis virus (LCMV), Marburg virus, Measles virus, Middle East respiratory syndrome coronavirus, Molluscum contagiosum virus (MCV), Monkeypox virus, Mumps virus, Nipah virus, Norovirus, Poliovirus, JC virus, Respiratory syncytial virus (RSV), Rhinovirus, Rift Valley fever virus, Rotavirus, Rubella virus, SARS coronavirus, Variola major, Variola minor, Venezuelan equine encephalitis virus, Guanarito virus, West Nile virus, Yellow fever virus, and Zika virus.

12. A method for obtaining a stem cell for treating an infection, said method comprising:
    a. admixing a neutrophil obtainable from a donor with an infective agent or a cell infected by an infective agent;
    b. incubating said admixture;
    c. measuring the % of infective agent or cells infected by an infective agent killed in said admixture; and

d. obtaining a stem cell from a sample from said donor when the neutrophil kills greater than 41.23% of the infective agent or cells infected by an infective agent in the admixture.

13. A method for obtaining a stem cell for treating an infection, said method comprising:
    a. contacting an infective agent or a cell infected by an infective agent with a neutrophil obtainable from a donor to form a test sample, and incubating said test sample; and
    b. obtaining a stem cell from a sample from said donor when the % of infective agent or cells infected by an infective agent killed in the test sample is greater than the % of infective agent or cells infected by an infective agent killed in a control sample, wherein the control sample comprises an infective agent or a cell infected by an infective agent of the same type and a neutrophil obtainable from a different donor.

14. A method for selecting a neutrophil for treating an infection, said method comprising:
    a. admixing a neutrophil with an infective agent or a cell infected by an infective agent;
    b. incubating said admixture;
    c. measuring the % of infective agent or cells infected by an infective agent killed in said admixture; and
    d. selecting a neutrophil that kills greater than 41.23% of the infective agent or cells infected by an infective agent in the admixture.

15. A method for selecting a neutrophil for treating an infection, said method comprising:
    a. contacting an infective agent or a cell infected by an infective agent with a neutrophil obtainable from a donor to form a test sample, and incubating said test sample; and
    b. obtaining a neutrophil from a sample from said donor when the % of infective agent or cells infected by an infective agent killed in the test sample is greater than the % of pathogens or pathogen-infected cells killed in a control sample, wherein the control sample comprises an infective agent or a cell infected by an infective agent of the same type and a neutrophil obtainable from a different donor.

16. The method of any one of claims 12-15, wherein the infective agent is a bacterium.

17. The method of any one of claims 12-15, wherein the infective agent is a virus.

18. A method for determining the suitability of a neutrophil for treating an infection, the method comprising:

a. comparing a measured expression level of one or more genes by the neutrophil, wherein the one or more genes are associated with suitability for treating an infection and are selected from: *GM2A*, *CTSG*, *CAP37*, *ITGB1*, *CYBB*, *SYK*, *DOCK8*, *COMP*, *ATG7*, *SLC2A1*, *GZMK*, *ATM*, *IKBKB*, *BCAP31*, *TAPBP*, *PPP3CB*, *ANXA1*, *PERM*, *PLEC*, *ACSL1*, *RAC1*, and *PSMB2*, with the expression level of the same one or more genes in a reference standard; and

b. determining the suitability of the neutrophil for treating an infection based on the comparison.

19. A method for identifying whether or not a donor produces neutrophils suitable for treating an infection, the method comprising:

a. comparing a measured expression level of one or more genes by a neutrophil comprised in a sample obtainable from the donor, wherein the one or more genes are associated with suitability for treating an infection and are selected from: *GM2A*, *CTSG*, *CAP37*, *ITGB1*, *CYBB*, *SYK*, *DOCK8*, *COMP*, *ATG7*, *SLC2A1*, *GZMK*, *ATM*, *IKBKB*, *BCAP31*, *TAPBP*, *PPP3CB*, *ANXA1*, *PERM*, *PLEC*, *ACSL1*, *RAC1*, and *PSMB2*, with the expression level of the same one or more genes in a reference standard; and

b. identifying whether or not the donor produces neutrophils suitable for treating an infection based on the comparison.

20. The method according to claim 18 or 19, wherein step b. comprises:

determining that the neutrophil is suitable for treating an infection or identifying that the donor produces neutrophils suitable for treating an infection when:

i. the measured expression level of one or more of *GM2A*, *CTSG*, *CAP37*, *ITGB1*, *CYBB*, *SYK*, *DOCK8*, *COMP*, *ATG7*, *SLC2A1*, *GZMK*, *ATM*, *IKBKB*, *BCAP31*, *TAPBP*, *PERM*, *PLEC*, *ACSL1*, *RAC1*, and *PSMB2* is increased when compared to the reference standard when the reference standard is from a neutrophil unsuitable for treating an infection; or

ii. the measured expression level of *ANXA1* and/or *PPP3CB* is decreased when compared to the reference standard, when the reference standard is from a neutrophil unsuitable for treating an infection; or

iii. the measured expression level of one or more of *GM2A*, *CTSG*, *CAP37*, *ITGB1*, *CYBB*, *SYK*, *DOCK8*, *COMP*, *ATG7*, *SLC2A1*, *GZMK*, *ATM*,

IKBKB, BCAP31, TAPBP, PERM, PLEC, ACSL1, RAC1, and *PSMB2* is increased or the same when compared to the reference standard, when the reference standard is from a neutrophil suitable for treating an infection; or

iv. the measured expression level of *ANXA1* and/or *PPP3CB* is decreased or the same when compared to the reference standard, when the reference standard is from a neutrophil suitable for treating an infection; or

determining that the neutrophil is unsuitable for treating an infection or identifying that the donor produces neutrophils that are unsuitable for treating an infection when:

v. the measured expression level of one or more of *GM2A, CTSG, CAP37, ITGB1, CYBB, SYK, DOCK8, COMP, ATG7, SLC2A1, GZMK, ATM, IKBKB, BCAP31, TAPBP, PERM, PLEC, ACSL1, RAC1,* and *PSMB2* is decreased or the same when compared to the reference standard, when the reference standard is from a neutrophil unsuitable for treating an infection; or

vi. the measured expression level of *ANXA1* and/or *PPP3CB* is increased or the same when compared to the reference standard, when the reference standard is from a neutrophil unsuitable for treating an infection; or

vii. the measured expression level of one or more of *GM2A, CTSG, CAP37, ITGB1, CYBB, SYK, DOCK8, COMP, ATG7, SLC2A1, GZMK, ATM, IKBKB, BCAP31, TAPBP, PERM, PLEC, ACSL1, RAC1,* and *PSMB2* is decreased when compared to reference standard, when the reference standard is from a neutrophil suitable for treating an infection; or

viii. the measured expression level of *ANXA1* and/or *PPP3CB* is increased when compared to the reference standard, when the reference standard is from a neutrophil suitable for treating an infection.

21. A method for selecting whether or not a subject is suitable for treatment with a neutrophil or a stem cell for treating an infection, the method comprising:

a. comparing a measured expression level of one or more genes by a neutrophil comprised in a sample obtainable from the subject, wherein the one or more genes are associated with suitability for treating an infection and are selected from: *GM2A, CTSG, CAP37, ITGB1, CYBB, SYK, DOCK8, COMP, ATG7, SLC2A1, GZMK, ATM, IKBKB, BCAP31, TAPBP, PPP3CB, ANXA1, PERM, PLEC, ACSL1, RAC1,* and *PSMB2* with the expression level of the same one or more genes in a reference standard; and

b. identifying whether or not the subject is suitable for treatment with a neutrophil or a stem cell for treating an infection based on the comparison.

22. The method according to claim 21, wherein step b. comprises:

identifying the subject as suitable for treatment with a neutrophil or a stem cell for treating an infection, when:

i. the measured expression level of one or more of *GM2A*, *CTSG*, *CAP37*, *ITGB1*, *CYBB*, *SYK*, *DOCK8*, *COMP*, *ATG7*, *SLC2A1*, *GZMK*, *ATM*, *IKBKB*, *BCAP31*, *TAPBP*, *PERM*, *PLEC*, *ACSL1*, *RAC1*, and *PSMB2* is decreased or the same when compared to the reference standard, when the reference standard is from a neutrophil unsuitable for treating an infection; or

ii. the measured expression level of *ANXA1* and/or *PPP3CB* is increased or the same when compared to the reference standard, when the reference standard is from a neutrophil unsuitable for treating an infection; or

iii. the measured expression level of one or more of *GM2A*, *CTSG*, *CAP37*, *ITGB1*, *CYBB*, *SYK*, *DOCK8*, *COMP*, *ATG7*, *SLC2A1*, *GZMK*, *ATM*, *IKBKB*, *BCAP31*, *TAPBP*, *PERM*, *PLEC*, *ACSL1*, *RAC1*, and *PSMB2* is decreased when compared to the reference standard, when the reference standard is from a neutrophil suitable for treating an infection; or

iv. the measured expression level of *ANXA1* and/or *PPP3CB* is increased when compared to the reference standard, when the reference standard is from a neutrophil suitable for treating an infection; or

identifying the subject as unsuitable for treatment with a neutrophil or a stem cell for treating an infection, when:

v. the measured expression level of one or more of *GM2A*, *CTSG*, *CAP37*, *ITGB1*, *CYBB*, *SYK*, *DOCK8*, *COMP*, *ATG7*, *SLC2A1*, *GZMK*, *ATM*, *IKBKB*, *BCAP31*, *TAPBP*, *PERM*, *PLEC*, *ACSL1*, *RAC1*, and *PSMB2* is increased when compared to the reference standard when the reference standard is from a neutrophil unsuitable for treating an infection; or

vi. the measured expression level of *ANXA1* and/or *PPP3CB* is decreased when compared to the reference standard, when the reference standard is from a neutrophil unsuitable for treating an infection; or

vii. the measured expression level of one or more of *GM2A*, *CTSG*, *CAP37*, *ITGB1*, *CYBB*, *SYK*, *DOCK8*, *COMP*, *ATG7*, *SLC2A1*, *GZMK*, *ATM*, *IKBKB*, *BCAP31*, *TAPBP*, *PERM*, *PLEC*, *ACSL1*, *RAC1*, and *PSMB2* is increased or the same when compared to the reference standard, when the reference standard is from a neutrophil suitable for treating an infection; or

viii. the measured expression level of *ANXA1* and/or *PPP3CB* is decreased or the same when compared to the reference standard, when the reference standard is from a neutrophil suitable for treating an infection.

23. The method according to any one of claims 18-22, wherein the method further comprises measuring the expression of the one or more genes.

24. The method according to any one of claims 18-23, further comprising measuring the expression level of one or more gene selected from: *S100A9* and *S100A8*.

25. The neutrophil or stem cell for use or method according to any one of claims 1-11 or 18-24, wherein the one or more genes associated with suitability for treating an infection are one or more genes associated with:

a. killing an infective agent or a cell infected by an infective agent and are selected from: *GM2A, CTSG, CAP37, CYBB, SLC2A1, GZMK, ATM, PERM,* and *ACSL1*; and/or

b. locating and/or binding to an infective agent or a cell infected by an infective agent and are selected from: *ANXA1, ATG7, ITGB1, SYK, DOCK8, CYBB, RAC1, CAP37, COMP* and *PLEC*; and/or

c. recruitment of immune mediators and are selected from: *BCAP31, TAPBP, IKBKB, PPP3CB* and *PSMB2*.

26. The neutrophil or stem cell for use or method according to any one of claims 1-11 or 18-25, wherein the expression level is measured by proteomic techniques.

27. The neutrophil or stem cell for use or method according to any one of claims 1-11 or 18-26, wherein the expression level is measured by transcriptomic techniques.

28. The method according to any one of claims 14-20 or 23-27, further comprising obtaining a stem cell from a sample from said donor from whom the selected neutrophil is obtainable.

29. The method according to any one of claims 14-20 or 23-28 further comprising selecting a neutrophil when the neutrophil has been determined to be suitable for treating an infection or selecting a neutrophil from a sample obtainable from a donor when the donor has been identified as a donor that produces neutrophils for treating an infection, preferably wherein the selecting comprises isolating the neutrophil.

30. An *in vitro* method for obtaining a neutrophil for treating an infection, said method comprising obtaining a neutrophil from a sample obtainable from a donor, wherein said donor produces neutrophils capable of killing greater than 41.23% of MRSA strain USA300 cells in an MRSA assay comprising:

a. admixing 100 µl of a 1 x 10^7 CFU/ml solution of MRSA strain USA300 in RPMI 1640 with 100 µl of a solution containing 1 x 10^7 neutrophils/ml;
b. incubating the admixture at 37°C under shaking at 120 rpm;
c. taking a sample at 2 hours and plating on Tryptic Soy Agar;
d. incubating the plated sample at 37°C for 24 hours;
e. counting the bacterial colonies;
f. quantifying the total CFU content; and
g. calculating the % of MRSA cells killed based on the CFU content in steps a. and f. using the formula ((CFU $content_{no\ effector}$ – CFU $content_{effector}$)/CFU $content_{no\ effector}$) X 100.

31. An *in vitro* method for obtaining a stem cell for treating an infection, said method comprising obtaining a stem cell from a sample obtainable from a donor, wherein said donor produces neutrophils capable of killing greater than 41.23% of MRSA strain USA300 cells in an MRSA assay comprising:

a. admixing 100 µl of a 1 x 10^7 CFU/ml solution of MRSA strain USA300 in RPMI 1650 with 100 µl of a solution containing 1 x 10^7 neutrophils/ml;
b. incubating the admixture at 37°C under shaking at 120 rpm;
c. taking a sample at 2 hours and plating on Tryptic Soy Agar;
d. incubating the plated sample at 37°C for 24 hours;
e. counting the bacterial colonies;
f. quantifying the total CFU content; and
g. calculating the % of MRSA cells killed based on the CFU content in steps a. and f. using the formula ((CFU $content_{no\ effector}$ – CFU $content_{effector}$)/CFU $content_{no\ effector}$) X 100.

32. An *in vitro* method for obtaining a neutrophil for treating an infection, said method comprising obtaining a neutrophil from a sample obtainable from a donor, wherein said donor produces neutrophils comprising:

a. increased expression of one or more of *ITGB1, CYBB, SYK, DOCK8, COMP, ATG7, SLC2A1, GZMK, CTSG, ATM, IKBKB, BCAP31, TAPBP, PERM, PLEC, ACSL1,*

RAC1, GM2A, CAP37, and *PSMB2* when compared to a reference standard, wherein the reference standard is from a neutrophil unsuitable for treating an infection; and/or

b. decreased expression of *ANXA1* and/or *PPP3CB* when compared to a reference standard, wherein the reference standard is from a neutrophil unsuitable for treating an infection.

33. An *in vitro* method for obtaining a stem cell for treating an infection, said method comprising obtaining a stem cell from a sample obtainable from a donor, wherein said donor produces neutrophils comprising:

a. increased expression of one or more of *ITGB1, CYBB, SYK, DOCK8, COMP, ATG7, SLC2A1, GZMK, CTSG, ATM, IKBKB, BCAP31, TAPBP, PERM, PLEC, ACSL1, RAC1, GM2A, CAP37,* and *PSMB2* when compared to a reference standard, wherein the reference standard is from a neutrophil unsuitable for treating an infection; and/or

b. decreased expression of *ANXA1* and/or *PPP3CB* when compared to a reference standard, wherein the reference standard is from a neutrophil unsuitable for treating an infection.

34. A method for producing a neutrophil for treating an infection, the method comprising:

a. providing a stem cell obtainable from a sample from a donor, wherein a neutrophil of the donor kills a greater % of infective agent or cells infected by an infective agent when compared to a control;
b. differentiating the stem cell into a neutrophil; and
c. optionally isolating the neutrophil.

35. A method for producing a stem cell for treating an infection, the method comprising:

a. providing a stem cell obtainable from a sample from a donor, wherein a neutrophil of the donor kills a greater % of infective agents or cells infected by an infective agent when compared to a control;
b. differentiating the stem cell into a different stem cell (preferably a precursor cell); and
c. optionally isolating the different stem cell (preferably the precursor cell).

36. A method for preparing a stem cell suitable for treating an infection, the method comprising:

a. identifying a donor that produces neutrophils suitable for treating an infection according to the method of any one of claims 19-20 or 23-29; and
b. obtaining the stem cell from a sample obtainable from said donor.

37. The method according to any one of claims 31, 33 or 36, wherein the sample comprises a somatic cell and obtaining the stem cell from the sample comprises reprograming the somatic cell into a stem cell.

38. A method for isolating a neutrophil or stem cell for treating an infection, the method comprising:

a. contacting a sample of neutrophils or a sample of stem cells with a binding means, wherein the binding means binds to one or more polypeptides selected from GM2A, CTSG, CAP37, ITGB1, CYBB, SYK, DOCK8, COMP, ATG7, SLC2A1, GZMK, ATM, IKBKB, BCAP31, TAPBP, PPP3CB, ANXA1, PERM, PLEC, ACSL1, RAC1, and PSMB2; and

b. isolating the neutrophil or stem cell, respectively, based on the presence or absence of binding between the binding means and the one or more polypeptides.

39. A method for producing an engineered neutrophil or stem cell for treating an infection, the method comprising:

a. providing a neutrophil or stem cell, respectively; and

b. engineering the neutrophil or stem cell, respectively, to:

i. increase expression of one or more genes selected from: *GM2A*, *CTSG*, *CAP37*, *ITGB1*, *CYBB*, *SYK*, *DOCK8*, *COMP*, *ATG7*, *SLC2A1*, *GZMK*, *ATM*, *IKBKB*, *BCAP31*, *TAPBP*, *PERM*, *PLEC*, *ACSL1*, *RAC1*, and *PSMB2*; and/or

ii. decrease expression of *ANXA1* and/or *PPP3CB*;

thereby producing the engineered neutrophil or stem cell, wherein the engineered neutrophil or stem cell, respectively, is suitable for treating an infection.

40. A stem cell which is capable of differentiating into a neutrophil for treating an infection, wherein the neutrophil comprises:

a. increased expression of one or more of *ITGB1*, *CYBB*, *SYK*, *DOCK8*, *COMP*, *ATG7*, *SLC2A1*, *GZMK*, *CTSG*, *ATM*, *IKBKB*, *BCAP31*, *TAPBP*, *PERM*, *PLEC*, *ACSL1*, *RAC1*, *GM2A*, *CAP37*, and *PSMB2* when compared to a reference standard, wherein the reference standard is from a neutrophil unsuitable for treating an infection; and/or

b. decreased expression of *ANXA1* and/or *PPP3CB* when compared to a reference standard, wherein the reference standard is from a neutrophil unsuitable for treating an infection.

41. The stem cell according to claim 40, wherein the stem cell is an induced pluripotent stem cell, or wherein the stem cell is a haematopoietic stem cell, a common myeloid progenitor cell, a myeloblast, a N. promyelocyte, a N. myelocyte, a N. metamyelocyte, a N. band, or combinations thereof; preferably wherein the stem cell is a haematopoietic stem cell.

42. A method for producing a neutrophil for treating an infection, the method comprising:
   a. providing a cell; and
   b. converting the cell into a neutrophil, wherein:
      i. the measured expression level of one or more of *GM2A, CTSG, CAP37, ITGB1, CYBB, SYK, DOCK8, COMP, ATG7, SLC2A1, GZMK, ATM, IKBKB, BCAP31, TAPBP, PERM, PLEC, ACSL1, RAC1,* and *PSMB2* is increased in the neutrophil when compared to a reference standard when the reference standard is from a neutrophil unsuitable for treating an infection; or
      ii. the measured expression level of *ANXA1* and/or *PPP3CB* is decreased in the neutrophil when compared to the reference standard, when the reference standard is from a neutrophil unsuitable for treating an infection; or
      iii. the measured expression level of one or more of *GM2A, CTSG, CAP37, ITGB1, CYBB, SYK, DOCK8, COMP, ATG7, SLC2A1, GZMK, ATM, IKBKB, BCAP31, TAPBP, PERM, PLEC, ACSL1, RAC1,* and *PSMB2* is increased or the same when compared to the reference standard, when the reference standard is from a neutrophil suitable for treating an infection; or
      iv. the measured expression level of *ANXA1* and/or *PPP3CB* is decreased or the same when compared to the reference standard, when the reference standard is from a neutrophil suitable for treating an infection; and
   c. optionally isolating the neutrophil.

43. The method of claim 42, wherein the cell is a stem cell according to any one of claims 40-41.

44. The method of claim 43, wherein converting the stem cell into a neutrophil comprises differentiating the stem cell into a neutrophil.

45. The method of claim 42, wherein the cell is a somatic/differentiated cell, optionally from a donor who produces neutrophils suitable for treating an infection as determined by the method of claims 19-20 or 23-29.

46. The method of claim 45, wherein converting the somatic/differentiated cell into a neutrophil comprises transdifferentiating the somatic/differentiated cell into a neutrophil.

47. A neutrophil (e.g. obtainable by the method according to any one of claims 14-20, 23-30, 32, 34, 38-39 or 42-46), wherein the neutrophil comprises:
    a. increased expression of one or more of *GM2A*, *CTSG*, *CAP37*, *ITGB1*, *CYBB*, *SYK*, *DOCK8*, *COMP*, *ATG7*, *SLC2A1*, *GZMK*, *ATM*, *IKBKB*, *BCAP31*, *TAPBP*, *PERM*, *PLEC*, *ACSL1*, *RAC1*, and *PSMB2* when compared to a reference standard, wherein the reference standard is from a neutrophil unsuitable for treating an infection; and/or
    b. decreased expression of *ANXA1* and/or *PPP3CB* when compared to a reference standard, wherein the reference standard is from a neutrophil unsuitable for treating an infection.

48. A composition for treating an infection, (e.g. obtainable by the method according to any one of claims 14-20, 23-30, 32, 34, 38-39 or 42-46) the composition comprising neutrophils: wherein at least 90% of the neutrophils comprised in the composition have:
    a. increased expression of one or more of *GM2A*, *CTSG*, *CAP37*, *ITGB1*, *CYBB*, *SYK*, *DOCK8*, *COMP*, *ATG7*, *SLC2A1*, *GZMK*, *ATM*, *IKBKB*, *BCAP31*, *TAPBP*, *PERM*, *PLEC*, *ACSL1*, *RAC1*, and *PSMB2* when compared to a reference standard, wherein the reference standard is from a neutrophil unsuitable for treating an infection; and/or
    b. decreased expression of *ANXA1* and/or *PPP3CB* when compared to a reference standard, wherein the reference standard is from a neutrophil unsuitable for treating an infection.

49. The composition according to claim 48, wherein at least 95%, 99% or 100% of the neutrophils comprised in the composition have:
    a. increased expression of one or more of *GM2A*, *CTSG*, *CAP37*, *ITGB1*, *CYBB*, *SYK*, *DOCK8*, *COMP*, *ATG7*, *SLC2A1*, *GZMK*, *ATM*, *IKBKB*, *BCAP31*, *TAPBP*,

PERM, PLEC, ACSL1, RAC1, and *PSMB2* when compared to a reference standard, wherein the reference standard is from a neutrophil unsuitable for treating an infection; and/or

b. decreased expression of *ANXA1* and/or *PPP3CB* when compared to a reference standard, wherein the reference standard is from a neutrophil unsuitable for treating an infection.

50. A pharmaceutical composition comprising:

a. the neutrophil according to claim 47, the stem cell according to any one of claims 40-41, or the composition according to any one of claims 48-49; and

b. a pharmaceutically acceptable carrier, excipient, adjuvant, and/or salt.

51. The pharmaceutical composition according to claim 50, further comprising TNF-alpha.

52. The pharmaceutical composition according to any one of claims 50-51 further comprising a granulocyte-macrophage colony-stimulating factor (GM-CSF), a granulocyte colony-stimulating factor (G-CSF), a growth hormone, serotonin, vitamin C, vitamin D, glutamine (Gln), arachidonic acid, AGE-albumin, an interleukin, TNF-alpha, Flt-3 ligand, thrombopoietin, foetal bovine serum (FBS), retinoic acid, lipopolysaccharide (LPS), IFN-gamma, IFN-beta, or combinations thereof.

53. The pharmaceutical composition according to any one of claims 50-52, further comprising a granulocyte-macrophage colony-stimulating factor (GM-CSF) and IFN-gamma.

54. A kit comprising:

a. the neutrophil according to claim 47, the stem cell according to any one of claims 40-41, or the composition according to any one of claims 48-49, or the pharmaceutical composition according to any one of claims 50-53; and

b. instructions for use of the same in medicine.

55. A neutrophil according to claim 47, the stem cell according to any one of claims 40-41, or the composition according to any one of claims 48-49, or the pharmaceutical composition according to any one of claims 50-53, or kit according to claim 54 for use in treating an infection.

56. Use of the neutrophil according to claim 47, the stem cell according to any one of claims 40-41, or the composition according to any one of claims 48-49, or the pharmaceutical composition according to any one of claims 50-53, or kit according to claim 54 in the manufacture of a medicament for treating an infection.

57. A method for treating an infection comprising: administering to a subject in need thereof the neutrophil according to claim 47, the stem cell according to any one of claims 40-41 the composition according to any one of claims 48-49, or the pharmaceutical composition according to any one of claims 50-53, or the kit according to claim 54.

58. The neutrophil, stem cell, composition, pharmaceutical composition or kit for use according to claim 55, the use according to claim 56 or the method according to claim 57, wherein the infection is bacterial, fungal, viral, macroparasitic, or a combination thereof.

59. The neutrophil, stem cell, composition, pharmaceutical composition or kit for use, use or method according to any one of claims 55-58, wherein the infection is bacterial.

60. The neutrophil, stem cell, composition, pharmaceutical composition or kit for use, use or method according to any one of claims 55-59, wherein the bacterial infection comprises an infection with an antibiotic resistant bacterium, preferably a multi-antibiotic resistant bacterium.

61. The neutrophil, stem cell, composition, pharmaceutical composition or kit for use, use or method according to any one of claims 55-60, wherein the antibiotic resistant bacterium is one or more selected from methicillin-resistant *Staphylococcus aureus* (MRSA), multidrug resistant Gram-negative bacteria (MDRGN bacteria), vancomycin-resistant *Enterococcus* (VRE), multi-drug-resistant *Mycobacterium tuberculosis* (MDR-TB), carbapenem-resistant *Enterobacteriaceae* (CRE) gut bacteria, or a combination thereof.

62. The neutrophil, stem cell, composition, pharmaceutical composition or kit for use, use or method according to any one of claims 55-58, wherein the infection is viral.

63. The neutrophil, stem cell, composition, pharmaceutical composition or kit for use, use or method according to any one of claims 55-58 or 62, wherein the infection is an infection selected from one or more family selected from Adenoviridae, Picornaviridae,

Herpesviridae, Coronaviridae, Hepadnaviridae, Flaviviridae, Retroviridae, Orthomyxoviridae, Paramyxoviridae, Papovaviridae, Polyomavirus, Rhabdoviridae, Togaviridae and Bunyaviridae.

64. The neutrophil, stem cell, composition, pharmaceutical composition or kit for use, use or method according to any one of claims 55-58 or 62-63, wherein the infection is an infection selected from one or more of HIV-1 (Human immunodeficiency virus), HIV-2, Junin virus, BK virus, Machupo virus, Sabiá virus, Varicella zoster virus (VZV), Alphavirus, Colorado tick fever virus (CTFV), Rhinoviruses, Crimean-Congo hemorrhagic fever virus, Cytomegalovirus, Dengue virus, Ebolavirus (EBOV), Parvovirus B19, Human herpesvirus 6 (HHV-6), Human herpesvirus 7 (HHV-7), Enteroviruses (e.g. EV71), Coxsackie A virus, Sin Nombre virus, Heartland virus, Hanta virus, Hendra virus, Hepatitis A virus, Hepatitis B virus, Hepatitis C virus, Hepatitis D Virus, Hepatitis E virus, Herpes simplex virus 1 and 2 (HSV-1 and HSV-2), Human bocavirus (HBoV), Human metapneumovirus (hMPV), Human papillomaviruses, Human parainfluenza viruses (HPIV), Epstein–Barr virus (EBV), Lassa virus, Lymphocytic choriomeningitis virus (LCMV), Marburg virus, Measles virus, Middle East respiratory syndrome coronavirus, Molluscum contagiosum virus (MCV), Monkeypox virus, Mumps virus, Nipah virus, Norovirus, Poliovirus, JC virus, Respiratory syncytial virus (RSV), Rhinovirus, Rift Valley fever virus, Rotavirus, Rubella virus, SARS coronavirus, SARS-CoV-2, Variola major, Variola minor, Venezuelan equine encephalitis virus, Guanarito virus, West Nile virus, Yellow fever virus, and Zika virus.

65. A cell bank comprising the neutrophil according to claim 47, the stem cell according to any one of claims 40-41, or the composition according to any one of claims 48-49, or the pharmaceutical composition according to any one of claims 50-53.

CLAIMS

1. A neutrophil or stem cell (preferably neutrophil) for use in treating an infection, wherein the neutrophil or stem cell comprises:
    a. increased expression of one or more of *GM2A*, *CTSG, CAP37, ITGB1, CYBB, SYK, DOCK8, COMP, ATG7, SLC2A1, GZMK, ATM, IKBKB, BCAP31, TAPBP, PERM, PLEC, ACSL1, RAC1*, and *PSMB2* when compared to a reference standard, wherein the reference standard is from a neutrophil or stem cell unsuitable for treating an infection; and/or
    b. decreased expression of *ANXA1* and/or *PPP3CB* when compared to a reference standard, wherein the reference standard is from a neutrophil or stem cell unsuitable for treating an infection

2. The neutrophil or stem cell for use according to claim 1, wherein:

a. the neutrophil is differentiated from a stem cell that has been derived from a sample from a donor;

b. the neutrophil or stem cell is obtainable from a sample from a donor above the age of 40 years old, or wherein the neutrophil is differentiated from a stem cell that has been derived from a sample from a donor above the age of 40 years old;

c. wherein the neutrophil or stem cell is obtainable from a sample from a female donor, or wherein the neutrophil is differentiated from a stem cell that has been derived from a sample from a female donor; and/or

d. the infection is bacterial, fungal, viral, macroparasitic, or a combination thereof; optionally wherein:

i. the infection is bacterial; optionally wherein the infection is an infection with an antibiotic resistant bacterium, preferably a multi-antibiotic resistant bacterium; and/or the infection is an infection with one or more antibiotic resistant bacterium selected from methicillin-resistant *Staphylococcus aureus* (MRSA), multidrug resistant Gram-negative bacteria (MDRGN bacteria), vancomycin-resistant *Enterococcus* (VRE), multi-drug-resistant *Mycobacterium tuberculosis* (MDR-TB), carbapenem-resistant *Enterobacteriaceae* (CRE) gut bacteria, or a combination thereof; or

ii. the infection is viral; optionally wherein the infection is an infection selected from one or more family selected from Adenoviridae, Picornaviridae, Herpesviridae, Coronaviridae, Hepadnaviridae, Flaviviridae, Retroviridae, Orthomyxoviridae, Paramyxoviridae, Papovaviridae, Polyomavirus, Rhabdoviridae, Togaviridae and Bunyaviridae; and/or wherein the infection is an infection selected from one or more of HIV-1 (Human immunodeficiency virus), HIV-2, Junin virus, BK virus, Machupo virus,

Sabiá virus, Varicella zoster virus (VZV), Alphavirus, Colorado tick fever virus (CTFV), Rhinoviruses, Crimean-Congo hemorrhagic fever virus, Cytomegalovirus, Dengue virus, Ebolavirus (EBOV), Parvovirus B19, Human herpesvirus 6 (HHV-6), Human herpesvirus 7 (HHV-7), Enteroviruses (e.g. EV71), Coxsackie A virus, Sin Nombre virus, Heartland virus, Hanta virus, Hendra virus, Hepatitis A virus, Hepatitis B virus, Hepatitis C virus, Hepatitis D Virus, Hepatitis E virus, Herpes simplex virus 1 and 2 (HSV-1 and HSV-2), Human bocavirus (HBoV), Human metapneumovirus (hMPV), Human papillomaviruses, Human parainfluenza viruses (HPIV), Epstein–Barr virus (EBV), Lassa virus, Lymphocytic choriomeningitis virus (LCMV), Marburg virus, Measles virus, Middle East respiratory syndrome coronavirus, Molluscum contagiosum virus (MCV), Monkeypox virus, Mumps virus, Nipah virus, Norovirus, Poliovirus, JC virus, Respiratory syncytial virus (RSV), Rhinovirus, Rift Valley fever virus, Rotavirus, Rubella virus, SARS coronavirus, Variola major, Variola minor, Venezuelan equine encephalitis virus, Guanarito virus, West Nile virus, Yellow fever virus, and Zika virus.

3. A method for obtaining a stem cell for treating an infection, said method comprising:
    a. admixing a neutrophil obtainable from a donor with an infective agent or a cell infected by an infective agent;
    b. incubating said admixture;
    c. measuring the % of infective agent or cells infected by an infective agent killed in said admixture; and
    d. obtaining a stem cell from a sample from said donor when the neutrophil kills greater than 41.23% of the infective agent or cells infected by an infective agent in the admixture; or

said method comprising:

    a. contacting an infective agent or a cell infected by an infective agent with a neutrophil obtainable from a donor to form a test sample, and incubating said test sample; and
    b. obtaining a stem cell from a sample from said donor when the % of infective agent or cells infected by an infective agent killed in the test sample is greater than the % of infective agent or cells infected by an infective agent killed in a control sample, wherein the control sample comprises an infective agent or a cell infected by an infective agent of the same type and a neutrophil obtainable from a different donor.

4. A method for selecting a neutrophil for treating an infection, said method comprising:

a. admixing a neutrophil with an infective agent or a cell infected by an infective agent;
b. incubating said admixture;
c. measuring the % of infective agent or cells infected by an infective agent killed in said admixture; and
d. selecting a neutrophil that kills greater than 41.23% of the infective agent or cells infected by an infective agent in the admixture; or

said method comprising:

a. contacting an infective agent or a cell infected by an infective agent with a neutrophil obtainable from a donor to form a test sample, and incubating said test sample; and
b. obtaining a neutrophil from a sample from said donor when the % of infective agent or cells infected by an infective agent killed in the test sample is greater than the % of pathogens or pathogen-infected cells killed in a control sample, wherein the control sample comprises an infective agent or a cell infected by an infective agent of the same type and a neutrophil obtainable from a different donor.

5. The method of any one of claims 3 or 4, wherein the infective agent is a bacterium; or wherein the infective agent is a virus.

6. A method for determining the suitability of a neutrophil for treating an infection, the method comprising:

a. comparing a measured expression level of one or more genes by the neutrophil, wherein the one or more genes are associated with suitability for treating an infection and are selected from: *GM2A*, *CTSG, CAP37, ITGB1, CYBB, SYK, DOCK8, COMP, ATG7, SLC2A1, GZMK, ATM, IKBKB, BCAP31, TAPBP, PPP3CB, ANXA1, PERM, PLEC, ACSL1*, *RAC1*, and *PSMB2*, with the expression level of the same one or more genes in a reference standard; and

b. determining the suitability of the neutrophil for treating an infection based on the comparison.

7. A method for identifying whether or not a donor produces neutrophils suitable for treating an infection, the method comprising:

a. comparing a measured expression level of one or more genes by a neutrophil comprised in a sample obtainable from the donor, wherein the one or more genes are associated with suitability for treating an infection and are selected from: *GM2A*, *CTSG,*

CAP37, ITGB1, CYBB, SYK, DOCK8, COMP, ATG7, SLC2A1, GZMK, ATM, IKBKB, BCAP31, TAPBP, PPP3CB, ANXA1, PERM, PLEC, ACSL1, RAC1, and *PSMB2*, with the expression level of the same one or more genes in a reference standard; and

b. identifying whether or not the donor produces neutrophils suitable for treating an infection based on the comparison.

8. The method according to claim 6 or 7, wherein step b. comprises:

determining that the neutrophil is suitable for treating an infection or identifying that the donor produces neutrophils suitable for treating an infection when:

i. the measured expression level of one or more of *GM2A*, *CTSG, CAP37, ITGB1, CYBB, SYK, DOCK8, COMP, ATG7, SLC2A1, GZMK, ATM, IKBKB, BCAP31, TAPBP, PERM, PLEC, ACSL1, RAC1,* and *PSMB2* is increased when compared to the reference standard when the reference standard is from a neutrophil unsuitable for treating an infection; or

ii. the measured expression level of *ANXA1* and/or *PPP3CB* is decreased when compared to the reference standard, when the reference standard is from a neutrophil unsuitable for treating an infection; or

iii. the measured expression level of one or more of *GM2A, CTSG, CAP37, ITGB1, CYBB, SYK, DOCK8, COMP, ATG7, SLC2A1, GZMK, ATM, IKBKB, BCAP31, TAPBP, PERM, PLEC, ACSL1, RAC1,* and *PSMB2* is increased or the same when compared to the reference standard, when the reference standard is from a neutrophil suitable for treating an infection; or

iv. the measured expression level of *ANXA1* and/or *PPP3CB* is decreased or the same when compared to the reference standard, when the reference standard is from a neutrophil suitable for treating an infection; or

determining that the neutrophil is unsuitable for treating an infection or identifying that the donor produces neutrophils that are unsuitable for treating an infection when:

v. the measured expression level of one or more of *GM2A*, *CTSG, CAP37, ITGB1, CYBB, SYK, DOCK8, COMP, ATG7, SLC2A1, GZMK, ATM, IKBKB, BCAP31, TAPBP, PERM, PLEC, ACSL1, RAC1,* and *PSMB2* is decreased or the same when compared to the reference standard, when the reference standard is from a neutrophil unsuitable for treating an infection; or

vi. the measured expression level of *ANXA1* and/or *PPP3CB* is increased or the same when compared to the reference standard, when the reference standard is from a neutrophil unsuitable for treating an infection; or

vii. the measured expression level of one or more of *GM2A*, *CTSG, CAP37, ITGB1, CYBB, SYK, DOCK8, COMP, ATG7, SLC2A1, GZMK, ATM, IKBKB, BCAP31, TAPBP, PERM, PLEC, ACSL1, RAC1,* and *PSMB2* is decreased when compared to reference standard, when the reference standard is from a neutrophil suitable for treating an infection; or

viii. the measured expression level of *ANXA1* and/or *PPP3CB* is increased when compared to the reference standard, when the reference standard is from a neutrophil suitable for treating an infection.

9. A method for selecting whether or not a subject is suitable for treatment with a neutrophil or a stem cell for treating an infection, the method comprising:

a. comparing a measured expression level of one or more genes by a neutrophil comprised in a sample obtainable from the subject, wherein the one or more genes are associated with suitability for treating an infection and are selected from: *GM2A*, *CTSG, CAP37, ITGB1, CYBB, SYK, DOCK8, COMP, ATG7, SLC2A1, GZMK, ATM, IKBKB, BCAP31, TAPBP, PPP3CB, ANXA1, PERM, PLEC, ACSL1, RAC1,* and *PSMB2* with the expression level of the same one or more genes in a reference standard; and

b. identifying whether or not the subject is suitable for treatment with a neutrophil or a stem cell for treating an infection based on the comparison.

10. The method according to claim 9, wherein step b. comprises:

identifying the subject as suitable for treatment with a neutrophil or a stem cell for treating an infection, when:

i. the measured expression level of one or more of *GM2A*, *CTSG, CAP37, ITGB1, CYBB, SYK, DOCK8, COMP, ATG7, SLC2A1, GZMK, ATM, IKBKB, BCAP31, TAPBP, PERM, PLEC, ACSL1, RAC1,* and *PSMB2* is decreased or the same when compared to the reference standard, when the reference standard is from a neutrophil unsuitable for treating an infection; or

ii. the measured expression level of *ANXA1* and/or *PPP3CB* is increased or the same when compared to the reference standard, when the reference standard is from a neutrophil unsuitable for treating an infection; or

iii. the measured expression level of one or more of *GM2A*, *CTSG, CAP37, ITGB1, CYBB, SYK, DOCK8, COMP, ATG7, SLC2A1, GZMK, ATM, IKBKB, BCAP31, TAPBP, PERM, PLEC, ACSL1, RAC1,* and *PSMB2* is decreased when compared to the reference standard, when the reference standard is from a neutrophil suitable for treating an infection; or

iv. the measured expression level of *ANXA1* and/or *PPP3CB* is increased when compared to the reference standard, when the reference standard is from a neutrophil suitable for treating an infection; or

identifying the subject as unsuitable for treatment with a neutrophil or a stem cell for treating an infection, when:

v. the measured expression level of one or more of *GM2A*, *CTSG, CAP37, ITGB1, CYBB, SYK, DOCK8, COMP, ATG7, SLC2A1, GZMK, ATM, IKBKB, BCAP31, TAPBP, PERM, PLEC, ACSL1, RAC1,* and *PSMB2* is increased when compared to the reference standard when the reference standard is from a neutrophil unsuitable for treating an infection; or

vi. the measured expression level of *ANXA1* and/or *PPP3CB* is decreased when compared to the reference standard, when the reference standard is from a neutrophil unsuitable for treating an infection; or

vii. the measured expression level of one or more of *GM2A*, *CTSG, CAP37, ITGB1, CYBB, SYK, DOCK8, COMP, ATG7, SLC2A1, GZMK, ATM, IKBKB, BCAP31, TAPBP, PERM, PLEC, ACSL1, RAC1,* and *PSMB2* is increased or the same when compared to the reference standard, when the reference standard is from a neutrophil suitable for treating an infection; or

viii. the measured expression level of *ANXA1* and/or *PPP3CB* is decreased or the same when compared to the reference standard, when the reference standard is from a neutrophil suitable for treating an infection.

11. The method according to any one of claims 6-10, wherein the method further comprises:

a. measuring the expression of the one or more genes; and/or

b. measuring the expression level of one or more gene selected from: *S100A9* and *S100A8*.

12. The neutrophil or stem cell for use or method according to any one of claims 1, 2 or 6-11, wherein:

a. the one or more genes associated with suitability for treating an infection are one or more genes associated with:

i. killing an infective agent or a cell infected by an infective agent and are selected from: *GM2A*, *CTSG, CAP37, CYBB, SLC2A1, GZMK, ATM, PERM,* and *ACSL1*; and/or

ii. locating and/or binding to an infective agent or a cell infected by an infective agent and are selected from: *ANXA1, ATG7, ITGB1, SYK, DOCK8, CYBB, RAC1, CAP37, COMP* and *PLEC*; and/or

iii. recruitment of immune mediators and are selected from: *BCAP31, TAPBP, IKBKB, PPP3CB* and *PSMB2*;

b. the expression level is measured by proteomic techniques; and/or

c. the expression level is measured by transcriptomic techniques.

13. The method according to any one of claims 4-8, 11 or 12, further comprising:

a. obtaining a stem cell from a sample from said donor from whom the selected neutrophil is obtainable; and/or

b. selecting a neutrophil when the neutrophil has been determined to be suitable for treating an infection or selecting a neutrophil from a sample obtainable from a donor when the donor has been identified as a donor that produces neutrophils for treating an infection, preferably wherein the selecting comprises isolating the neutrophil.

14. An *in vitro* method for obtaining a neutrophil or stem cell for treating an infection, said method comprising obtaining a neutrophil or a stem cell from a sample obtainable from a donor, wherein said donor produces neutrophils capable of killing greater than 41.23% of MRSA strain USA300 cells in an MRSA assay comprising:

a. admixing 100 µl of a 1 x 10^7 CFU/ml solution of MRSA strain USA300 in RPMI 1640 with 100 µl of a solution containing 1 x 10^7 neutrophils/ml;

b. incubating the admixture at 37°C under shaking at 120 rpm;

c. taking a sample at 2 hours and plating on Tryptic Soy Agar;

d. incubating the plated sample at 37°C for 24 hours;

e. counting the bacterial colonies;

f. quantifying the total CFU content; and

g. calculating the % of MRSA cells killed based on the CFU content in steps a. and f. using the formula $((\text{CFU content}_{\text{no effector}} - \text{CFU content}_{\text{effector}})/\text{CFU content}_{\text{no effector}}) \times 100$.

15. An *in vitro* method for obtaining a neutrophil or stem cell for treating an infection, said method comprising obtaining a neutrophil or a stem cell from a sample obtainable from a donor, wherein said donor produces neutrophils comprising:

a. increased expression of one or more of *ITGB1, CYBB, SYK, DOCK8, COMP, ATG7, SLC2A1, GZMK, CTSG, ATM, IKBKB, BCAP31, TAPBP, PERM, PLEC, ACSL1,*

RAC1, GM2A, CAP37, and *PSMB2* when compared to a reference standard, wherein the reference standard is from a neutrophil unsuitable for treating an infection; and/or

b. decreased expression of *ANXA1* and/or *PPP3CB* when compared to a reference standard, wherein the reference standard is from a neutrophil unsuitable for treating an infection.

16. A method for producing a neutrophil or stem cell for treating an infection, the method comprising:
    a. providing a stem cell obtainable from a sample from a donor, wherein a neutrophil of the donor kills a greater % of infective agent or cells infected by an infective agent when compared to a control;
    b. differentiating the stem cell into a neutrophil or into a different stem cell (preferably a precursor cell); and
    c. optionally isolating the neutrophil or different stem cell (preferably the precursor cell).

17. A method for preparing a stem cell suitable for treating an infection, the method comprising:
    a. identifying a donor that produces neutrophils suitable for treating an infection according to the method of any one of claims 7-8 or 11-13; and
    b. obtaining the stem cell from a sample obtainable from said donor.

18. The method according to any one of claims 14, 15 or 17, wherein the sample comprises a somatic cell and obtaining the stem cell from the sample comprises reprograming the somatic cell into a stem cell.

19. A method for isolating a neutrophil or stem cell for treating an infection, the method comprising:
    a. contacting a sample of neutrophils or a sample of stem cells with a binding means, wherein the binding means binds to one or more polypeptides selected from GM2A, CTSG, CAP37, ITGB1, CYBB, SYK, DOCK8, COMP, ATG7, SLC2A1, GZMK, ATM, IKBKB, BCAP31, TAPBP, PPP3CB, ANXA1, PERM, PLEC, ACSL1, RAC1, and PSMB2; and
    b. isolating the neutrophil or stem cell, respectively, based on the presence or absence of binding between the binding means and the one or more polypeptides.

20. A method for producing an engineered neutrophil or stem cell for treating an infection, the method comprising:
    a. providing a neutrophil or stem cell, respectively; and
    b. engineering the neutrophil or stem cell, respectively, to:
        i. increase expression of one or more genes selected from: *GM2A*, *CTSG*, *CAP37*, *ITGB1*, *CYBB*, *SYK*, *DOCK8*, *COMP*, *ATG7*, *SLC2A1*, *GZMK*, *ATM*, *IKBKB*, *BCAP31*, *TAPBP*, *PERM*, *PLEC*, *ACSL1*, *RAC1*, and *PSMB2*; and/or
        ii. decrease expression of *ANXA1* and/or *PPP3CB*;

    thereby producing the engineered neutrophil or stem cell, wherein the engineered neutrophil or stem cell, respectively, is suitable for treating an infection.

21. A stem cell which is capable of differentiating into a neutrophil for treating an infection, wherein the neutrophil comprises:
    a. increased expression of one or more of *ITGB1*, *CYBB*, *SYK*, *DOCK8*, *COMP*, *ATG7*, *SLC2A1*, *GZMK*, *CTSG*, *ATM*, *IKBKB*, *BCAP31*, *TAPBP*, *PERM*, *PLEC*, *ACSL1*, *RAC1*, *GM2A*, *CAP37*, and *PSMB2* when compared to a reference standard, wherein the reference standard is from a neutrophil unsuitable for treating an infection; and/or
    b. decreased expression of *ANXA1* and/or *PPP3CB* when compared to a reference standard, wherein the reference standard is from a neutrophil unsuitable for treating an infection.

22. The stem cell according to claim 21, wherein the stem cell is an induced pluripotent stem cell, or wherein the stem cell is a haematopoietic stem cell, a common myeloid progenitor cell, a myeloblast, a N. promyelocyte, a N. myelocyte, a N. metamyelocyte, a N. band, or combinations thereof; preferably wherein the stem cell is a haematopoietic stem cell.

23. A method for producing a neutrophil for treating an infection, the method comprising:
    a. providing a cell; and
    b. converting the cell into a neutrophil, wherein:
        i. the measured expression level of one or more of *GM2A*, *CTSG*, *CAP37*, *ITGB1*, *CYBB*, *SYK*, *DOCK8*, *COMP*, *ATG7*, *SLC2A1*, *GZMK*, *ATM*, *IKBKB*, *BCAP31*, *TAPBP*, *PERM*, *PLEC*, *ACSL1*, *RAC1*, and *PSMB2* is increased in the neutrophil when compared to a reference standard when

the reference standard is from a neutrophil unsuitable for treating an infection; or

ii. the measured expression level of *ANXA1* and/or *PPP3CB* is decreased in the neutrophil when compared to the reference standard, when the reference standard is from a neutrophil unsuitable for treating an infection; or

iii. the measured expression level of one or more of *GM2A, CTSG, CAP37, ITGB1, CYBB, SYK, DOCK8, COMP, ATG7, SLC2A1, GZMK, ATM, IKBKB, BCAP31, TAPBP, PERM, PLEC, ACSL1, RAC1,* and *PSMB2* is increased or the same when compared to the reference standard, when the reference standard is from a neutrophil suitable for treating an infection; or

iv. the measured expression level of *ANXA1* and/or *PPP3CB* is decreased or the same when compared to the reference standard, when the reference standard is from a neutrophil suitable for treating an infection; and

c. optionally isolating the neutrophil.

24. The method of claim 23, wherein:

a. the cell is a stem cell according to any one of claims 21-22; optionally wherein converting the stem cell into a neutrophil comprises differentiating the stem cell into a neutrophil; or

b. wherein the cell is a somatic/differentiated cell, optionally from a donor who produces neutrophils suitable for treating an infection as determined by the method of claims 7-8 or 11-13; optionally wherein converting the somatic/differentiated cell into a neutrophil comprises transdifferentiating the somatic/differentiated cell into a neutrophil.

25. A neutrophil (e.g. obtainable by the method according to any one of claims 4-8, 11-15, 19-20, or 23-24), wherein the neutrophil comprises:

a. increased expression of one or more of *GM2A*, *CTSG, CAP37, ITGB1, CYBB, SYK, DOCK8, COMP, ATG7, SLC2A1, GZMK, ATM, IKBKB, BCAP31, TAPBP, PERM, PLEC, ACSL1, RAC1,* and *PSMB2* when compared to a reference standard, wherein the reference standard is from a neutrophil unsuitable for treating an infection; and/or

b. decreased expression of *ANXA1* and/or *PPP3CB* when compared to a reference standard, wherein the reference standard is from a neutrophil unsuitable for treating an infection.

26. A composition for treating an infection, (e.g. obtainable by the method according to any one of claims 4-8, 11-15, 19-20, or 23-24) the composition comprising neutrophils: wherein at least 90%, 95%, 99% or 100% of the neutrophils comprised in the composition have:
    a. increased expression of one or more of *GM2A*, *CTSG, CAP37, ITGB1, CYBB, SYK, DOCK8, COMP, ATG7, SLC2A1, GZMK, ATM, IKBKB, BCAP31, TAPBP, PERM, PLEC, ACSL1, RAC1*, and *PSMB2* when compared to a reference standard, wherein the reference standard is from a neutrophil unsuitable for treating an infection; and/or
    b. decreased expression of *ANXA1* and/or *PPP3CB* when compared to a reference standard, wherein the reference standard is from a neutrophil unsuitable for treating an infection.

27. A pharmaceutical composition comprising:
    a. the neutrophil according to claim 25, the stem cell according to any one of claims 21-22, or the composition according to claim 26; and
    b. a pharmaceutically acceptable carrier, excipient, adjuvant, and/or salt.

28. The pharmaceutical composition according to claim 27, further comprising:
    a. TNF-alpha;
    b. a granulocyte-macrophage colony-stimulating factor (GM-CSF), a granulocyte colony-stimulating factor (G-CSF), a growth hormone, serotonin, vitamin C, vitamin D, glutamine (Gln), arachidonic acid, AGE-albumin, an interleukin, TNF-alpha, Flt-3 ligand, thrombopoietin, foetal bovine serum (FBS), retinoic acid, lipopolysaccharide (LPS), IFN-gamma, IFN-beta, or combinations thereof; and/or
    c. a granulocyte-macrophage colony-stimulating factor (GM-CSF) and IFN-gamma.

29. A kit comprising:
    a. the neutrophil according to claim 25, the stem cell according to any one of claims 21-22, or the composition according to claim 26, or the pharmaceutical composition according to any one of claims 27-28; and
    b. instructions for use of the same in medicine.

30. A neutrophil according to claim 25, the stem cell according to any one of claims 21-22, or the composition according to claim 26, or the pharmaceutical composition according to any one of claims 27-28, or kit according to claim 29 for use in treating an infection.

31. Use of the neutrophil according to claim 25, the stem cell according to any one of claims 21-22, or the composition according to claim 26, or the pharmaceutical composition according to any one of claims 27-28, or kit according to claim 29 in the manufacture of a medicament for treating an infection.

32. The neutrophil, stem cell, composition, pharmaceutical composition or kit for use according to claim 30, or the use according to claim 31, wherein the infection is bacterial, fungal, viral, macroparasitic, or a combination thereof; optionally

a. wherein the infection is bacterial; optionally wherein the bacterial infection comprises an infection with an antibiotic resistant bacterium, preferably a multi-antibiotic resistant bacterium; and/or wherein the antibiotic resistant bacterium is one or more selected from methicillin-resistant *Staphylococcus aureus* (MRSA), multidrug resistant Gram-negative bacteria (MDRGN bacteria), vancomycin-resistant *Enterococcus* (VRE), multi-drug-resistant *Mycobacterium tuberculosis* (MDR-TB), carbapenem-resistant *Enterobacteriaceae* (CRE) gut bacteria, or a combination thereof; or

b. wherein the infection is viral; optionally wherein the infection is an infection selected from one or more family selected from Adenoviridae, Picornaviridae, Herpesviridae, Coronaviridae, Hepadnaviridae, Flaviviridae, Retroviridae, Orthomyxoviridae, Paramyxoviridae, Papovaviridae, Polyomavirus, Rhabdoviridae, Togaviridae and Bunyaviridae; and/or wherein the infection is an infection selected from one or more of HIV-1 (Human immunodeficiency virus), HIV-2, Junin virus, BK virus, Machupo virus, Sabiá virus, Varicella zoster virus (VZV), Alphavirus, Colorado tick fever virus (CTFV), Rhinoviruses, Crimean-Congo hemorrhagic fever virus, Cytomegalovirus, Dengue virus, Ebolavirus (EBOV), Parvovirus B19, Human herpesvirus 6 (HHV-6), Human herpesvirus 7 (HHV-7), Enteroviruses (e.g. EV71), Coxsackie A virus, Sin Nombre virus, Heartland virus, Hanta virus, Hendra virus, Hepatitis A virus, Hepatitis B virus, Hepatitis C virus, Hepatitis D Virus, Hepatitis E virus, Herpes simplex virus 1 and 2 (HSV-1 and HSV-2), Human bocavirus (HBoV), Human metapneumovirus (hMPV), Human papillomaviruses, Human parainfluenza viruses (HPIV), Epstein–Barr virus (EBV), Lassa virus, Lymphocytic choriomeningitis virus (LCMV), Marburg virus, Measles virus, Middle East respiratory syndrome coronavirus, Molluscum contagiosum virus (MCV), Monkeypox virus, Mumps virus, Nipah virus, Norovirus, Poliovirus, JC virus, Respiratory syncytial virus (RSV), Rhinovirus, Rift Valley fever virus, Rotavirus, Rubella virus, SARS coronavirus, SARS-CoV-2, Variola major, Variola minor, Venezuelan equine encephalitis virus, Guanarito virus, West Nile virus, Yellow fever virus, and Zika virus.

33. A cell bank comprising the neutrophil according to claim 25, the stem cell according to any one of claims 21-22, or the composition according to claim 26, or the pharmaceutical composition according to any one of claims 27-28.