

CLAIMS

What is claimed is:

1. A method for producing a lysate from cells contained in a liquid sample comprising blood or a sample processed, extracted or fractionated from blood, the method comprising:
 - (a) agitating the liquid sample within a bead beating system in the absence of lysis buffer and in the presence of one or more blocking agents under conditions sufficient to lyse the cells, said bead beating system comprising a bead beating tube and beads; and
 - (b) separating the liquid sample from the beads directly following the agitating, thereby producing a lysate.
2. A method for producing a lysate from cells contained in a liquid sample comprising blood, the method comprising:
 - (a) agitating the liquid sample within a bead beating system in the absence of lysis buffer and in the presence of one or more blocking agents under conditions sufficient to lyse the cells, said bead beating system comprising a bead beating tube and beads; and
 - (b) separating the liquid sample from the beads following the agitating, thereby producing a lysate.
3. The method of claim 2, wherein the liquid sample contains an endogenous blocking agent.
4. The method of claim 3, wherein the agitating is carried out in the absence of additives.
5. The method of claim 3, wherein the agitating is carried out in the absence of additives which comprise a buffer.
6. The method of any one of claims 2 to 5, wherein the agitating is carried out in the absence of additives which comprise a detergent.
7. The method of claim 1 or claim 2, wherein the one or more blocking agents are exogenous to the liquid sample.
8. The method of claim 1 or claim 2, further comprising a step of placing the liquid sample within the bead beating tube prior to agitating the liquid sample.
9. The method of claim 1 or claim 2, wherein the agitating comprises subjecting the bead

beating system to an oscillating motion.

10. The method of claim 1 or claim 2, wherein the cells comprise one or more pathogens.

11. The method of claim 10, wherein the one or more pathogens comprise one or more bacterial pathogens, viral pathogens, fungal pathogens, or a combination thereof.

12. The method of claim 10, wherein the one or more pathogens comprise one or more of *Mycobacterium tuberculosis*, *Mycobacterium avium subsp paratuberculosis*, *Staphylococcus aureus*, *methicillin resistant Staphylococcus aureus (MRSA)*, *Streptococcus pyogenes*, *Streptococcus pneumoniae*, *Streptococcus agalactiae*, *Haemophilus influenzae*, *Haemophilus parainfluezae*, *Moraxella catarrhalis*, *Klebsiella pneumoniae*, *Escherichia coli*, *Pseudomonas aeruginosa*, *Acinetobacter sp.*, *Bordetella pertussis*, *Neisseria meningitidis*, *Bacillus anthracis*, *Nocardia sp.*, *Actinomyces sp.*, *Mycoplasma pneumoniae*, *Chlamydia pneumonia*, *Legionella species*, *Pneumocystis jiroveci*, *influenza A virus*, *cytomegalovirus*, *rhinovirus*, *Enterococcus faecium*, *Acinetobacter baumannii*, *Corynebacterium amycolatum*, *Enterobacter aerogenes*, *Enterococcus faecalis* CI 4413, *Serratia marcescens*, *Streptococcus equi*, and *Candida albicans*.

13. The method of claim 1, wherein the liquid sample comprises blood.

14. The method of claim 1, wherein the liquid sample comprises a sample processed, extracted or fractionated from blood.

15. The method of claim 1 or claim 2, wherein step (b) comprises pipetting the liquid sample from the bead beating tube, thereby leaving behind the beads in the bead beating tube.

16. The method of claim 1 or claim 2, further comprising purifying the nucleic acids from the lysate.

17. The method of claim 16, further comprising analyzing one or more of the nucleic acids.