

We claim:

1. A method of assessing attenuation or infectivity of a test *Listeria* strain, comprising:
 - (a) infecting differentiated THP-1 cells with the test *Listeria* strain, wherein the THP-1 cells have been differentiated into macrophages prior to infecting with the test *Listeria* strain;
 - (b) lysing the THP-1 cells and plating the lysate on agar; and
 - (c) counting the *Listeria* that have multiplied inside the THP-1 cells by growth on the agar.
2. The method of claim 1, further comprising differentiating the THP-1 cells into macrophages using phorbol 12-myristate 13-acetate (PMA) prior to step (a).
3. The method of any preceding claim, wherein step (a) comprises infecting the differentiated THP-1 cells at a multiplicity of infection (MOI) of 1:1.
4. The method of any preceding claim, further comprising killing *Listeria* not taken up by the THP-1 cells in between steps (a) and (b).
5. The method of claim 4, wherein the killing is performed using an antibiotic, optionally wherein the antibiotic is gentamicin.
6. The method of any preceding claim, wherein step (b) is performed at 0 hours post-infection.
7. The method of any preceding claim, wherein step (b) is performed at 3 hours post-infection.
8. The method of any preceding claim, further comprising comparing uptake and intracellular growth of the test *Listeria* strain with a wild type *Listeria* strain and/or a reference sample.
9. The method of any preceding claim, wherein the test *Listeria* strain is a *Listeria monocytogenes* strain.

10. The method of any preceding claim, wherein the test *Listeria* strain is a recombinant *Listeria* strain comprising a nucleic acid comprising a first open reading frame encoding a fusion polypeptide, wherein the fusion polypeptide comprises a PEST-containing peptide fused to a disease-associated antigenic peptide.

11. The method of claim 10, wherein the PEST-containing peptide is listeriolysin O (LLO) or a fragment thereof, and the disease-associated antigenic peptide is a Human Papilloma virus (HPV) protein E7 or a fragment thereof.

12. The method of claim 10 or 11, wherein the recombinant *Listeria* strain is an attenuated *Listeria monocytogenes* strain comprising a deletion of or inactivating mutation in *prfA*, wherein the nucleic acid is in an episomal plasmid and comprises a second open reading frame encoding a D133V PrfA mutant protein.

13. The method of claim 10, wherein the recombinant *Listeria* strain is an attenuated *Listeria monocytogenes* strain comprising a deletion of or inactivating mutation in *actA*, *dal*, and *dat*, wherein the nucleic acid is in an episomal plasmid and comprises a second open reading frame encoding an alanine racemase enzyme or a D-amino acid aminotransferase enzyme, and wherein the PEST-containing peptide is an N-terminal fragment of listeriolysin O (LLO).

14. A method of assessing attenuation or infectivity of a test bacteria strain, comprising:

- (a) differentiating THP-1 cells;
- (b) infecting the differentiated THP-1 cells with the test bacteria strain,

wherein the infecting comprises:

- (i) inoculating the differentiated THP-1 cells with the test bacteria strain;
 - (ii) incubating the test bacteria strain with the differentiated THP-1 cells for 1-5 hours to form infected THP1 cells;
 - (iii) removing extracellular bacteria from the infected THP-1 cells;
- and
- (iv) incubating the infected THP-1 cells in growth media for 0-10 hours;
- (c) lysing the infected THP-1 cells to form a lysate;

(d) plating the lysate or a dilution of the lysate on a plate containing media capable of supporting growth of the bacteria; and

(e) counting colony forming units of the bacteria on the plate.

15. The method of claim 14, wherein the step of infecting the differentiated THP-1 cells is at a multiplicity of infection (MOI) of 1:1.

16. The method of claim 14 or 15, wherein the step of removing extracellular bacteria comprises adding an antibiotic effective against the bacteria, optionally wherein the antibiotic is gentamicin.

17. The method any one of claims 14-16, wherein the infected THP-1 cells are incubated in growth media for 0, 1, 3, or 5 hours.

18. The method any one of claims 14-17, wherein the test bacteria strain is an *L. monocytogenes* strain.