Claims

1. A method for detecting and enumerating viable microorganisms in a sample suspected of containing said microorganisms

(1) Contacting said microorganisms of said sample with repair compounds and a growth medium, and

(2) Incubating the product of steps (1), and

(3) Detecting and quantifying said viable microorganisms,

in which the microorganisms are of the species *Legionella pneumophila*, and in which the repair compounds comprise

(a) serine;

(b) threonine;

(c) a compound containing calcium ions at a dose of 10^{-6} to 10^{-2} mM;

(d) a compound containing magnesium ions at a dose of 10^{-6} to 10^{-2} mM;

(e) a compound containing potassium ions.

(f) glutamic acid or a salt thereof,

and

(g) pyruvic acid or salt thereof.

2. A method according to any preceding claim in which step (1) comprises contacting said sample with a repair medium, preferably a non-selective repair medium, containing said repair compound and then bringing this into contact with a growth medium, preferably a selective growth medium.

3. A method according to claim 2 in which the repair medium is a liquid, preferably a broth.

4. A method according to any preceding claim in which step (1) comprises contacting said sample with a growth medium, preferably a non-selective growth medium, and then bringing this into contact with a repair medium containing said repair compound.

5. A method according to any preceding claim in which the repair medium is a selective repair medium, preferably a solid, and more preferably a selective agar growth medium.

6. A method according to any preceding claim in which step (1) comprises contacting said sample with a growth medium containing said repair compound.

7. A method according to any preceding claim in which the growth medium is a buffered charcoal yeast extract (BCYE) or GVPC agar growth medium.

8. A method according to any preceding claim in which the repair medium and/or growth medium includes a keto acid and/or a reduced oxygen scavenging enzyme.

9. Kit for more accurately detecting and enumerating viable microorganisms of the species *Legionella pneumophila* in a sample suspected of containing said microorganisms comprising:

(1) repair compounds,

(2) a growth medium,

(3) a means for incubation

(4) a means for detecting and quantifying the microorganisms,

in which the microorganisms are of the species *Legionella pneumophila*, and in which the repair compounds comprise

(a) serine;

(b) threonine;

(c) a compound containing calcium ions;

(d) a compound containing magnesium ions;

(e) a compound containing potassium ions.

(f) glutamic acid or a salt thereof,

and

(g) pyruvic acid or salt thereof.

THE CLAIMS DEFINING THE INVENTION ARE AS FOLLOWS:

1. A method for detecting and enumerating viable microorganisms in a sample suspected of containing said microorganisms

(1) Contacting said microorganisms of said sample with repair compounds and a growth medium, and

(2) Incubating the product of steps (1), and

(3) Detecting and quantifying said viable microorganisms,

in which the microorganisms are of the species *Legionella pneumophila*, and in which the repair compounds comprise

(a) serine in an amount between 0.01 and 5% (weight/volume);

(b) threonine in an amount between 0.01 and 5% (weight/volume);

(c) a compound containing calcium ions at a dose of 10^{-6} to 10^{-2} mM;

(d) a compound containing magnesium ions at a dose of 10^{-6} to 10^{-2} mM;

(e) glutamic acid or a salt thereof in an amount between 0.01 and 5% (weight/volume);

and

(f) pyruvic acid or salt thereof pyruvic acid or salt thereof.

2. The method of claim 1 further comprising potassium ions in an amount between 0.01 and 5% (weight/volume) as a repair compound.

3. A method according to claim 1 or 2 in which step (1) comprises contacting said sample with a repair medium, preferably a non-selective repair medium, containing said repair compound and then bringing this into contact with a growth medium, preferably a selective growth medium.

4. A method according to claim 1 or 2 in which step (1) comprises contacting said sample with a growth medium, preferably a non-selective growth medium, and then bringing this into contact with a repair medium containing said repair compound.

5. A method according to claim 1 or 2 in which step (1) comprises contacting said sample with a growth medium containing said repair compound.

6. A method according to claim 3 in which the repair medium is a liquid, preferably a broth.

7. A method according to claim 3 in which the repair medium is a selective repair medium, preferably a solid, and more preferably a selective agar growth medium.

8. A method according to any one of the preceding claims in which the growth medium is a buffered charcoal yeast extract (BCYE) or GVPC agar growth medium.

9. A method according to any one of the preceding claims in which the repair medium and/or growth medium includes a keto acid and/or a reduced oxygen scavenging enzyme.

10. A kit when used in the method of any one of claims 1 to 9 to more accurately detect and enumerate viable microorganisms of the species *Legionella pneumophila* in a sample suspected of containing said microorganisms said kit comprising:

(1) repair compounds,

(2) a growth medium,

(3) a means for incubation

(4) a means for detecting and quantifying the microorganisms,

in which the microorganisms are of the species *Legionella pneumophila*, and in which the repair compounds comprise

(a) serine in an amount between 0.01 and 5% (weight/volume);

(b) threonine in an amount between 0.01 and 5% (weight/volume);

(c) a compound containing calcium ions;

(d) a compound containing magnesium ions;

(e) glutamic acid or a salt thereof in an amount between 0.01 and 5% (weight/volume);

and

(f) pyruvic acid or salt thereof in an amount between 0.01 and 5% (weight/volume).

11. A method according to any one of claims 1 to 9, or kit according to claim 10, substantially as hereinbefore described.