

Claim 1

A primer set for polymerase chain reaction (PCR) for amplification of bacterial DNA, which comprises one primer pair obtained by selecting from group S2:

2-16A: a primer pair, which consists of a combination of a forward primer consisting of a sequence of SEQ ID: No. 43 and a reverse primer consisting of any one sequence of SEQ ID: No. 44, 46 to 48 and 50.

Claim 2

A primer set according to claim 1, which further comprises at least one primer pair of seven primer pairs obtained by selecting one primer pair from each group of the S1 and S3 to S7 groups:

Group S1:

1-1A: a primer pair, which consists of a combination of a forward primer consisting of a sequence of SEQ ID: No. 1 and a reverse primer consisting of any one sequence of SEQ ID: No. 22 and 27;

1-2A: a primer pair, which consists of a combination of a forward primer consisting of a sequence of SEQ ID: No. 10 and a reverse primer consisting of any one sequence of SEQ ID: No. 20 and 21;

1-3A: a primer pair, which consists of a combination of a forward primer consisting of a sequence of SEQ ID: No. 11 and a reverse primer consisting of any one sequence of SEQ ID: No. 16, 18 and 26;

1-4: a primer pair, which consists of a combination of a forward primer consisting of a sequence of SEQ ID: No. 12 and a reverse primer consisting of any one sequence of SEQ ID: No. 16 to 27;

1-5: a primer pair, which consists of a combination of a forward primer consisting of a sequence of SEQ ID: No. 13 and a reverse primer consisting of any one sequence of SEQ ID: No. 16 to 27;

1-8A: a primer pair, which consists of a combination of a forward primer consisting of a sequence of SEQ ID: No. 6 and a reverse primer consisting of any one sequence of SEQ ID: No. 16, 19 to 21, 23, 24, 26 and 27;

1-9A: a primer pair, which consists of a combination of a forward primer consisting of a sequence of SEQ ID: No. 7 and a reverse primer consisting of any one sequence of SEQ ID: No. 16 to 21, 23, 24, 26 and 27; or

1-10A: a primer pair, which consists of a combination of a forward primer consisting of a sequence of SEQ ID: No. 8 and a reverse primer consisting of any one sequence of SEQ ID: No. 16 to 21, 23, 24, 26 and 27;

Group S3:

a primer pair, which consists of a combination of a forward primer consisting of a sequence of SEQ ID: No. 51 and a reverse primer consisting of a sequence of SEQ ID: No. 52;

Group S4:

4-1: a primer pair, which consists of a combination of a forward primer consisting of a sequence of SEQ ID: No. 53 and a reverse primer consisting of any one sequence of SEQ ID: No. 57 to 61;

4-2: a primer pair, which consists of a combination of a forward primer consisting of a sequence of SEQ ID: No. 54 and a reverse primer consisting of any one sequence of SEQ ID: No. 59 and 61;

4-3: a primer pair, which consists of a combination of a forward primer consisting of a sequence of SEQ ID: No. 55 and a reverse primer consisting of any one sequence of SEQ ID: No. 57 to 59 and 61; or

4-4: a primer pair, which consists of a combination of a forward primer consisting of a sequence of SEQ ID: No. 56 and a reverse primer consisting of any one sequence of SEQ ID: No. 57 to 59 and 61;

Group S5:

5-1A: a primer pair, which consists of a combination of a forward primer consisting of a sequence of SEQ ID: No. 62 and a reverse primer consisting of any one sequence of SEQ ID: No. 70, 73 to 75;

5-2: a primer pair, which consists of a combination of a forward primer consisting of a sequence of SEQ ID: No. 63 and a reverse primer consisting of any one sequence of SEQ ID: No. 70 to 75;

5-3: a primer pair, which consists of a combination of a forward primer consisting of a sequence of SEQ ID: No. 64 and a reverse primer consisting of any one sequence of SEQ ID: No. 70 to 75;

5-4: a primer pair, which consists of a combination of a forward primer consisting of a sequence of SEQ ID: No. 65 and a reverse primer consisting of any one sequence of SEQ ID: No. 70 to 75;

5-5A: a primer pair, which consists of a combination of a forward primer consisting of a sequence of SEQ ID: No. 66 and a reverse primer consisting of any one sequence of SEQ ID: No. 70, 72, 73 and 75;

5-6A: a primer pair, which consists of a combination of a forward primer consisting of a sequence of SEQ ID: No. 67 and a reverse primer consisting of any one sequence of SEQ ID: No. 70, 71 and 73 to 75;

5-7: a primer pair, which consists of a combination of a forward primer consisting of a sequence of SEQ ID: No. 68 and a reverse primer consisting of any one sequence of SEQ ID: No. 70 to 75; or

5-8: a primer pair, which consists of a combination of a forward primer consisting of a sequence of SEQ ID: No. 69 and a reverse primer consisting of any one sequence of SEQ ID: No. 70 to 75;

Group S6:

6-6: a primer pair, which consists of a combination of a forward primer consisting of a sequence of SEQ ID: No. 81 and a reverse primer consisting of any one sequence of SEQ ID: No. 91, 93 and 101 to 103;

6-1A: a primer pair, which consists of a combination of a forward primer consisting of a sequence of SEQ ID: No. 76 and a reverse primer consisting of any one sequence of SEQ ID: No. 93, 96 and 101 to 103;

6-2: a primer pair, which consists of a combination of a forward primer consisting of a sequence of SEQ ID: No. 77 and a reverse primer consisting of any one sequence of SEQ ID: No. 91, 96 and 101 to 103;

6-3: a primer pair, which consists of a combination of a forward primer consisting of a sequence of SEQ ID: No. 78 and a reverse primer consisting of any one sequence of SEQ ID: No. 91 and 101 to 103;

6-4A: a primer pair, which consists of a combination of a forward primer consisting of a sequence of SEQ ID: No. 79 and a reverse primer consisting of any one sequence of SEQ ID: No. 91 and 101 to 103;

6-5: a primer pair, which consists of a combination of a forward primer consisting of a sequence of SEQ ID: No. 80 and a reverse primer consisting of any one sequence of SEQ ID: No. 91, 93 and 100 to 103;

6-7: a primer pair, which consists of a combination of a forward primer consisting of a sequence of SEQ ID: No. 82 and a reverse primer consisting of any one sequence of SEQ ID: No. 91, 96, 97 and 101 to 103;

6-8: a primer pair, which consists of a combination of a forward primer consisting of a sequence of SEQ ID: No. 83 and a reverse primer consisting of any one sequence of SEQ ID: No. 91, 101 to 103;

6-9: a primer pair, which consists of a combination of a forward primer consisting of a sequence of SEQ ID: No. 84 and a reverse primer consisting of any one sequence of SEQ ID: No. 91 and 101 to 103;

6-10: a primer pair, which consists of a combination of a forward primer consisting of a sequence of SEQ ID: No. 85 and a reverse primer consisting of any one sequence of SEQ ID: No. 91 and 101 to 103;

6-11A: a primer pair, which consists of a combination of a forward primer consisting of a sequence of SEQ ID: No. 86 and a reverse primer consisting of any one sequence of SEQ ID: No. 91, 93 and 101 to 103;

6-12: a primer pair, which consists of a combination of a forward primer consisting of a sequence of SEQ ID: No. 87 and a reverse primer consisting of any one sequence of SEQ ID: Nos. 91, 96 and 101 to 103;

6-13: a primer pair, which consists of a combination of a forward primer consisting of a sequence of SEQ ID: No. 88 and a reverse primer consisting of any one sequence of SEQ ID: No. 91 and 101 to 103;

6-14: a primer pair, which consists of a combination of a forward primer consisting of a sequence of SEQ ID: No. 89 and a reverse primer consisting of any one sequence of SEQ ID: No. 91 and 101 to 103; or

6-15: a primer pair, which consists of a combination of a forward primer consisting of a sequence of SEQ ID: No. 90 and a reverse primer consisting of any one sequence of SEQ ID: No. 91, 92, 96 and 101 to 103;

Group S7:

7-12A: a primer pair, which consists of a combination of a forward primer consisting of a sequence of SEQ ID: No. 115 and a reverse primer consisting of any one sequence of SEQ ID: No. 2 and 5;

7-1A: a primer pair, which consists of a combination of a forward primer consisting of a sequence of SEQ ID: No. 104 and a reverse primer consisting of any one sequence of SEQ ID: No. 5 and 118 to 125, 127, 128, 130 and 131;

7-2A: a primer pair, which consists of a combination of a forward primer consisting of a sequence of SEQ ID: No. 105 and a reverse primer consisting of any one sequence of SEQ ID: No. 5 and 118 to 125;

7-3A: a primer pair, which consists of a combination of a forward primer consisting of a sequence of SEQ ID: No. 106 and a reverse primer consisting of any one sequence of SEQ ID: No. 2, 5 and 116 and 118 to 131;

7-4A: a primer pair, which consists of a combination of a forward primer consisting of a sequence of SEQ ID: No. 107 and a reverse primer consisting of any one sequence of SEQ ID: No. 120 and 121;

7-5A: a primer pair, which consists of a combination of a forward primer consisting of a sequence of SEQ ID: No. 108 and a reverse primer consisting of any one sequence of SEQ ID: No. 120 and 123;

7-6A: a primer pair, which consists of a combination of a forward primer consisting of a sequence of SEQ ID: No. 109 and a reverse primer consisting of any one sequence of SEQ ID: No. 2, 118 to 122, 124 and 126;

7-7A: a primer pair, which consists of a combination of a forward primer consisting of a sequence of SEQ ID: No. 110 and a reverse primer consisting of any one sequence of SEQ ID: No. 118, 120, 121, 124 and 126 to 130;

7-8A: a primer pair, which consists of a combination of a forward primer consisting of a sequence of SEQ ID: No. 111 and a reverse primer consisting of any one sequence of SEQ ID: No. 2, 5 and 118 to 131;

7-9A: a primer pair, which consists of a combination of a forward primer consisting of a sequence of SEQ ID: No. 112 and a reverse primer consisting of any one sequence of SEQ ID: No. 2, 5 and 116, and 118 to 125;

7-10A: a primer pair, which consists of a combination of a forward primer consisting of a sequence of SEQ ID: No. 113 and a reverse primer consisting of any one sequence of SEQ ID: No. 2, 5, 118 to 126, 130 and 131; or

7-11A: a primer pair, which consists of a combination of a forward primer consisting of a sequence of SEQ ID: No. 114 and a reverse primer consisting of a sequence of SEQ ID: No. 5.

Claim 3

A kit for detection of a bacterial species, which comprises one primer pair obtained by selecting from the following group K2:

2-16: a primer pair, which consists of a combination of a forward primer consisting of a sequence of SEQ ID: No. 43 and a reverse primer consisting of any one sequence of SEQ ID: No. 44 to 48 and 50.

Claim 4

A kit according to claim 3, which further comprises at least one primer pair of seven primer pairs obtained by selecting one primer pair from each group of the K1 and K3 to K7 groups:

Group K1:

1-1: a primer pair, which consists of a combination of a forward primer consisting of a sequence of SEQ ID: No. 1 and a reverse primer consisting of any one sequence of SEQ ID: No. 16 to 27;

1-2: a primer pair, which consists of a combination of a forward primer consisting of a sequence of SEQ ID: No. 10 and a reverse primer consisting of any one sequence of SEQ ID: No. 16, 18, 20 and 21;

1-3: a primer pair, which consists of a combination of a forward primer consisting of a sequence of SEQ ID: No. 11 and a reverse primer consisting of any one sequence of SEQ ID: No. 16 to 21 and 23 to 26;

1-4: a primer pair, which consists of a combination of a forward primer consisting of a sequence of SEQ ID: No. 12 and a reverse primer consisting of any one sequence of SEQ ID: No. 16 to 27;

1-5: a primer pair, which consists of a combination of a forward primer consisting of a sequence of SEQ ID: No. 13 and a reverse primer consisting of any one sequence of SEQ ID: No. 16 to 27;

1-6: a primer pair, which consists of a combination of a forward primer consisting of a sequence of SEQ ID: No. 14 and a reverse primer consisting of any one sequence of SEQ ID: No. 16 to 27;

1-8: a primer pair, which consists of a combination of a forward primer consisting of a sequence of SEQ ID: No. 6 and a reverse primer consisting of any one sequence of SEQ ID: No. 16 to 27;

1-9: a primer pair, which consists of a combination of a forward primer consisting of a sequence of SEQ ID: No. 7 and a reverse primer consisting of any one sequence of SEQ ID: No. 16 to 27;

1-10: a primer pair, which consists of a combination of a forward primer consisting of a sequence of SEQ ID: No. 8 and a reverse primer consisting of any one sequence of SEQ ID: No. 16 to 27; or

1-11: a primer pair, which consists of a combination of a forward primer consisting of a sequence of SEQ ID: No. 9 and a reverse primer consisting of any one sequence of SEQ ID: No. 16, 17, 19 and 26;

Group K3:

a primer pair, which consists of a combination of a forward primer consisting of a sequence of SEQ ID: No. 51 and a reverse primer consisting of a sequence of SEQ ID: No. 52;

Group K4:

4-1: a primer pair, which consists of a combination of a forward primer consisting of a sequence of SEQ ID: No. 53 and a reverse primer consisting of any one sequence of SEQ ID: No. 57 to 61;

4-2: a primer pair, which consists of a combination of a forward primer consisting of a sequence of SEQ ID: No. 54 and a reverse primer consisting of any one sequence of SEQ ID: No. 59 and 61;

4-3: a primer pair, which consists of a combination of a forward primer consisting of a sequence of SEQ ID: No. 55 and a reverse primer consisting of any one sequence of SEQ ID: No. 57 to 59 and 61; or

4-4: a primer pair, which consists of a combination of a forward primer consisting of a sequence of SEQ ID: No. 56 and a reverse primer consisting of any one sequence of SEQ ID: No. 57 to 59 and 61;

Group K5:

5-1: a primer pair, which consists of a combination of a forward primer consisting of a sequence of SEQ ID: No. 62 and a reverse primer consisting of any one sequence of SEQ ID: No. 70, 71 and 73 to 75;

5-2: a primer pair, which consists of a combination of a forward primer consisting of a sequence of SEQ ID: No. 63 and a reverse primer consisting of any one sequence of SEQ ID: No. 70 to 75;

5-3: a primer pair, which consists of a combination of a forward primer consisting of a sequence of SEQ ID: No. 64 and a reverse primer consisting of any one sequence of SEQ ID: No. 70 to 75;

5-4: a primer pair, which consists of a combination of a forward primer consisting of a sequence of SEQ ID: No. 65 and a reverse primer consisting of any one sequence of SEQ ID: No. 70 to 75;

5-5: a primer pair, which consists of a combination of a forward primer consisting of a sequence of SEQ ID: No. 66 and a reverse primer consisting of any one sequence of SEQ ID: No. 70 to 75;

5-6: a primer pair, which consists of a combination of a forward primer consisting of a sequence of SEQ ID: No. 67 and a reverse primer consisting of any one sequence of SEQ ID: No. 70 to 75;

5-7: a primer pair, which consists of a combination of a forward primer consisting of a sequence of SEQ ID: No. 68 and a reverse primer consisting of any one sequence of SEQ ID: No. 70 to 75; or

5-8: a primer pair, which consists of a combination of a forward primer consisting of a sequence of SEQ ID: No. 69 and a reverse primer consisting of any one sequence of SEQ ID: No. 70 to 75;

Group K6:

6-6: a primer pair, which consists of a combination of a forward primer consisting of a sequence of SEQ ID: No. 81 and a reverse primer consisting of any one sequence of SEQ ID: No. 91, 93 and 101 to 103;

6-1: a primer pair, which consists of a combination of a forward primer consisting of a sequence of SEQ ID: No. 76 and a reverse primer consisting of any one sequence of SEQ ID: No. 91, 93, 96 and 101 to 103;

6-2: a primer pair, which consists of a combination of a forward primer consisting of a sequence of SEQ ID: No. 77 and a reverse primer consisting of any one sequence of SEQ ID: No. 91, 96 and 101 to 103;

6-3: a primer pair, which consists of a combination of a forward primer consisting of a sequence of SEQ ID: No. 78 and a reverse primer consisting of any one sequence of SEQ ID: No. 91 and 101 to 103;

6-4: a primer pair, which consists of a combination of a forward primer consisting of a sequence of SEQ ID: No. 79 and a reverse primer consisting of any one sequence of SEQ ID: No. 91, 97 and 101 to 103;

6-5: a primer pair, which consists of a combination of a forward primer consisting of a sequence of SEQ ID: No. 80 and a reverse primer consisting of any one sequence of SEQ ID: No. 91, 93 and 100 to 103;

6-7: a primer pair, which consists of a combination of a forward primer consisting of a sequence of SEQ ID: No. 82 and a reverse primer consisting of any one sequence of SEQ ID: No. 91, 96, 97 and 101 to 103;

6-8: a primer pair, which consists of a combination of a forward primer consisting of a sequence of SEQ ID: No. 83 and a reverse primer consisting of any one sequence of SEQ ID: No. 91, 101 to 103;

6-9: a primer pair, which consists of a combination of a forward primer consisting of a sequence of SEQ ID: No. 84 and a reverse primer consisting of any one sequence of SEQ ID: No. 91 and 101 to 103;

6-10: a primer pair, which consists of a combination of a forward primer consisting of a sequence of SEQ ID: No. 85 and a reverse primer consisting of any one sequence of SEQ ID: No. 91 and 101 to 103;

6-11: a primer pair, which consists of a combination of a forward primer consisting of a sequence of SEQ ID: No. 86 and a reverse primer consisting of any one sequence of SEQ ID: No. 91, 93, 97 and 101 to 103;

6-12: a primer pair, which consists of a combination of a forward primer consisting of a sequence of SEQ ID: No. 87 and a reverse primer consisting of any one sequence of SEQ ID: No. 91, 96 and 101 to 103;

6-13: a primer pair, which consists of a combination of a forward primer consisting of a sequence of SEQ ID: No. 88 and a reverse primer consisting of any one sequence of SEQ ID: No. 91 and 101 to 103;

6-14: a primer pair, which consists of a combination of a forward primer consisting of a sequence of SEQ ID: No. 89 and a reverse primer consisting of any one sequence of SEQ ID: No. 91 and 101 to 103; or

6-15: a primer pair, which consists of a combination of a forward primer consisting of a sequence of SEQ ID: No. 90 and a reverse primer consisting of any one sequence of SEQ ID: No. 91, 92, 96 and 101 to 103;

Group K7:

7-12: a primer pair, which consists of a combination of a forward primer consisting of a sequence of SEQ ID: No. 115 and a reverse primer consisting of any one sequence of SEQ ID: No. 2, 5, 116, 118, 123 and 125 to 128;

7-1: a primer pair, which consists of a combination of a forward primer consisting of a sequence of SEQ ID: No. 104 and a reverse primer consisting of any one sequence of SEQ ID: No. 2, 5 and 116 to 131;

7-2: a primer pair, which consists of a combination of a forward primer consisting of a sequence of SEQ ID: No. 105 and a reverse primer consisting of any one sequence of SEQ ID: No. 2, 5 and 116 to 131;

7-3: a primer pair, which consists of a combination of a forward primer consisting of a sequence of SEQ ID: No. 106 and a reverse primer consisting of any one sequence of SEQ ID: No. 2, 5 and 116 to 131;

7-4: a primer pair, which consists of a combination of a forward primer consisting of a sequence of SEQ ID: No. 107 and a reverse primer consisting of any one sequence of SEQ ID: No. 2, 5 and 116 to 131;

7-5: a primer pair, which consists of a combination of a forward primer consisting of a sequence of SEQ ID: No. 108 and a reverse primer consisting of any one sequence of SEQ ID: No. 2, 5 and 116 to 131;

7-6: a primer pair, which consists of a combination of a forward primer consisting of a sequence of SEQ ID: No. 109 and a reverse primer consisting of any one sequence of SEQ ID: No. 2, 5 and 116 to 131;

7-7: a primer pair, which consists of a combination of a forward primer consisting of a sequence of SEQ ID: No. 110 and a reverse primer consisting of any one sequence of SEQ ID: No. 2, 5 and 116 to 131;

7-8: a primer pair, which consists of a combination of a forward primer consisting of a sequence of SEQ ID: No. 111 and a reverse primer consisting of any one sequence of SEQ ID: No. 2, 5 and 116 to 131;

7-9: a primer pair, which consists of a combination of a forward primer consisting of a sequence of SEQ ID: No. 112 and a reverse primer consisting of any one sequence of SEQ ID: No. 2, 5 and 116 to 131;

7-10: a primer pair, which consists of a combination of a forward primer consisting of a sequence of SEQ ID: No. 113 and a reverse primer consisting of any one sequence of SEQ ID: No. 2, 5 and 116 to 131; or

7-11: a primer pair, which consists of a combination of a forward primer consisting of a sequence of SEQ ID: No. 114 and a reverse primer consisting of any one sequence of SEQ ID: No. 2, 5 and 125.

Claim 5

A primer set according to claim 2 or a kit according to claim 4, which comprises at least one primer pair of the following seven primer pairs 1) to 7):

- 1) a primer pair selected from S1 group or K1 group;
- 2) a primer pair, which consists of a combination of a forward primer consisting of a sequence of SEQ ID: No. 43 and a reverse primer consisting of a sequence of SEQ ID: No. 50;
- 3) a primer pair, which consists of a combination of a forward primer consisting of a sequence of SEQ ID: No. 81 and a reverse primer consisting of a sequence of SEQ ID: No. 103;
- 4) a primer pair, which consists of a combination of a forward primer consisting of a sequence of SEQ ID: No. 115 and a reverse primer consisting of a sequence of SEQ ID: No. 5;
- 5) a primer pair, which consists of a combination of a forward primer consisting of a sequence of SEQ ID: No. 51 and a reverse primer consisting of a sequence of SEQ ID: No. 52;
- 6) a primer pair, which consists of a combination of a forward primer consisting of a sequence of SEQ ID: No. 53 and a reverse primer consisting of a sequence of SEQ ID: No. 57; and
- 7) a primer pair, which consists of a combination of a forward primer consisting of a sequence of SEQ ID: No. 62 and a reverse primer consisting of a sequence of SEQ ID: No. 70.

Claim 6

A primer set or a kit according to claim 5, comprising any one of the primer pairs 1) to 7).

Claim 7

A primer set or a kit according to claim 6, comprising any one of the following combinations A to G:

- (A) when the primer set comprises primer pair 1), the primer set further comprises at least 3 primer pairs selected from 2) to 7);
- (B) when the primer set comprises primer pair 2), the primer set further comprises at least 3 primer pairs selected from 1) and 3) to 7);
- (C) when the primer set comprises primer pair 3), the primer set further comprises at least 3 primer pairs selected from 1), 2) and 4) to 7);
- (D) when the primer set comprises primer pair 4), the primer set further comprises at least 3 primer pairs selected from 1) to 3) and 5) to 7);

(E) when the primer set comprises primer pair 5), the primer set further comprises at least 3 primer pairs selected from 1) to 4) and 6) to 7);

(F) when the primer set comprises primer pair 6), the primer set further comprises at least 3 primer pairs selected from 1) to 5) and 7);

(G) when the primer set comprises primer pair 7), the primer set further comprises at least 3 primer pairs selected from 1) to 6).

Claim 8

A primer set according to any one of claims 1, 2 or 5 to 7 for detection and/or identification of a bacterial species.

Claim 9

A kit according to any one of claims 3 to 7 for identification of a bacterial species.

Claim 10

A primer set according to any one of claims 2, or 5 to 8 or a kit according to any one of claims 4, 5 to 7, or 9, wherein the primer set or kit comprises at least four primer pairs of the seven primer pairs.

Claim 11

A kit according to any one of claims 3 to 7, or 9, which further comprises an additional primer pair of a forward primer consisting of a sequence of SEQ ID: No. 1 and a reverse primer consisting of any one sequence of SEQ ID: No. 2 to 5, such as wherein the additional primer pair consists of a forward primer consisting of a sequence of SEQ ID No. 1 and a reverse primer consisting of a sequence of SEQ ID No. 5.

Claim 12

A kit according to any one of claims 3 to 7, or 9 which further comprises an enzyme for PCR.

Claim 13

A kit according to claim 12, wherein

(i) the primers and the enzyme for PCR have, independently or as a whole, a contamination amount of bacterial nucleic acid of 10 fg or less than 10 fg; Or

(ii) which further comprises at least one of a pH buffer, dNTP, MgCl₂ and a vessel for measurement, and preferably the pH buffer, dNTP, MgCl₂ and the vessel for measurement have, independently or as a whole, a contamination amount of bacterial nucleic acid of 10 fg or less than 10 fg, and more preferably the primers, the enzyme for PCR, the pH buffer, dNTP, MgCl₂ and the vessel for measurement are individually packaged and the contamination amount of bacterial nucleic acid in each of the packages is 10 fg or less than 10 fg.

Claim 14

A kit according to claim 12 or 13, part (i), which further comprises fluorochrome.

Claim 15

A kit according to claim 14, wherein the primer, the enzyme for PCR, the pH buffer, dNTP, the fluorochrome, MgCl₂ and the vessel for measurement have, independently or as a whole, a contamination amount of bacterial nucleic acid of 10 fg or less than 10 fg.

Claim 16

A kit according to claim 15, wherein the primer, the enzyme for PCR, the pH buffer, dNTP, the fluorochrome, MgCl₂ and the vessel for measurement are individually packaged and the contamination amount of bacterial nucleic acid in each of the packages is 10 fg or less than 10 fg.

Claim 17

A kit according to claim 13 or claim 14, wherein dNTP is chemically modified for hot start PCR.

Claim 18

A kit according to any one of claims 12 to 17, wherein the enzyme for PCR is a Taq DNA Polymerase having an amount of bacterial DNA of less than 10 fg/μl.

Claim 19

A method of detection and/or identification of a bacterial species as a target in a sample, comprising:

- a step of conducting PCR using bacterial genome DNA prepared from the sample, primers to obtain amplification product comprising a target gene specific to the bacterial species as a target, a thermostable DNA polymerase, and

- a step of detecting and/or identifying the bacterial species as a target in the sample by detecting the target gene in the amplification product by PCR, or analyzing the amplification product by PCR,

- wherein, as the primers, the primer set according to claims 1, 2, and 5 to 8, or the kit according to any one of claims 3 to 7, and 9 to 16 is used.

Claim 20

A method of identification of a bacterial species according to claim 17, wherein a kit according to any one of claims 3 to 7, 9 to 16 is used.