



Final Report



PTP
No.0002

**NFI-PTM 02-2026: Detection of *Vibrio cholerae* (per 25 g)
in Lyophilized Cultures**

Issue Date 4 March 2026

Foundation for Industrial Development
National Food Institute



Proficiency Testing Report

Microbiological Analysis

**NFI-PTM 02-2026: Detection of *Vibrio cholerae* (per 25 g)
in Lyophilized Cultures**

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SUMMARY

The program summarizes the microbiological proficiency testing of NFI-PTM 02-2026: Detection of *Vibrio cholerae* (per 25 g) in Lyophilized Cultures. The test materials were quality-controlled to ensure consistent levels were achieved throughout the batch by conducting the homogeneity test before dispatch. Stability testing was performed at the end of shelf life, which was the deadline for all laboratories to run the test to ensure the integrity of the test materials.

This program had 130 participants, which were assessed by comparison with assigned values for performance evaluation for each laboratory. The assigned values were assigned as positive or negative by homogeneity testing's result. Each laboratory received 2 samples for testing. For the criterion of laboratory performance evaluation, the laboratory attained satisfactory performance if both samples' results complied with the assigned values.

The overall competency evaluation was that 128 laboratories (98.5%) attained satisfactory performance while 2 laboratories (1.5%) received not satisfactory performance.

This proficiency testing program accomplished with smooth operation as expected, and every participating laboratory benefits and acquires valuable information for advancement, whatever the performance result is.

1. INTRODUCTION

1.1 Proficiency Testing

Proficiency testing (PT) is a valuable quality assurance tool for testing and measurement. Accreditation to ISO/IEC 17025 requires laboratories to participate in proficiency testing schemes. PT involves interlaboratory comparisons to determine laboratory performance to produce more reliable results. Whatever the performance result is, every participating laboratory benefits and acquires valuable information for further advancement in all degrees of its current performance.

For the improvement and satisfaction to the requirement of ISO/IEC 17025 of laboratories, hence the Division of Proficiency Testing Laboratory, Department of Laboratory Services, Foundation for Industrial Development National Food Institute (NFI) provides PT program to follow the international standard ISO/IEC 17043: 2023, Conformity Assessment – General Requirements for the Competence of Proficiency Testing Providers. This program was named “Microbiological Analysis NFI-PTM 02-2026: Detection of *Vibrio cholerae* (per 25 g) in Lyophilized Cultures” with a focus on *V. cholerae* since it is one of the important pathogenic bacteria on food safety monitoring program.

To ensure performance confidentiality of all participants, the Laboratory Number is used in place of participant’s name. A unique Laboratory Number is assigned to each laboratory.

NFI offers Internet access for proficiency testing at ‘<https://pt.nfi.or.th>’ for fast, convenient, and easy access for participants to register, submit forms for received samples / data / test results / test method / other information, view and communicate with the provider. All participants are encouraged to utilize all online features and more for complete and obvious action for their own advantage.

1.2 *Vibrio cholerae*

V. cholerae is Gram-negative, comma-shaped bacterium. Some strains of *V. cholerae* cause the disease cholera. *V. cholerae* is facultative anaerobic and has a single polar flagellum when grown in liquid medium. It can produce oxidase and catalase, and ferment glucose without producing gas. *V. cholerae* pathogenicity genes code for proteins directly or indirectly involved in the virulence of the bacteria. During infection, *V. cholerae* secretes cholera toxin, a protein that causes diarrhea.

2. TEST MATERIALS

2.1 Sample Preparation

Test materials were produced in glass vials by adding 1-milliliter solution of skim milk and microorganisms of either (1) only background flora or (2) target microorganism and background flora (as shown in Table 1). The sample was prepared on 23 December 2025 for the Negative sample and 24 December 2025 for the Positive sample. After freeze drying, the glass vials were then sealed with a rubber cap topped with an aluminium-crimp seal. Each was labeled with ID numbers and stored at 2-8°C to use for homogeneity test, stability test, and further steps. The test material per glass vial was equivalent to 100 grams of initial sample after adding 100 milliliters of 0.85% NaCl and mixing well to rehydrate the sample before laboratory testing.

The test materials were labeled in two sets:

1. The Negative sample set was labeled with a serial sample code of “A 001 up to A 130” and “B 131 up to B 170”.
2. The Positive sample set was labeled with a serial sample code of “A 301 up to A 340” and “B 171 up to B 300”.

Table 1 Target microorganism and background flora

Test Material	Target Microorganism	Background Flora
Negative Sample	None	- <i>V. parahaemolyticus</i> (ATCC 17802) (contamination level about 1.4×10^4 CFU/25g) - <i>Enterococcus faecalis</i> (ATCC 29212) (contamination level about 1.8×10^3 CFU/25g)
Positive Sample	- <i>V. cholerae</i> non-O1, non-O139 (DMST 2873) (contamination level about 75 CFU/25g)	- <i>V. parahaemolyticus</i> (ATCC 17802) (contamination level about 1.4×10^4 CFU/25g) - <i>Enterococcus faecalis</i> (ATCC 29212) (contamination level about 2.1×10^3 CFU/25g)

2.2 Homogeneity

To insure that consistent levels of organisms were achieved throughout the batch of test materials, the homogeneity test was conducted on 5 January 2026 for the Negative and Positive sample. The random number generator from the website ‘random.org’ was used to randomize the order of the samples. Ten out of each set of the Negative and Positive samples were randomly picked for homogeneity test by carrying out detection of *V. cholerae* per 25 g prior to dispatch of the sample. The homogeneity data were shown in Table 3 and 4 in the Appendix.

2.3 Stability

To ensure the constancy of the test, materials not being diminished over time and the transport effect, stability testing was conducted at the end of shelf life. Therefore, five samples of the Negative and Positive set at NFI were packaged using the same types of materials (boxes, ice packs, etc.) and conditions (temperature, length of time, etc.) as those delivered, leaving the selected-random sample in the box for 24 hours, and then keeping at 2-8°C until the final test or after this date. On 21 January 2026, the test materials were examined for detection of *V. cholerae* per 25 g. The stability data were shown in Table 5 and 6 in the Appendix.

The work on homogeneity and stability tests was conducted by the external service provider – Division of Microbiological Laboratory, Foundation for Industrial Development National Food Institute (ISO/IEC 17025: 2017: DMSc Acc. No. 1005/42) which using the FDA-BAM standard method according to Chapter 9, 2004.

2.4 Sample Distribution

Upon completion of homogeneity test, foam boxes of test materials with ice packs, and documents were dispatched on 13 January 2026 to each participant by an Inter Express Logistics Company with 24-hour guaranteed delivery. Documents enclosed in the box were as follows:

- 1) Letter of Introduction
- 2) Test Instruction Sheet
- 3) Receipt Form
- 4) Results Form
- 5) Technical Form

Note:

- Filling online preferred for 3), 4) and 5).
- Using test methods (materials, procedures, conditions, etc.) consistent with each laboratory routine practice.
- Two glass vials of test material delivered for each participant.

Participants were required to report and submit their result of the test material as either 'Detected' or 'Not Detected' per 25 g by the date of deadline report – “2 February 2026”.

3. REPORTING

The participating laboratory finished testing PT samples and submitted the test results by the date of deadline report through the online system. All these data were compared with assigned values. The assigned values were assigned as positive or negative by homogeneity testing's result.

The summary of the participants' results is given in Table 2. Technical data of methods used by each laboratory about accreditation, reference, and others are summarized in Table 7 in the Appendix.

4. ASSIGNED VALUE AND LABORATORY PERFORMANCE EVALUATION**4.1 Assigned Value**

The assigned value is obtained by spiking an exact known amount of microorganisms to the PT sample. The results were confirmed by testing the homogeneity of the proficiency test samples.

4.1.1 If the homogeneity test results are reported as detected, the assigned value is Detected.

4.1.2 If the homogeneity test results are reported as not detected, the assigned value is Not Detected.

4.2 The Laboratory Performance Evaluation

This proficiency testing program is qualitative testing. The testing results of each laboratory were compared with the assigned value. The evaluation of the participants, if only both samples' results complied with the assigned values, the laboratory attained satisfactory performance.

The criterion of laboratory performance evaluation is as follows.

4.2.1 S means the test results pass the evaluation criteria (Satisfactory)

4.2.2 NS means the test results do not pass the evaluation criteria (Not Satisfactory)

5. RESULTS

Table 2 Result summary of participants' performance evaluation for *V. cholerae* (per 25 g)
in lyophilized cultures

Test Sample	<i>V. cholerae</i> (per 25 g)			Serological Test	
	A	B		A	B
Assigned Value	Not Detected	Detected	Performance*	-	non-O1, non-O139
Laboratory Number	Result	Result		Result	Result
1	Not Detected	Detected	S	-	-
3	Not Detected	Detected	S	-	-
4	Not Detected	Detected	S	-	-
5	Not Detected	Detected	S	-	-
7	Not Detected	Detected	S	-	-
8	Not Detected	Detected	S	-	-
9	Not Detected	Detected	S	-	-
10	Not Detected	Detected	S	-	non O1/non O139/non O141
11	Not Detected	Detected	S	-	-
12	Not Detected	Detected	S	-	-
13	Not Detected	Detected	S	-	-
15	Not Detected	Detected	S	-	-
16	Not Detected	Detected	S	-	-
17	Not Detected	Detected	S	-	-
18	Not Detected	Detected	S	-	-
19	Not Detected	Detected	S	-	-
20	Not Detected	Detected	S	-	-
21	Not Detected	Detected	S	-	-
22	Not Detected	Detected	S	-	non O1
23	Not Detected	Detected	S	-	-

Note: 1. *S indicates 'Satisfactory', and NS indicates 'Not Satisfactory'.

2. Serological test information was not considered here.

Table 2 Result summary of participants' performance evaluation for *V. cholerae* (per 25 g)
in lyophilized cultures (continued)

Test Sample	<i>V. cholerae</i> (per 25 g)		Performance*	Serological Test	
	A	B		A	B
Assigned Value	Not Detected	Detected		-	non-O1, non-O139
Laboratory Number	Result	Result		Result	Result
24	Not Detected	Detected	S	-	-
25	Not Detected	Detected	S	-	-
26	Not Detected	Detected	S	-	-
27	Not Detected	Detected	S	-	-
29	Not Detected	Detected	S	-	-
30	Not Detected	Detected	S	-	-
31	Not Detected	Detected	S	-	NonO1,NonO139
32	Not Detected	Detected	S	-	-
33	Not Detected	Detected	S	-	-
34	Not Detected	Detected	S	-	nonO1 nonO139
35	Not Detected	Detected	S	-	-
36	Not Detected	Detected	S	-	-
37	Not Detected	Detected	S	-	-
38	Not Detected	Detected	S	-	Non O1 Non O139
39	Not Detected	Detected	S	-	NonO1 , NonO139
40	Not Detected	Detected	S	-	NonO1/NonO139
41	Not Detected	Detected	S	-	non O1/non O139
42	Not Detected	Detected	S	-	nonO1, nonO139
43	Not Detected	Detected	S	-	-
45	Not Detected	Detected	S	-	non O1/non O139

Note: 1. *S indicates 'Satisfactory', and NS indicates 'Not Satisfactory'.

2. Serological test information was not considered here.

Table 2 Result summary of participants' performance evaluation for *V. cholerae* (per 25 g)
in lyophilized cultures (continued)

Test Sample	<i>V. cholerae</i> (per 25 g)		Performance*	Serological Test	
	A	B		A	B
Assigned Value	Not Detected	Detected		-	non-O1, non-O139
Laboratory Number	Result	Result		Result	Result
46	Not Detected	Detected	S	-	-
47	Not Detected	Detected	S	-	-
48	Not Detected	Detected	S	-	<i>Vibrio cholerae</i> O1 Polyvalent, <i>Vibrio cholerae</i> O139
49	Not Detected	Detected	S	-	-
50	Not Detected	Detected	S	-	-
52	Not Detected	Detected	S	-	non01/non0139
53	Not Detected	Detected	S	-	-
54	Not Detected	Detected	S	-	nonO1nonO139
55	Not Detected	Detected	S	-	-
56	Not Detected	Detected	S	-	nonO1 , nonO139
57	Not Detected	Detected	S	-	-
58	Not Detected	Detected	S	-	-
59	Not Detected	Detected	S	-	-
61	Not Detected	Detected	S	-	-
62	Not Detected	Detected	S	-	-
63	Not Detected	Detected	S	-	-
64	Not Detected	Detected	S	-	non-01,non-0139
65	Not Detected	Detected	S	-	-
66	Not Detected	Detected	S	-	-
68	Not Detected	Detected	S	-	-

Note: 1. *S indicates 'Satisfactory', and NS indicates 'Not Satisfactory'.

2. Serological test information was not considered here.

Table 2 Result summary of participants' performance evaluation for *V. cholerae* (per 25 g)
in lyophilized cultures (continued)

Test Sample	<i>V. cholerae</i> (per 25 g)		Performance*	Serological Test	
	A	B		A	B
Assigned Value	Not Detected	Detected		-	non-O1, non-O139
Laboratory Number	Result	Result		Result	Result
70	Not Detected	Detected	S	-	nonO1/nonO139
71	Not Detected	Detected	S	-	-
72	Not Detected	Detected	S	-	-
73	Not Detected	Detected	S	-	O1,Ogawa
75	Not Detected	Detected	S	-	-
76	Not Detected	Detected	S	-	-
77	Not Detected	Detected	S	-	-
78	Not Detected	Detected	S	-	-
80	Not Detected	Detected	S	-	-
81	Not Detected	Detected	S	-	-
82	Not Detected	Detected	S	-	nonO1/nonO139
84	Not Detected	Detected	S	-	-
85	Not Detected	Detected	S	-	-
86	Not Detected	Detected	S	-	-
87	Not Detected	Detected	S	-	-
88	Not Detected	Detected	S	-	-
89	Not Detected	Detected	S	-	-
91	Not Detected	Detected	S	-	nonO1/nonO139
92	Not Detected	Detected	S	-	-
94	Not Detected	Detected	S	-	-
95	Not Detected	Detected	S	-	-

Note: 1. *S indicates 'Satisfactory', and NS indicates 'Not Satisfactory'.

2. Serological test information was not considered here.

Table 2 Result summary of participants' performance evaluation for *V. cholerae* (per 25 g)
in lyophilized cultures (continued)

Test Sample	<i>V. cholerae</i> (per 25 g)		Performance*	Serological Test	
	A	B		A	B
Assigned Value	Not Detected	Detected		-	non-O1, non-O139
Laboratory Number	Result	Result		Result	Result
96	Detected	Not Detected	NS	non O1, non O139	-
97	Not Detected	Detected	S	-	non O1, non O139
98	Not Detected	Detected	S	<i>Vibrio</i> <i>parahaemolyticus</i>	<i>Vibrio cholerae</i> and <i>Vibrio</i> <i>parahaemolyticus</i>
99	Not Detected	Detected	S	-	non O1,O139
100	Not Detected	Detected	S	-	-
101	Not Detected	Detected	S	-	-
103	Not Detected	Detected	S	-	Antiserum <i>Vibrio</i> <i>cholerae</i> group O1, <i>Vibrio cholerae</i> group O139
104	Not Detected	Detected	S	-	-
105	Not Detected	Detected	S	-	-
106	Not Detected	Detected	S	-	-
107	Not Detected	Detected	S	-	-
108	Not Detected	Detected	S	-	-
109	Not Detected	Detected	S	-	-
110	Not Detected	Detected	S	-	-
112	Not Detected	Detected	S	-	-
114	Not Detected	Detected	S	-	-
116	Not Detected	Detected	S	-	nonO1,nonO139
117	Not Detected	Detected	S	-	-

Note: 1. *S indicates 'Satisfactory', and NS indicates 'Not Satisfactory'.

2. Serological test information was not considered here.

Table 2 Result summary of participants' performance evaluation for *V. cholerae* (per 25 g)
in lyophilized cultures (continued)

Test Sample	<i>V. cholerae</i> (per 25 g)			Serological Test	
	A	B		A	B
Assigned Value	Not Detected	Detected	Performance*	-	non-O1, non-O139
Laboratory Number	Result	Result		Result	Result
118	Detected	Not Detected	NS	-	-
120	Not Detected	Detected	S	-	non O1 non O139
121	Not Detected	Detected	S	-	Non O1,Non O139
123	Not Detected	Detected	S	-	Non O1, Non O139
124	Not Detected	Detected	S	-	-
125	Not Detected	Detected	S	-	nonO1 non O139
126	Not Detected	Detected	S	-	-
127	Not Detected	Detected	S	-	-
128	Not Detected	Detected	S	-	-
129	Not Detected	Detected	S	-	-
130	Not Detected	Detected	S	-	-

Note: 1. *S indicates 'Satisfactory', and NS indicates 'Not Satisfactory'.

2. Serological test information was not considered here.

Table 2 Result summary of participants' performance evaluation for *V. cholerae* (per 25 g)
in lyophilized cultures (continued)

Test Sample	<i>V. cholerae</i> (per 25 g)			Serological Test	
	A	B		A	B
Assigned Value	Detected	Not Detected	Performance*	non-O1, non-O139	-
Laboratory Number	Result	Result		Result	Result
2	Detected	Not Detected	S	-	-
6	Detected	Not Detected	S	-	-
14	Detected	Not Detected	S	-	-
28	Detected	Not Detected	S	-	-
44	Detected	Not Detected	S	-	-
51	Detected	Not Detected	S	-	-
60	Detected	Not Detected	S	non O1/O139	-
67	Detected	Not Detected	S	-	-
69	Detected	Not Detected	S	nonO1, nonO139	-
74	Detected	Not Detected	S	-	-
79	Detected	Not Detected	S	-	-
83	Detected	Not Detected	S	nonO1/nonO139	-
90	Detected	Not Detected	S	non O1/O139	-
93	Detected	Not Detected	S	nonO1 nonO139	-
102	Detected	Not Detected	S	-	-
111	Detected	Not Detected	S	-	-
113	Detected	Not Detected	S	non O1, non O139	-
115	Detected	Not Detected	S	-	-
119	Detected	Not Detected	S	-	-
122	Detected	Not Detected	S	non O1, non O139	-

Note: 1. *S indicates 'Satisfactory', and NS indicates 'Not Satisfactory'.

2. Serological test information was not considered here.

6. METROLOGICAL TRACEABILITY

The PT provider requires participants to report their test results in Detected/ Not Detected (per 25 g). In this program, the metrological traceability of the measurement and the uncertainty of the assigned value is not applicable because that is qualitative testing. However, this PT sample was prepared by lyophilized culture matrix that spiked a recognized demonstrable traceability strain reference bacterium; *Vibrio cholerae* non-O1, non-O139 (DMST 2873) as the target microorganism from the national culture collection, and *Vibrio parahaemolyticus* (ATCC 17802) and *Enterococcus faecalis* (ATCC 29212) from an international culture collection are the background flora, respectively.

7. TECHNICAL COMMENTS

Participants' laboratories No. 96 and 118 having not satisfactory performance. The laboratory must be careful not to mixing up the two test materials during the testing process, and data transfer; ensure complete traceability and sample-tracking system.

NFI is pleased to provide further details and welcomes any discussion regarding the proficiency testing.

8. CONTACT DETAILS

8.1 Any Question and Complaint

Upon receiving the final report, if there is any questions or complaints regarding the proficiency testing assessment incurred, the participant can contact the program coordinator through the following channels:

Miss Thatsanee Kansan (Program coordinator)

Division of Proficiency Testing Laboratory,

Department of Laboratory Services,

Foundation for Industrial Development National Food Institute,

2008 Soi 36, Arun Amarin Rd., Bang Yi Khan, Bang Phlat, Bangkok

10700 THAILAND.

Tel: +66(0) 2422-8688 Ext. 5600-5604

E-mail: pt@nfi.or.th

Website: <https://pt.nfi.or.th>

8.2 Appeal

Upon receiving the final report, if there is an appeal regarding the proficiency testing assessment incurred, written notification should be submitted to the President of the Foundation for Industrial Development National Food Institute (NFI) within thirty days by the following channel:

President of Foundation for Industrial Development National Food Institute,

2008 Soi 36, Arun Amarin Rd., Bang Yi Khan, Bang Phlat, Bangkok

10700 THAILAND.

9. APPENDIX

Table 3 Homogeneity data of positive sample

Sample No.	<i>V. cholerae</i> Results (per 25 g)	Serological Test
1	Detected	non-O1, non-O139
2	Detected	non-O1, non-O139
3	Detected	non-O1, non-O139
4	Detected	non-O1, non-O139
5	Detected	non-O1, non-O139
6	Detected	non-O1, non-O139
7	Detected	non-O1, non-O139
8	Detected	non-O1, non-O139
9	Detected	non-O1, non-O139
10	Detected	non-O1, non-O139

Note: FDA-BAM *Online*, 2004 (Chapter 9)

Table 4 Homogeneity data of negative sample

Sample No.	<i>V. cholerae</i> Results (per 25 g)	Serological Test
1	Not Detected	-
2	Not Detected	-
3	Not Detected	-
4	Not Detected	-
5	Not Detected	-
6	Not Detected	-
7	Not Detected	-
8	Not Detected	-
9	Not Detected	-
10	Not Detected	-

Note: FDA-BAM *Online*, 2004 (Chapter 9)

Table 5 Stability data of positive sample

Sample No.	<i>V. cholerae</i> Results (per 25 g)	Serological Test
1	Detected	non-O1, non-O139
2	Detected	non-O1, non-O139
3	Detected	non-O1, non-O139
4	Detected	non-O1, non-O139
5	Detected	non-O1, non-O139

Note: FDA-BAM *Online*, 2004 (Chapter 9)

Table 6 Stability data of negative sample

Sample No.	<i>V. cholerae</i> Results (per 25 g)	Serological Test
1	Not Detected	-
2	Not Detected	-
3	Not Detected	-
4	Not Detected	-
5	Not Detected	-

Note: FDA-BAM *Online*, 2004 (Chapter 9)

Table 7 Technical information in relation to the methods

Test Method Accredited by ISO/IEC 17025	Laboratory Number
Accredited	2 5 6 9 10 14 16 26 28 31 33 34 35 38 39 40 41 42 43 44 45 51 52 54 58 59 60 63 65 67 68 69 71 73 74 76 79 81 82 83 86 88 90 91 93 94 97 98 100 101 102 103 107 110 111 113 115 116 117 119 120 121 122 123 124 125 126
Not Accredited	1 3 4 7 8 11 12 13 15 17 18 19 20 21 22 23 24 25 27 29 30 32 36 37 46 47 48 49 50 53 55 56 57 61 62 64 66 70 72 75 77 78 80 84 85 87 89 92 95 96 99 104 105 106 108 109 112 114 118 127 128 129 130

Table 7 Technical information in relation to the methods (continued)

Reference Method	Laboratory Number
AOAC RI Certificate No. 032002	27 67 98
AOAC RI Certificate No. 050902	15 16 83
Compendium of Methods for the Microbiological Examination of Foods (APHA), 5 th Edition, 2015 Chapter 40	43
FDA-BAM Chapter 9	1 3 4 7 8 9 11 13 14 17 20 23 24 25 26 28 30 31 32 33 36 37 38 40 41 42 45 46 47 48 49 53 54 56 57 58 60 61 62 63 64 66 68 69 72 73 75 76 77 80 81 82 84 85 87 88 89 90 93 94 95 96 97 101 103 105 107 109 110 113 114 115 118 119 120 121 122 123 124 125 126 127 128 129 130
ISO 21872-1: 2017	10 12 21 22 39 52 100 104 106 108 112
ISO 21872-1: 2017/Amd 1: 2023	2 5 6 18 19 29 34 35 44 50 51 55 59 65 70 71 74 78 79 86 91 92 99 102 111 116 117

Table 7 Technical information in relation to the methods (continued)

Media: Enrichment Media	Laboratory Number
Alkaline Peptone Water (APW)	1 3 4 7 8 9 11 13 14 15 16 17 20 23 24 25 26 27 28 30 31 32 33 36 37 38 40 41 42 43 45 46 47 48 49 53 54 55 56 57 58 60 61 62 63 64 66 67 68 69 72 73 74 75 76 77 78 80 81 82 83 84 85 87 88 89 90 93 94 95 96 97 98 101 103 105 107 109 110 113 114 115 117 118 119 120 121 122 123 124 125 126 127 128 129 130
Alkaline Saline Peptone Water (ASPW)	2 5 6 10 12 18 19 21 22 29 34 35 39 44 50 51 52 59 65 70 71 79 86 91 92 99 100 102 104 106 108 111 112 116

Table 7 Technical information in relation to the methods (continued)

Media: Selective Media	Laboratory Number
TCBS Agar	1 3 4 7 8 9 11 13 14 15 17 18 20 21 22 23 24 25 26 27 30 31 32 33 36 37 40 41 42 43 46 47 48 49 53 54 56 57 58 59 60 61 62 63 64 66 67 68 69 72 73 75 76 77 78 80 81 82 85 87 88 89 92 93 95 96 97 98 101 103 105 106 108 109 113 114 115 118 122 123 124 126 127 128 129 130
TCBS Agar, CC Agar	107 125
TCBS Agar, CHROMagar	2 5 6 10 12 19 28 29 34 35 38 39 44 45 50 51 52 55 65 70 71 74 79 83 84 86 91 94 99 100 104 112 116 117 119 120 121
TCBS Agar, mCPC Agar	90 110
TCBS Agar, TSTA (Tryptone Sucrose Tetrazolium Agar)	111
TCBS Agar, <i>Vibrio</i> Agar	102
Unused	16

Table 7 Technical information in relation to the methods (continued)

Rapid Identification Method/ Strips	Laboratory Number
API 20E	2 3 6 11 13 26 28 29 32 33 39 40 41 42 43 44 46 48 49 50 51 56 62 64 69 70 71 73 80 81 82 84 88 89 93 94 101 103 105 107 109 113 114 115 116 120 121 124 125 126 127 128 129
API 20NE	5 79
iQ-Check <i>Vibrio</i>	27
MALDI-TOF	9
MALDI-TOF MS and API 20E	68
Real-Time PCR	15 16 67 83 98
VITEK [®] 2 COMPACT	65
Unused	1 4 7 8 10 12 14 17 18 19 20 21 22 23 24 25 30 31 34 35 36 37 38 45 47 52 53 54 55 57 58 59 60 61 63 66 72 74 75 76 77 78 85 86 87 90 91 92 95 96 97 99 100 102 104 106 108 110 111 112 117 118 119 122 123 130

10. REFERENCES

ISO/IEC 17043: 2023. Conformity assessment – General requirements for the competence of proficiency testing providers.

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COMMITTEE**Program Coordinator**

- | | |
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| 1. Miss Thatsanee Kansan | Analyst, Division of Proficiency Testing Laboratory |
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Technical Experts

- | | |
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| 1. Miss Preeyaporn Jaengkarnkit | Vice President, Department of Laboratory Services |
| 2. Mrs. Nitaya Pirapatrungsuriya | Executive Advisor, Foundation for Industrial Development
National Food Institute |
| 3. Miss Chotirot Khameraniya | Manager, Division of Microbiological Laboratory |

Statistician Expert

- | | |
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| 1. Assoc. Prof. Dr. Kunchit Judprasong | Institute of Nutrition, Mahidol University |
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Operators

- | | |
|------------------------------|---|
| 1. Miss Tanaporn Borisut | Manager, Division of Proficiency Testing Laboratory
(Statistician) |
| 2. Miss Kuntida Duangsee | Specialist, Division of Proficiency Testing Laboratory |
| 3. Miss Thatsanee Kansan | Analyst, Division of Proficiency Testing Laboratory |
| 4. Miss Waranya Ngamphakwaen | Scientist, Division of Proficiency Testing Laboratory |
| 5. Miss Ariya Nontajak | Scientist, Division of Proficiency Testing Laboratory |

Proficiency Testing Provider Accreditation

ISO/IEC 17043: 2023: BLA-DSS Acc. No. PTP-0002

Approved by


(Ms. Tanaporn Borisut)

Technical Manager

4 March 2026



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