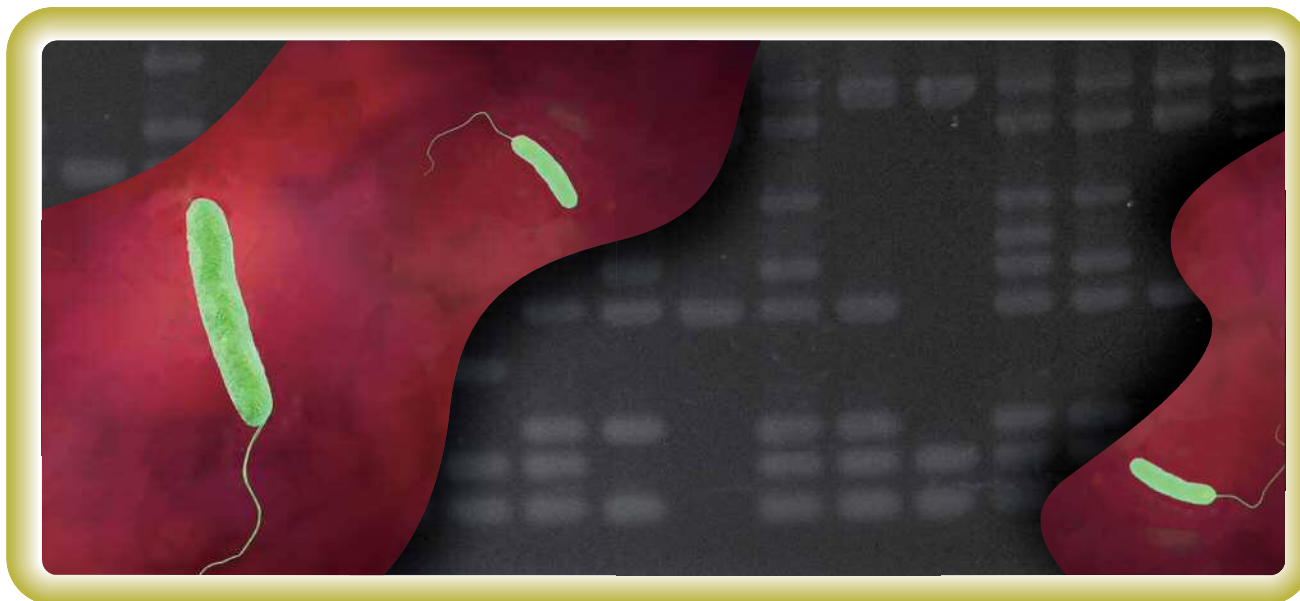


Cica Geneus[®] C. diff POT KIT



Clostridium (Clostridioides) difficile is the main cause of nosocomial infectious diarrhoea and the causative agent of antibiotic-associated colitis. Control of *C. difficile* infection (CDI) outbreaks in medical front facilities presents significant challenges to infection control specialists. “Passive epidemiological surveillance” complements infection control efforts and environmental interventions to provide a comprehensive strategy to prevent and control outbreaks of CDI. This kits is easy-to-use ribotyping kit of *C. difficile* with PCR-based OFR Typing (POT) method.

Characteristics

- This POT method developed by Dr. Suzuki of Fujita Health University and Dr. Yamada of Aichi Prefectural Institute of Public Health is a molecular epidemiological method which can identify and distinguish isolates with strain-level.
- This POT method can compare the homogeneity between strains by digitizing (replace to POT types) an electrocataphoresis result.
- Required for the examination time is approximately 4 hours.

Composition(30 rxns)

Reagent	Volume
A Aptaq DNA Master(5×Conc.) ^{*1}	240 μL×1
B PCR supplement	240 μL×1
C Primer mix α	120 μL×1
D Primer mix β	120 μL×1
E Positive control	240 μL×1
F Loading buffer(6×Conc.)	240 μL×1

^{*1} Aptaq DNA Master(5×Conc.) is the product of Roche Diagnostics K.K.

^{*2} Cica Geneus[®] DNA extraction reagent is sold separately.

Work Flow

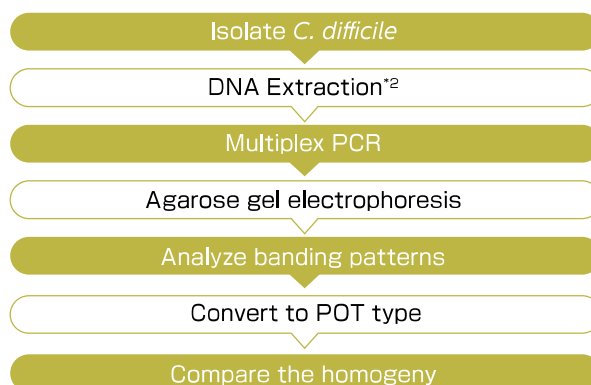
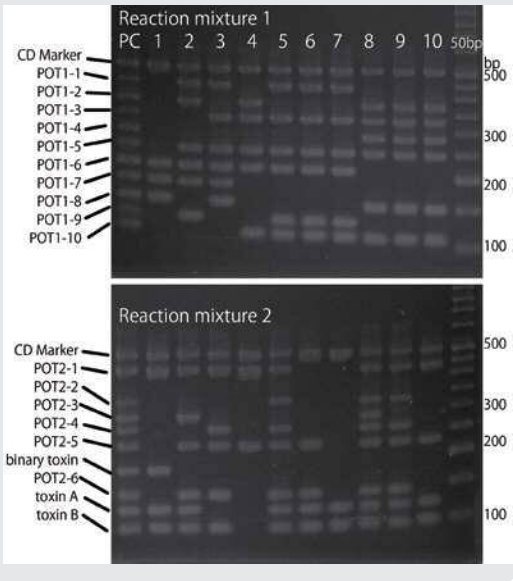


Fig.1 Example of the electrophoretic pattern



	POT No.	Amplicon size (bp)	POT modulus	Target domain
Reaction mixture 1	PCR PC	498	-	<i>C. diff</i> Positive control
	POT 1-1	426	512	Genomic Islet-1
	POT 1-2	372	256	Genomic Islet-2
	POT 1-3	323	128	Genomic Islet-3
	POT 1-4	282	64	Genomic Islet-4
	POT 1-5	242	32	Genomic Islet-5
	POT 1-6	211	16	Genomic Islet-6
	POT 1-7	180	8	Genomic Islet-7
	POT 1-8	151	4	Genomic Islet-8
	POT 1-9	126	2	Genomic Islet-9
POT 1-10	107	1	Genomic Islet-10	
Reaction mixture 2	PCR PC	498	-	<i>C. diff</i> Positive control
	POT 2-1	425	256	Genomic Island-1
	POT 2-2	331	128	Genomic Island-2
	POT 2-3	294	64	Genomic Island-3
	POT 2-4	266	32	Genomic Island-4
	POT 2-5	229	16	Genomic Island-5
	POT 2-6	185	8	Binary toxin
	POT 2-7	145	4	Genomic Island-6
	POT 2-8	124	2	Toxin A
	POT 2-9	101	1	Toxin B

- i. Distribution patterns of ORFs are identified by reading electrophoresis banding patterns (Fig.1) .
- ii. POT types of two categories are obtained by input electrophoresis banding patterns into the Excel calculation sheet which can be downloaded from Kanto Chemical Co. Inc web site (Table.1) .
 - i When PCR PC is positive, the sample can confirm that it is *C. difficile*.
 - ii If the value of POT2 become odd number, the strain has the gene of Toxin B.
 - iii By comparing POT types, you can objectively estimate homology between strains.
 - iv As for the strains obtained from outbreaks, all POT types (1,2) become same.

Result

	Sample number in Fig.1									
	1	2	3	4	5	6	7	8	9	10
ST	NA	8	81	26	17	17	17	2	2	2
PCR-ribotype	078	002	369	ND	018	018	018	014'	014	014
POT1	28	826	700	433	691	691	691	485	485	485
POT2	267	343	309	272	439	23	3	503	439	275

Acknowledgments : This data is provided by Dr.Suzuki of Fujita Health University.

Product Information

Product No.	Product Name	Package size	Stored at
08106-97	Cica Geneus® C. diff POT KIT	30 rxns	-20 °C~-25 °C
08178-96	Cica Geneus® DNA Extraction Reagent	120 rxns	2 °C~8 °C

Multiplex PCR kit series (stored at -20 °C ~ -25 °C)

Product No.	Product Name	Package size
08180-96	Cica Geneus® Staph POT KIT	120 rxns
08187-96	Cica Geneus® Pseudo POT KIT	50 rxns
08062-96	Cica Geneus® Acineto POT KIT	30 rxns
08362-97	Cica Geneus® E.coli POT KIT	30 rxns
08143-96	Cica Geneus® AmpC Genotype Detection KIT	30 rxns
08112-96	Cica Geneus® ESBL Genotype Detection KIT	30 rxns
08158-96	Cica Geneus® Carbapenemase Genotype Detection KIT2	30 rxns

Related reagents

Product No.	Product Name	Package size
46510-79	10×TBE buffer	1 L
46509-79	10×TAE buffer	1 L
14575-43	Ethidium bromide solution	10 mL
01089-23	Agarose KANTO HC	100 g
01016-96	AptaTaq DNA Master(5×Conc.)	500 μL



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