

を生かし集団事例発生時には PFGE 併用すること
でお互いの利点を生かし有用な疫学情報が得ら
れることが期待される。

2) 行政への還元に関する調査等

平成 24 年度は 4 施設で PFGE の結果が集団事
例発生時に行政に還元されていた。これら 4 施
設の泳動図は疫学調査等に活用されるに充分な
画質を有していたことから行政への還元もスム
ーズに進んだものと思われる。行政に還元され
た集団事例由来病原菌は 0157、0121 等の腸管出
血性大腸菌であった。また 1 施設では病院から
分与された 0157 を含めた集団事例の解析を PFGE
を用いて実施していた。

F. 健康危機情報

なし

G. 研究発表

誌上発表

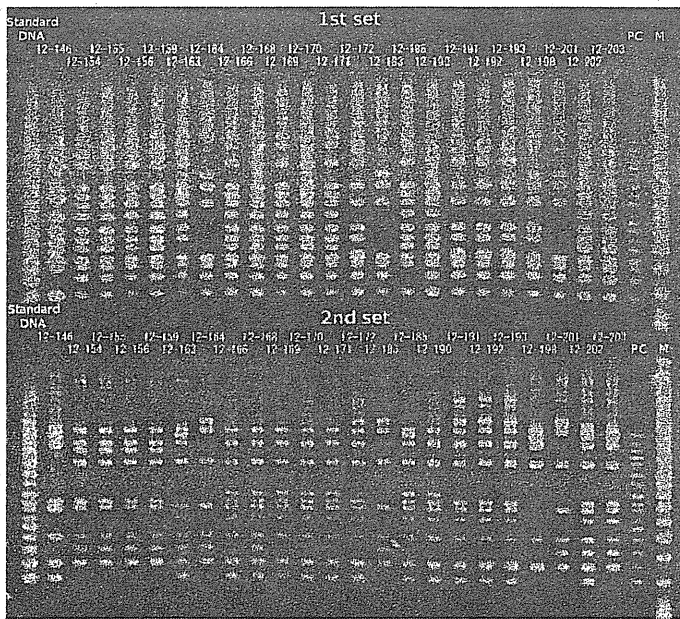
1. Masakado Matsumoto, Reiji Hiramatsu,
Kazuhiro Yamada, Masahiro Suzuki, Yoshio
Miwa, Mitsutaka Yabutani, Yuhki Nagai,
Michiyo Tsuchiya, Makiko Noda, Akihiro
Nagata, Keiko Kawakami, Tomoko Shima, Norio
Tatsumi and Hiroko Minagawa. Phenotypic and
Genetic Analyses of *Campylobacter jejuni*
Lior Serotype 76 Isolated from Chicken Meat
and Clinical Specimens. Jpn. J. Infect.
Dis., 66, 72-75, 2013.

学会発表

1. 松本昌門ら 臨床検体及び市販鶏肉由来カ
ンピロバクター菌株の血清型別及び遺伝子
検査等による疫学的解析 第 60 回日本化学
療法学会西日本支部総会、第 55 回日本感染
症学会中日本地方会学術集会、第 82 回日本
感染症学会西日本地方会学術集会 平成 24
年 11 月 5 日、福岡市
2. 山田和弘ら 愛知県における糞便からの ES
BL 遺伝子陽性大腸菌分離状況 第 33 回日
本食品微生物学会学術総会 平成 24 年 10
月 26 日 福岡市
3. 鈴木匡弘ら 市中獲得型メチシリン耐性黄

色ブドウ球菌 USA300 の市販抗菌薬軟膏耐
性 第 86 回日本感染症学会総会・学術講演
会 平成 24 年 4 月 25 日 長崎市

図1 各施設の IS printing System の泳動図と結果
施設 1



IS-printing system

1st set

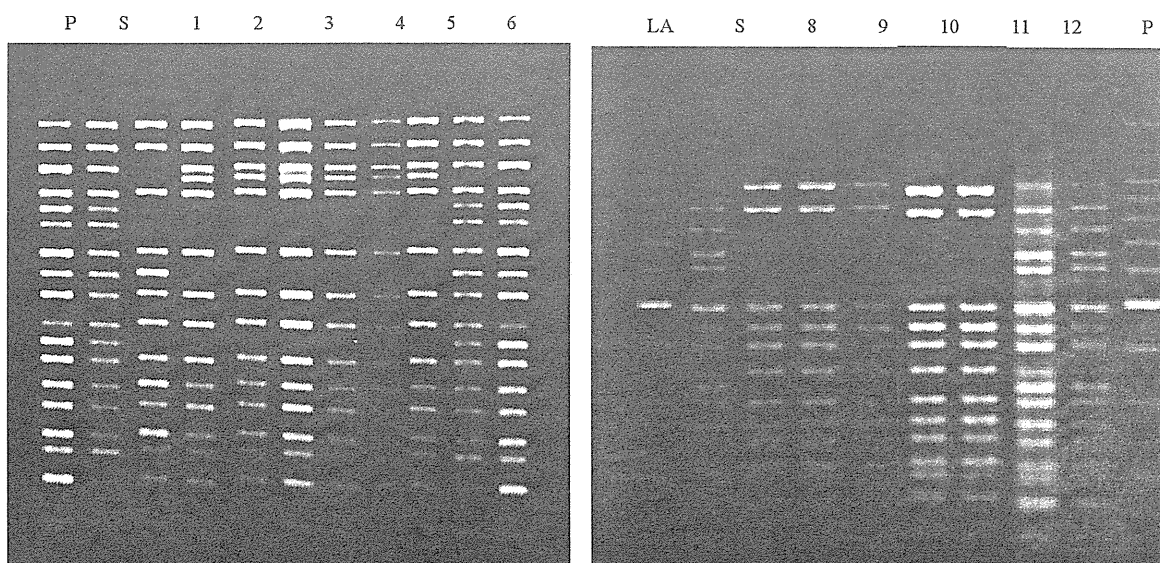
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1-01	974	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
1-02	639	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
1-03	742	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
1-04	645	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
1-05	595	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1-06	551	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1-07	495	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
1-08	442	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
1-09	405	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
1-10	383	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
1-11	325	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1-12	300	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
1-13	269	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
1-14	241	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
1-15	211	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
sac	185	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
1-16	171	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
HvA	137	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

2nd set

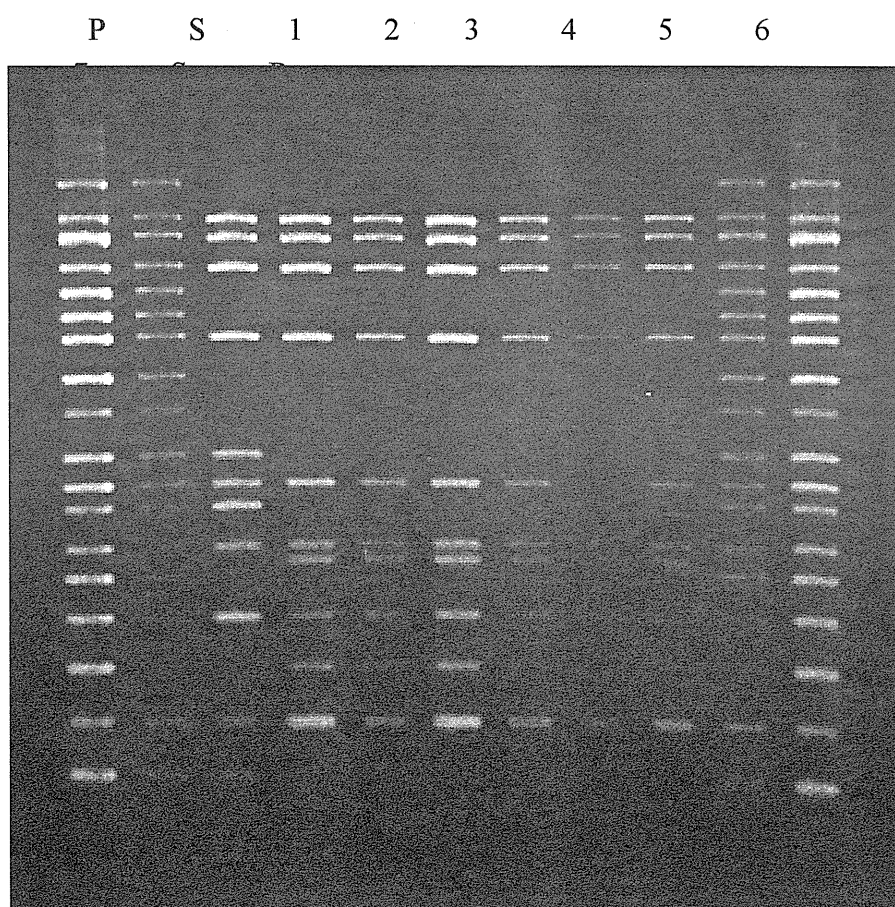
Primer No	Size	2012-146	2012-154	2012-155	2012-156	2012-159	2012-163	2012-164	2012-166	2012-168	2012-169	2012-170	2012-171	2012-172	2012-183	2012-185	2012-190	2012-191	2012-192	2012-193	2012-201	2012-202	2012-203
2-01	997	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2-02	861	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
2-03	801	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2-04	710	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
2-05	642	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
2-06	599	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2-07	552	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
2-08	499	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2-09	449	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2-10	394	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2-11	358	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
2-12	331	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
2-13	301	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2-14	278	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2-15	240	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
2-16	211	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
st2	181	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
st4	151	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

施設 2

1st set



2nd set



LA

S

8

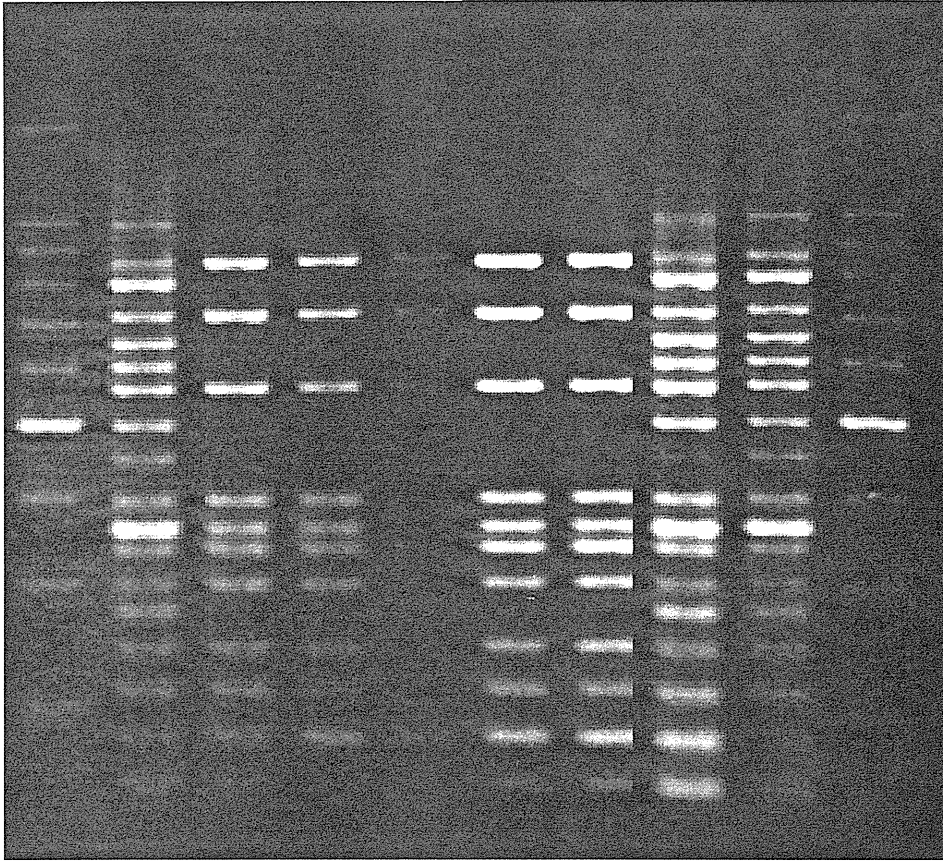
9

10

11

12

P



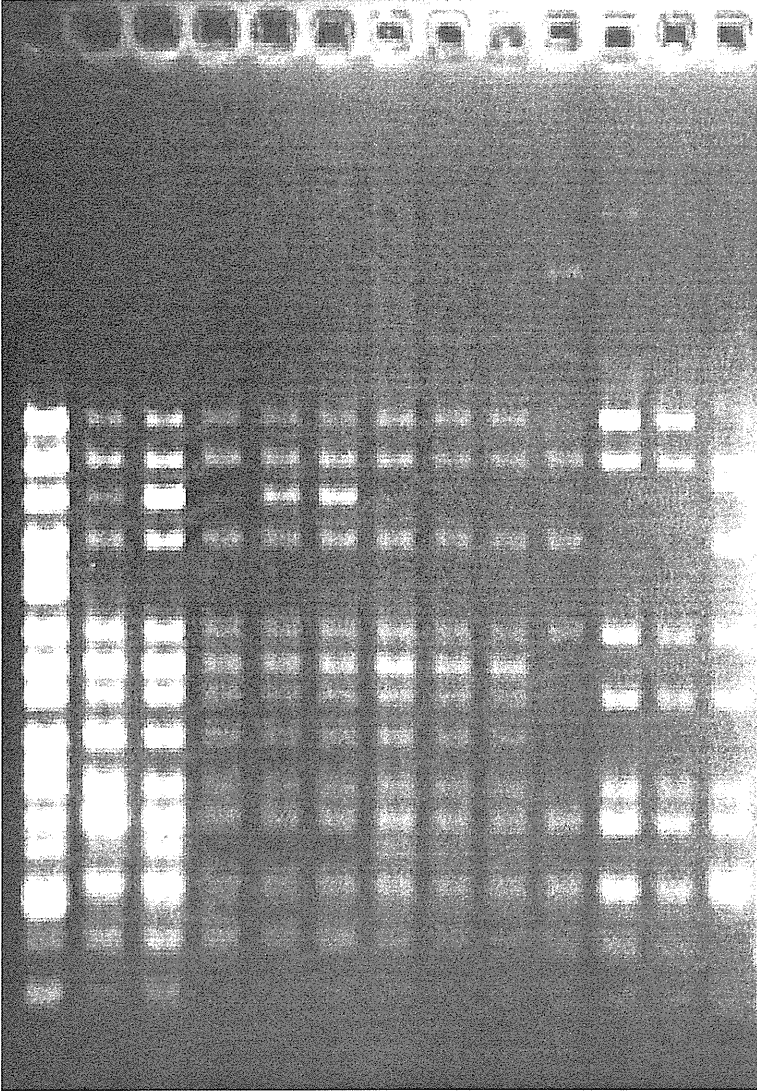
1st set

Primer No.	Size	1	2	3	4	5	6	7	8	9	10	11	12
1-01	974	1	1	1	1	1	1	1	1	1	1	1	1
1-02	839	1	1	1	1	1	1	1	1	1	1	1	1
1-03	742	0	1	1	1	1	1	1	0	0	0	0	0
1-04	645	1	1	1	1	1	1	1	0	0	0	0	0
1-05	595	0	0	0	0	0	0	0	0	0	0	0	0
1-06	561	0	0	0	0	0	0	0	0	0	0	0	0
1-07	495	1	1	1	1	1	1	1	1	1	1	1	1
1-08	442	1	0	0	0	0	0	0	1	1	1	1	1
1-09	405	1	1	1	1	1	1	1	1	1	1	1	1
1-10	353	1	1	1	1	1	1	1	1	1	1	1	1
1-11	325	0	0	0	0	0	0	0	0	0	0	0	0
1-12	300	1	1	1	1	1	1	1	1	1	1	1	1
1-13	269	1	1	1	1	1	1	1	1	1	1	1	1
1-14	241	1	1	1	1	1	1	1	1	1	1	1	1
1-15	211	1	1	1	1	1	1	1	1	1	1	1	1
eae	185	1	1	1	1	1	1	1	1	1	1	1	1
1-16	171	1	1	1	1	1	1	1	1	1	1	1	1
hlyA	137	1	1	1	1	1	1	1	1	1	1	1	1

2nd set

Primer No.	Size	1	2	3	4	5	6	7	8	9	10	11	12
2-01	987	0	0	0	0	0	0	0	0	0	0	0	0
2-02	861	1	1	1	1	1	1	1	1	1	1	1	1
2-03	801	1	1	1	1	1	1	1	0	0	0	0	0
2-04	710	1	1	1	1	1	1	1	1	1	1	1	1
2-05	642	0	0	0	0	0	0	0	0	0	0	0	0
2-06	599	0	0	0	0	0	0	0	0	0	0	0	0
2-07	555	1	1	1	1	1	1	1	1	1	1	1	1
2-08	499	0	0	0	0	0	0	0	0	0	0	0	0
2-09	449	0	0	0	0	0	0	0	0	0	0	0	0
2-10	394	1	0	0	0	0	0	0	1	1	1	1	1
2-11	358	1	1	1	1	1	1	1	1	1	1	1	1
2-12	331	1	0	0	0	0	0	0	1	1	1	1	1
2-13	301	1	1	1	1	1	1	1	1	1	1	1	1
2-14	278	0	0	0	0	0	0	0	0	0	0	0	0
2-15	240	1	1	1	1	1	1	1	1	1	1	1	1
2-16	211	0	1	1	1	1	1	1	1	1	1	1	1
stx2	181	1	1	1	1	1	1	1	1	1	1	1	1
stx1	151	1	0	0	0	0	0	0	1	1	1	1	1

施設 3

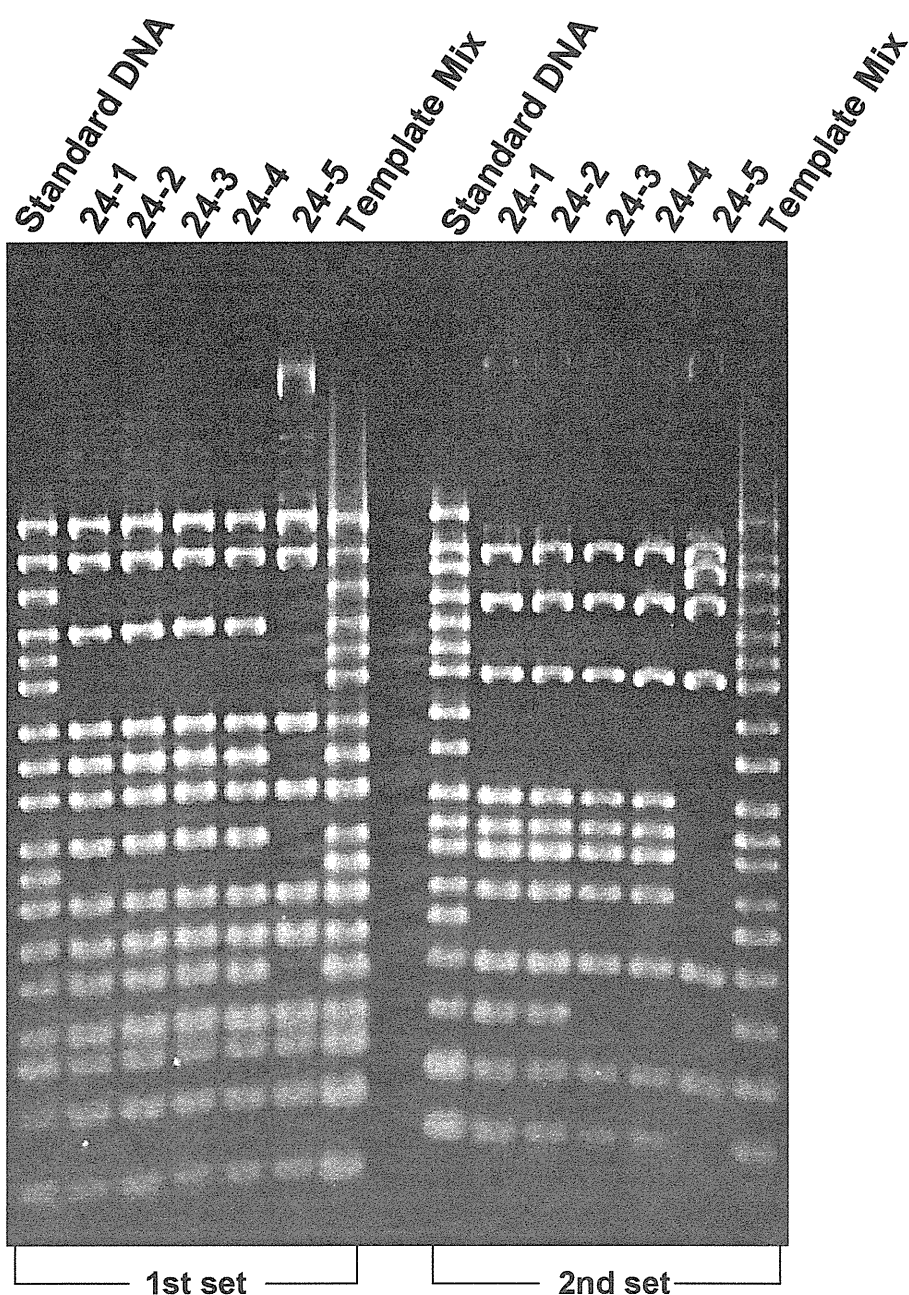


1st set

Primer No.	Size	H23-54	H23-55	H24-1	H24-2	H24-3	H24-6	H24-7	H24-8	H24-9	H24-10	H24-11	H24-13
1-01	974	1	1	1	1	1	1	1	1	0	1	1	0
1-02	839	1	1	1	1	1	1	1	1	1	1	1	1
1-03	742	1	1	0	1	1	0	0	0	0	0	0	
1-04	645	1	1	1	1	1	1	1	1	1	0	0	1
1-05	595	0	0	0	0	0	0	0	0	0	0	0	0
1-06	561	0	0	0	0	0	0	0	0	0	0	0	0
1-07	495	1	1	1	1	1	1	1	1	1	1	1	1
1-08	442	1	1	1	1	1	1	1	1	0	0	0	0
1-09	405	1	1	1	1	1	1	1	1	0	1	1	1
1-10	353	1	1	1	1	1	1	1	1	0	0	0	0
1-11	325	0	0	0	0	0	0	0	0	0	0	0	0
1-12	300	1	1	1	1	1	1	1	1	0	1	1	1
1-13	269	1	1	1	1	1	1	1	1	1	1	1	1
1-14	241	0	1	0	0	0	1	1	1	0	0	0	0
1-15	211	1	1	1	1	1	1	1	1	1	1	1	1
eae	185	0	0	0	0	0	0	0	0	0	0	0	0
1-16	171	1	1	1	1	1	1	1	1	1	1	1	0
hlyA	137	1	1	1	1	1	1	1	1	1	1	1	1

2nd set

Primer No.	Size	H23-54	H23-55	H24-1	H24-2	H24-3	H24-6	H24-7	H24-8	H24-9	H24-10	H24-11	H24-13
2-01	987	0	0	0	0	0	0	0	0	1	0	0	1
2-02	861	0	1	1	1	1	1	1	1	1	1	1	1
2-03	801	1	1	1	1	1	0	0	0	0	0	0	0
2-04	710	1	1	1	1	1	1	1	1	1	1	1	1
2-05	642	0	0	0	0	0	0	0	0	0	0	0	0
2-06	599	0	0	0	0	0	0	0	0	0	0	0	0
2-07	555	1	1	1	1	1	1	1	1	0	1	1	1
2-08	499	0	0	0	0	0	0	0	0	0	0	0	0
2-09	449	0	0	0	0	0	0	0	0	0	0	0	0
2-10	394	0	0	0	0	0	1	1	1	0	0	0	0
2-11	358	1	1	1	1	1	1	1	1	0	1	1	1
2-12	331	0	1	1	1	1	1	1	1	0	1	1	1
2-13	301	1	1	1	1	1	1	1	1	0	0	0	1
2-14	278	0	0	0	0	0	0	0	0	0	0	0	0
2-15	240	1	1	1	1	1	1	1	1	1	1	1	1
2-16	211	1	1	1	1	1	0	0	0	1	0	0	0
stx2	181	1	1	1	1	1	1	1	1	1	1	1	1
stx1	151	1	1	1	1	1	1	1	1	1	0	0	1



テンプレートの調製

取扱説明書のとおり。

反応液組成 (1st set, 2nd set 共通)

Primer Mix 2 μ L

2 \times IS-P Master Mix 10 μ L

Template (または Template Mix) 0.4 μ L

H₂Oにて 20 μ L

PCR 条件

取扱説明書のとおり。

3%アガロースゲル (0.5%TBE) へのアプライ量

2 μ L、約 2 時間泳動

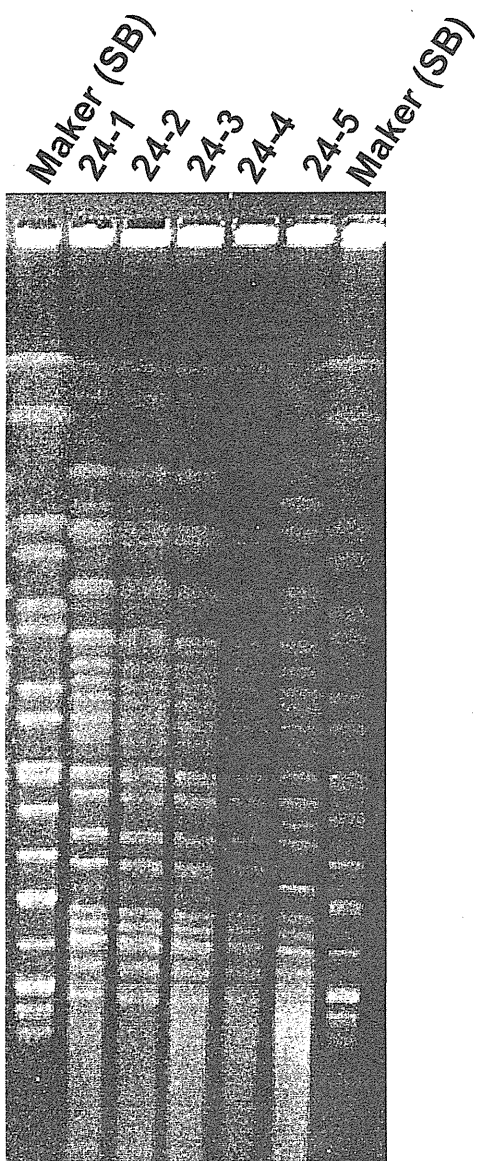
1st set

Primer No.	Size	24-1	24-2	24-3	24-4	24-5
1-01	974	1	1	1	1	1
1-02	839	1	1	1	1	1
1-03	742	0	0	0	0	0
1-04	645	1	1	1	1	0
1-05	595	0	0	0	0	0
1-06	561	0	0	0	0	0
1-07	495	1	1	1	1	1
1-08	442	1	1	1	1	0
1-09	405	1	1	1	1	1
1-10	353	1	1	1	1	0
1-11	325	0	0	0	0	0
1-12	300	1	1	1	1	1
1-13	269	1	1	1	1	1
1-14	241	1	1	1	1	0
1-15	211	1	1	1	1	1
eae	185	1	1	1	1	1
1-16	171	1	1	1	1	1
hlyA	137	1	1	1	1	1

2nd set

Primer No.	Size	24-1	24-2	24-3	24-4	24-5
2-01	987	0	0	0	0	0
2-02	861	1	1	1	1	1
2-03	801	0	0	0	0	1
2-04	710	1	1	1	1	1
2-05	642	0	0	0	0	0
2-06	599	0	0	0	0	0
2-07	555	1	1	1	1	1
2-08	499	0	0	0	0	0
2-09	449	0	0	0	0	0
2-10	394	1	1	1	1	0
2-11	358	1	1	1	1	0
2-12	331	1	1	1	1	0
2-13	301	1	1	1	1	0
2-14	278	0	0	0	0	0
2-15	240	1	1	1	1	1
2-16	211	1	1	0	0	0
stx2	181	1	1	1	1	1
stx1	151	1	1	1	1	0

PFGE 試驗結果



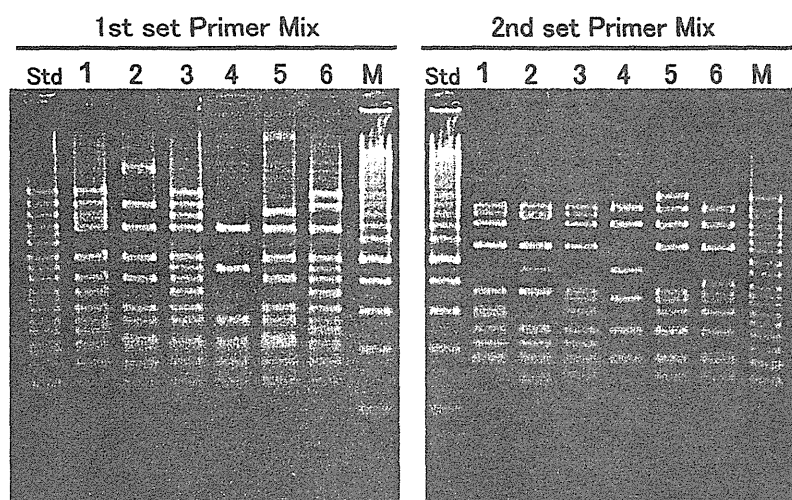


図1 IS-Printing PCR 泳動図

Std Standard DNA
 lane 1 EC3380
 lane 2 EC3381
 lane 3 EC3382
 lane 4 EC3415
 lane 5 EC3416
 lane 6 EC3420
 M 0.1-2kbp ladder DNA

1st set

Primer No.	Size	EC	EC	EC	EC	EC	EC	EC
		3382	3415	3416	3420	3440	3441	3455
1-01	974	1	0	0	1	1	1	1
1-02	839	1	0	0	1	1	1	1
1-03	742	1	0	1	0	1	0	0
1-04	645	1	1	1	1	1	0	0
1-05	595	0	0	0	0	0	0	0
1-06	561	0	0	0	0	0	1	1
1-07	495	1	0	1	1	1	1	1
1-08	442	1	1	0	1	1	0	0
1-09	405	1	0	1	1	1	1	1
1-10	353	1	0	0	1	1	0	0
1-11	325	0	0	0	0	0	0	0
1-12	300	1	0	1	1	1	1	1
1-13	269	1	1	1	1	1	1	1
1-14	241	0	0	0	1	1	0	0
1-15	211	1	1	1	1	1	1	1
eae	185	1	1	1	1	1	1	1
1-16	171	1	1	1	1	0	1	1
hlyA	137	1	1	1	1	1	1	1

2nd set

Primer No.	Size	EC	EC	EC	EC	EC	EC	EC
		3382	3415	3416	3420	3440	3441	3455
2-01	987	0	0	1	0	0	1	1
2-02	861	1	1	1	1	1	1	1
2-03	801	1	0	0	0	1	0	0
2-04	710	1	1	1	1	1	1	1
2-05	642	0	0	0	0	0	0	0
2-06	599	0	0	0	0	0	0	0
2-07	555	1	0	1	1	1	1	1
2-08	499	0	0	0	0	0	0	0
2-09	449	0	1	0	0	0	0	0
2-10	394	0	0	0	1	0	0	0
2-11	358	1	0	1	1	1	1	1
2-12	331	1	1	1	1	1	1	1
2-13	301	1	0	1	1	1	1	1
2-14	278	0	0	0	0	0	0	0
2-15	240	1	1	1	1	1	1	1
2-16	211	1	0	0	0	1	0	0
stx2	181	1	1	1	1	1	1	1
stx1	151	1	0	1	1	1	0	0

IS-printing system

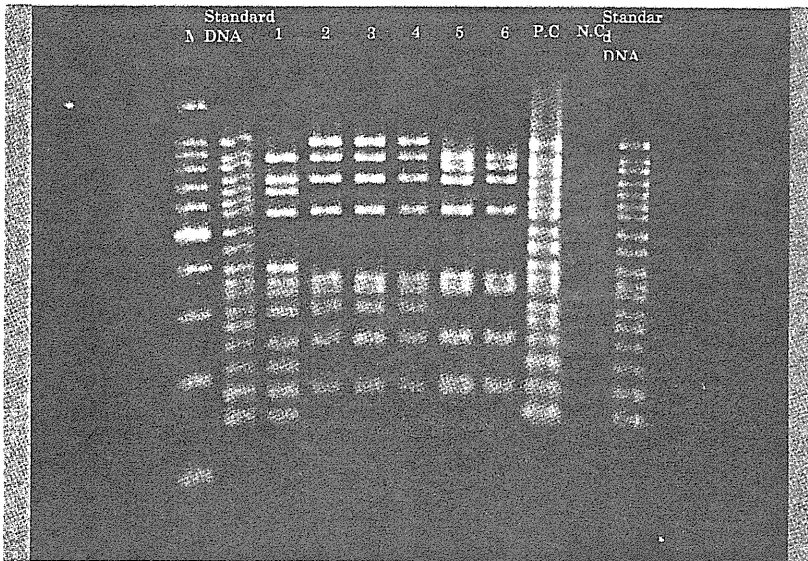
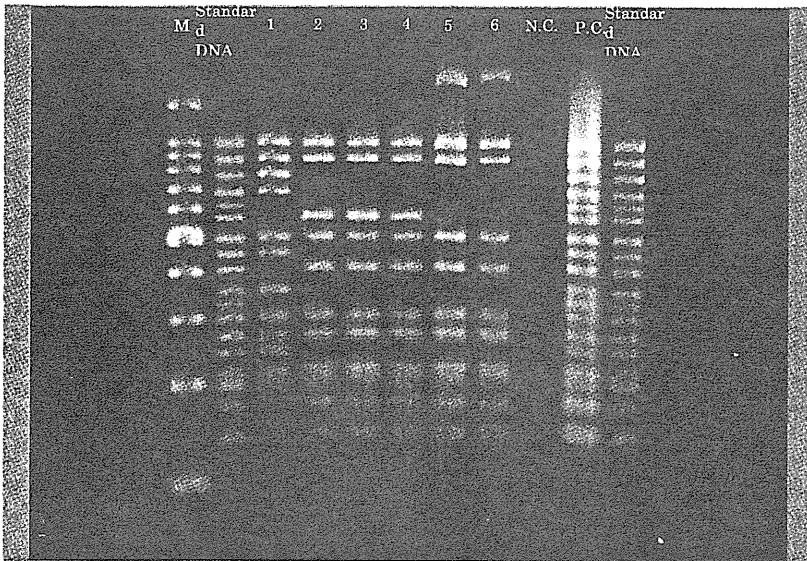
1st set

Primer No.	Size	1	2	3	4	5	6	7	8	9	10
1-01	974	1	0	0	0	0	1	0	1	1	1
1-02	839	1	0	0	0	0	0	0	1	1	1
1-03	742	0	1	1	1	1	1	1	0	0	0
1-04	645	1	1	1	1	1	1	1	1	1	1
1-05	595	0	0	0	0	0	0	0	0	0	0
1-06	561	0	0	0	0	0	0	0	0	0	0
1-07	495	1	1	1	1	1	1	1	1	1	1
1-08	442	1	0	0	0	0	1	0	1	1	1
1-09	405	1	1	1	1	1	1	1	1	1	1
1-10	353	1	0	0	0	0	1	0	1	1	1
1-11	325	0	0	0	0	0	0	0	0	0	0
1-12	300	1	1	1	1	1	1	1	1	1	1
1-13	269	1	1	1	1	1	1	1	1	1	1
1-14	241	1	0	0	0	0	0	0	1	1	1
1-15	211	1	1	1	1	1	1	1	1	1	1
eae	185	1	1	1	1	1	1	1	1	1	1
1-16	171	1	1	1	1	1	1	1	1	1	1
hlyA	137	1	1	1	1	1	1	1	1	1	1

2nd set

Primer No.	Size	1	2	3	4	5	6	7	8	9	10
2-01	987	0	1	1	1	1	0	1	0	0	0
2-02	861	1	1	1	1	1	1	1	1	1	1
2-03	801	0	0	0	0	0	1	0	0	0	0
2-04	710	1	1	1	1	1	0	1	1	1	1
2-05	642	0	0	0	0	0	0	0	0	0	0
2-06	599	0	0	0	0	0	0	0	0	0	0
2-07	555	1	1	1	1	1	1	1	1	1	1
2-08	499	0	0	0	0	0	0	0	0	0	0
2-09	449	0	0	0	0	0	0	0	0	0	0
2-10	394	1	0	0	0	0	0	0	1	1	1
2-11	358	1	1	1	1	1	0	1	1	1	1
2-12	331	1	1	1	1	1	1	1	1	1	1
2-13	301	1	1	1	1	1	1	1	1	1	1
2-14	278	0	0	0	0	0	0	0	0	0	0
2-15	240	1	1	1	1	1	1	1	1	1	1
2-16	211	0	0	0	0	0	1	0	0	0	0
stx2	181	1	1	1	1	1	1	1	1	1	1
stx1	151	1	1	1	1	1	1	1	1	1	1

施設 7



1st set

Primer No.	Size	1	2	3	4	5	6
1-01	974	1	1	1	1	1	1
1-02	839	1	1	1	1	1	1
1-03	742	1	0	0	0	0	0
1-04	645	1	0	0	0	0	0
1-05	595	0	0	0	0	0	0
1-06	561	0	1	1	1	0	0
1-07	495	1	1	1	1	1	1
1-08	442	1	0	0	0	0	0
1-09	405	0	1	1	1	1	1
1-10	353	1	0	0	0	0	0
1-11	325	0	0	0	0	0	0
1-12	300	1	1	1	1	1	1
1-13	269	1	1	1	1	1	1
1-14	241	1	0	0	0	0	0
1-15	211	1	1	1	1	1	1
eae	185	1	1	1	1	1	1
1-16	171	0	1	1	1	1	1
hlyA	137	1	1	1	1	1	1

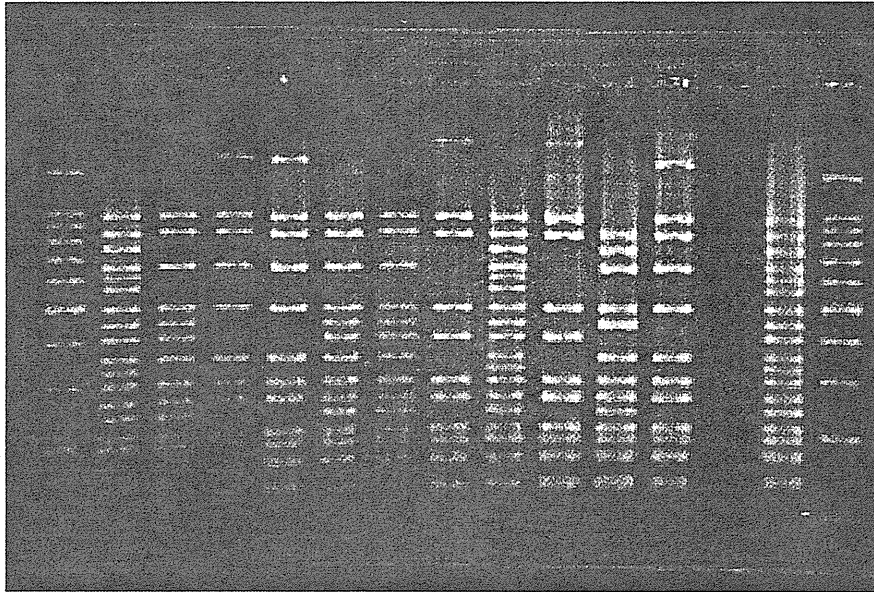
2nd set

Primer No.	Size	1	2	3	4	5	6
2-01	987	0	1	1	1	0	0
2-02	861	1	1	1	1	1	1
2-03	801	0	0	0	0	1	1
2-04	710	1	1	1	1	1	1
2-05	642	1	0	0	0	0	0
2-06	599	0	0	0	0	0	0
2-07	555	1	1	1	1	1	1
2-08	499	0	0	0	0	0	0
2-09	449	0	0	0	0	0	0
2-10	394	1	0	0	0	0	0
2-11	358	1	1	1	1	1	1
2-12	331	1	1	1	1	1	1
2-13	301	1	1	1	1	0	0
2-14	278	0	0	0	0	0	0
2-15	240	1	1	1	1	1	1
2-16	211	1	0	0	0	0	0
stx2	181	1	1	1	1	1	1
stx1	151	1	0	0	0	0	0

施設 8

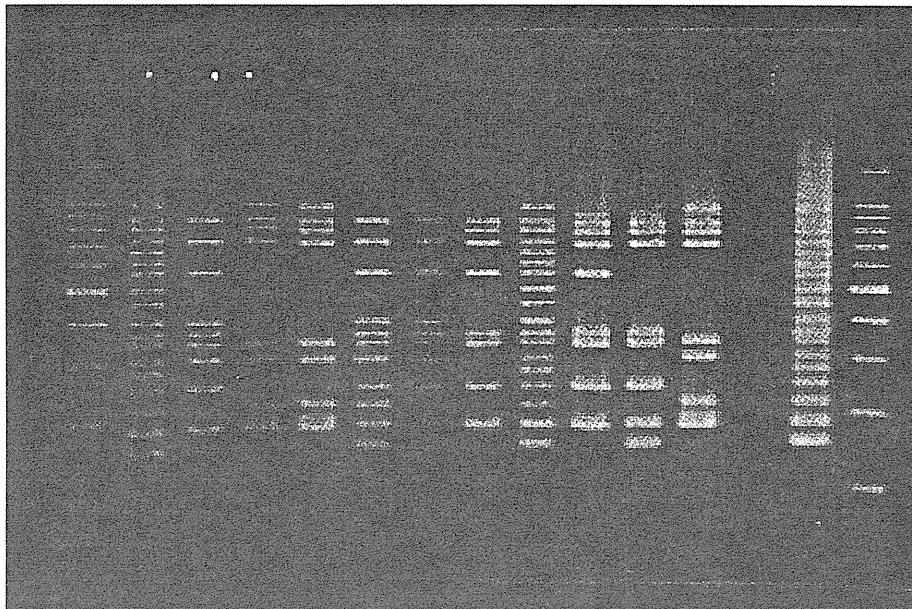
M	Standard DNA	12-142	12-143	12-144	12-158	12-159	12-169	Standard DNA	12-170	12-172	12-173	Nc	Pc	M
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1st SET



M	Standard DNA	12-142	12-143	12-144	12-158	12-159	12-169	Standard DNA	12-170	12-172	12-173	Nc	Pc	M
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2nd SET



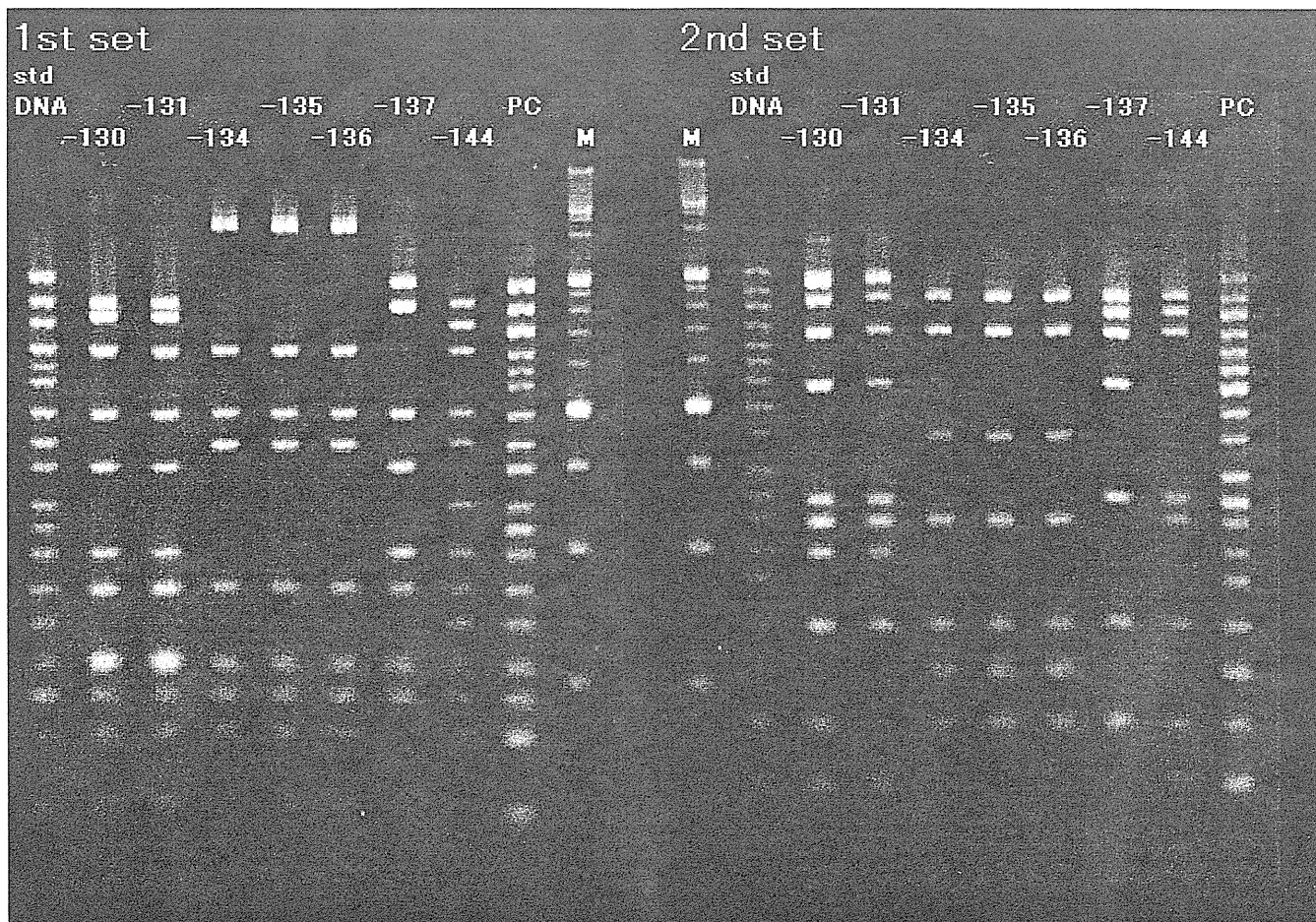
IS-printing system

1st set

Primer No.	Size	12-1	12-13	12-23	12-72	12-83	12-84	12-85	12-86	12-88	12-95	12-96	12-97	12-98	12-142	12-143	12-144	12-158	12-159	12-169	12-170	12-172	12-173	
1-01	974	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	
1-02	839	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
1-03	742	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	
1-04	645	0	0	1	1	1	1	1	1	1	1	1	0	0	1	1	1	1	1	0	0	1	1	
1-05	595	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
1-06	561	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
1-07	495	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
1-08	442	0	0	1	1	1	1	1	1	1	1	1	0	0	1	0	0	1	1	0	0	1	0	
1-09	405	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	1	1	1	1	1	0	
1-10	353	0	0	0	1	1	1	1	1	1	1	1	0	0	1	1	1	1	1	0	0	1	1	
1-11	325	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
1-12	300	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
1-13	269	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
1-14	241	0	0	1	1	1	1	1	1	1	1	1	0	0	1	0	0	1	1	0	0	1	0	
1-15	211	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
eae	185	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
1-16	171	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
hlyA	137	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	

2nd set

Primer No.	Size	12-1	12-13	12-23	12-72	12-83	12-84	12-85	12-86	12-88	12-95	12-96	12-97	12-98	12-142	12-143	12-144	12-158	12-159	12-169	12-170	12-172	12-173
2-01	987	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	1
2-02	861	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
2-03	801	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	1	1	1	1
2-04	710	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
2-05	642	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2-06	599	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2-07	555	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	1	1	1	1	1	0
2-08	499	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2-09	449	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2-10	394	0	0	1	1	1	1	1	1	1	1	1	0	0	1	0	0	1	1	0	0	0	0
2-11	358	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	1	1	1	1	1	0
2-12	331	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
2-13	301	1	1	1	1	1	1	1	1	1	1	1	0	0	1	1	1	1	1	0	0	0	1
2-14	278	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2-15	240	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	1	1	1	1	1	0
2-16	211	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	1
stx2	181	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
stx1	151	0	0	1	1	1	1	1	1	1	1	1	0	0	1	0	0	1	1	0	0	1	0



IS-printing system

1st set

Primer No.	Size	A-130	A-131	A-134	A-135	A-136	A-137	A-144
1-01	974	0	0	0	0	0	1	0
1-02	839	1	1	0	0	0	1	1
1-03	742	1	1	0	0	0	0	1
1-04	645	1	1	1	1	1	0	1
1-05	595	0	0	0	0	0	0	0
1-06	561	0	0	0	0	0	0	0
1-07	495	1	1	1	1	1	1	1
1-08	442	0	0	1	1	1	0	1
1-09	405	1	1	0	0	0	1	0
1-10	353	0	0	0	0	0	0	1
1-11	325	0	0	0	0	0	0	0
1-12	300	1	1	0	0	0	1	1
1-13	269	1	1	1	1	1	1	1
1-14	241	0	0	0	0	0	0	1
1-15	211	1	1	1	1	1	1	1
eae	185	1	1	1	1	1	1	1
1-16	171	1	1	1	1	1	0	1
hlyA	137	1	1	1	1	1	1	0

2nd set

Primer No.	Size	A-130	A-131	A-134	A-135	A-136	A-137	A-144
2-01	987	1	1	0	0	0	0	0
2-02	861	1	1	1	1	1	1	1
2-03	801	0	0	0	0	0	1	1
2-04	710	1	1	1	1	1	1	1
2-05	642	0	0	0	0	0	0	0
2-06	599	0	0	0	0	0	0	0
2-07	555	1	1	0	0	0	1	0
2-08	499	0	0	0	0	0	0	0
2-09	449	0	0	1	1	1	0	0
2-10	394	0	0	0	0	0	0	0
2-11	358	1	1	0	0	0	1	1
2-12	331	1	1	1	1	1	0	1
2-13	301	1	1	0	0	0	0	0
2-14	278	0	0	0	0	0	0	0
2-15	240	1	1	1	1	1	1	1
2-16	211	0	0	1	1	1	0	0
stx2	181	1	1	1	1	1	1	1
stx1	151	1	1	0	0	0	0	1