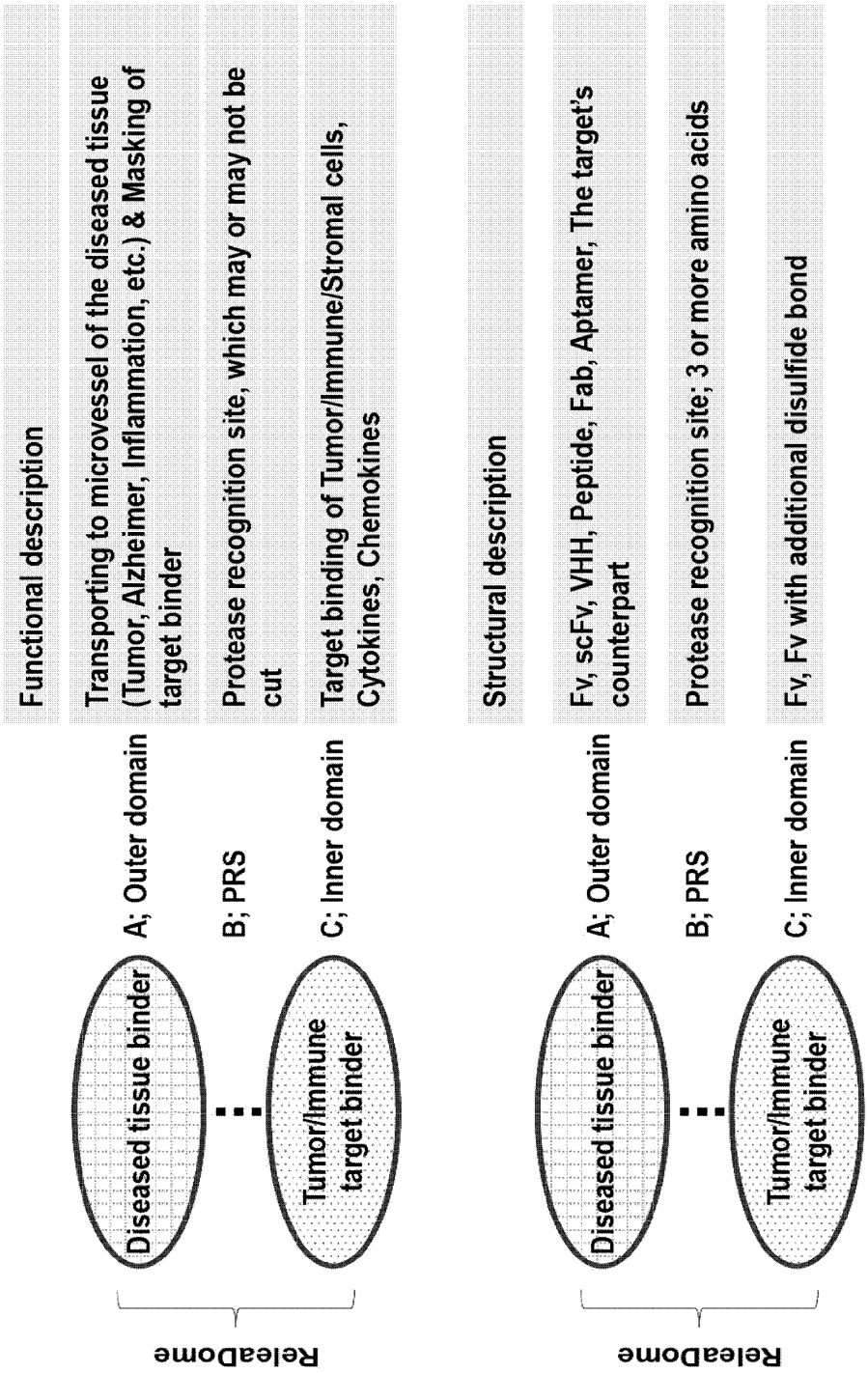
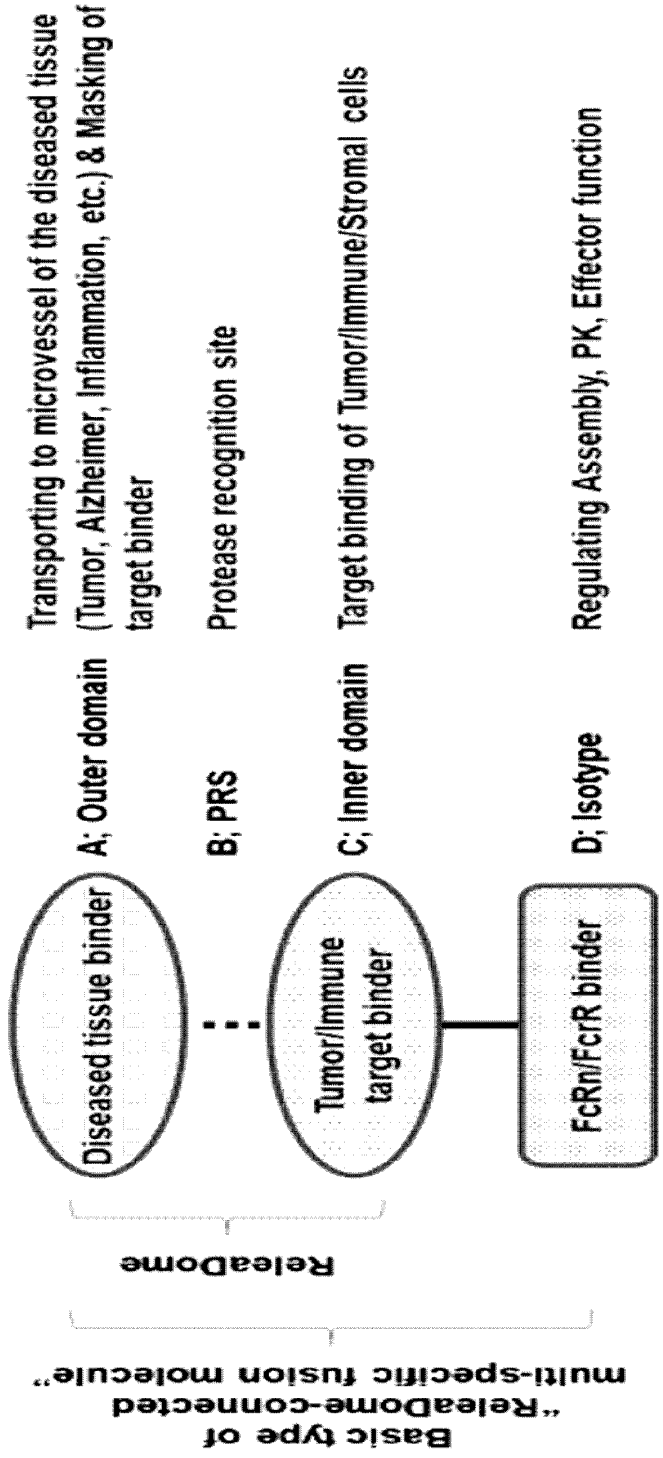
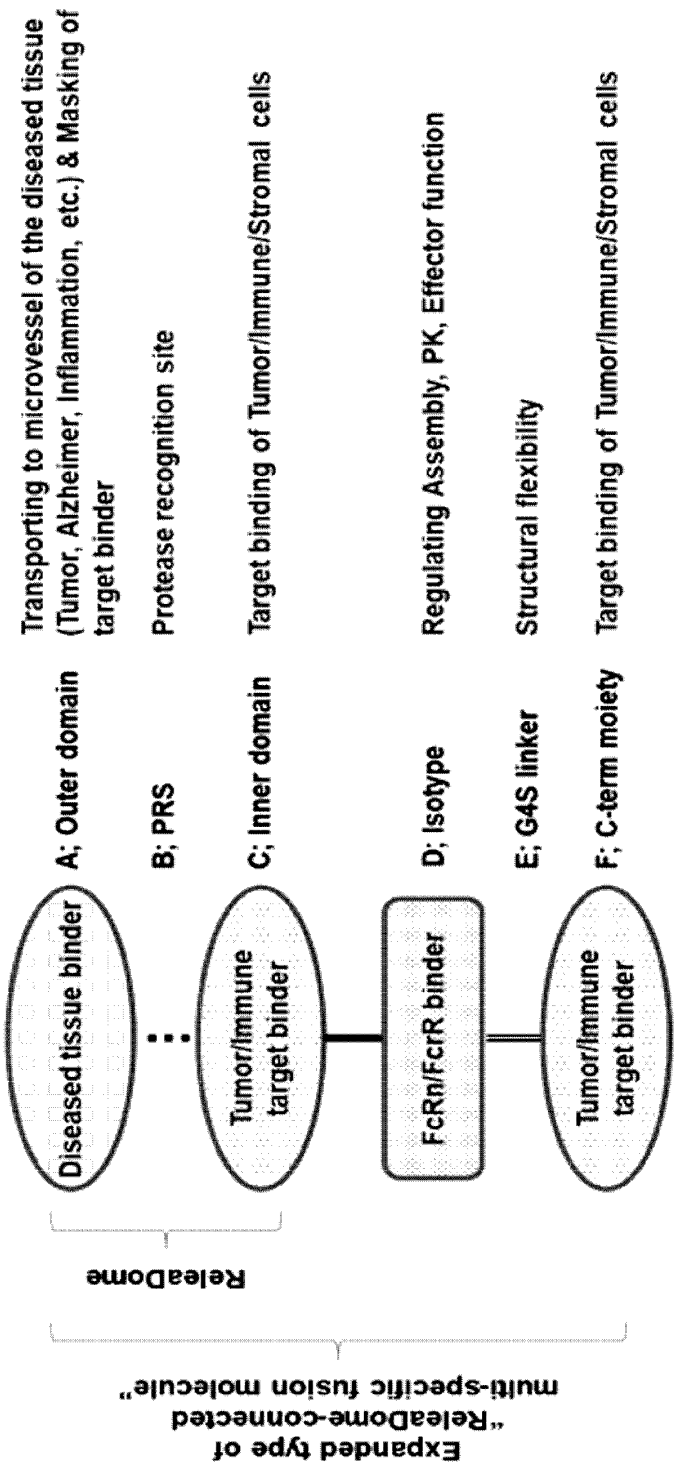
[도1]


Functional description
Transporting to microvessel of the diseased tissue (Tumor, Alzheimer, Inflammation, etc.) & Masking of target binder
Protease recognition site, which may or may not be cut
Target binding of Tumor/Immune/Stromal cells, Cytokines, Chemokines
A; Outer domain
B; PRS
C; Inner domain
Diseased tissue binder
Tumor/Immune target binder
ReleaDome
Structural description
Fv, scFv, VHH, Peptide, Fab, Aptamer, The target's counterpart
Protease recognition site; 3 or more amino acids
Fv, Fv with additional disulfide bond
A; Outer domain
B; PRS
C; Inner domain
Diseased tissue binder
Tumor/Immune target binder
ReleaDome

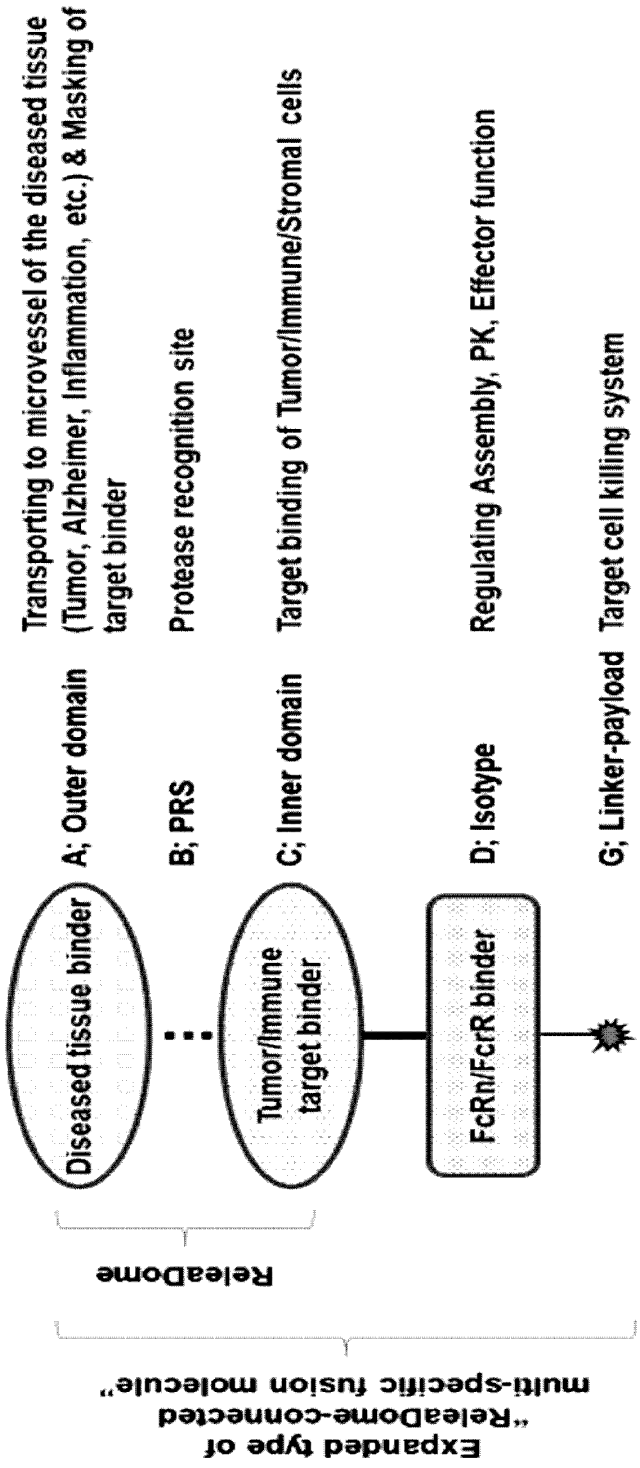
[도2a]


Transporting to microvessel of the diseased tissue (Tumor, Alzheimer, Inflammation, etc.) & Masking of target binder
A; Outer domain
Diseased tissue binder
Protease recognition site
B; PRS
Target binding of Tumor/Immune/Stromal cells
C; Inner domain
Tumor/Immune target binder
Regulating Assembly, PK, Effector function
D; Isotype
FcRn/FcrR binder
ReleaDome
Basic type of "ReleaDome-connected multi-specific fusion molecule"

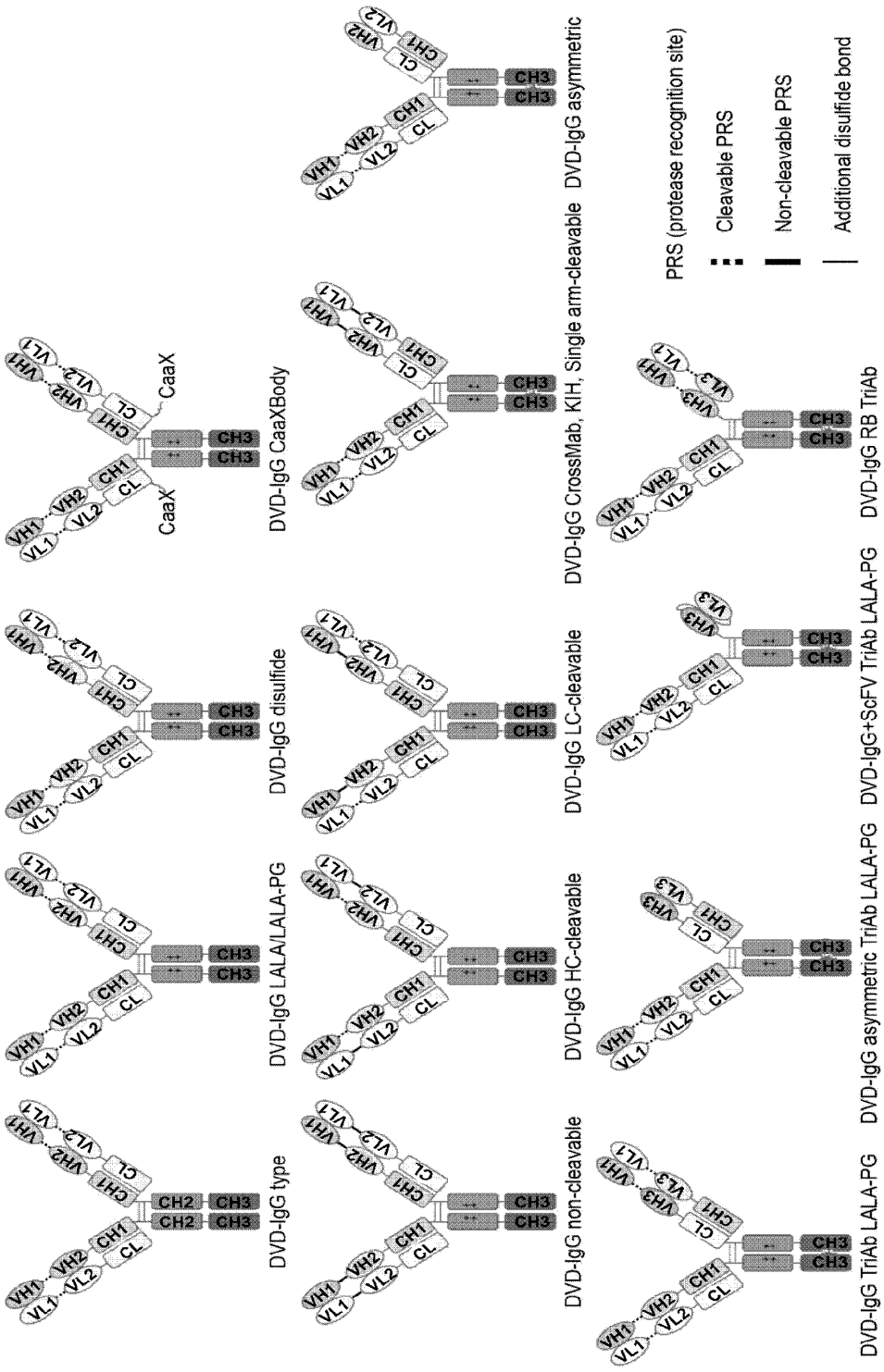
[도2b]


Transporting to microvessel of the diseased tissue (Tumor, Alzheimer, Inflammation, etc.) & Masking of target binder
Protease recognition site
Target binding of Tumor/Immune/Stromal cells
Regulating Assembly, PK, Effector function
Structural flexibility
Target binding of Tumor/Immune/Stromal cells
A; Outer domain
B; PRS
C; Inner domain
D; Isotype
E; G4S linker
F; C-term moiety
Diseased tissue binder
Tumor/Immune target binder
FcRn/FcrR binder
Tumor/Immune target binder
ReleaDome
Expanded type of "ReleaDome-connected multi-specific fusion molecule"

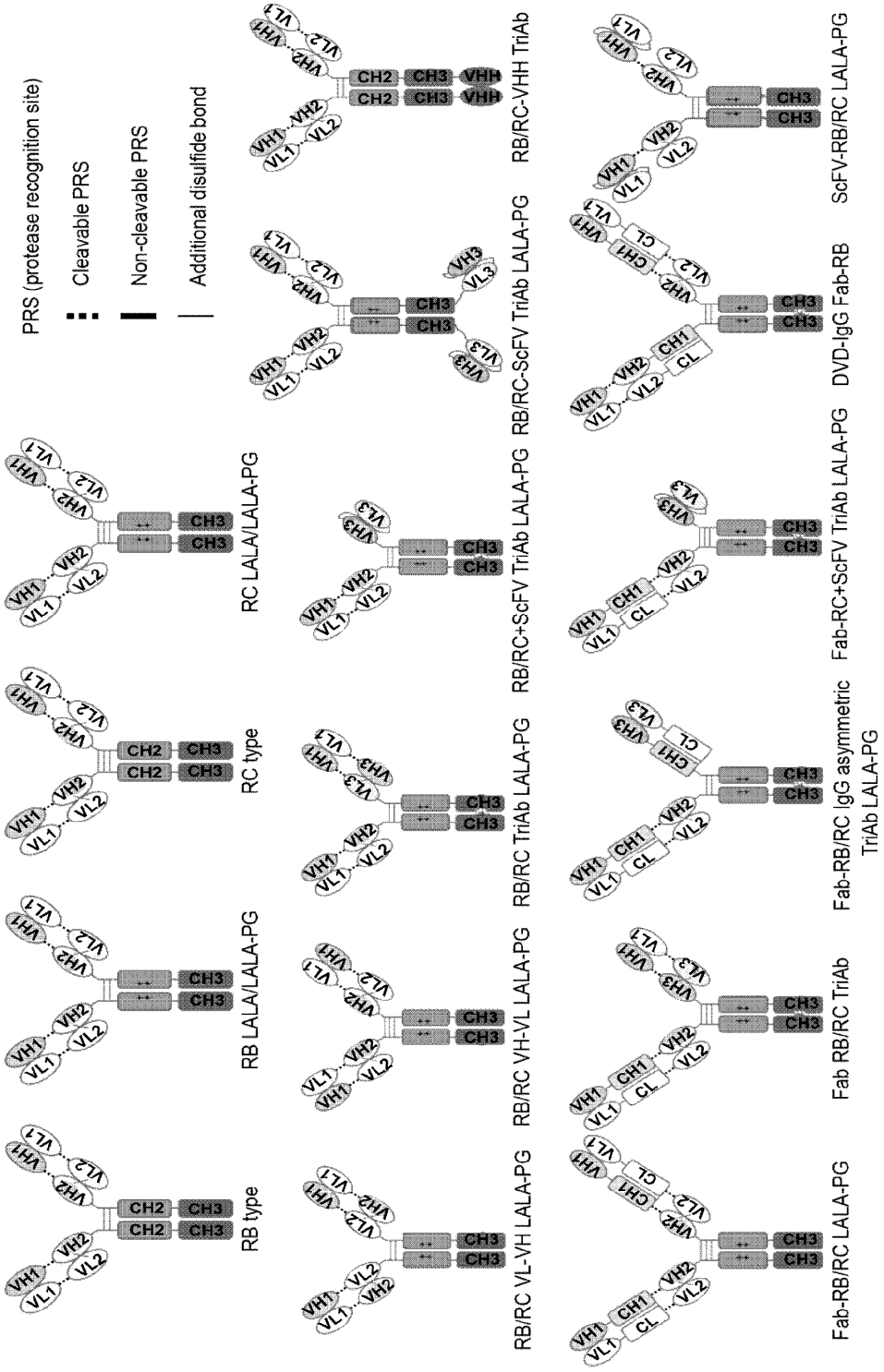
[도2c]


Transporting to microvessel of the diseased tissue (Tumor, Alzheimer, Inflammation, etc.) & Masking of target binder
Protease recognition site
Target binding of Tumor/Immune/Stromal cells
Regulating Assembly, PK, Effector function
Target cell killing system
A; Outer domain
B; PRS
C; Inner domain
D; Isotype
G; Linker-payload
Diseased tissue binder
Tumor/Immune target binder
FcRn/FcrR binder
ReleaDome
Expanded type of "ReleaDome-connected multi-specific fusion molecule"

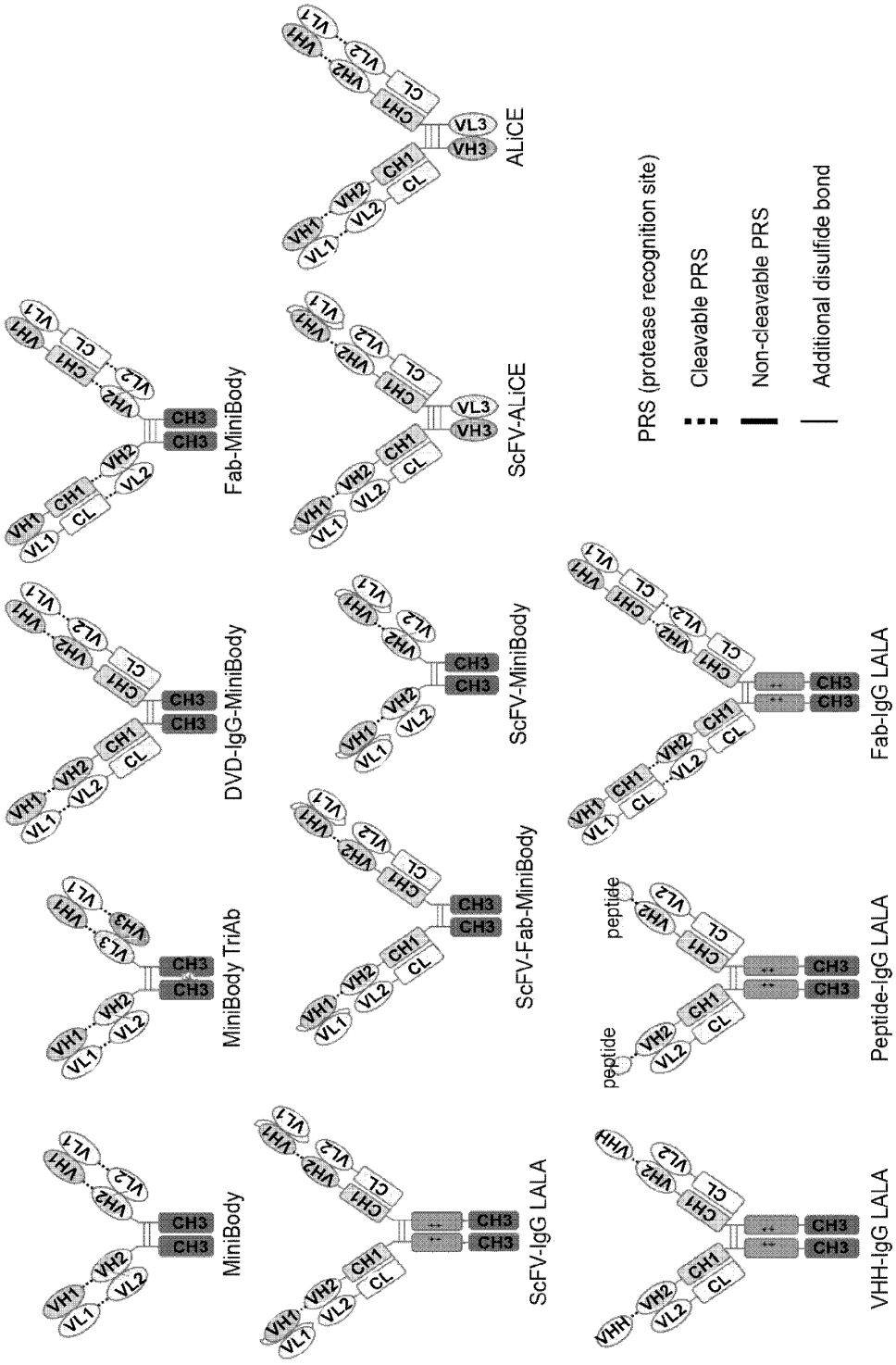
[도3a]


DVD-IgG type
DVD-IgG LALA/LALA-PG
DVD-IgG disulfide
DVD-IgG CaaXBody
DVD-IgG non-cleavable
DVD-IgG HC-cleavable
DVD-IgG LC-cleavable
DVD-IgG CrossMab, KIH, Single arm-cleavable
DVD-IgG asymmetric
DVD-IgG TriAb LALA-PG
DVD-IgG asymmetric TriAb LALA-PG
DVD-IgG+ScFV TriAb LALA-PG
DVD-IgG RB TriAb
PRS (protease recognition site)
Cleavable PRS
Non-cleavable PRS
Additional disulfide bond
CaaX
CaaX

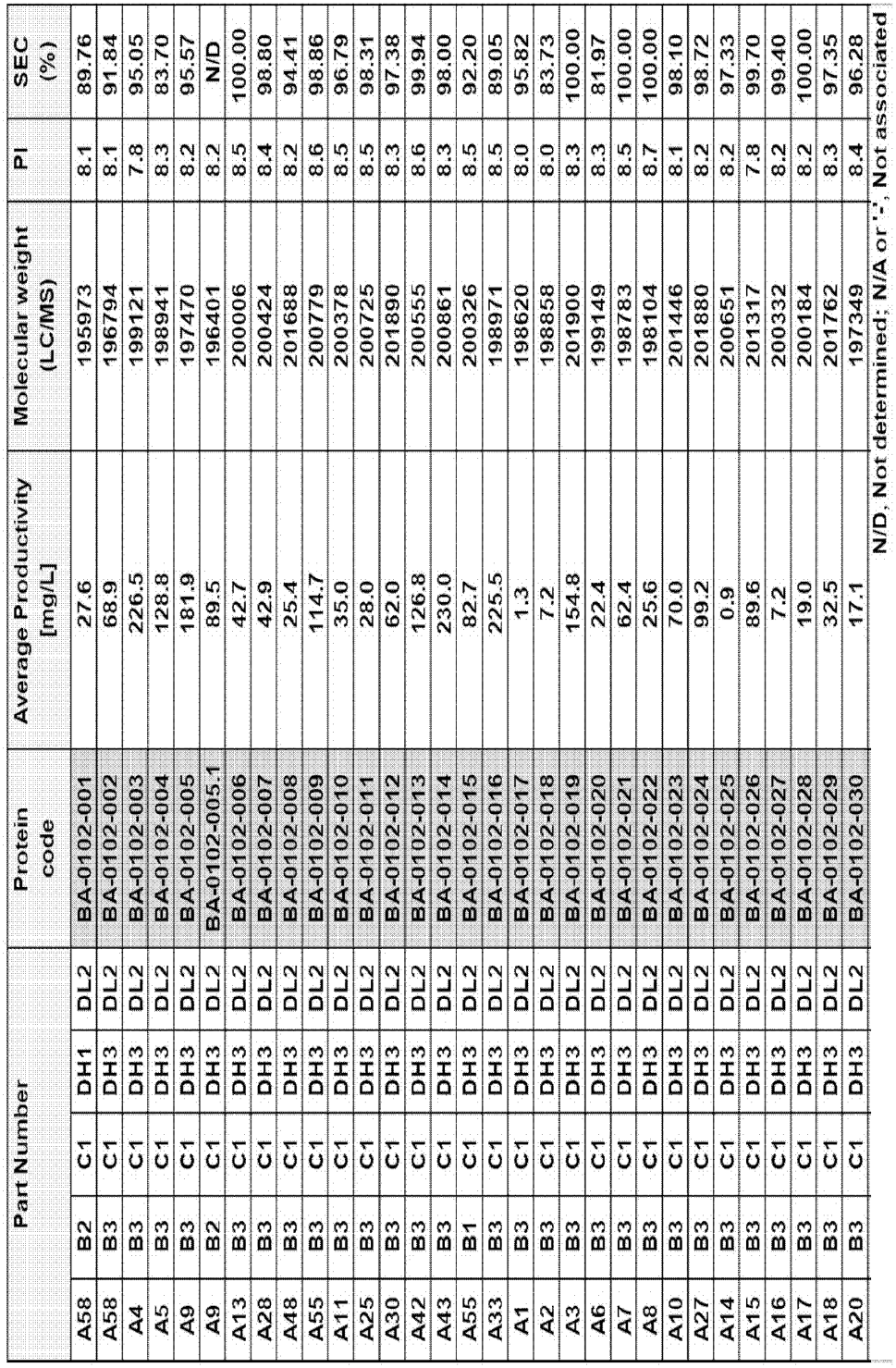
[도3b]


PRS (protease recognition site)
Cleavable PRS
Non-cleavable PRS
Additional disulfide bond
RB type
RB LALA/LALA-PG
RC type
RC LALA/LALA-PG
RB/RC VL-VH LALA-PG
RB/RC VH-VL LALA-PG
RB/RC TriAb LALA-PG
RB/RC+ScFV TriAb LALA-PG
RB/RC-ScFV TriAb LALA-PG
RB/RC-VHH TriAb
Fab-RB/RC LALA-PG
Fab RB/RC TriAb
Fab-RB/RC IgG asymmetric TriAb LALA-PG
Fab-RC+ScFV TriAb LALA-PG
DVD-IgG Fab-RB
ScFV-RB/RC LALA-PG

[도3c]


PRS (protease recognition site)
Cleavable PRS
Non-cleavable PRS
Additional disulfide bond
Fab-MiniBody
ALiCE
DVD-IgG-MiniBody
ScFV-ALiCE
MiniBody TriAb
ScFV-MiniBody
MiniBody
ScFV-Fab-MiniBody
ScFV-IgG LALA
Fab-IgG LALA
Peptide-IgG LALA
VHH-IgG LALA
peptide
CH3
CH1
CL
VH1
VH2
VH3
VL1
VL2
VL3
VHH

[도4a]



Part Number					Protein code	Average Productivity [mg/L]	Molecular weight (LC/MS)	PI	SEC (%)
A58	B2	C1	DH1	DL2	BA-0102-001	27.6	195973	8.1	89.76
A58	B3	C1	DH3	DL2	BA-0102-002	68.9	196794	8.1	91.84
A4	B3	C1	DH3	DL2	BA-0102-003	226.5	199121	7.8	95.05
A5	B3	C1	DH3	DL2	BA-0102-004	128.8	198941	8.3	83.70
A9	B3	C1	DH3	DL2	BA-0102-005	181.9	197470	8.2	95.57
A9	B2	C1	DH3	DL2	BA-0102-005.1	89.5	196401	8.2	N/D
A13	B3	C1	DH3	DL2	BA-0102-006	42.7	200006	8.5	100.00
A28	B3	C1	DH3	DL2	BA-0102-007	42.9	200424	8.4	98.80
A48	B3	C1	DH3	DL2	BA-0102-008	25.4	201688	8.2	94.41
A55	B3	C1	DH3	DL2	BA-0102-009	114.7	200779	8.6	98.86
A11	B3	C1	DH3	DL2	BA-0102-010	35.0	200378	8.5	96.79
A25	B3	C1	DH3	DL2	BA-0102-011	28.0	200725	8.5	98.31
A30	B3	C1	DH3	DL2	BA-0102-012	62.0	201890	8.3	97.38
A42	B3	C1	DH3	DL2	BA-0102-013	126.8	200555	8.6	99.94
A43	B3	C1	DH3	DL2	BA-0102-014	230.0	200861	8.3	98.00
A55	B1	C1	DH3	DL2	BA-0102-015	82.7	200326	8.5	92.20
A33	B3	C1	DH3	DL2	BA-0102-016	225.5	198971	8.5	89.05
A1	B3	C1	DH3	DL2	BA-0102-017	1.3	198620	8.0	95.82
A2	B3	C1	DH3	DL2	BA-0102-018	7.2	198858	8.0	83.73
A3	B3	C1	DH3	DL2	BA-0102-019	154.8	201900	8.3	100.00
A6	B3	C1	DH3	DL2	BA-0102-020	22.4	199149	8.3	81.97
A7	B3	C1	DH3	DL2	BA-0102-021	62.4	198783	8.5	100.00
A8	B3	C1	DH3	DL2	BA-0102-022	25.6	198104	8.7	100.00
A10	B3	C1	DH3	DL2	BA-0102-023	70.0	201446	8.1	98.10
A27	B3	C1	DH3	DL2	BA-0102-024	99.2	201880	8.2	98.72
A14	B3	C1	DH3	DL2	BA-0102-025	0.9	200651	8.2	97.33
A15	B3	C1	DH3	DL2	BA-0102-026	89.6	201317	7.8	99.70
A16	B3	C1	DH3	DL2	BA-0102-027	7.2	200332	8.2	99.40
A17	B3	C1	DH3	DL2	BA-0102-028	19.0	200184	8.2	100.00
A18	B3	C1	DH3	DL2	BA-0102-029	32.5	201762	8.3	97.35
A20	B3	C1	DH3	DL2	BA-0102-030	17.1	197349	8.4	96.28

N/D, Not determined; N/A or '-', Not associated

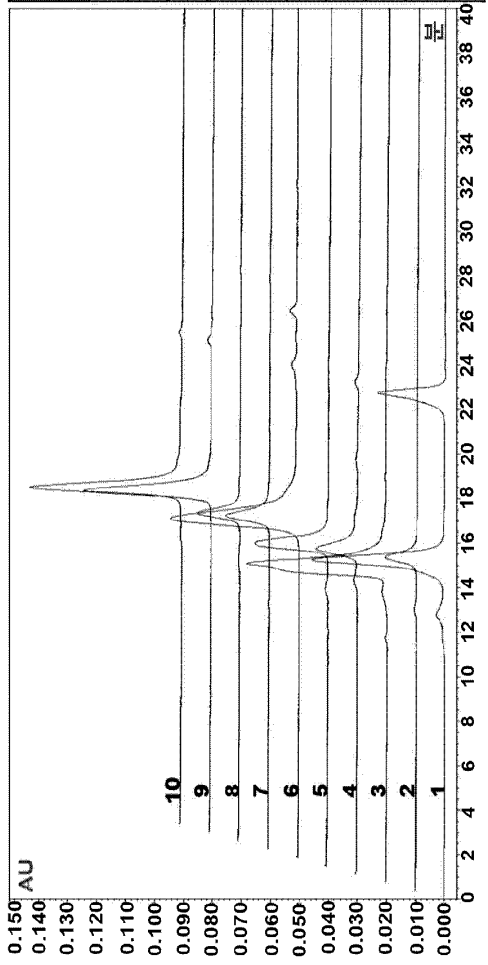
[도4b]

Part Number					Protein code	Average Productivity [mg/L]	Molecular weight (LC/MS)	PI	SEC (%)
	B3	C1	DH3	DL2					
A21	B3	C1	DH3	DL2	BA-0102-031	24.9	201692	8.3	100.00
A22	B3	C1	DH3	DL2	BA-0102-032	14.1	200759	8.5	99.38
A23	B3	C1	DH3	DL2	BA-0102-033	158.4	201930	8.4	99.45
A24	B3	C1	DH3	DL2	BA-0102-034	17.8	200156	8.1	97.35
A26	B3	C1	DH3	DL2	BA-0102-035	82.2	201938	8.2	99.04
A29	B3	C1	DH3	DL2	BA-0102-036	46.0	200576	8.5	98.44
A31	B3	C1	DH3	DL2	BA-0102-037	20.0	200484	8.3	99.81
A32	B3	C1	DH3	DL2	BA-0102-038	34.8	197075	8.4	98.39
A34	B3	C1	DH3	DL2	BA-0102-039	10.4	198750	8.5	84.93
A35	B3	C1	DH3	DL2	BA-0102-040	42.8	200737	8.5	100.00
A36	B3	C1	DH3	DL2	BA-0102-041	20.4	197092	8.0	94.92
A37	B3	C1	DH3	DL2	BA-0102-042	50.4	200378	8.5	98.91
A38	B3	C1	DH3	DL2	BA-0102-043	36.8	200963	8.5	95.87
A39	B3	C1	DH3	DL2	BA-0102-044	29.2	201836	8.0	98.03
A40	B3	C1	DH3	DL2	BA-0102-045	40.0	200581	8.3	98.58
A41	B3	C1	DH3	DL2	BA-0102-046	26.0	200789	8.5	99.36
A44	B3	C1	DH3	DL2	BA-0102-047	37.2	201954	8.2	99.54
A45	B3	C1	DH3	DL2	BA-0102-048	50.4	200829	8.5	99.52
A46	B3	C1	DH3	DL2	BA-0102-049	84.4	200905	7.6	98.87
A47	B3	C1	DH3	DL2	BA-0102-050	11.0	197737	8.0	93.30
A49	B3	C1	DH3	DL2	BA-0102-051	47.7	201548	8.2	97.68
A50	B3	C1	DH3	DL2	BA-0102-052	53.6	201337	8.2	99.39
A51	B3	C1	DH3	DL2	BA-0102-053	29.3	201630	7.0	97.55
A52	B3	C1	DH3	DL2	BA-0102-054	118.1	200556	8.1	97.62
A53	B3	C1	DH3	DL2	BA-0102-055	72.8	202018	8.5	97.13
A54	B3	C1	DH3	DL2	BA-0102-056	121.8	200561	8.5	93.73
A56	B3	C1	DH3	DL2	BA-0102-057	160.6	200797	8.5	93.44
A57	B3	C1	DH3	DL2	BA-0102-058	99.7	201858	8.1	95.58

N/D, Not determined; N/A or '-', Not associated

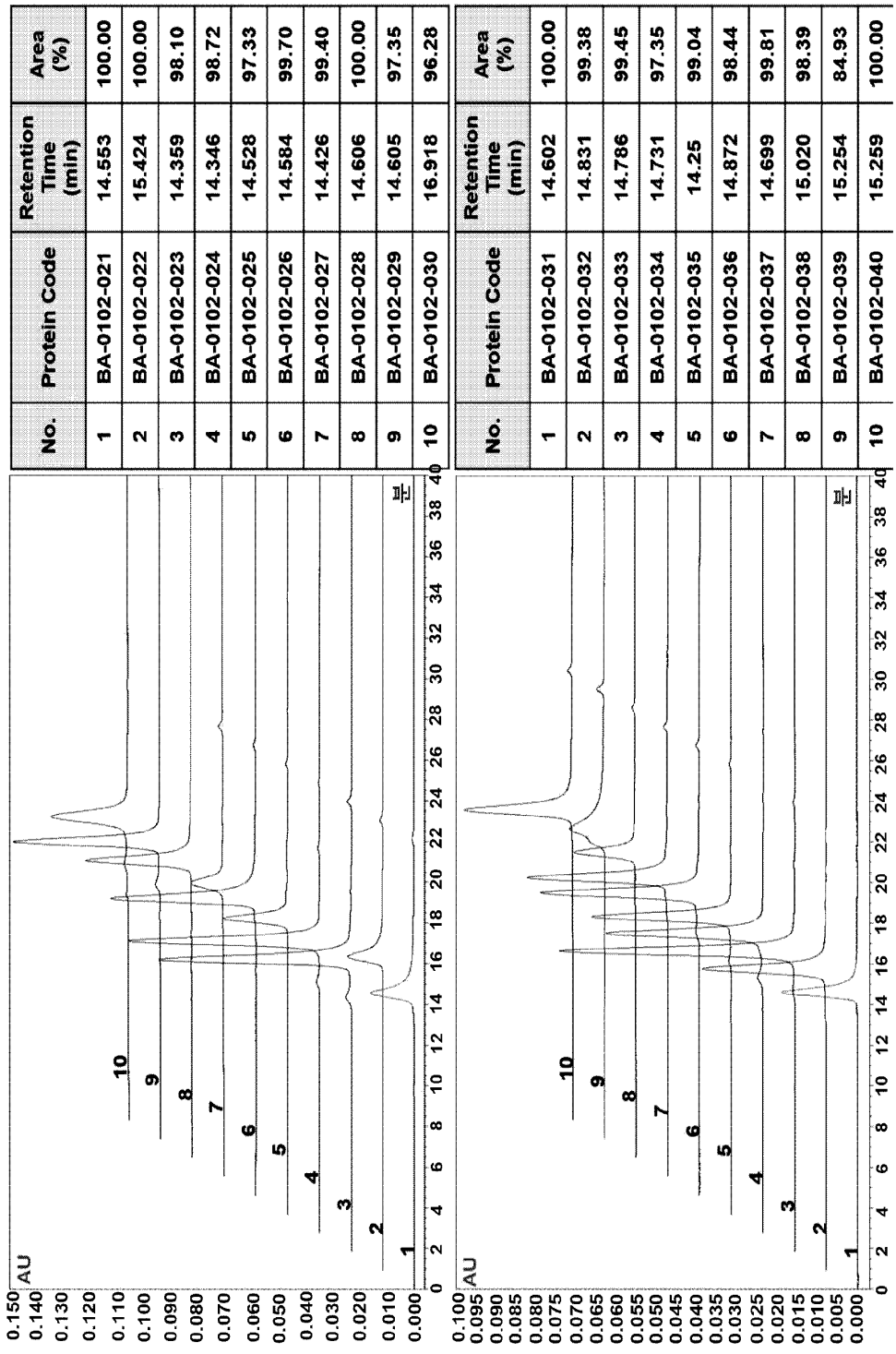
[도4c]

No.	Protein Code	Retention Time (min)	Area (%)
1	BA-0102-001	15.255	89.76
2	BA-0102-002	14.992	91.84
3	BA-0102-003	14.339	95.05
4	BA-0102-004	14.662	83.70
5	BA-0102-005	14.490	95.57
6	BA-0102-006	15.248	100.00
7	BA-0102-007	14.989	98.80
8	BA-0102-008	14.723	94.41
9	BA-0102-009	15.378	98.86
10	BA-0102-010	15.138	96.79



No.	Protein Code	Retention Time (min)	Area (%)
1	BA-0102-011	15.010	98.31
2	BA-0102-012	14.748	97.38
3	BA-0102-013	16.205	99.94
4	BA-0102-014	15.032	98.00
5	BA-0102-015	15.131	92.20
6	BA-0102-016	14.977	89.05
7	BA-0102-017	14.201	95.82
8	BA-0102-018	14.547	83.73
9	BA-0102-019	14.784	100.00
10	BA-0102-020	15.345	81.97

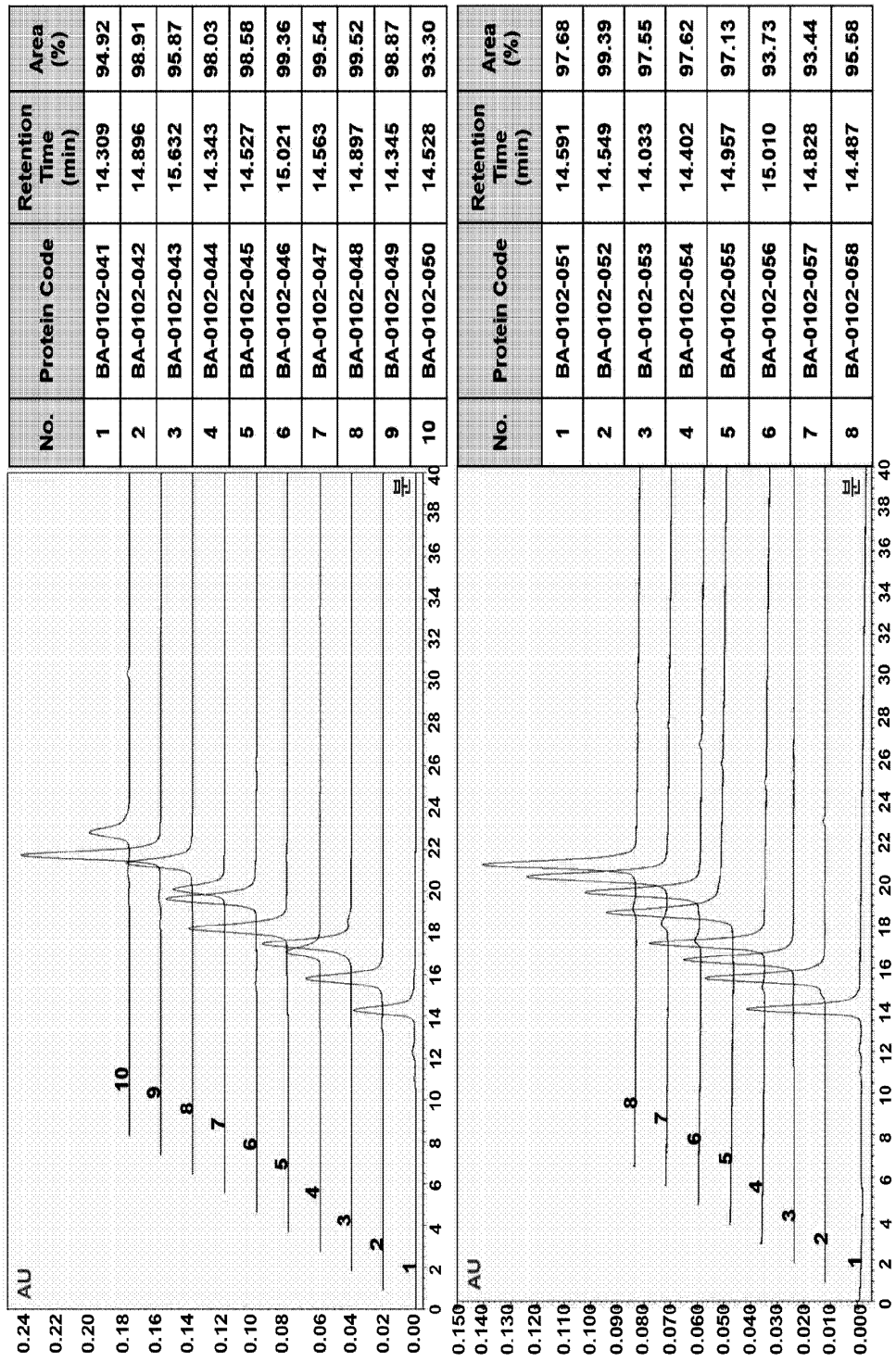
[도4d]



No.	Protein Code	Retention Time (min)	Area (%)
1	BA-0102-021	14.553	100.00
2	BA-0102-022	15.424	100.00
3	BA-0102-023	14.359	98.10
4	BA-0102-024	14.346	98.72
5	BA-0102-025	14.528	97.33
6	BA-0102-026	14.584	99.70
7	BA-0102-027	14.426	99.40
8	BA-0102-028	14.606	100.00
9	BA-0102-029	14.605	97.35
10	BA-0102-030	16.918	96.28

No.	Protein Code	Retention Time (min)	Area (%)
1	BA-0102-031	14.602	100.00
2	BA-0102-032	14.831	99.38
3	BA-0102-033	14.786	99.45
4	BA-0102-034	14.731	97.35
5	BA-0102-035	14.25	99.04
6	BA-0102-036	14.872	98.44
7	BA-0102-037	14.699	99.81
8	BA-0102-038	15.020	98.39
9	BA-0102-039	15.254	84.93
10	BA-0102-040	15.259	100.00

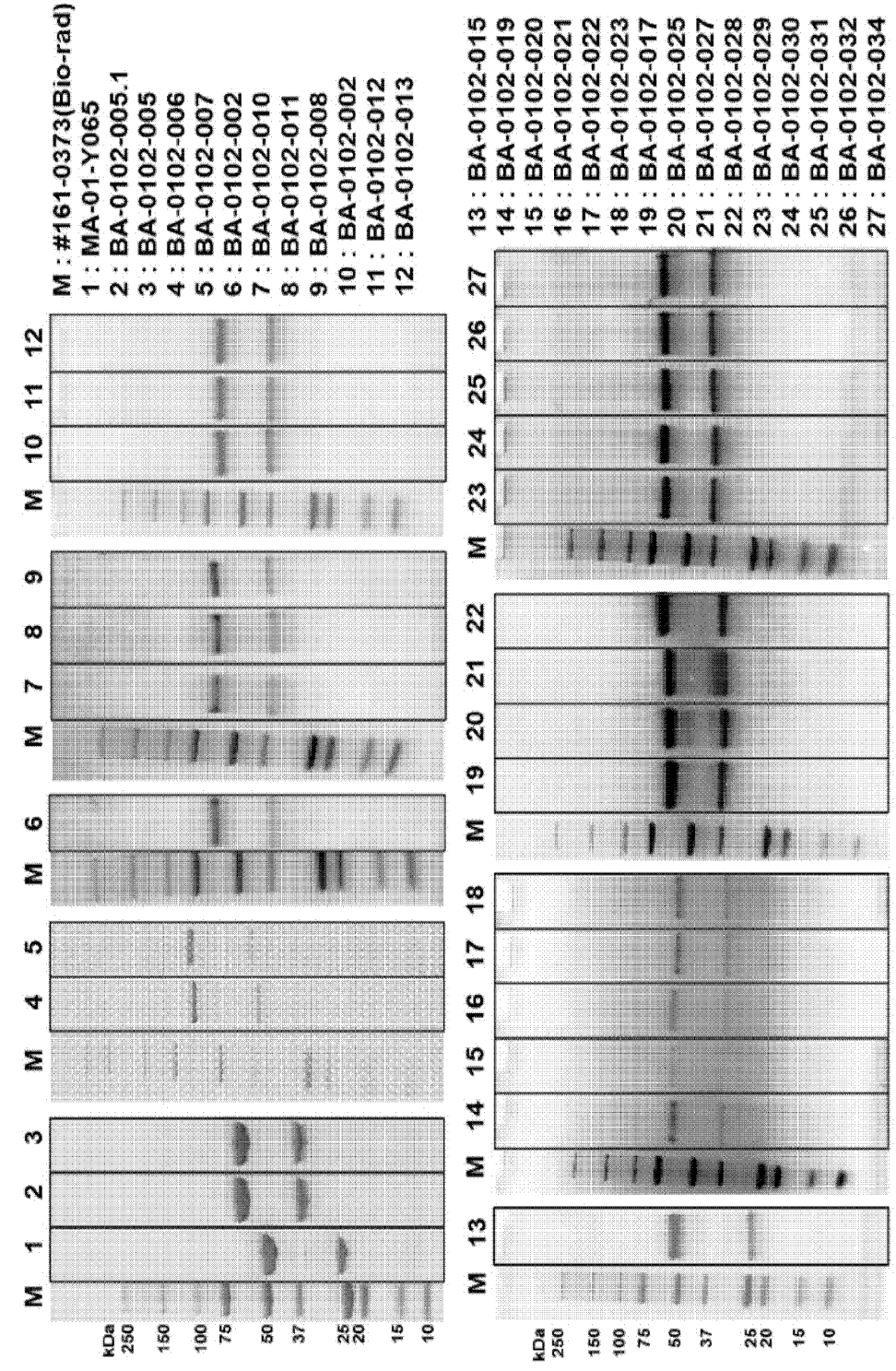
[도4e]



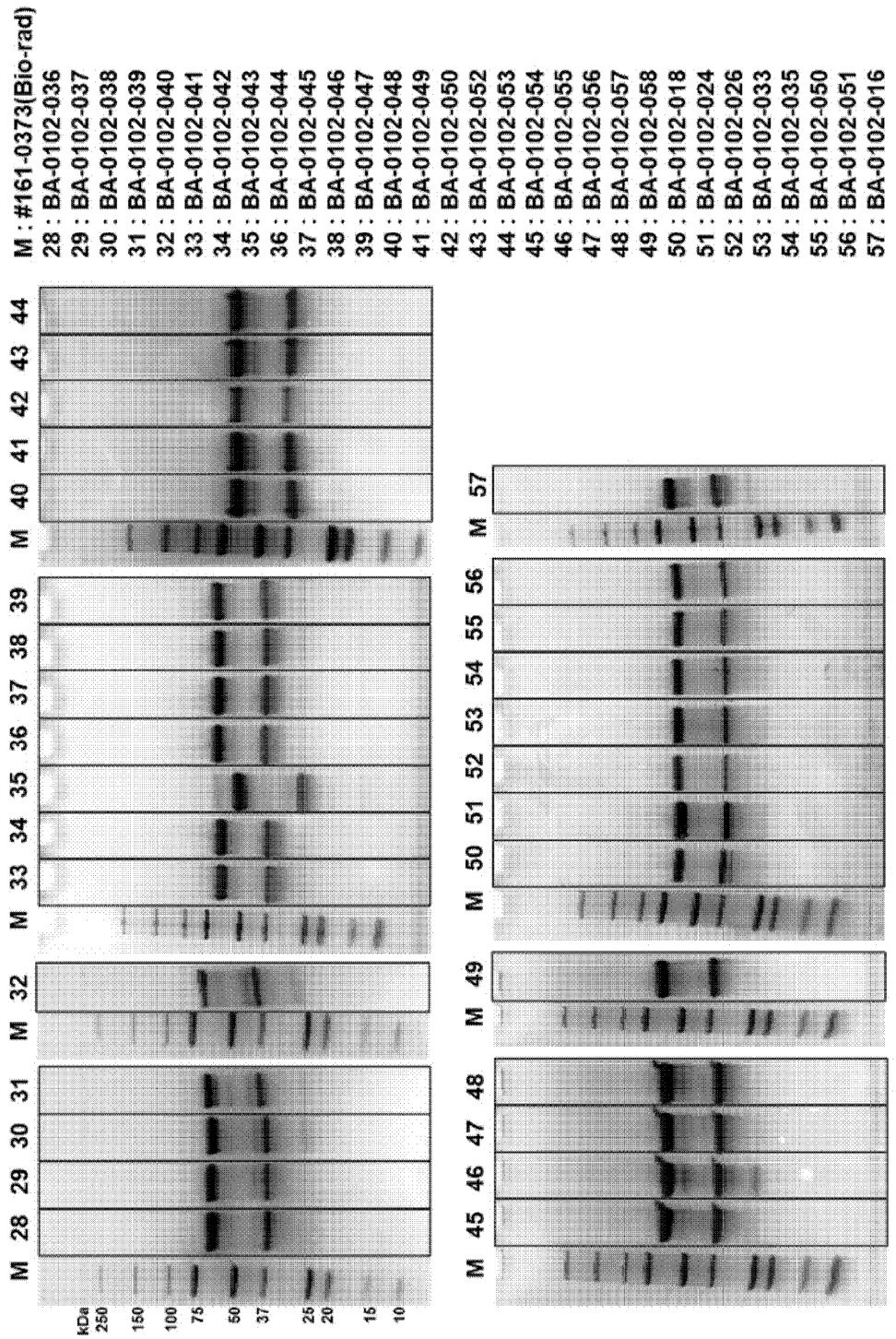
No.	Protein Code	Retention Time (min)	Area (%)
1	BA-0102-041	14.309	94.92
2	BA-0102-042	14.896	98.91
3	BA-0102-043	15.632	95.87
4	BA-0102-044	14.343	98.03
5	BA-0102-045	14.527	98.58
6	BA-0102-046	15.021	99.36
7	BA-0102-047	14.563	99.54
8	BA-0102-048	14.897	99.52
9	BA-0102-049	14.345	98.87
10	BA-0102-050	14.528	93.30

No.	Protein Code	Retention Time (min)	Area (%)
1	BA-0102-051	14.591	97.68
2	BA-0102-052	14.549	99.39
3	BA-0102-053	14.033	97.55
4	BA-0102-054	14.402	97.62
5	BA-0102-055	14.957	97.13
6	BA-0102-056	15.010	93.73
7	BA-0102-057	14.828	93.44
8	BA-0102-058	14.487	95.58

[도4f]


M : #161-0373(Bio-rad)
1 : MA-01-Y065
2 : BA-0102-005.1
3 : BA-0102-005
4 : BA-0102-006
5 : BA-0102-007
6 : BA-0102-002
7 : BA-0102-010
8 : BA-0102-011
9 : BA-0102-008
10 : BA-0102-002
11 : BA-0102-012
12 : BA-0102-013
13 : BA-0102-015
14 : BA-0102-019
15 : BA-0102-020
16 : BA-0102-021
17 : BA-0102-022
18 : BA-0102-023
19 : BA-0102-017
20 : BA-0102-025
21 : BA-0102-027
22 : BA-0102-028
23 : BA-0102-029
24 : BA-0102-030
25 : BA-0102-031
26 : BA-0102-032
27 : BA-0102-034
kDa
250
150
100
75
50
37
25
20
15
10

[도4g]


M : #161-0373(Bio-rad)
28 : BA-0102-036
29 : BA-0102-037
30 : BA-0102-038
31 : BA-0102-039
32 : BA-0102-040
33 : BA-0102-041
34 : BA-0102-042
35 : BA-0102-043
36 : BA-0102-044
37 : BA-0102-045
38 : BA-0102-046
39 : BA-0102-047
40 : BA-0102-048
41 : BA-0102-049
42 : BA-0102-050
43 : BA-0102-052
44 : BA-0102-053
45 : BA-0102-054
46 : BA-0102-055
47 : BA-0102-056
48 : BA-0102-057
49 : BA-0102-058
50 : BA-0102-018
51 : BA-0102-024
52 : BA-0102-026
53 : BA-0102-033
54 : BA-0102-035
55 : BA-0102-050
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37
25
20
15
10

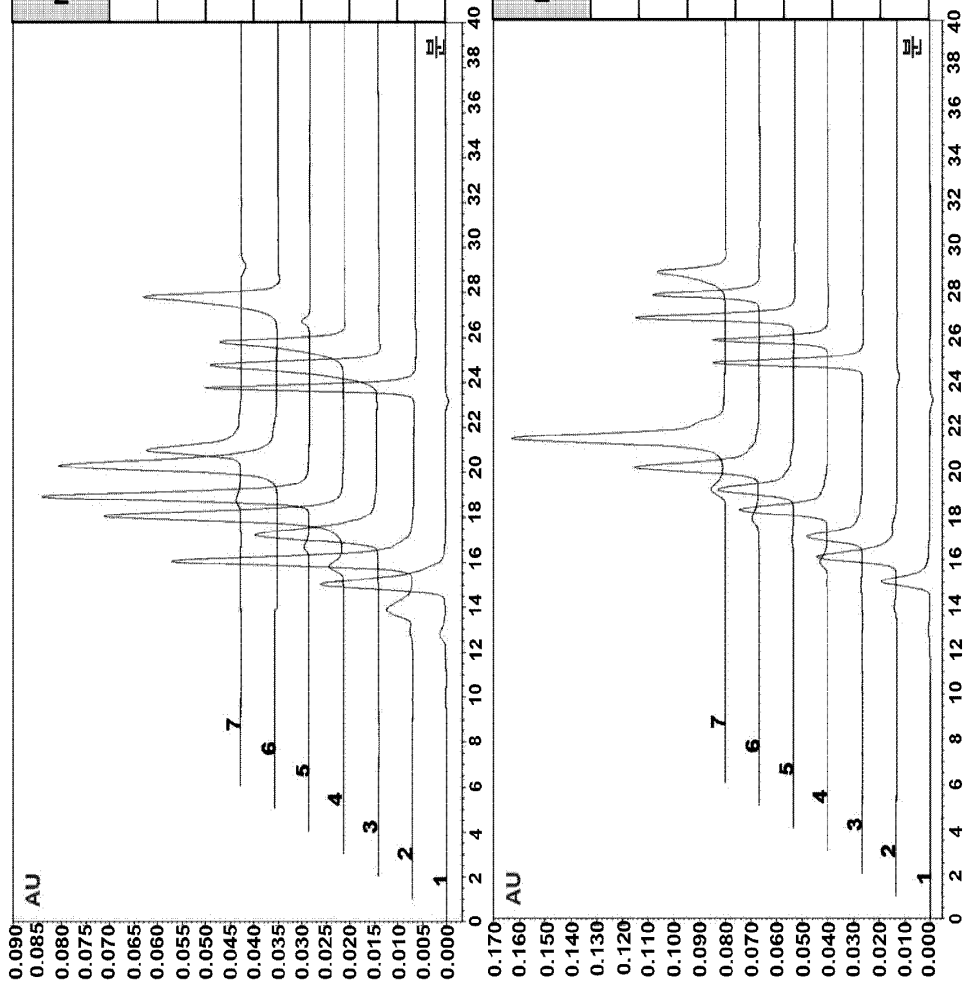
[도5a]

Part Number					Protein code	Ave Productivity [mg/L]	Molecular weight (LC/MS)	PI	SEC (%)
A55	B3	C3	DH1	DL1	BA-0107-001	96.9	201392	8.8	92.71
A55	B3	C5	DH1	DL1	BA-0107-002	30.6	201770	8.7	84.99
A55	B3	C7	DH1	DL1	BA-0107-003	6.0	202221	8.5	99.85
A55	B1	C3	DH1	DL1	BA-0107-004	121.0	200940	8.7	93.64
A55	B2	C3	DH1	DL1	BA-0107-005	55.8	200323	8.8	97.91
A55	B4	C3	DH1	DL1	BA-0107-006	20.1	201552	8.9	98.02
A55	B1	C5	DH1	DL1	BA-0107-007	4.4	201318	8.5	91.60
A55	B2	C5	DH1	DL1	BA-0107-008	3.3	200701	8.7	90.48
A55	B4	C5	DH1	DL1	BA-0107-009	8.4	201931	8.7	89.73
A55	B5	C5	DH1	DL1	BA-0107-010	25.2	201089	8.7	93.98
A55	B6	C5	DH1	DL1	BA-0107-011	52.0	199356	8.7	87.49
A55	B7	C5	DH1	DL1	BA-0107-012	8.6	199480	8.7	93.73
A55	B8	C5	DH1	DL1	BA-0107-013	61.9	199824	8.7	90.18
A55	B6	C3	DH1	DL1	BA-0107-014	90.0	198978	8.8	92.74

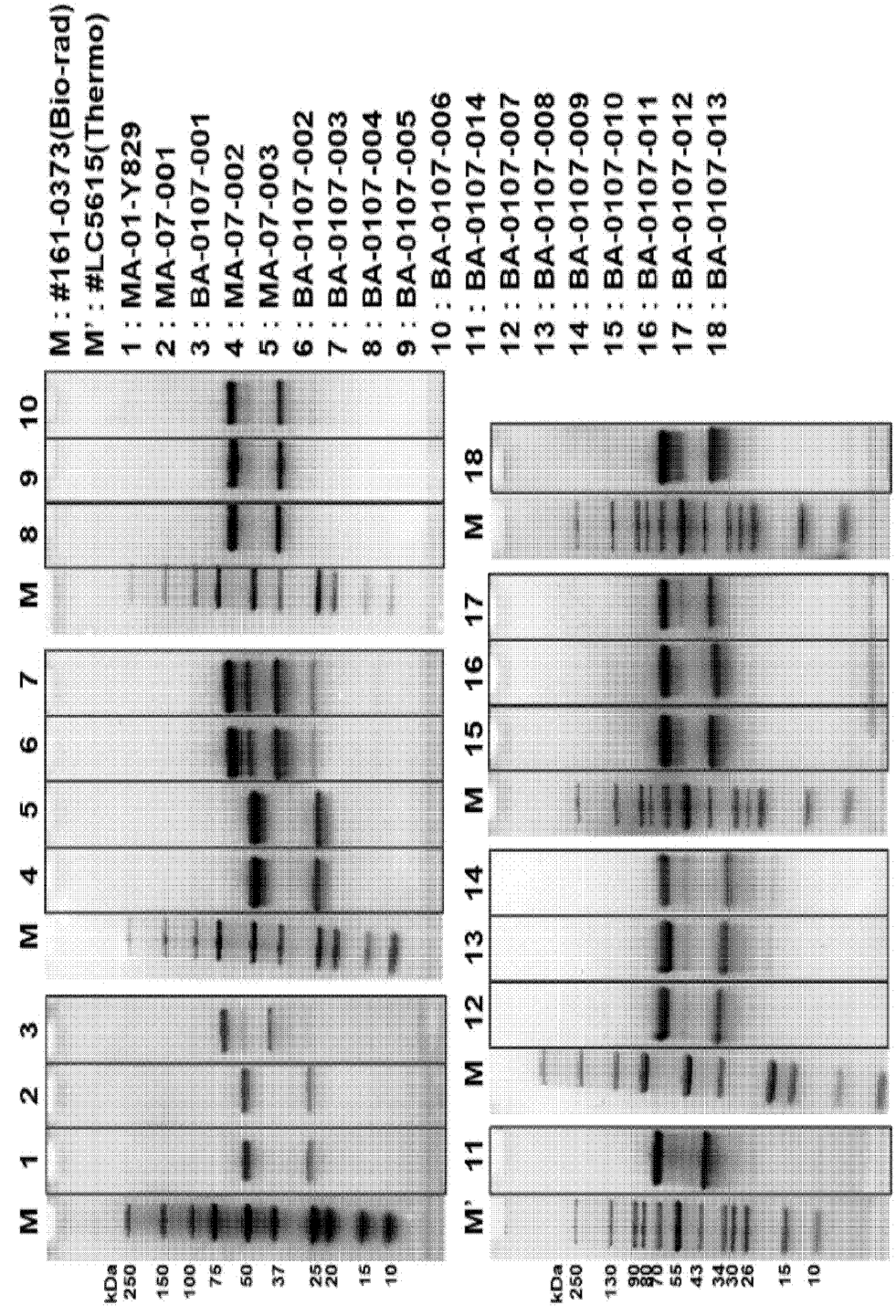
[도5b]

No.	Protein Code	Retention Time (min)	Area (%)
1	BA-0107-001	15.021	92.71
2	BA-0107-002	15.041	84.99
3	BA-0107-003	15.204	99.85
4	BA-0107-004	15.030	93.64
5	BA-0107-005	14.883	97.91
6	BA-0107-006	15.252	98.02
7	BA-0107-007	14.933	91.60

No.	Protein Code	Retention Time (min)	Area (%)
1	BA-0107-008	15.029	90.48
2	BA-0107-009	15.116	89.73
3	BA-0107-010	15.014	93.98
4	BA-0107-011	15.189	87.49
5	BA-0107-012	15.081	93.73
6	BA-0107-013	15.061	90.18
7	BA-0107-014	15.342	92.74



[도5c]

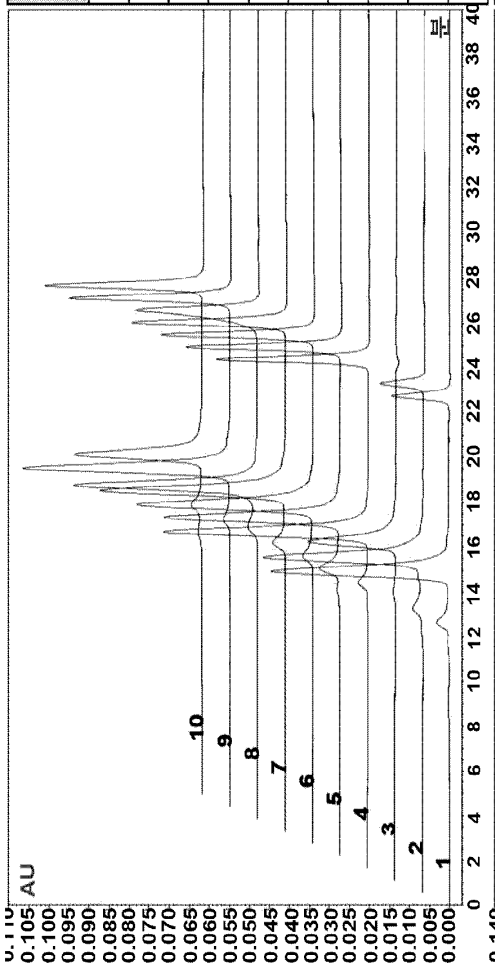

M : #161-0373(Bio-rad)
M' : #LC5615(Thermo)
1 : MA-01-Y829
2 : MA-07-001
3 : BA-0107-001
4 : MA-07-002
5 : MA-07-003
6 : BA-0107-002
7 : BA-0107-003
8 : BA-0107-004
9 : BA-0107-005
10 : BA-0107-006
11 : BA-0107-014
12 : BA-0107-007
13 : BA-0107-008
14 : BA-0107-009
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16 : BA-0107-011
17 : BA-0107-012
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[도6a]

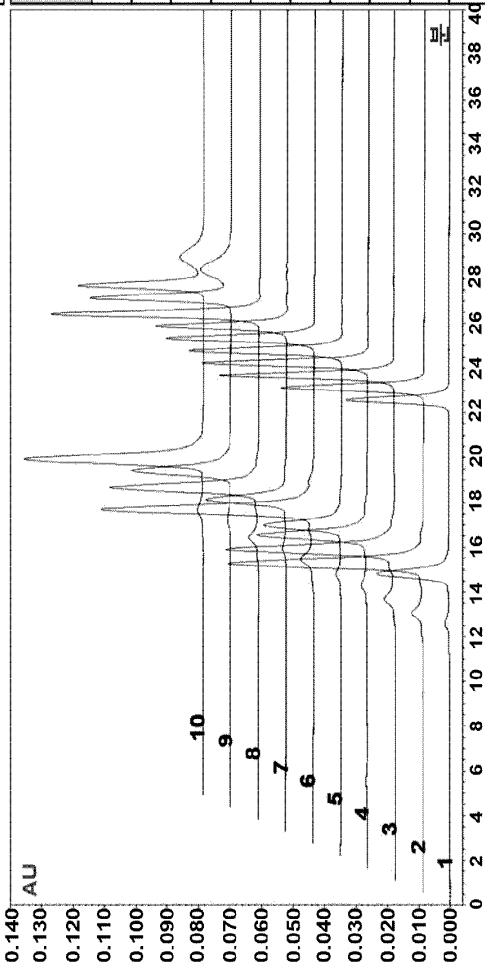
Part Number					Protein code	Ave Productivity [mg/L]	Molecular weight (LC/MS)	PI	SEC (%)
A55	B3	C9	DH3	DL2	BA-0109-001	36.0	200865	8.5	89.25
A55	B3	C11	DH3	DL2	BA-0109-002	31.2	200190	8.2	88.14
A55	B3	C13	DH3	DL2	BA-0109-003	31.6	200212	8.5	95.82
A55	B1	C13	DH2	DL2	BA-0109-004	30.9	199840	8.3	92.96
A55	B2	C13	DH2	DL2	BA-0109-005	40.7	199223	8.5	85.36
A55	B3	C13	DH2	DL2	BA-0109-006	66.3	200292	8.5	91.41
A55	B4	C13	DH2	DL2	BA-0109-007	60.4	200453	8.6	91.19
A33	B4	C13	DH2	DL2	BA-0109-008	8.4	198645	8.5	91.07
A55	B5	C13	DH2	DL2	BA-0109-009	59.2	199611	8.5	95.26
A55	B6	C13	DH2	DL2	BA-0109-010	29.7	197878	8.5	85.89
A55	B1	C11	DH2	DL2	BA-0109-011	51.6	199818	8.0	89.87
A55	B2	C11	DH2	DL2	BA-0109-012	106.8	199201	8.2	88.47
A55	B3	C11	DH2	DL2	BA-0109-013	100.0	200270	8.2	86.52
A55	B4	C11	DH2	DL2	BA-0109-014	58.8	200431	8.4	88.27
A55	B5	C11	DH2	DL2	BA-0109-015	61.6	199589	8.2	87.86
A55	B6	C11	DH2	DL2	BA-0109-016	81.6	197856	8.2	86.69
A55	B7	C11	DH2	DL2	BA-0109-017	54.0	197980	8.4	89.39
A55	B8	C11	DH2	DL2	BA-0109-018	62.2	198324	8.2	88.08
A55	B3	C12	DH2	DL2	BA-0109-019	16.9	200455	8.2	93.26
A55	B3/B7	C11	DH2	DL2	BA-0109-020	57.0	199085	8.3	93.32
A55	B7/B3	C11	DH2	DL2	BA-0109-021	46.7	199165	8.3	92.91
A33	B6	C11	DH2	DL2	BA-0109-024	55.4	196048	8.1	89.94
A33	B7	C11	DH2	DL2	BA-0109-025	48.1	196172	8.3	91.44
A58	B6	C11	DH2	DL2	BA-0109-026	1.9	193871	7.0	N/D
A58	B7	C11	DH2	DL2	BA-0109-027	11.4	193995	7.6	N/D
A55	B9	C11	DH2	DL2	BA-0109-028	61.8	197543	7.6	87.16
A55	B2	C11	DH2	DL4	BA-0109-029	87.0	200943	8.3	98.53
A55	B6	C11	DH2	DL4	BA-0109-030	42.4	199598	8.3	99.64
A59	B2	C11	DH2	DL2	BA-0109-031	83.4	200517	7.6	99.23
A62	B2	C11	DH2	DL2	BA-0109-032	6.7	200517	7.6	86.52
A63	B2	C11	DH2	DL2	BA-0109-033	12.7	199604	8.2	89.39
A65	B2	C11	DH2	DL2	BA-0109-034	13.9	199604	8.2	90.79
A66	B2	C11	DH2	DL2	BA-0109-035	11.4	199704	8.2	90.55
A68	B2	C11	DH2	DL2	BA-0109-036	10.8	199465	8.1	99.42
A62	B2	C11	DH2	DL2	BA-0109-037	10.5	199465	8.1	71.93
A65	B2	C11	DH2	DL2	BA-0109-038	47.0	199593	8.1	87.46
A68	B2	C11	DH2	DL2	BA-0109-039	27.2	199628	8.2	99.48
A62	B6	C11	DH2	DL2	BA-0109-040	5.9	199628	8.2	95.45
A65	B6	C11	DH2	DL2	BA-0109-041	4.5	199477	8.2	95.44
A68	B6	C11	DH2	DL2	BA-0109-042	1.5	198006	8.2	98.91

N/D, Not determined; N/A or '-', Not associated

[도6b]

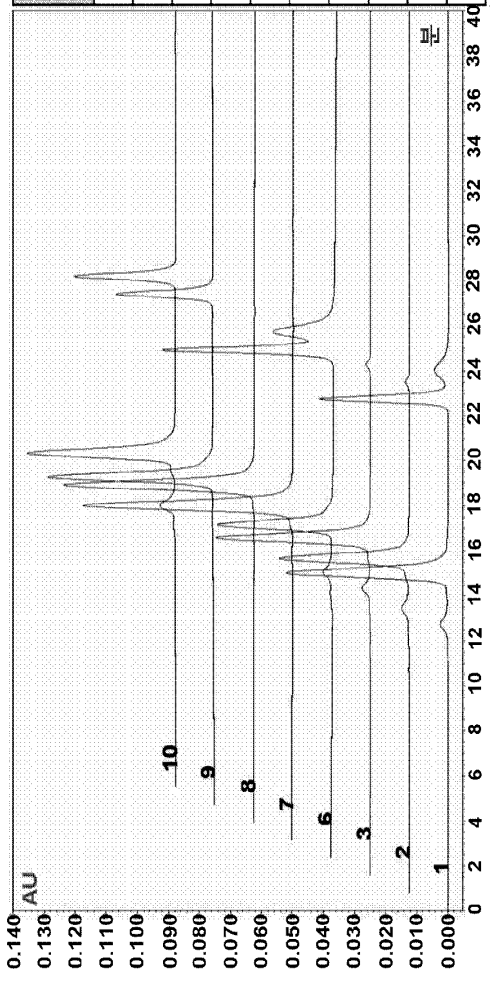


No.	Protein Code	Retention Time (min)	Area (%)
1	BA-0109-001	14.924	89.25
2	BA-0109-002	14.995	88.14
3	BA-0109-003	15.159	95.82
4	BA-0109-004	15.047	92.96
5	BA-0109-005	15.139	85.36
6	BA-0109-006	15.158	91.41
7	BA-0109-007	15.236	91.19
8	BA-0109-008	14.9263	91.07
9	BA-0109-009	15.141	95.26
10	BA-0109-010	15.205	85.89



No.	Protein Code	Retention Time (min)	Area (%)
1	BA-0109-011	14.818	89.87
2	BA-0109-012	14.724	88.47
3	BA-0109-013	14.804	86.52
4	BA-0109-014	14.895	88.27
5	BA-0109-015	14.796	87.86
6	BA-0109-016	14.939	86.69
7	BA-0109-017	14.834	89.39
8	BA-0109-018	14.819	88.08
9	BA-0109-019	15.025	93.26
10	BA-0109-020	14.991	93.32

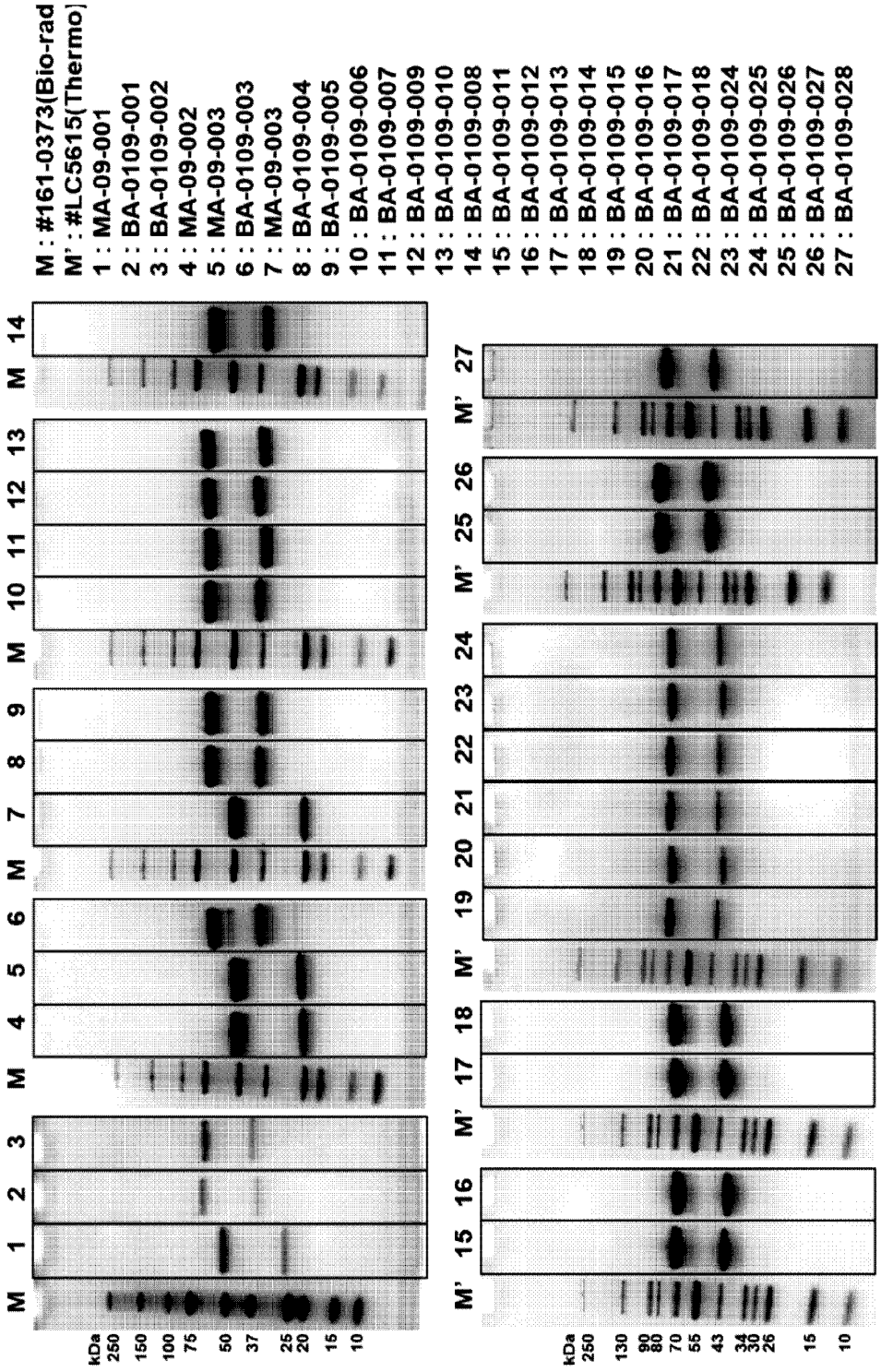
[도6c]



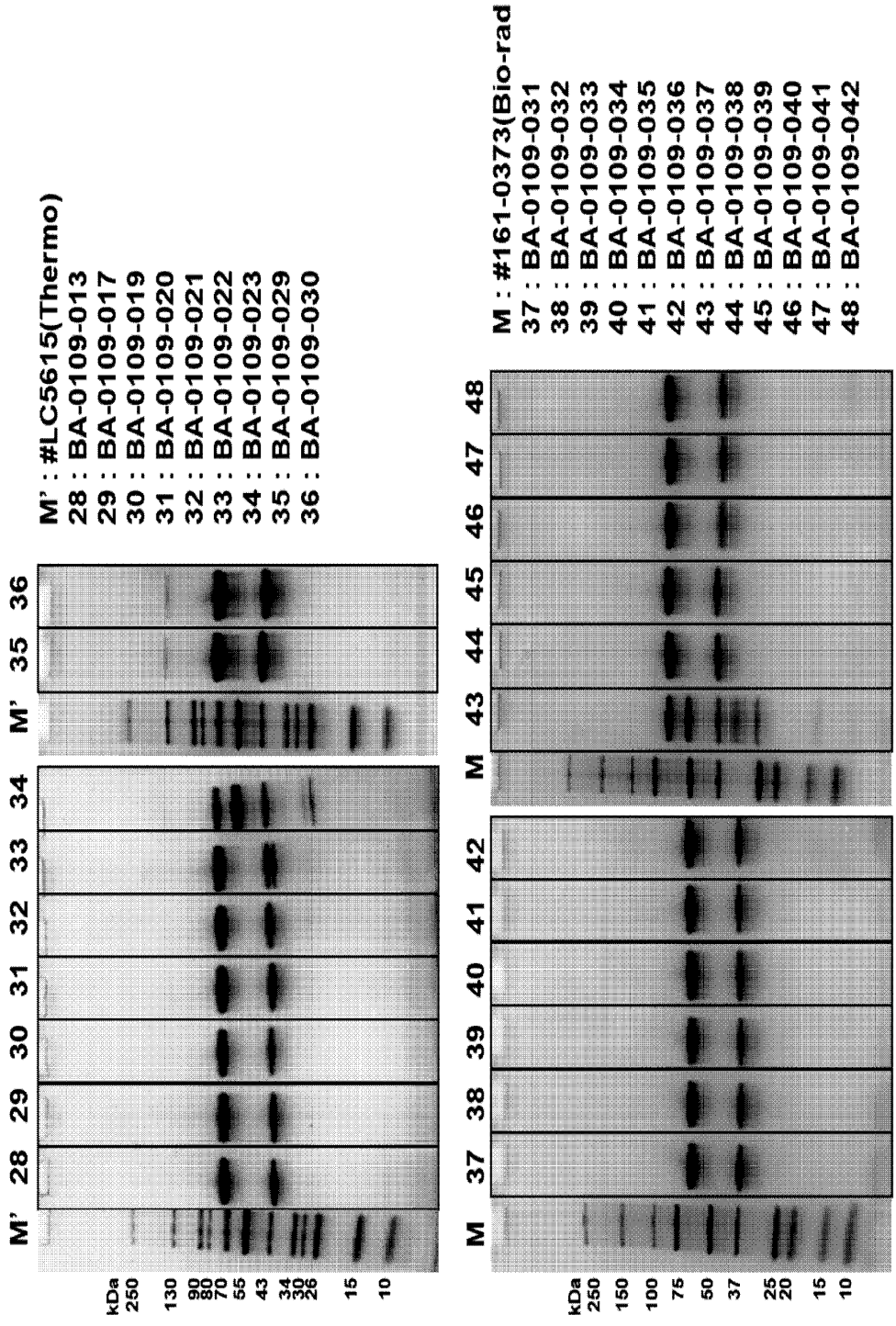
No.	Protein Code	Retention Time (min)	Area (%)
1	BA-0109-021	15.022	92.91
2	BA-0109-024	14.885	89.94
3	BA-0109-025	15.011	91.44
4	BA-0109-026	N/D	N/D
5	BA-0109-027	N/D	N/D
6	BA-0109-028	14.804	87.16
7	BA-0109-029	14.874	98.53
8	BA-0109-030	15.001	99.64
9	BA-0109-031	14.565	99.23
10	BA-0109-032	14.837	86.52

No.	Protein Code	Retention Time (min)	Area (%)
1	BA-0109-033	14.915	89.39
2	BA-0109-034	14.699	90.79
3	BA-0109-035	14.768	90.55
4	BA-0109-036	16.545	99.42
5	BA-0109-037	15.122	71.93
6	BA-0109-038	14.775	87.46
7	BA-0109-039	16.820	99.48
8	BA-0109-040	15.068	95.45
9	BA-0109-041	14.905	95.44
10	BA-0109-042	17.088	98.91

[도6d]


M : #161-0373(Bio-rad
M' : #LC5615(Thermo)
1 : MA-09-001
2 : BA-0109-001
3 : BA-0109-002
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18 : BA-0109-014
19 : BA-0109-015
20 : BA-0109-016
21 : BA-0109-017
22 : BA-0109-018
23 : BA-0109-024
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25 : BA-0109-026
26 : BA-0109-027
27 : BA-0109-028
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[도6e]

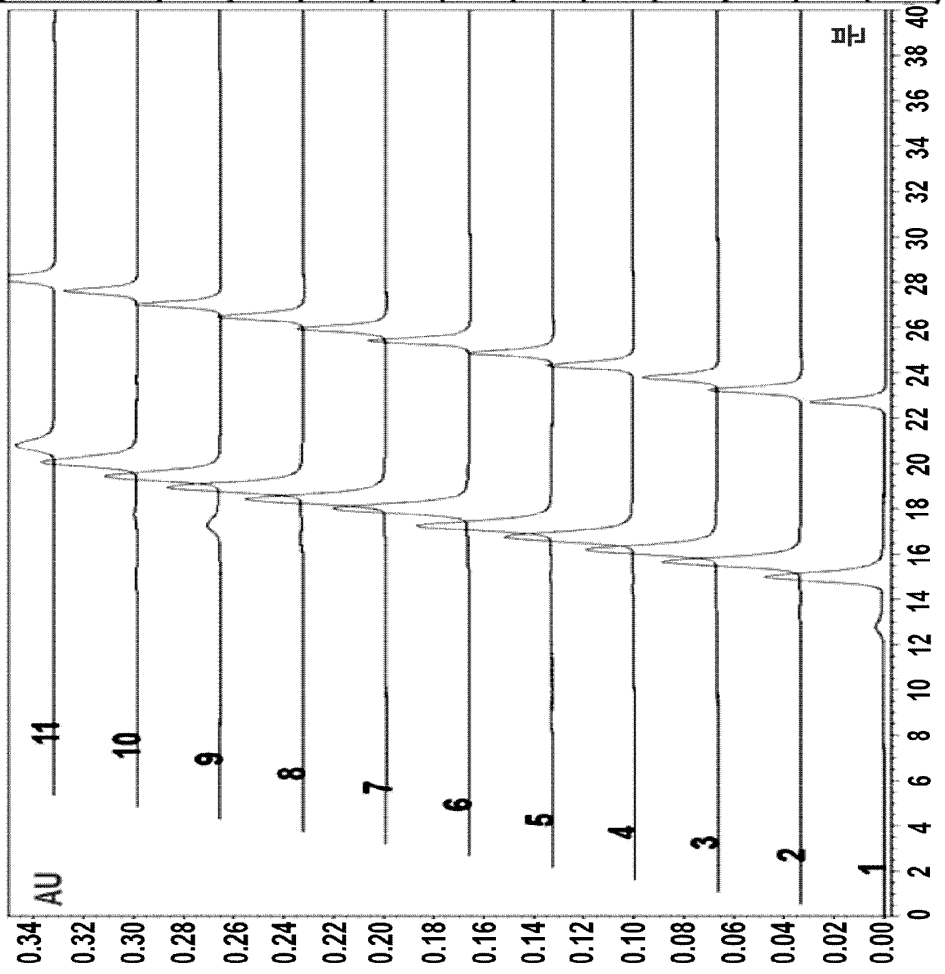

M' : #LC5615(Thermo)
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33 : BA-0109-022
34 : BA-0109-023
35 : BA-0109-029
36 : BA-0109-030
M : #161-0373(Bio-rad
37 : BA-0109-031
38 : BA-0109-032
39 : BA-0109-033
40 : BA-0109-034
41 : BA-0109-035
42 : BA-0109-036
43 : BA-0109-037
44 : BA-0109-038
45 : BA-0109-039
46 : BA-0109-040
47 : BA-0109-041
48 : BA-0109-042
kDa

[도7a]

Part Number					Protein code	Ave Productivity [mg/L]	Molecular weight (LC/MS)	PI	SEC (%)
A55	B1	C20	DH2	DL2	BA-0113-001	N/D	199904	8.7	N/D
A55	B2	C20	DH2	DL2	BA-0113-002	N/D	199288	8.7	N/D
A55	B3	C20	DH2	DL2	BA-0113-003	N/D	200357	8.7	N/D
A55	B4	C20	DH2	DL2	BA-0113-004	N/D	200517	8.8	N/D
A55	B5	C20	DH2	DL2	BA-0113-005	N/D	199676	8.7	N/D
A55	B6	C20	DH2	DL2	BA-0113-006	N/D	197943	8.7	N/D
A55	B7	C20	DH2	DL2	BA-0113-007	N/D	198066	8.8	N/D
A55	B8	C20	DH2	DL2	BA-0113-008	N/D	198411	8.7	N/D
A55	B9	C20	DH2	DL2	BA-0113-009	N/D	197630	8.5	N/D
A55	B1	C20	DH2	DL4	BA-0113-010	60.9	201646	8.7	89.89
A55	B2	C20	DH2	DL4	BA-0113-011	75.9	201030	8.8	97.48
A55	B3	C20	DH2	DL4	BA-0113-012	40.5	202099	8.8	94.77
A55	B4	C20	DH2	DL4	BA-0113-013	33.1	202259	8.9	95.68
A55	B5	C20	DH2	DL4	BA-0113-014	44.1	201418	8.8	95.44
A55	B6	C20	DH2	DL4	BA-0113-015	44.6	199685	8.8	95.89
A55	B7	C20	DH2	DL4	BA-0113-016	40.3	199808	8.9	97.26
A55	B8	C20	DH2	DL4	BA-0113-017	63.2	200153	8.8	94.03
A55	B9	C20	DH2	DL4	BA-0113-018	96.9	199372	8.6	81.41
A69	B2	C20	DH2	DL4	BA-0113-019	39.1	200591	8.8	94.88
A69	B6	C20	DH2	DL4	BA-0113-020	5.9	199502	8.8	98.18

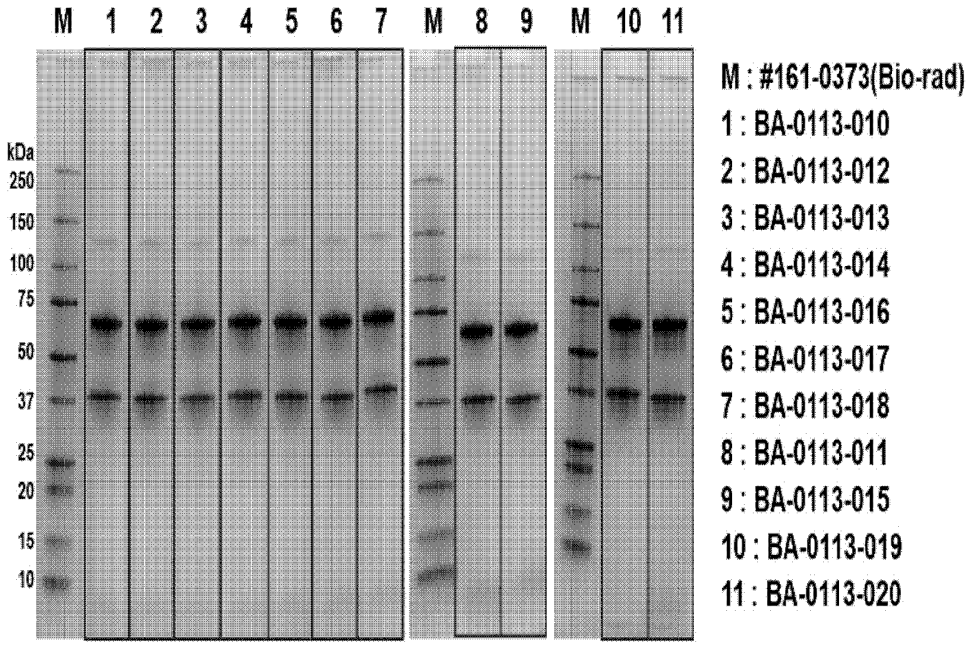
N/D, Not determined; N/A or '-', Not associated

[도7b]



No.	Protein Code	Retention Time (min)	Area (%)
1	BA-0113-010	14.987	89.89
2	BA-0113-011	15.117	97.48
3	BA-0113-012	15.115	94.77
4	BA-0113-013	15.148	95.68
5	BA-0113-014	15.101	95.44
6	BA-0113-015	15.327	95.89
7	BA-0113-016	15.204	97.26
8	BA-0113-017	15.194	94.03
9	BA-0113-018	15.154	81.41
10	BA-0113-019	15.245	94.88
11	BA-0113-020	15.443	98.18

[도7c]



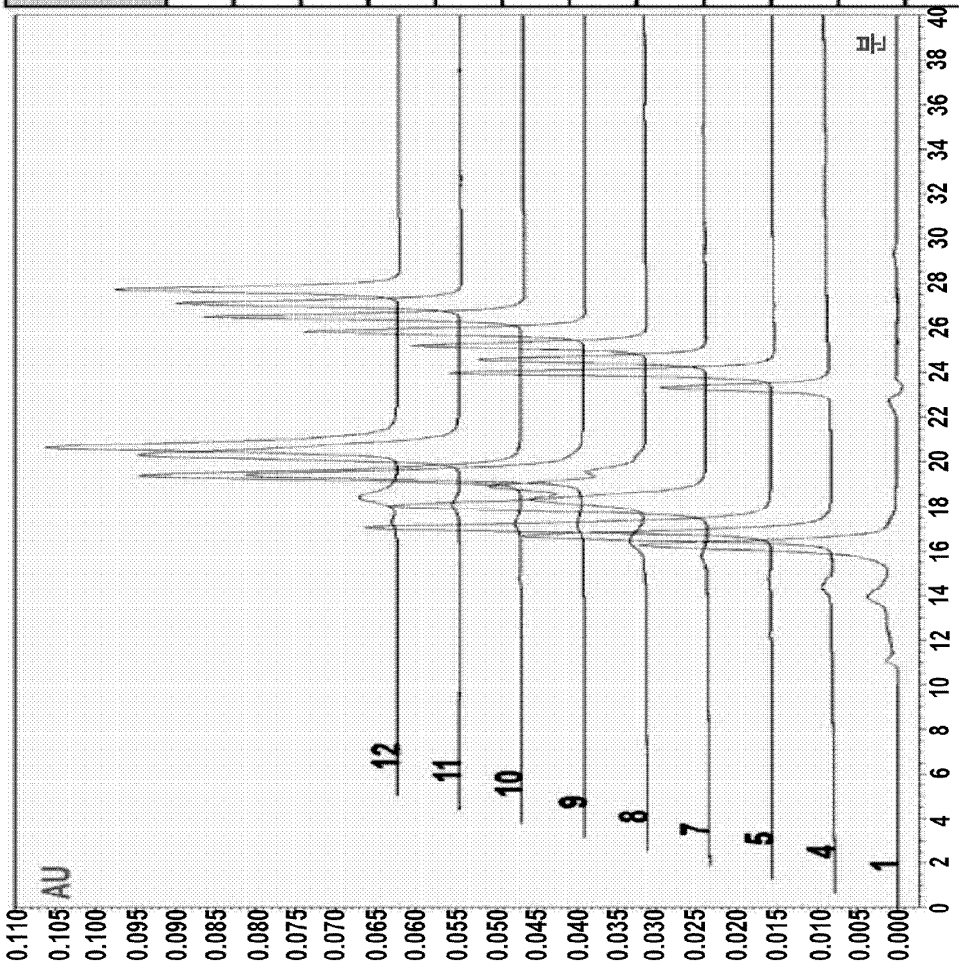
[도8a]

Part Number					Protein code	Ave Productivity [mg/L]	Molecular weight (LC/MS)	PI	SEC (%)
A58	B2	C2	DH7	-	BA-0102-R001	92.0	151243	7.9	75.53
A13	B3	C2	DH7	-	BA-0102-R002	7.0	155525	8.4	N/D
A13	B3	C2	DH9	-	BA-0102-R003	10.0	156612	8.4	N/D
A55	B3	C2	DH9	-	BA-0102-R004	127.5	157384	8.6	94.12
A9	B3	C2	DH6	-	BA-0102-R005	291.3	153235	8.1	98.62
A13	B3	C2	DH6	-	BA-0102-R006	N/D	155771	8.4	N/D
A28	B3	C2	DH6	-	BA-0102-R007	31.9	156189	8.3	97.92
A33	B3	C2	DH6	-	BA-0102-R008	38.6	154736	8.5	44.01
A55	B3	C2	DH6	-	BA-0102-R009	225.8	156544	8.6	96.98
A9	B3	C2	DH9	-	BA-0102-R010	249.0	154076	8.1	97.74
A28	B3	C2	DH9	-	BA-0102-R011	38.9	157160	8.3	97.62
A33	B3	C2	DH9	-	BA-0102-R012	73.0	155629	8.5	86.52

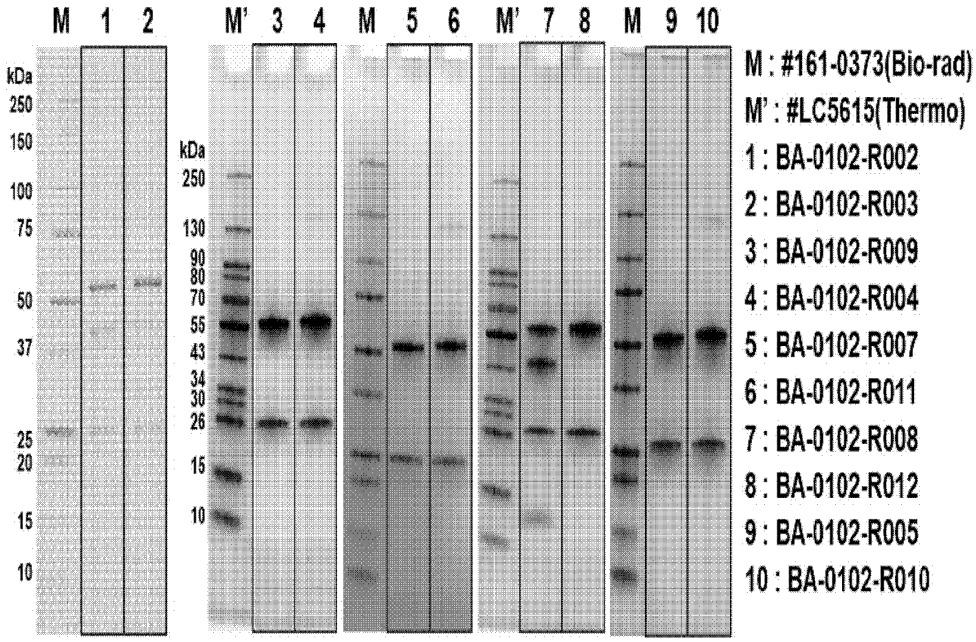
N/D, Not determined; N/A or '-', Not associated

[도8b]

No.	Protein Code	Retention Time (min)	Area (%)
1	BA-0102-R001	16.258	75.53
2	BA-0102-R002	N/D	N/D
3	BA-0102-R003	N/D	N/D
4	BA-0102-R004	16.041	94.12
5	BA-0102-R005	15.789	98.62
6	BA-0102-R006	N/D	N/D
7	BA-0102-R007	16.124	97.92
8	BA-0102-R008	16.372	44.01
9	BA-0102-R009	16.255	96.98
10	BA-0102-R010	15.604	97.74
11	BA-0102-R011	15.913	97.62
12	BA-0102-R012	15.620	86.52



[도8c]

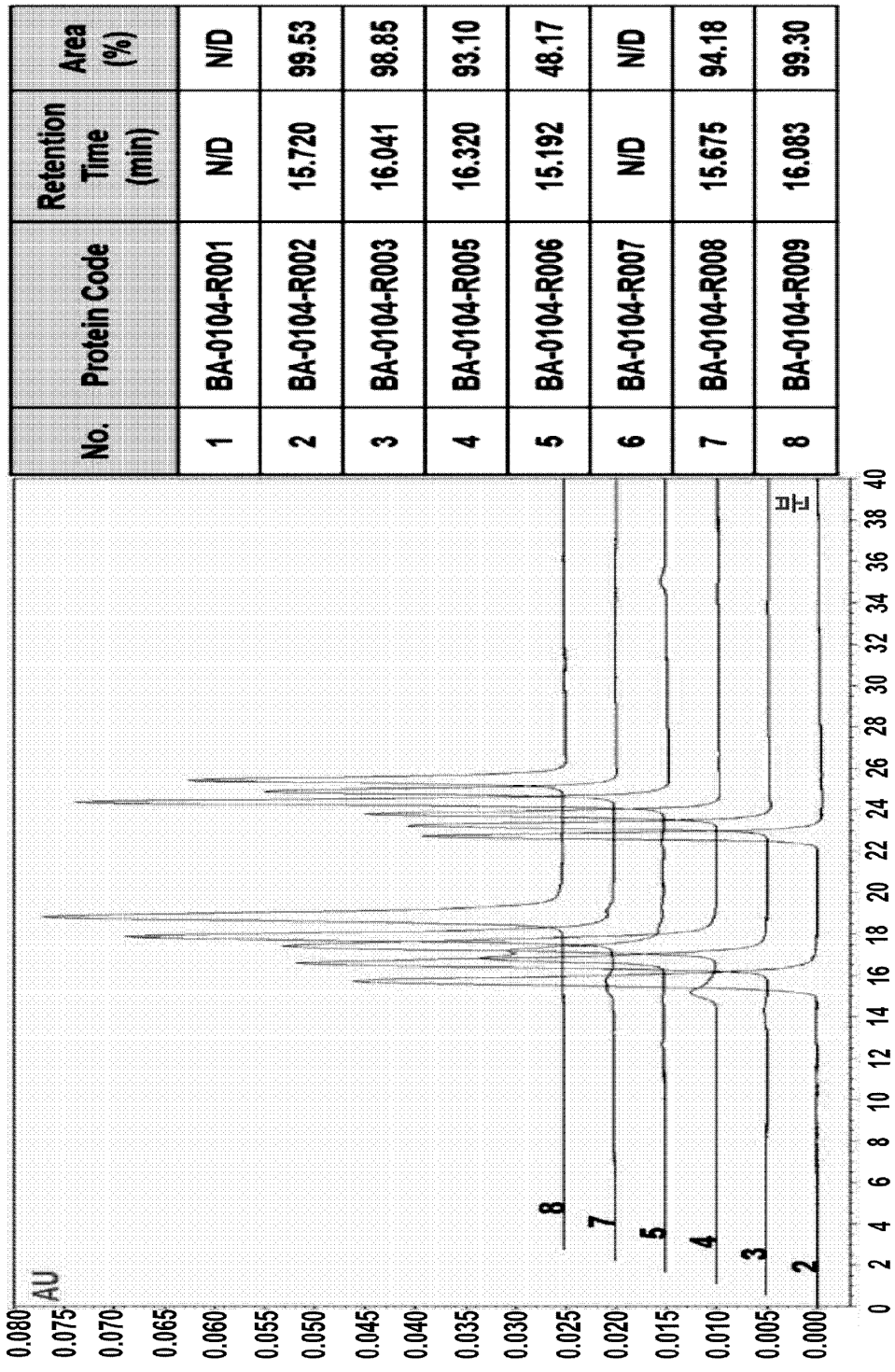


[도9a]

Part Number					Protein code	Ave Productivity [mg/L]	Molecular weight (LC/MS)	PI	SEC (%)
A58	B2	C15	DH7	-	BA-0104-R001	4.0	151219	8.1	N/D
A9	B3	C15	DH8	-	BA-0104-R002	112.1	154303	8.2	99.53
A28	B3	C15	DH8	-	BA-0104-R003	27.4	157256	8.4	98.85
A55	B3	C15	DH8	-	BA-0104-R005	48.4	157611	8.7	93.10
A9	B3	C16	DH8	-	BA-0104-R006	4.7	155858	8.2	*48.17 *47.89
A28	B3	C16	DH8	-	BA-0104-R007	N/D	158812	8.4	N/D
A33	B3	C16	DH8	-	BA-0104-R008	64.9	157359	8.6	94.18
A55	B3	C16	DH8	-	BA-0104-R009	50.4	159167	8.6	99.30

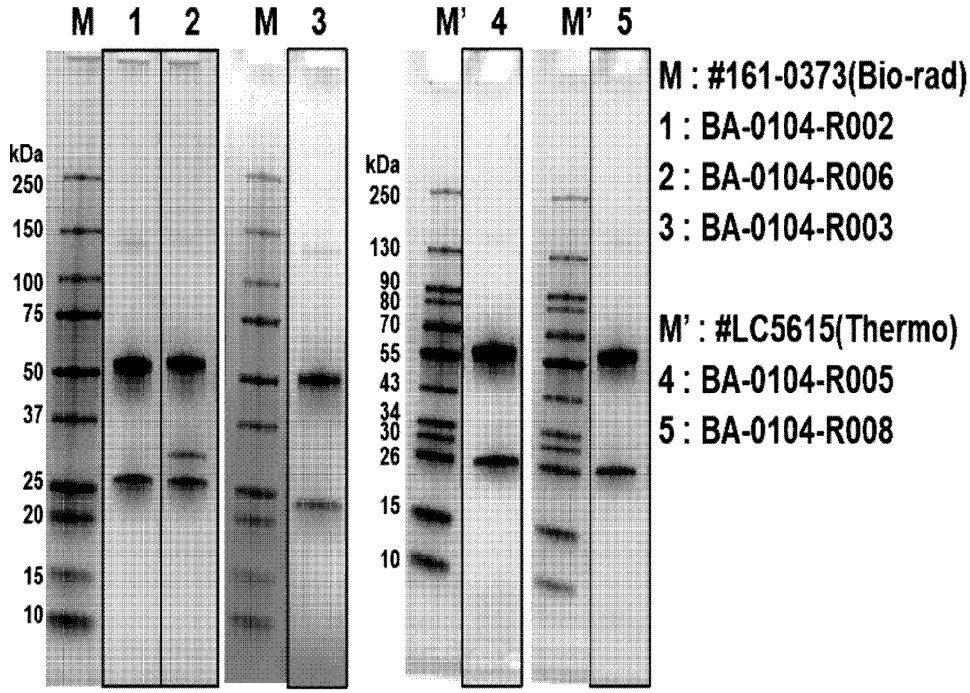
N/D, Not determined; N/A or '-', Not associated; *Dual peak

[도9b]



No.	Protein Code	Retention Time (min)	Area (%)
1	BA-0104-R001	N/D	N/D
2	BA-0104-R002	15.720	99.53
3	BA-0104-R003	16.041	98.85
4	BA-0104-R005	16.320	93.10
5	BA-0104-R006	15.192	48.17
6	BA-0104-R007	N/D	N/D
7	BA-0104-R008	15.675	94.18
8	BA-0104-R009	16.083	99.30

[도9c]

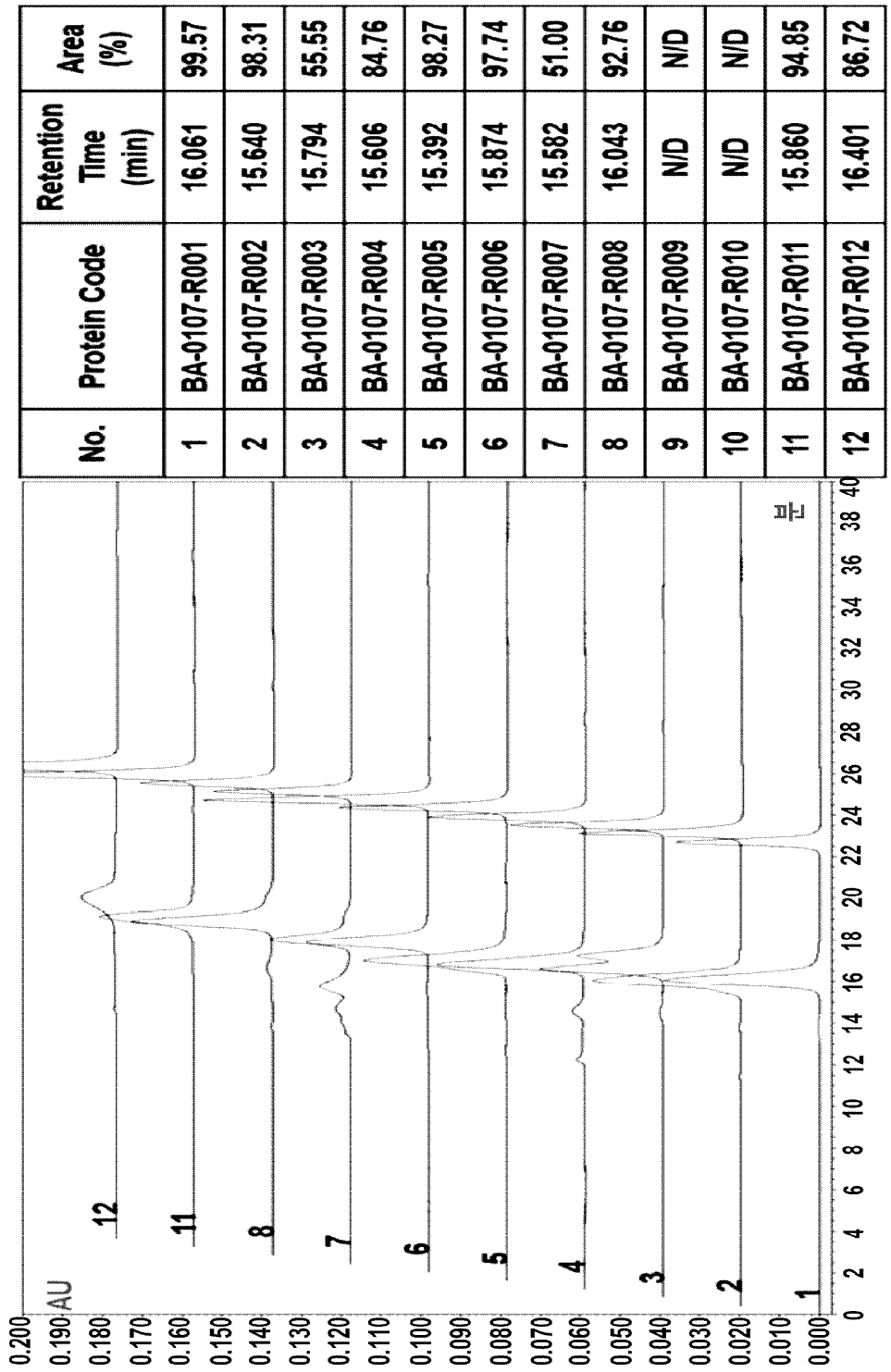


[도10a]

Part Number					Protein code	Ave Productivity [mg/L]	Molecular weight (LC/MS)	PI	SEC (%)
A55	B3	C4	DH8	-	BA-0107-R001	41.2	158062	8.8	99.57
A9	B3	C4	DH8	-	BA-0107-R002	43.2	154753	8.4	98.31
A28	B3	C4	DH8	-	BA-0107-R003	10.6	157707	8.6	*55.55 *41.77
A33	B3	C4	DH8	-	BA-0107-R004	48.4	156254	8.7	84.76
A9	B3	C6	DH8	-	BA-0107-R005	15.2	154819	7.9	98.27
A28	B3	C6	DH8	-	BA-0107-R006	7.5	157773	8.2	97.74
A33	B3	C6	DH8	-	BA-0107-R007	61.8	156320	8.4	51.00
A55	B3	C6	DH8	-	BA-0107-R008	72.8	158128	8.5	92.76
A9	B3	C8	DH8	-	BA-0107-R009	0.1	155582	7.6	N/D
A28	B3	C8	DH8	-	BA-0107-R010	N/D	158536	8.1	N/D
A33	B3	C8	DH8	-	BA-0107-R011	5.5	157083	8.3	94.85
A55	B3	C8	DH8	-	BA-0107-R012	3.1	158890	8.4	86.72

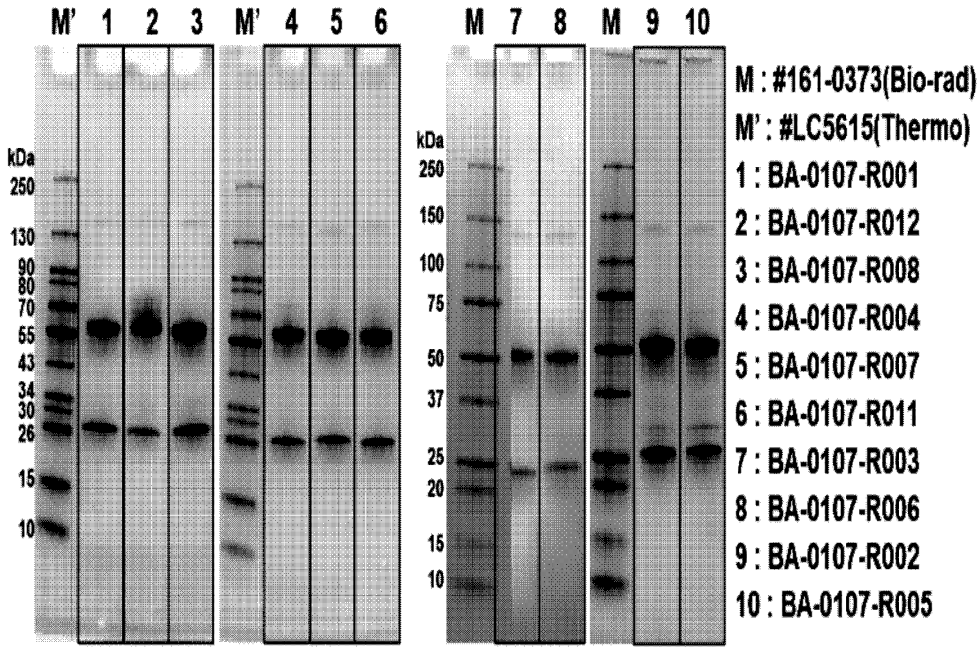
N/D, Not determined; N/A or '-', Not associated; *Dual peak

[도10b]



No.	Protein Code	Retention Time (min)	Area (%)
1	BA-0107-R001	16.061	99.57
2	BA-0107-R002	15.640	98.31
3	BA-0107-R003	15.794	55.55
4	BA-0107-R004	15.606	84.76
5	BA-0107-R005	15.392	98.27
6	BA-0107-R006	15.874	97.74
7	BA-0107-R007	15.582	51.00
8	BA-0107-R008	16.043	92.76
9	BA-0107-R009	N/D	N/D
10	BA-0107-R010	N/D	N/D
11	BA-0107-R011	15.860	94.85
12	BA-0107-R012	16.401	86.72

[도10c]



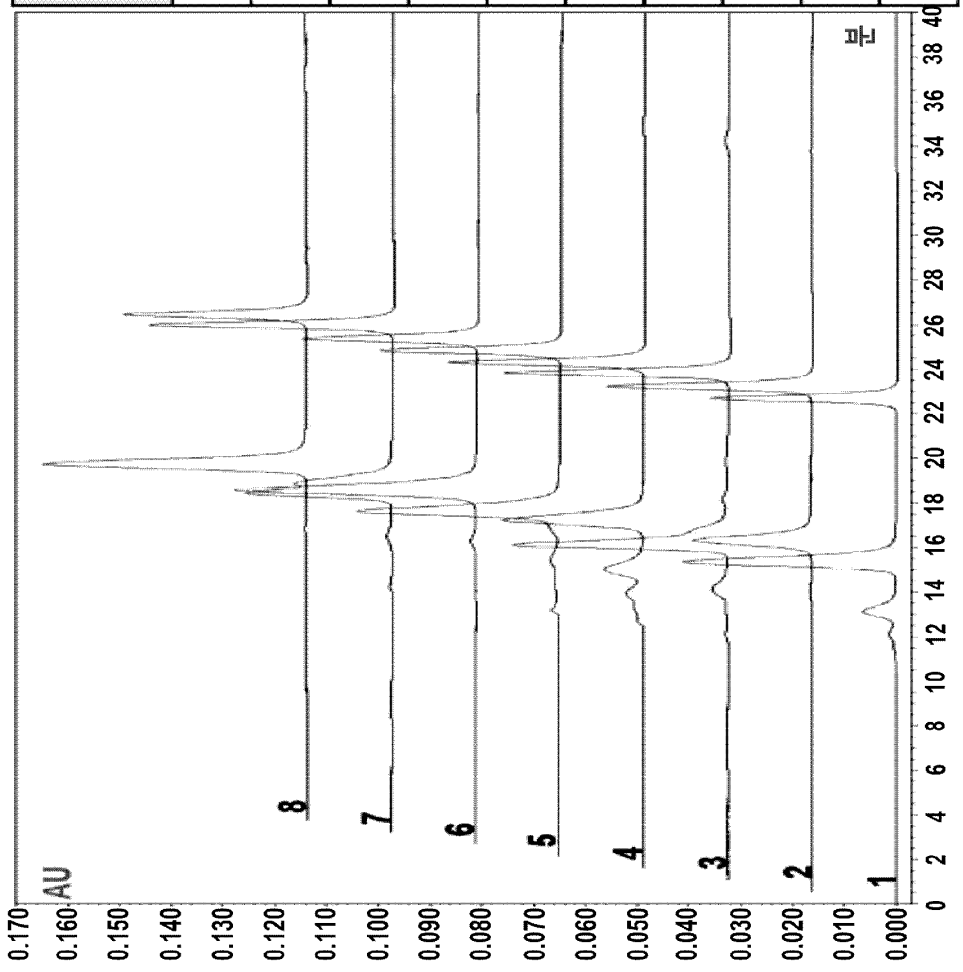
[도11a]

Part Number					Protein code	Ave Productivity [mg/L]	Molecular weight (LC/MS)	PI	SEC (%)
A9	B3	C10	DH9	-	BA-0109-R001	0.1	154276	7.6	N/D
A28	B3	C10	DH9	-	BA-0109-R002	0.6	157230	8.1	N/D
A33	B3	C10	DH9	-	BA-0109-R003	7.9	155776	8.3	81.11
A55	B3	C10	DH9	-	BA-0109-R004	2.9	157584	8.4	99.51
A9	B3	C12	DH9	-	BA-0109-R005	1.6	153630	6.7	84.89
A33	B3	C14	DH9	-	BA-0109-R011	14.7	155152	8.3	64.23
A33	B3	C12	DH8	-	BA-0109-R015	31.7	155378	7.9	88.46
A55	B3	C12	DH8	-	BA-0109-R016	55.6	157186	8.1	96.26
A9	B3	C14	DH8	-	BA-0109-R017	4.9	153900	7.6	*52.97 *42.40
A28	B3	C14	DH8	-	BA-0109-R018	7.1	156854	8.1	99.39

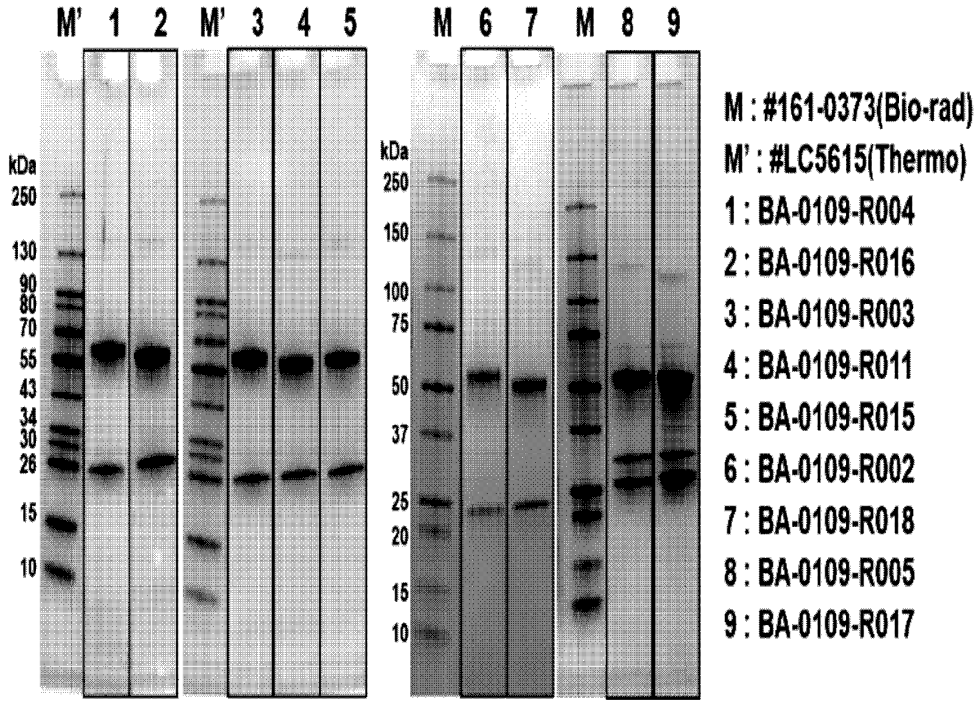
N/D, Not determined; N/A or '-', Not associated; *Dual peak

[도11b]

No.	Protein Code	Retention Time (min)	Area (%)
1	BA-0109-R001	N/D	N/D
2	BA-0109-R002	N/D	N/D
3	BA-0109-R003	15.357	81.11
4	BA-0109-R004	15.779	99.51
5	BA-0109-R005	15.044	84.89
6	BA-0109-R011	15.610	64.23
7	BA-0109-R015	15.480	88.46
8	BA-0109-R016	15.896	96.26
9	BA-0109-R017	15.221	52.97
10	BA-0109-R018	15.985	99.39



[도11c]

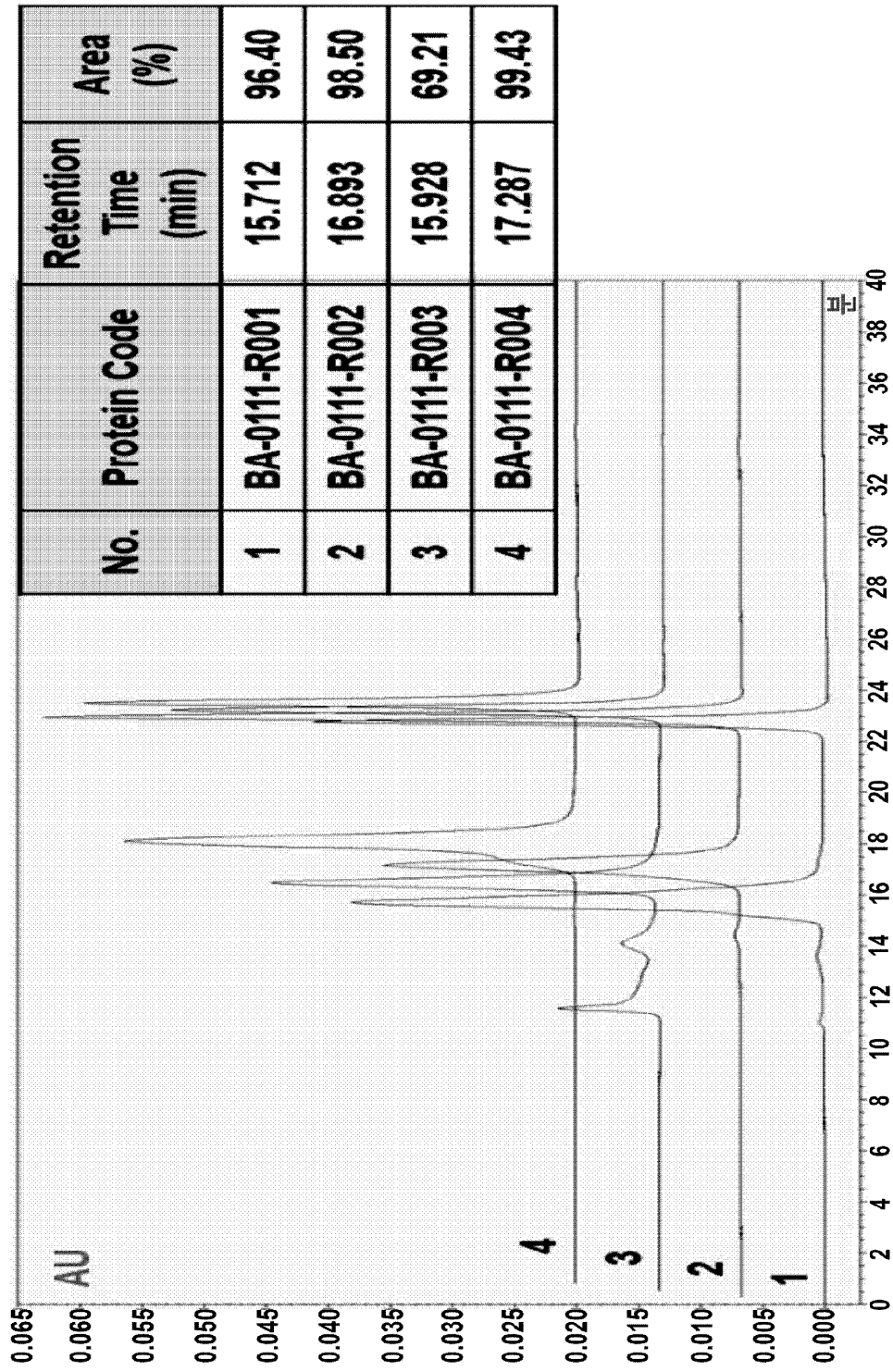


[도12a]

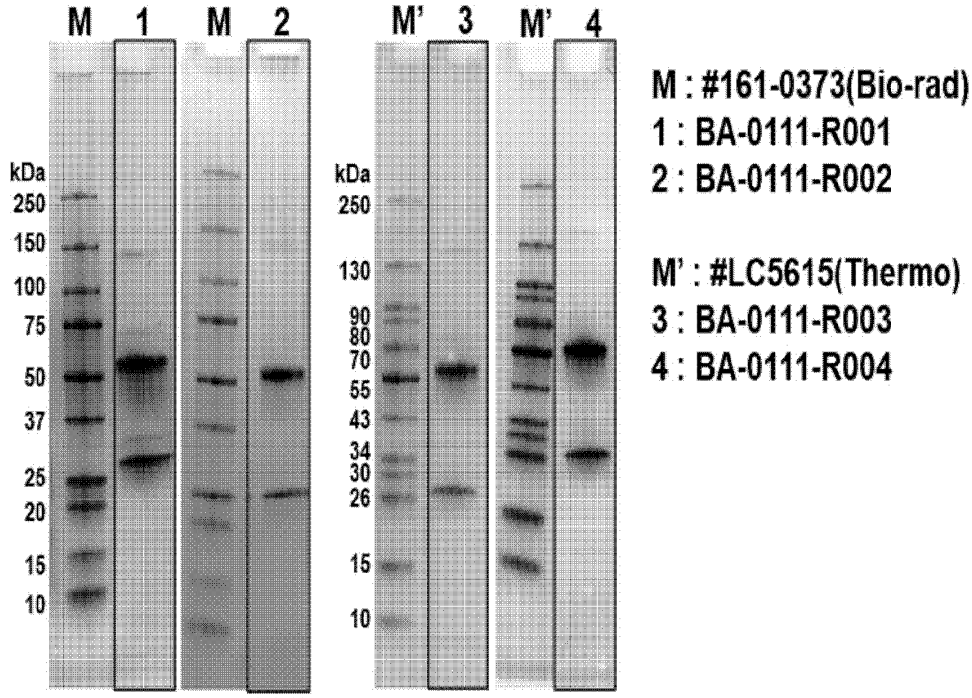
Part Number					Protein code	Ave Productivity [mg/L]	Molecular weight (LC/MS)	PI	SEC (%)
A9	B3	C18	DH9	-	BA-0111-R001	40.6	153442	8.2	96.40
A28	B3	C18	DH9	-	BA-0111-R002	14.0	156395	8.4	98.50
A33	B3	C18	DH9	-	BA-0111-R003	24.0	154942	8.6	69.21
A55	B3	C18	DH9	-	BA-0111-R004	20.3	156750	8.7	99.43

N/A or '-', Not associated

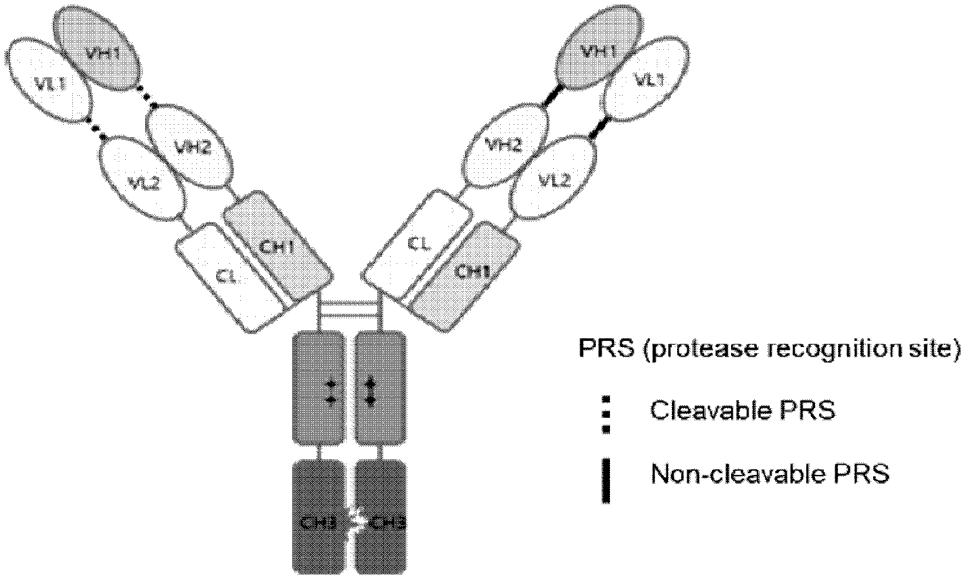
[도12b]


No. | Protein Code | Retention Time (min) | Area (%)
1 | BA-0111-R001 | 15.712 | 96.40
2 | BA-0111-R002 | 16.893 | 98.50
3 | BA-0111-R003 | 15.928 | 69.21
4 | BA-0111-R004 | 17.287 | 99.43
AU
분
1
2
3
4

[도12c]



[도13a]

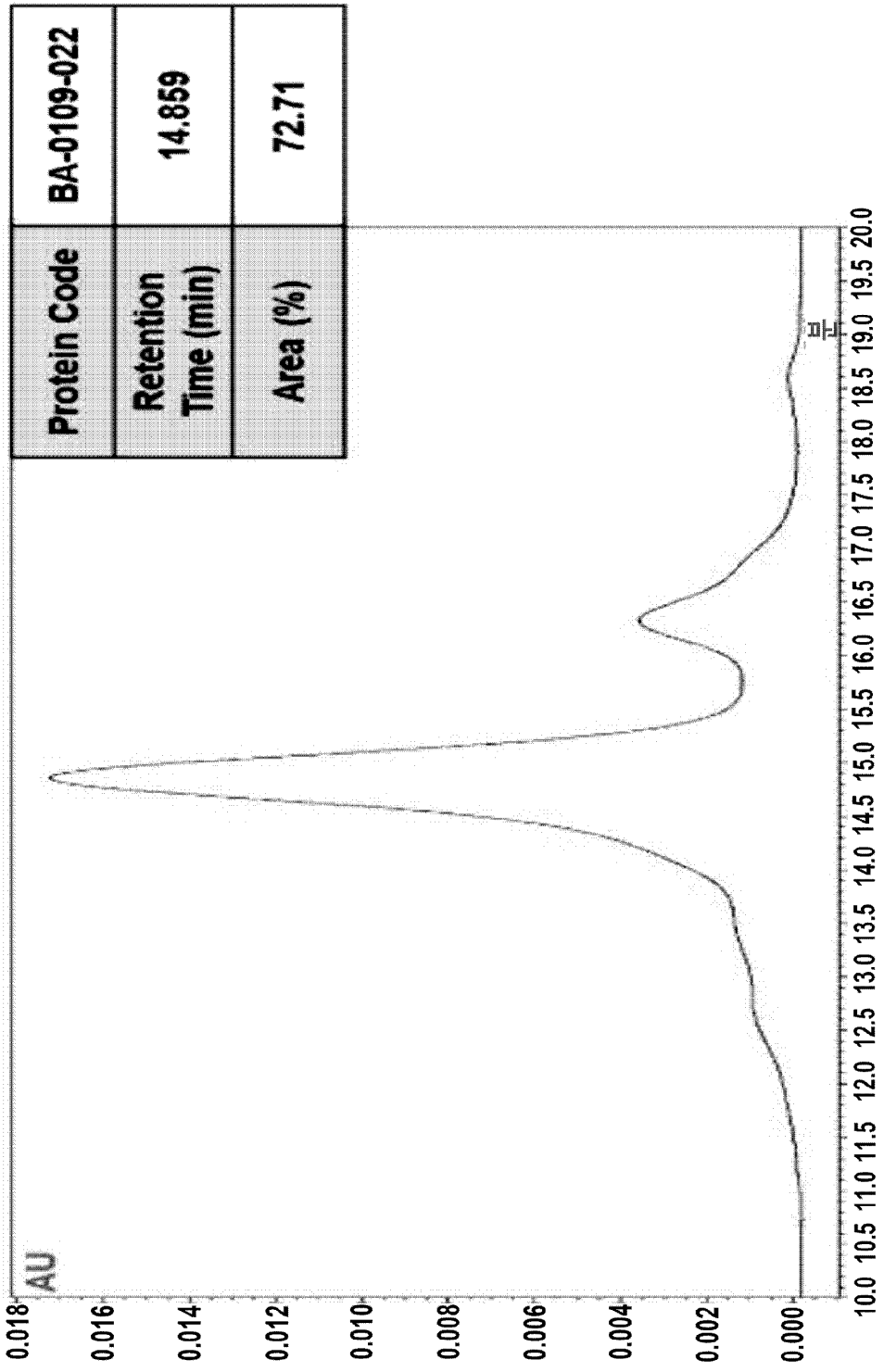


[DVD-IgG CrossMab, KIH, Single arm-cleavable]

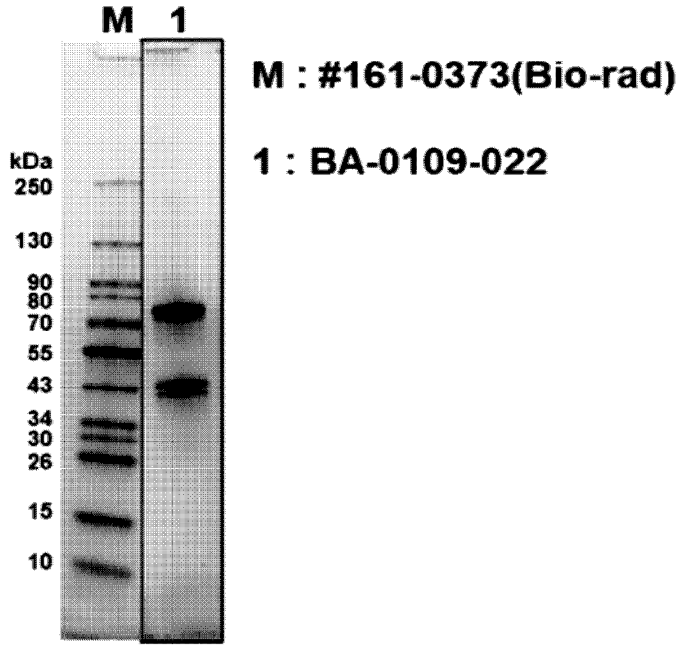
[도13b]

Part Number					Protein code	Ave Productivity [mg/L]	Molecular weight (LC/MS)	PI	SEC (%)
A55/A55	B3/B7	C11/C11	DH4/DH5	DL2/DL3	BA-0109-022	15.63	199484	8.2	72.71

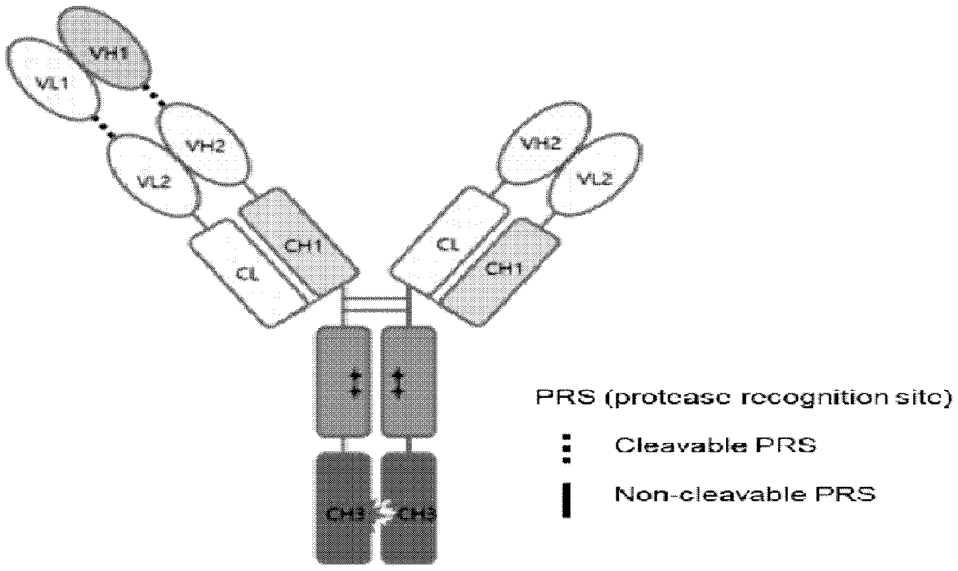
[도13c]


Protein Code
BA-0109-022
Retention Time (min)
14.859
Area (%)
72.71
AU
0.018
0.016
0.014
0.012
0.010
0.008
0.006
0.004
0.002
0.000
10.0 10.5 11.0 11.5 12.0 12.5 13.0 13.5 14.0 14.5 15.0 15.5 16.0 16.5 17.0 17.5 18.0 18.5 19.0 19.5 20.0
피크

[도13d]



[도14a]

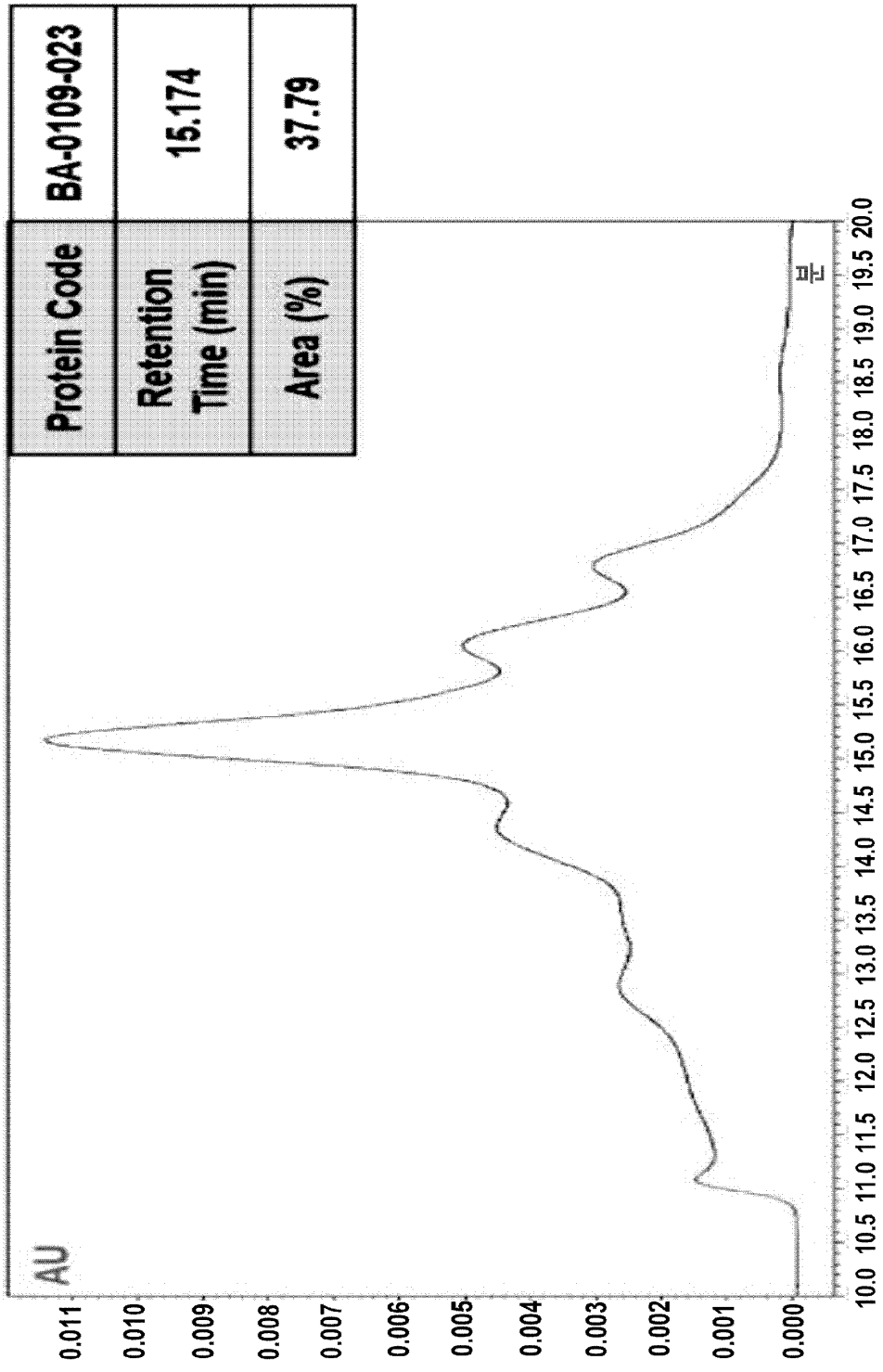


[DVD-IgG asymmetric]

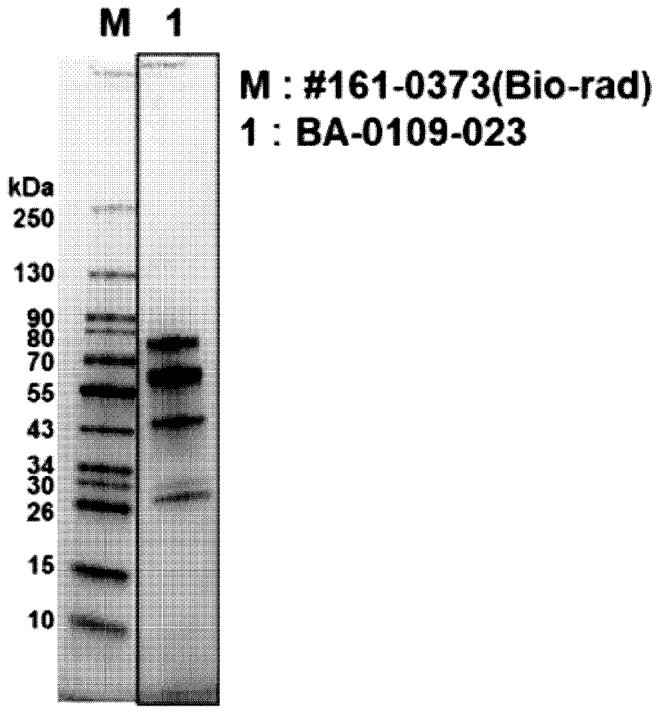
[도14b]

Part Number					Protein code	Ave Productivity [mg/L]	Molecular weight (LC/MS)	PI	SEC (%)
A55/-	B3/-	C11/C11	DH4/DH5	DL2/DL3	BA-0109-023	24.65	198946	7.6	37.79
N/A or '-', Not associated									

[도14c]


Protein Code
BA-0109-023
Retention Time (min)
15.174
Area (%)
37.79
AU
0.011
0.010
0.009
0.008
0.007
0.006
0.005
0.004
0.003
0.002
0.001
0.000
10.0 10.5 11.0 11.5 12.0 12.5 13.0 13.5 14.0 14.5 15.0 15.5 16.0 16.5 17.0 17.5 18.0 18.5 19.0 19.5 20.0
분

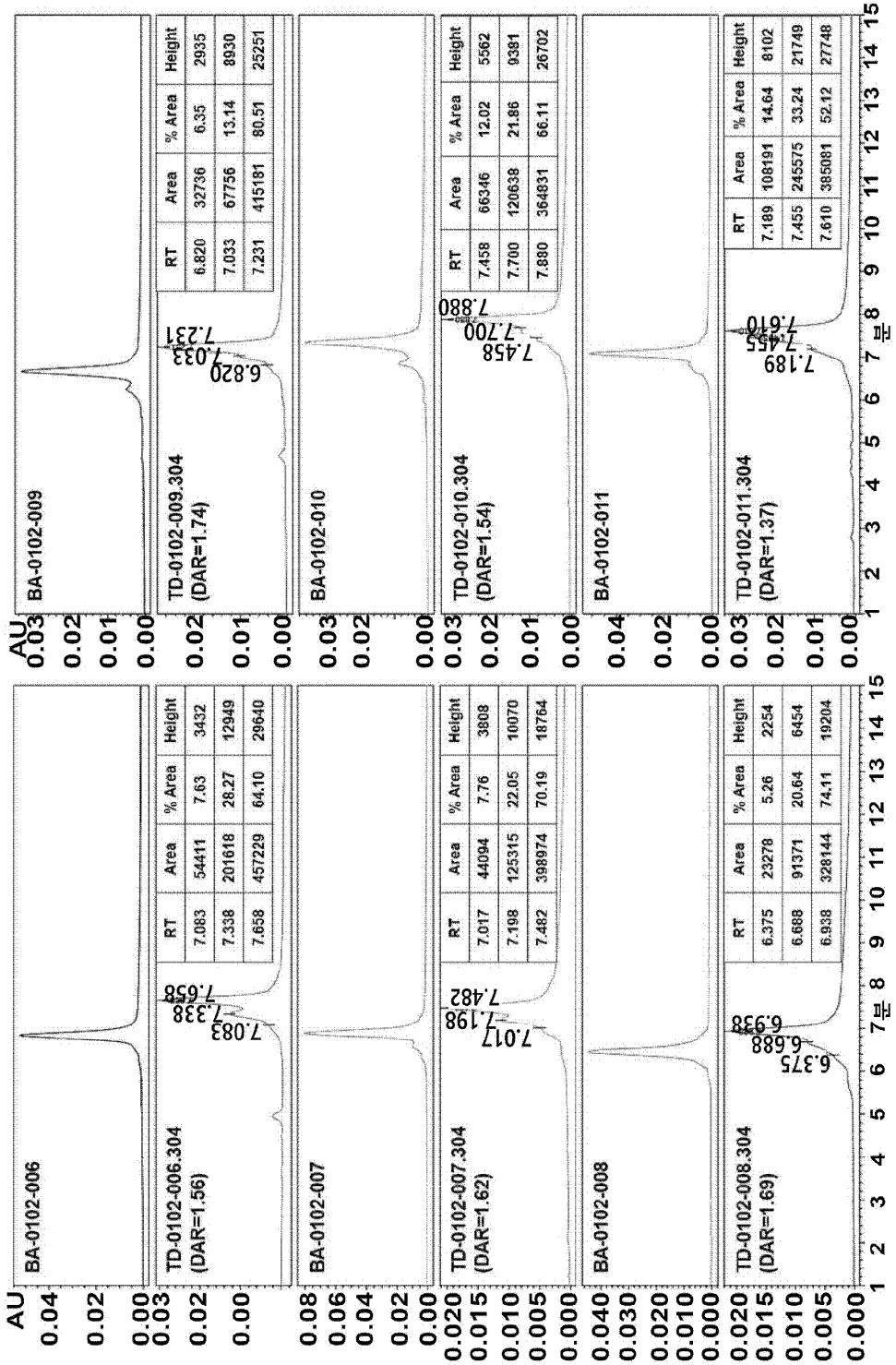
[도14d]


M 1
M : #161-0373(Bio-rad)
1 : BA-0109-023
kDa
250
130
90
80
70
55
43
34
30
26
15
10

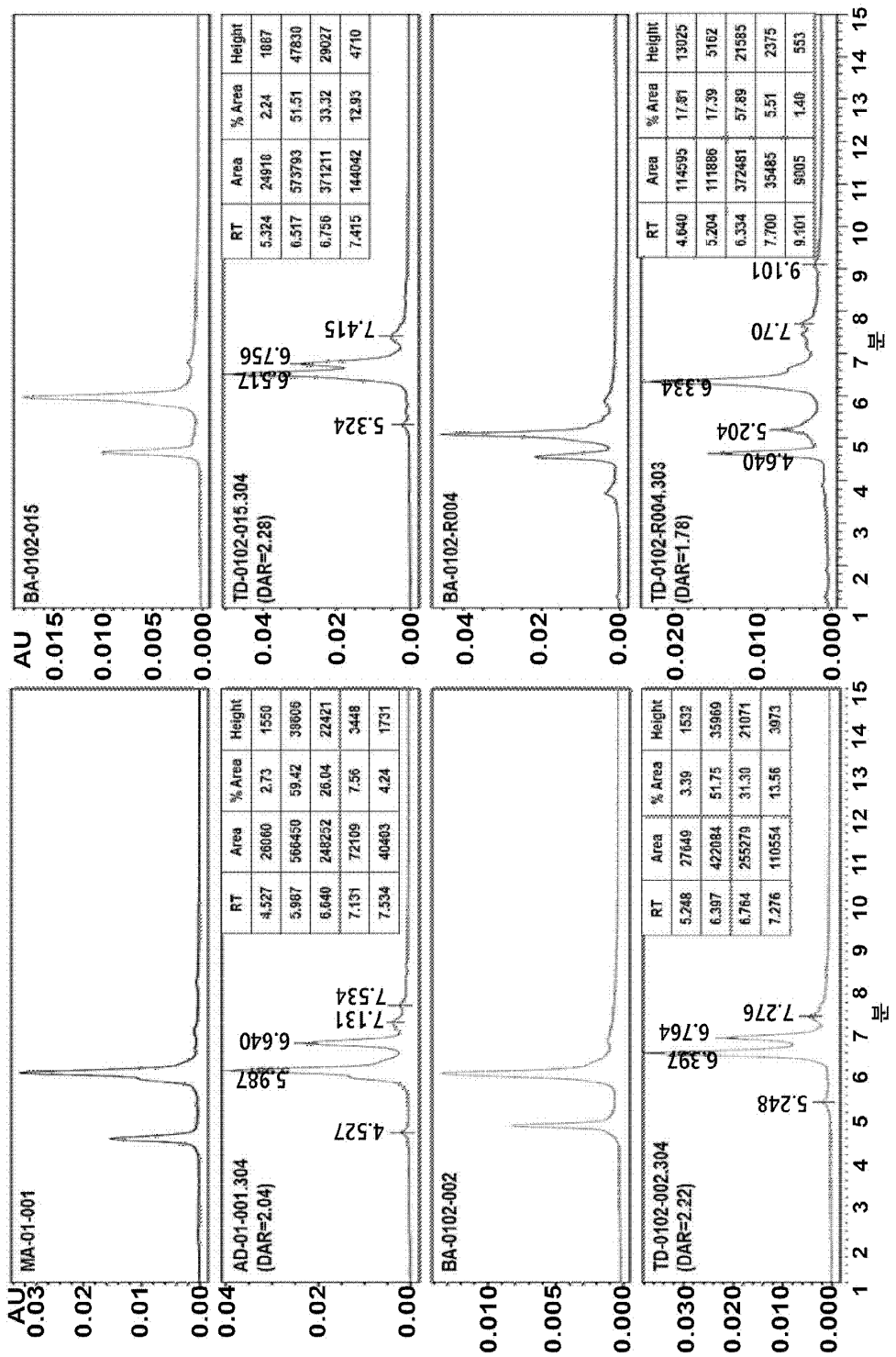
[도15a]


AU
MA-02-001
BA-0102-003
AD-02-006.304
(DAR=1.69)
TD-0102-003.304
(DAR=1.79)
BA-0102-001
BA-0102-005
TD-0102-001.304
(DAR=1.47)
TD-0102-005.304
(DAR=1.70)
6.017
6.503
6.923
5.722
6.525
6.856
7.093
7.707
8.209
6.508
6.739
7.027
분

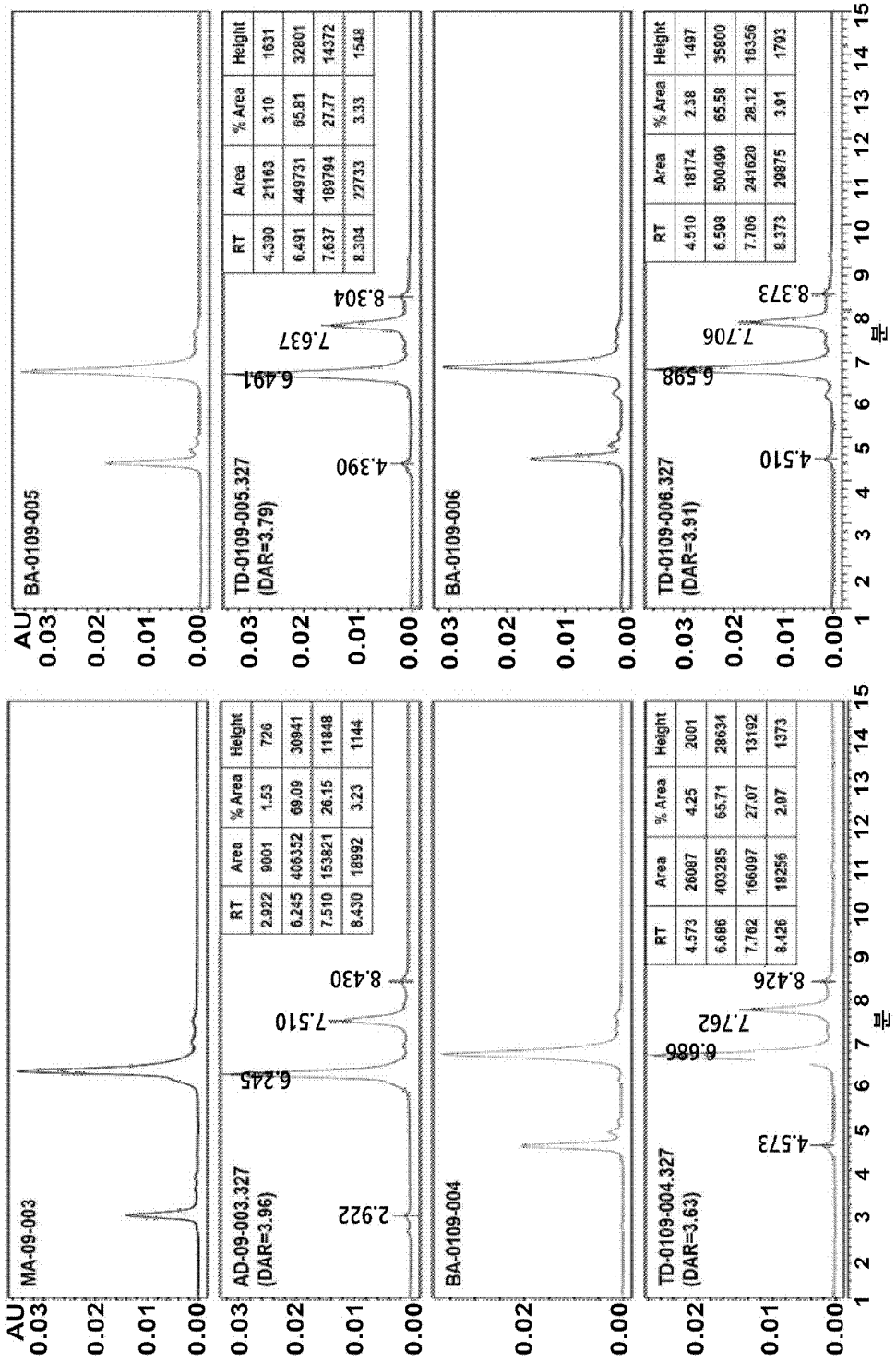
[도15b]


BA-0102-006
TD-0102-006.304
(DAR=1.56)
BA-0102-007
TD-0102-007.304
(DAR=1.62)
BA-0102-008
TD-0102-008.304
(DAR=1.69)
BA-0102-009
TD-0102-009.304
(DAR=1.74)
BA-0102-010
TD-0102-010.304
(DAR=1.54)
BA-0102-011
TD-0102-011.304
(DAR=1.37)
AU
분

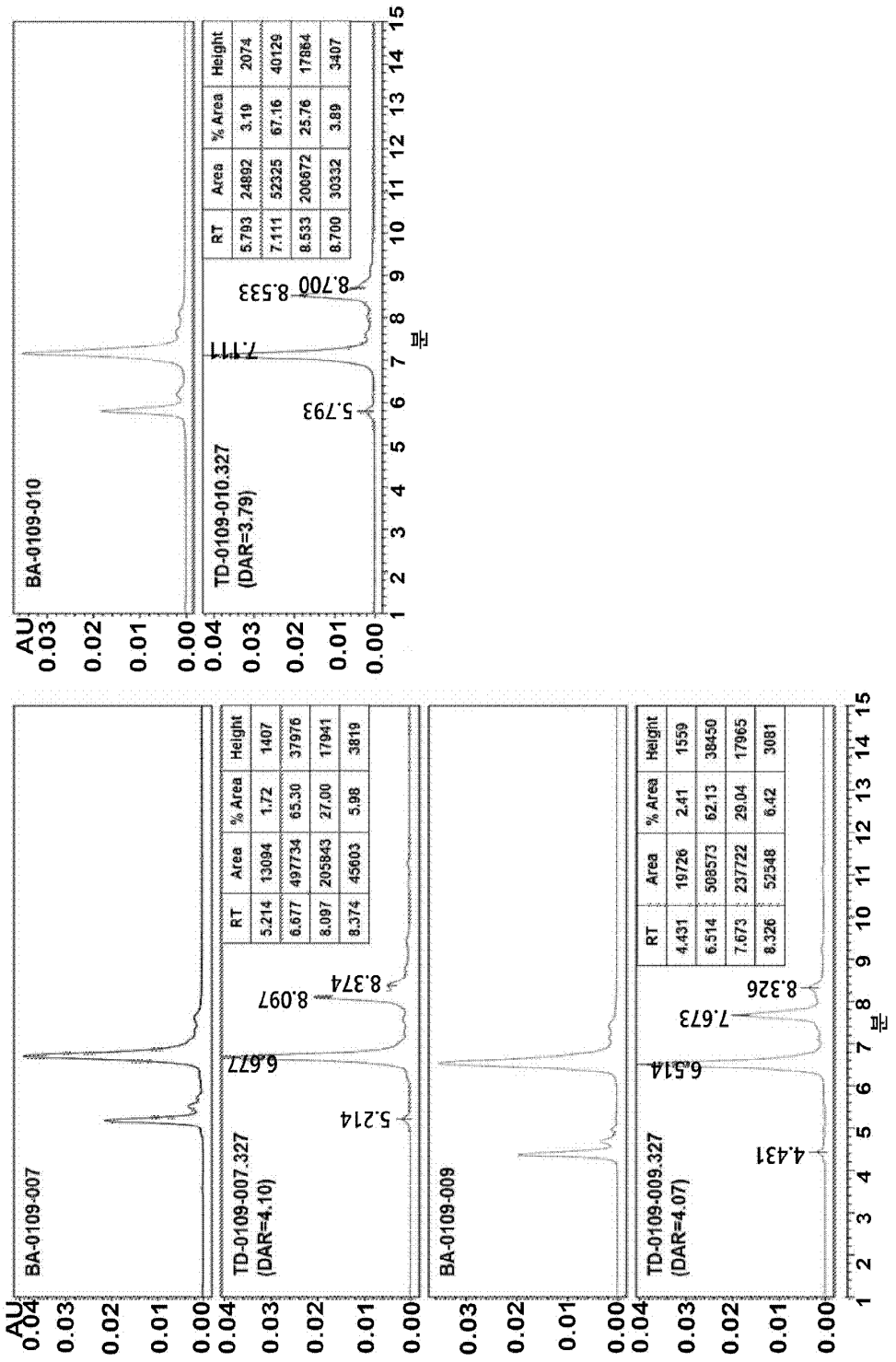
[도15c]


AU
MA-01-001
AD-01-001.304
(DAR=2.04)
BA-0102-002
TD-0102-002.304
(DAR=2.22)
BA-0102-015
TD-0102-015.304
(DAR=2.28)
BA-0102-R004
TD-0102-R004.303
(DAR=1.78)
분

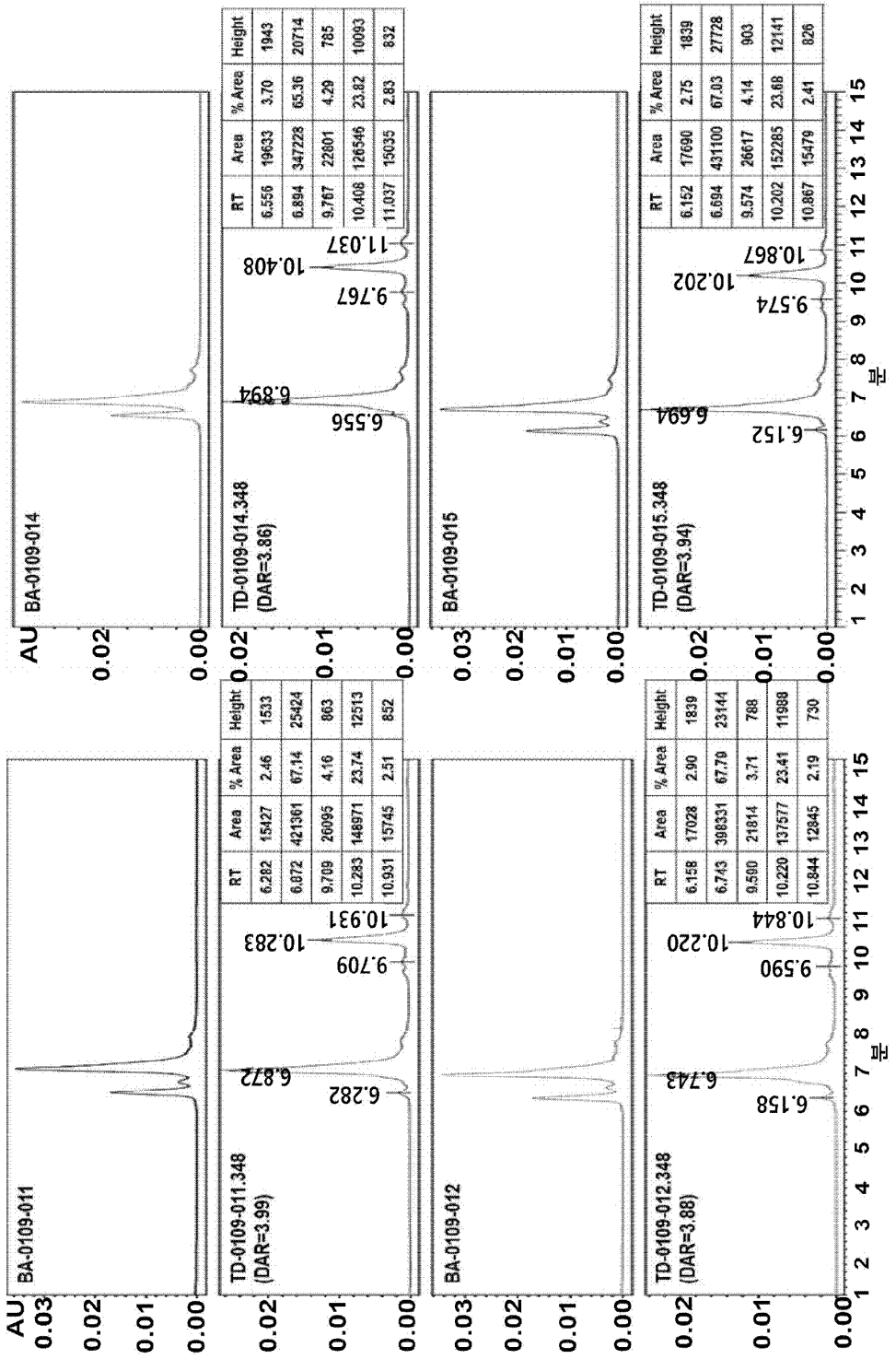
[도15d]


MA-09-003
AD-09-003.327
(DAR=3.96)
BA-0109-004
TD-0109-004.327
(DAR=3.63)
BA-0109-005
TD-0109-005.327
(DAR=3.79)
BA-0109-006
TD-0109-006.327
(DAR=3.91)
AU
분
2.922
6.245
7.510
8.430
4.573
6.686
7.762
8.426
4.390
6.491
7.637
8.304
4.510
6.598
7.706
8.373

[도15e]


BA-0109-007
TD-0109-007.327
(DAR=4.10)
BA-0109-009
TD-0109-009.327
(DAR=4.07)
BA-0109-010
TD-0109-010.327
(DAR=3.79)
AU
분
5.214
6.677
8.097
8.374
4.431
6.514
7.673
8.326
5.793
7.111
8.533
8.700

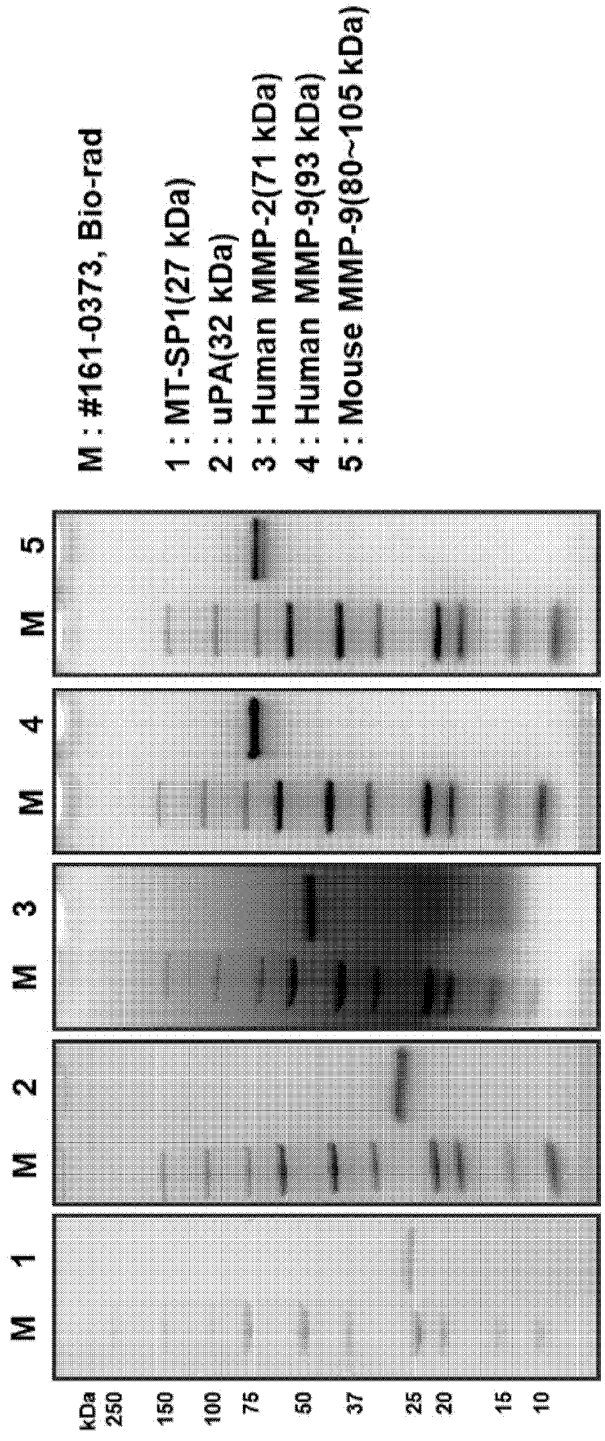
[도15f]


BA-0109-014
TD-0109-014.348 (DAR=3.86)
BA-0109-015
TD-0109-015.348 (DAR=3.94)
BA-0109-011
TD-0109-011.348 (DAR=3.99)
BA-0109-012
TD-0109-012.348 (DAR=3.88)
AU
분

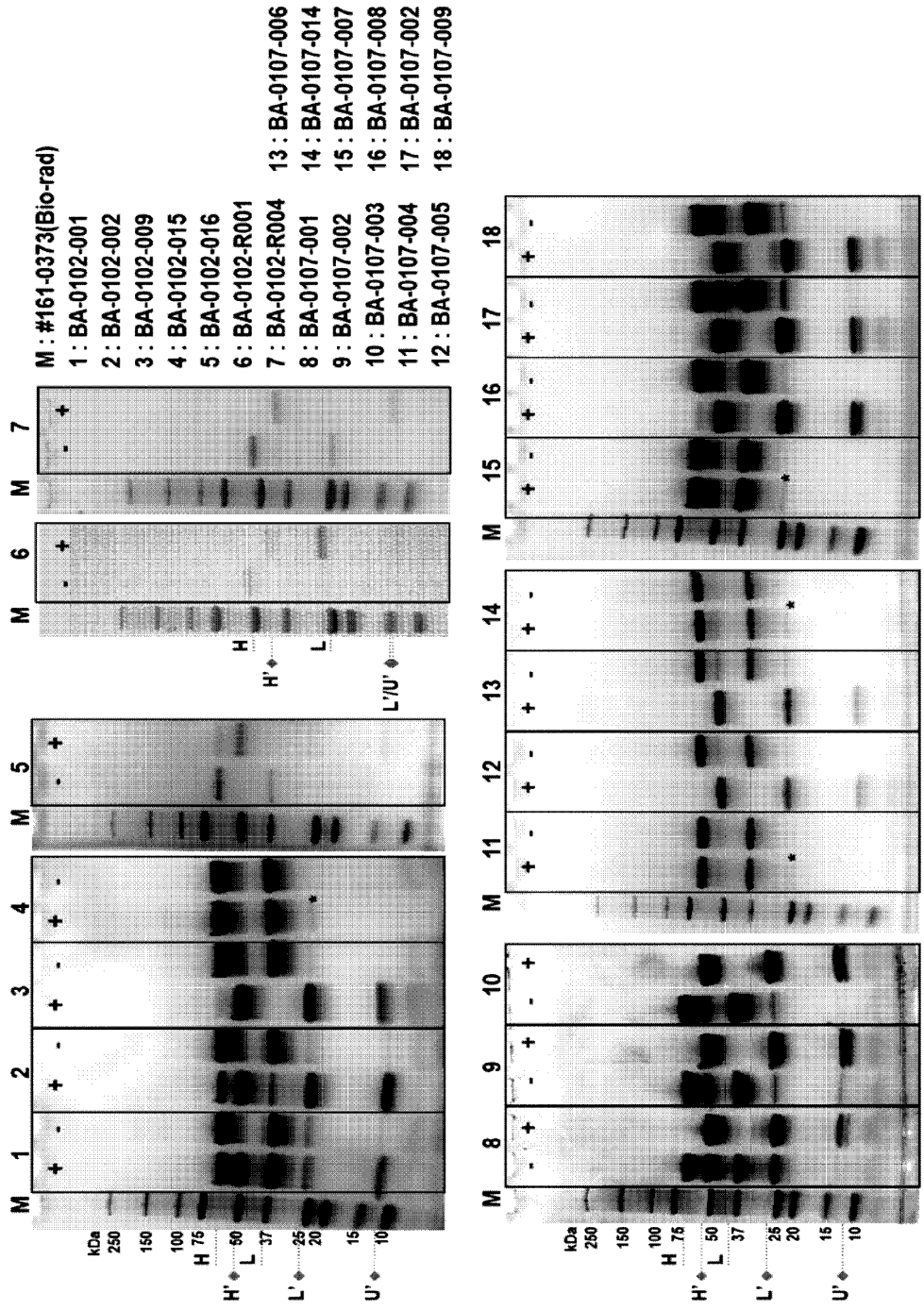
[도15g]


BA-0109-016
TD-0109-016.348
(DAR=3.76)
BA-0109-018
TD-0109-018.348
(DAR=3.94)
BA-0109-024
TD-0109-024.348
(DAR=4.02)
BA-0109-028
TD-0109-028.348
(DAR=4.00)
AU
분

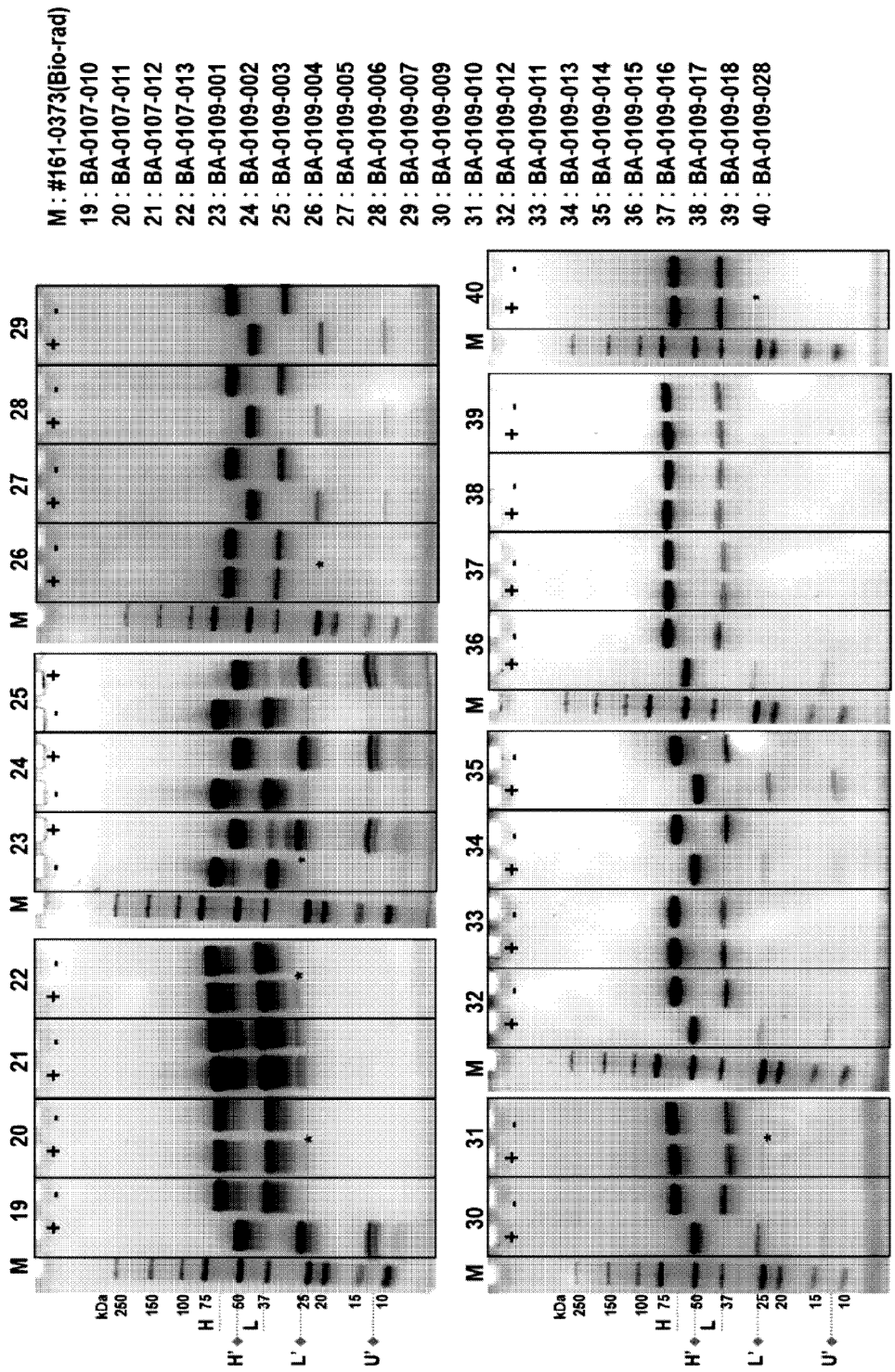
[도16]


M : #161-0373, Bio-rad
1 : MT-SP1(27 kDa)
2 : uPA(32 kDa)
3 : Human MMP-2(71 kDa)
4 : Human MMP-9(93 kDa)
5 : Mouse MMP-9(80~105 kDa)
M 1
M 2
M 3
M 4
M 5
kDa
250
150
100
75
50
37
25
20
15
10

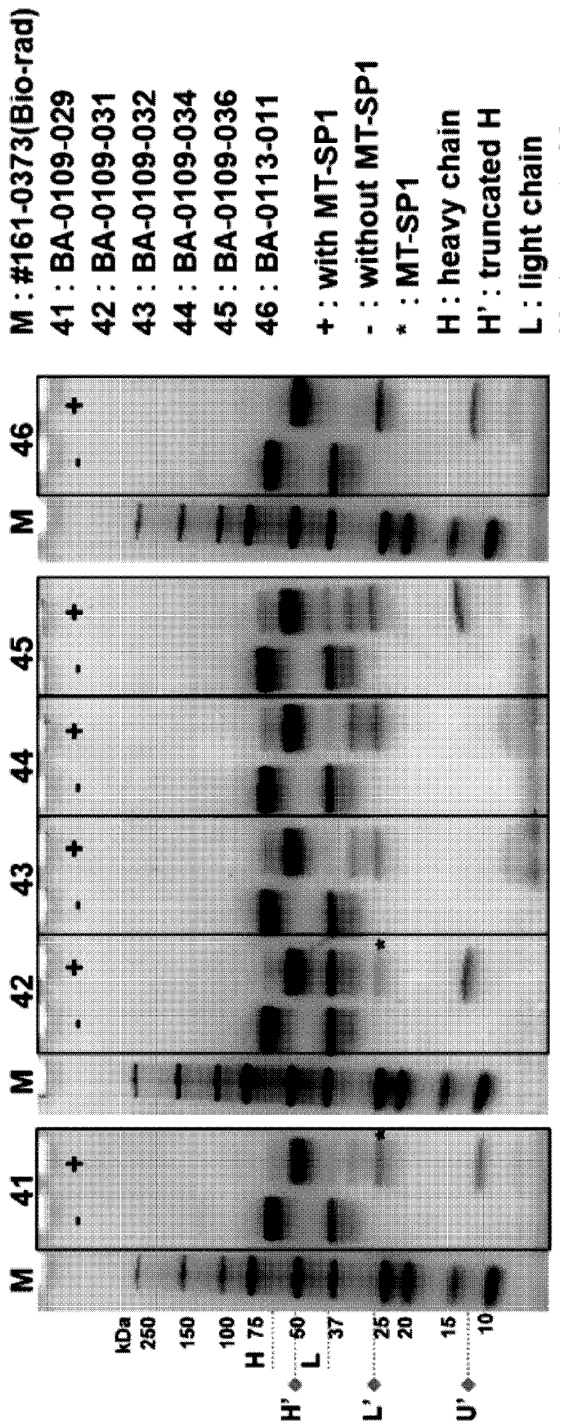
[도17a]


M : #161-0373(Bio-rad)
1 : BA-0102-001
2 : BA-0102-002
3 : BA-0102-009
4 : BA-0102-015
5 : BA-0102-016
6 : BA-0102-R001
7 : BA-0102-R004
8 : BA-0107-001
9 : BA-0107-002
10 : BA-0107-003
11 : BA-0107-004
12 : BA-0107-005
13 : BA-0107-006
14 : BA-0107-014
15 : BA-0107-007
16 : BA-0107-008
17 : BA-0107-002
18 : BA-0107-009
kDa
250
150
100
75
50
37
25
20
15
10
H
L
H'
L'
U'
L'/U'

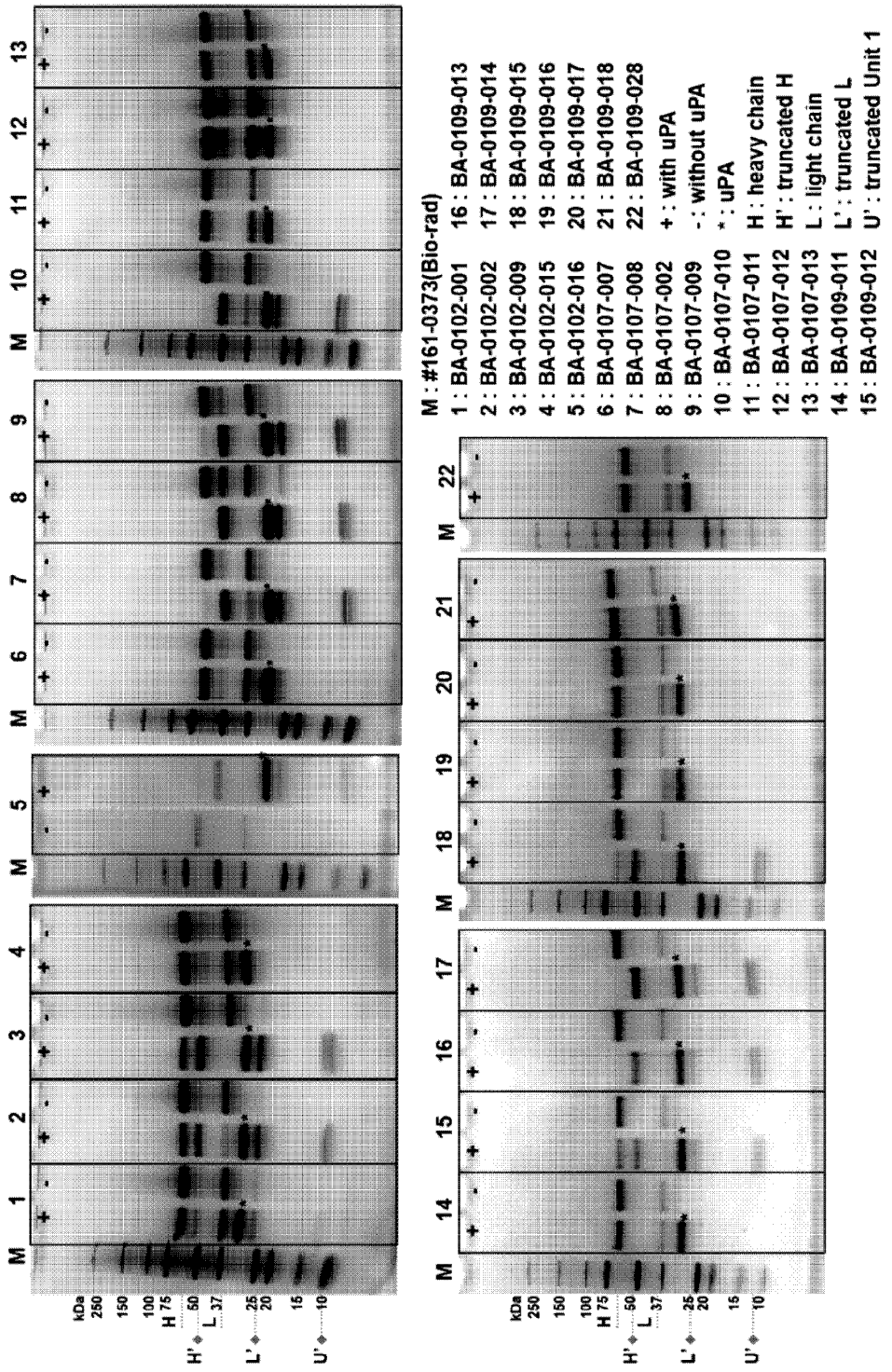
[도17b]


M : #161-0373(Bio-rad)
19 : BA-0107-010
20 : BA-0107-011
21 : BA-0107-012
22 : BA-0107-013
23 : BA-0109-001
24 : BA-0109-002
25 : BA-0109-003
26 : BA-0109-004
27 : BA-0109-005
28 : BA-0109-006
29 : BA-0109-007
30 : BA-0109-009
31 : BA-0109-010
32 : BA-0109-012
33 : BA-0109-011
34 : BA-0109-013
35 : BA-0109-014
36 : BA-0109-015
37 : BA-0109-016
38 : BA-0109-017
39 : BA-0109-018
40 : BA-0109-028
kDa
250
150
100
75
60
37
25
20
15
10
H
L
H'
L'
U'

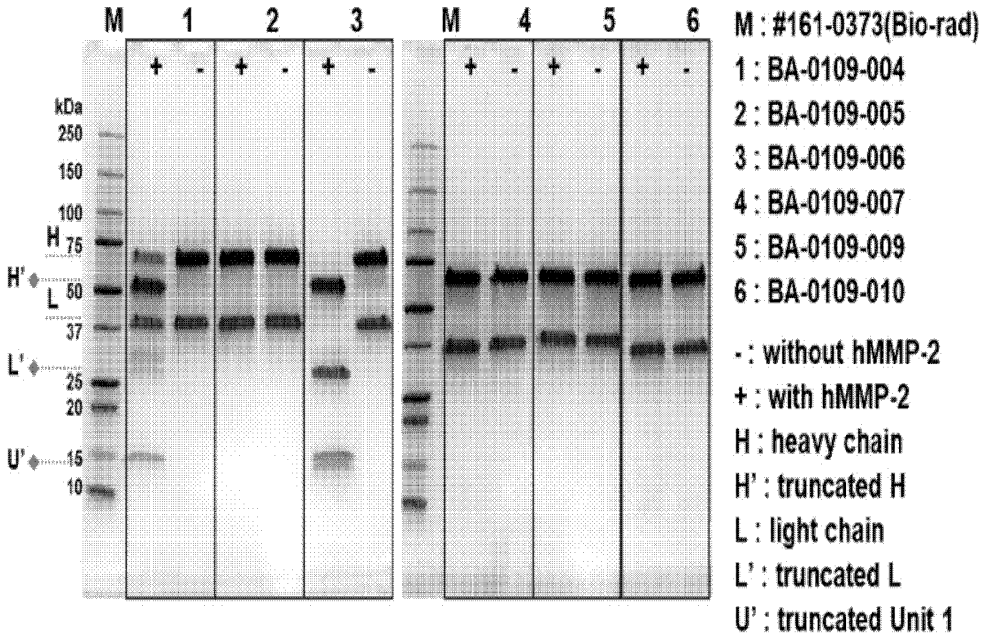
[도17c]


M : #161-0373(Bio-rad)
41 : BA-0109-029
42 : BA-0109-031
43 : BA-0109-032
44 : BA-0109-034
45 : BA-0109-036
46 : BA-0113-011
+ : with MT-SP1
- : without MT-SP1
* : MT-SP1
H : heavy chain
H' : truncated H
L : light chain
kDa
250
150
100
75
50
37
25
20
15
10
H
L
H'
L'
U'
M
41
42
43
44
45
46
+
-
*

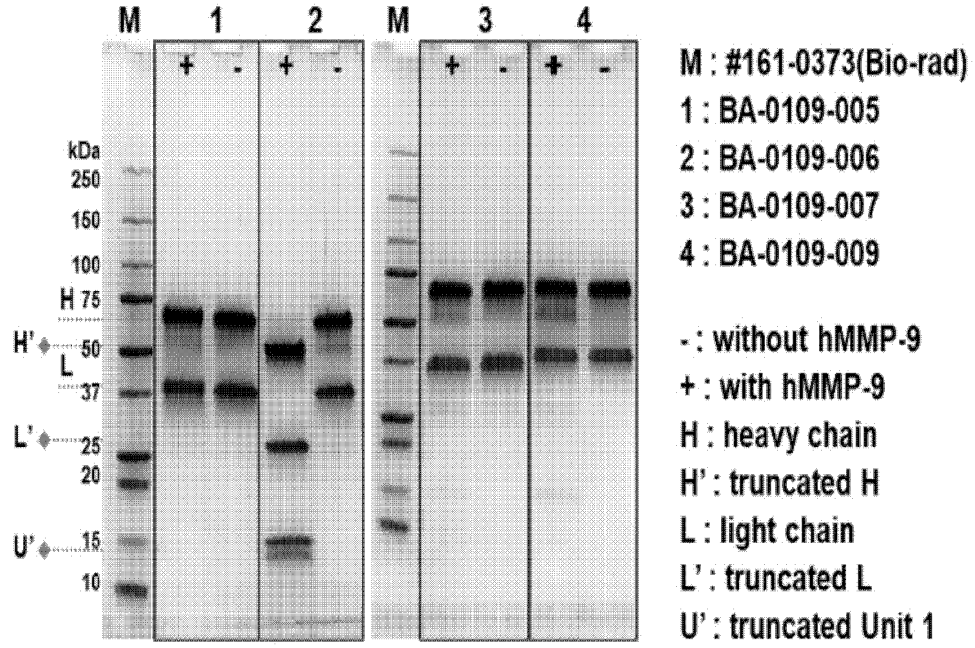
[도18]


M : #161-0373(Bio-rad)
1 : BA-0102-001
2 : BA-0102-002
3 : BA-0102-009
4 : BA-0102-015
5 : BA-0102-016
6 : BA-0107-007
7 : BA-0107-008
8 : BA-0107-002
9 : BA-0107-009
10 : BA-0107-010
11 : BA-0107-011
12 : BA-0107-012
13 : BA-0107-013
14 : BA-0109-011
15 : BA-0109-012
16 : BA-0109-013
17 : BA-0109-014
18 : BA-0109-015
19 : BA-0109-016
20 : BA-0109-017
21 : BA-0109-018
22 : BA-0109-028
+ : with uPA
- : without uPA
* : uPA
H : heavy chain
H' : truncated H
L : light chain
L' : truncated L
U' : truncated Unit 1
kDa
250
150
100
75
50
37
25
20
15
10
H
H'
L
L'
U'

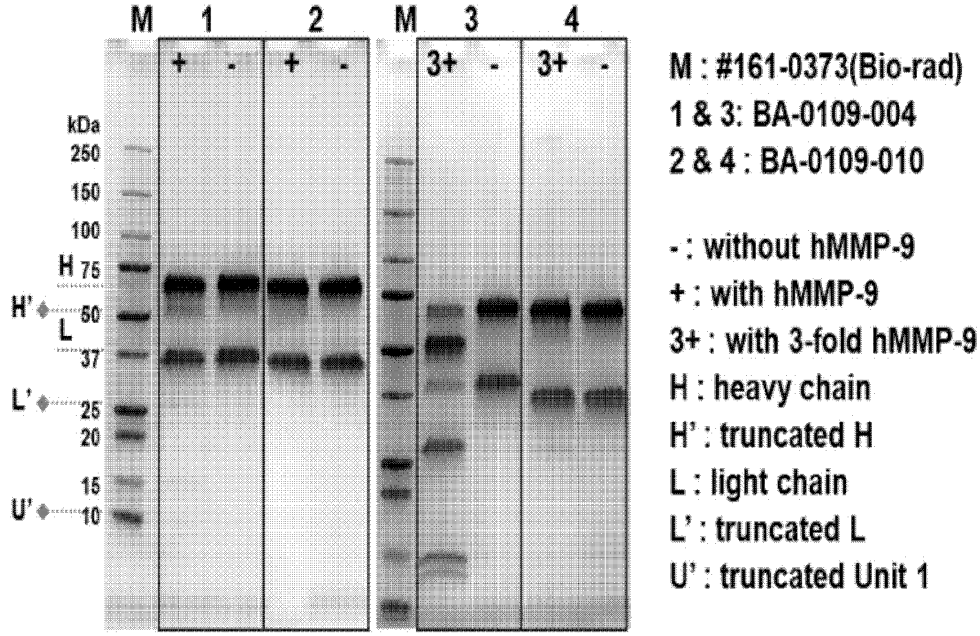
[도19]


M 1 2 3 M 4 5 6
+ - + - + - + - + - + -
kDa
250
150
100
H 75
H'
L 50
37
L'
25
20
U' 15
10
M : #161-0373(Bio-rad)
1 : BA-0109-004
2 : BA-0109-005
3 : BA-0109-006
4 : BA-0109-007
5 : BA-0109-009
6 : BA-0109-010
- : without hMMP-2
+ : with hMMP-2
H : heavy chain
H' : truncated H
L : light chain
L' : truncated L
U' : truncated Unit 1

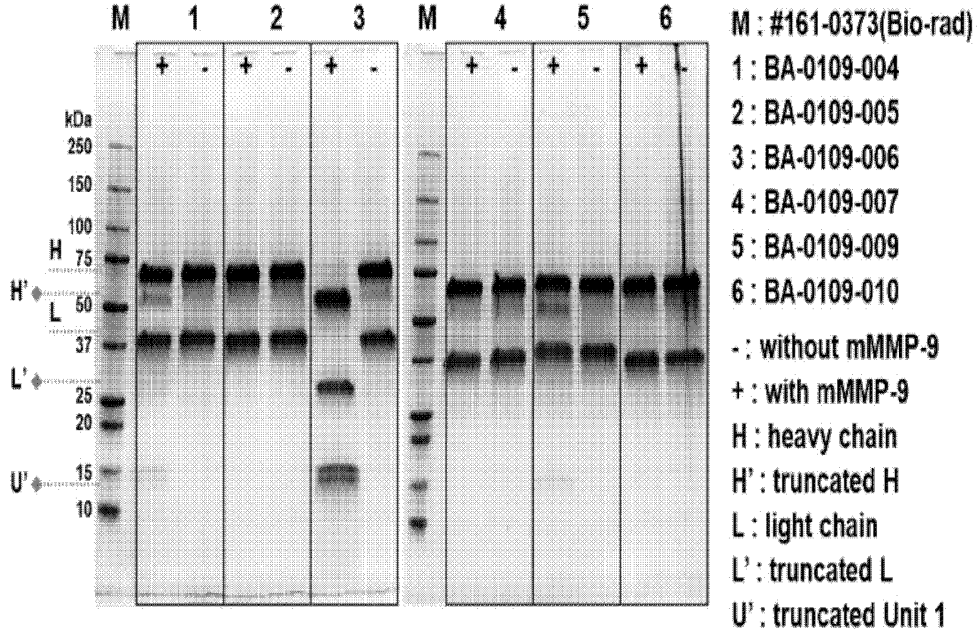
[도20a]


M 1 2 M 3 4
+ - + - + - + -
kDa
250
150
100
H 75
H'
L 50
37
L'
25
20
U' 15
10
M : #161-0373(Bio-rad)
1 : BA-0109-005
2 : BA-0109-006
3 : BA-0109-007
4 : BA-0109-009
- : without hMMP-9
+ : with hMMP-9
H : heavy chain
H' : truncated H
L : light chain
L' : truncated L
U' : truncated Unit 1

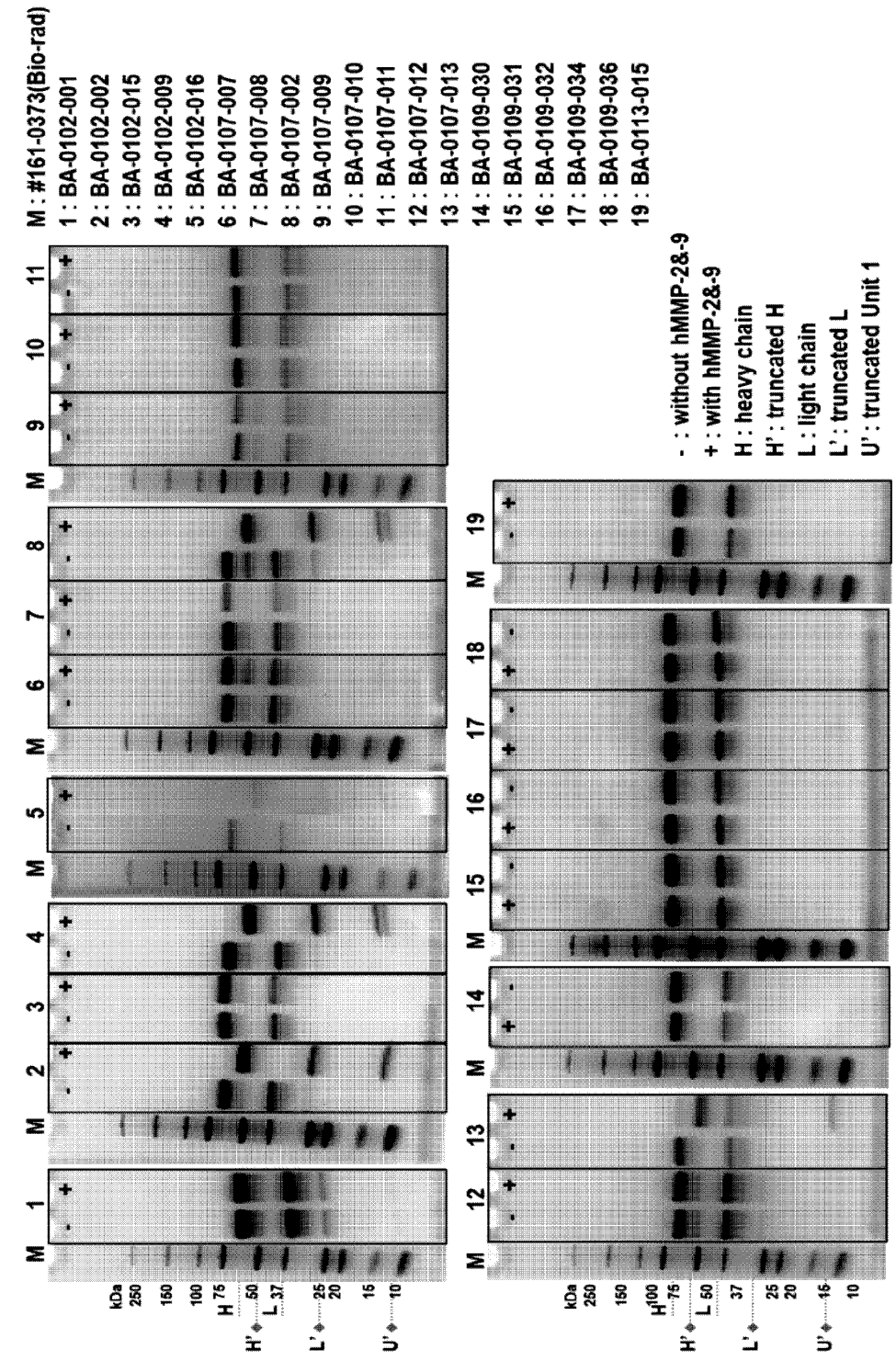
[도20b]


M 1 2 M 3 4
+ - + - 3+ - 3+ -
kDa
250
150
100
H 75
H' 60
L 37
L' 25
20
15
U' 10
M : #161-0373(Bio-rad)
1 & 3: BA-0109-004
2 & 4 : BA-0109-010
- : without hMMP-9
+ : with hMMP-9
3+ : with 3-fold hMMP-9
H : heavy chain
H' : truncated H
L : light chain
L' : truncated L
U' : truncated Unit 1

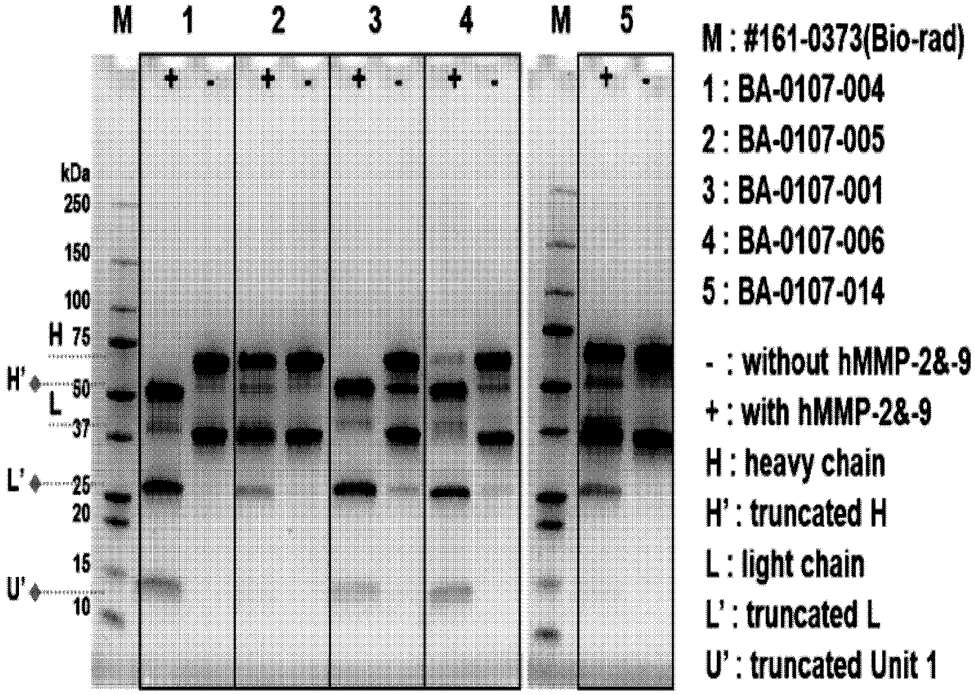
[도20c]


M 1 2 3 M 4 5 6
+ - + - + - + - + - + -
kDa
250
150
100
H 75
H' 50
L 37
L' 25
20
U' 15
10
M : #161-0373(Bio-rad)
1 : BA-0109-004
2 : BA-0109-005
3 : BA-0109-006
4 : BA-0109-007
5 : BA-0109-009
6 : BA-0109-010
- : without mMMP-9
+ : with mMMP-9
H : heavy chain
H' : truncated H
L : light chain
L' : truncated L
U' : truncated Unit 1

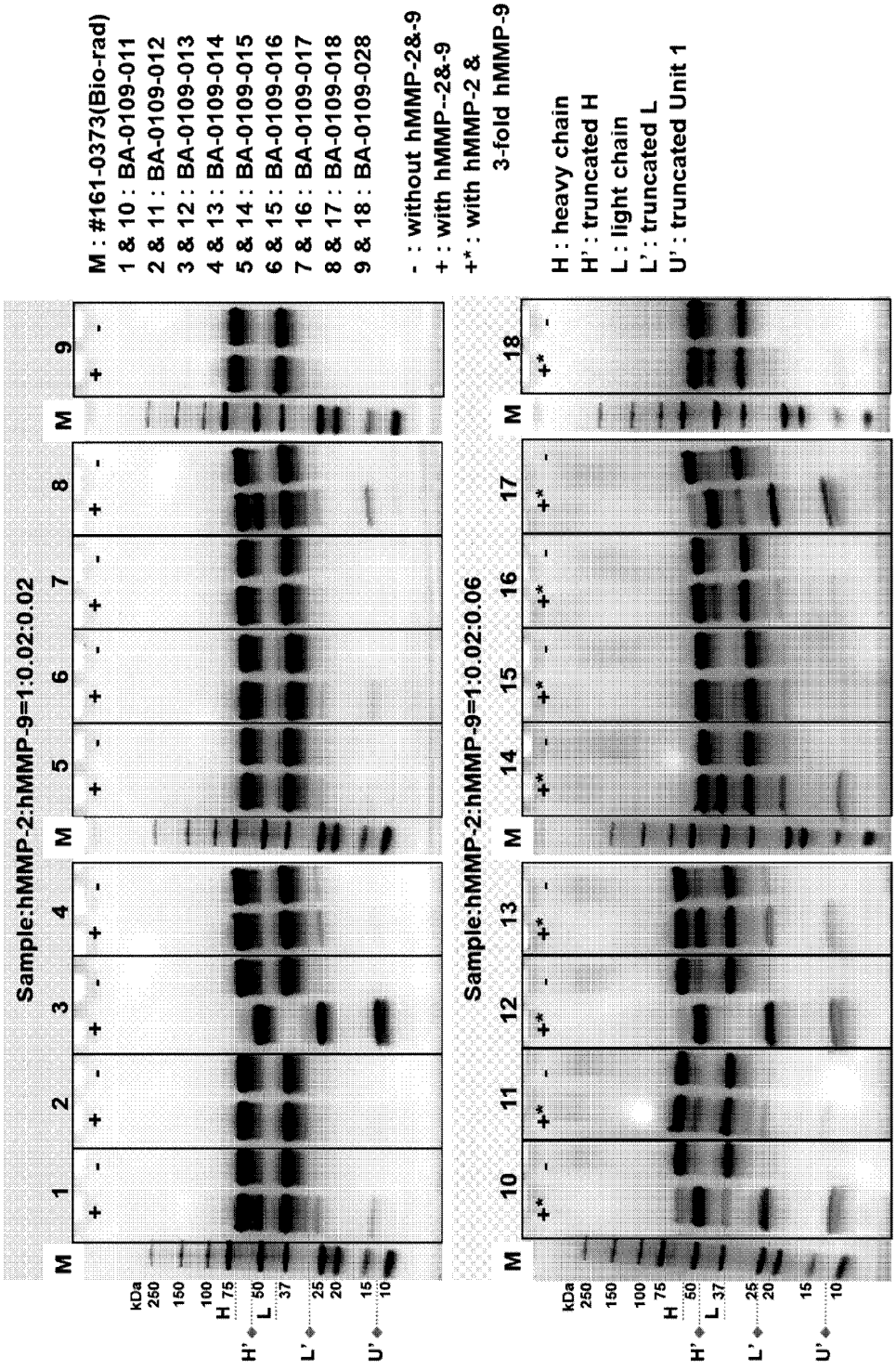
[도21a]


M : #161-0373(Bio-rad)
1 : BA-0102-001
2 : BA-0102-002
3 : BA-0102-015
4 : BA-0102-009
5 : BA-0102-016
6 : BA-0107-007
7 : BA-0107-008
8 : BA-0107-002
9 : BA-0107-009
10 : BA-0107-010
11 : BA-0107-011
12 : BA-0107-012
13 : BA-0107-013
14 : BA-0109-030
15 : BA-0109-031
16 : BA-0109-032
17 : BA-0109-034
18 : BA-0109-036
19 : BA-0113-015
- : without hMMP-2&-9
+ : with hMMP-2&-9
H : heavy chain
H' : truncated H
L : light chain
L' : truncated L
U' : truncated Unit 1
kDa
250
150
100
75
50
37
25
20
15
10

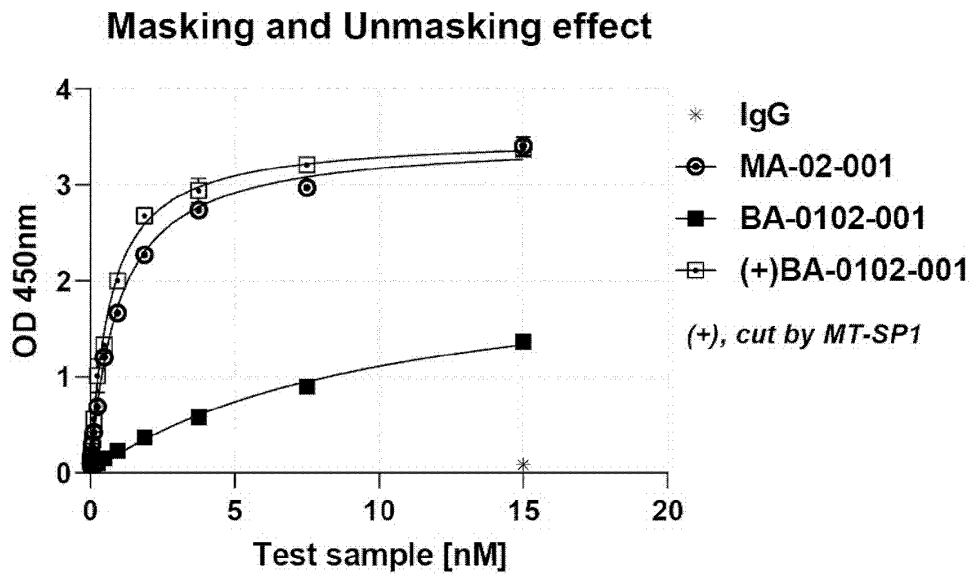
[도21b]


M
1
2
3
4
M
5
+ - + - + - + - + -
kDa
250
150
100
H 75
H'
L
50
37
L'
25
20
15
U'
10
M : #161-0373(Bio-rad)
1 : BA-0107-004
2 : BA-0107-005
3 : BA-0107-001
4 : BA-0107-006
5 : BA-0107-014
- : without hMMP-2&-9
+ : with hMMP-2&-9
H : heavy chain
H' : truncated H
L : light chain
L' : truncated L
U' : truncated Unit 1

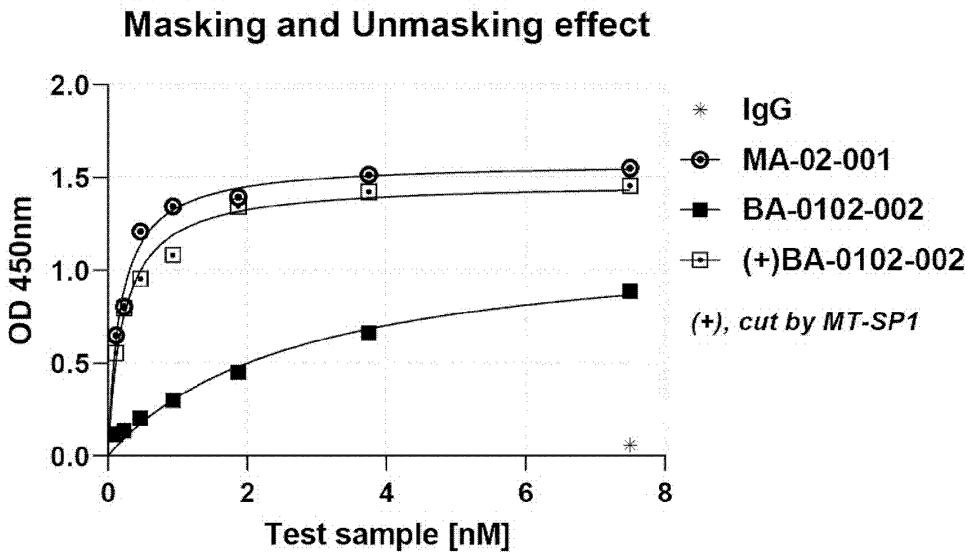
[도21c]


M : #161-0373(Bio-rad)
1 & 10 : BA-0109-011
2 & 11 : BA-0109-012
3 & 12 : BA-0109-013
4 & 13 : BA-0109-014
5 & 14 : BA-0109-015
6 & 15 : BA-0109-016
7 & 16 : BA-0109-017
8 & 17 : BA-0109-018
9 & 18 : BA-0109-028
- : without hMMP-2&-9
+ : with hMMP--2&-9
+* : with hMMP-2 & 3-fold hMMP-9
H : heavy chain
H' : truncated H
L : light chain
L' : truncated L
U' : truncated Unit 1
Sample:hMMP-2:hMMP-9=1:0.02:0.02
Sample:hMMP-2:hMMP-9=1:0.02:0.06
kDa
250
150
100
75
50
37
25
20
15
10
H
L
H'
L'
U'

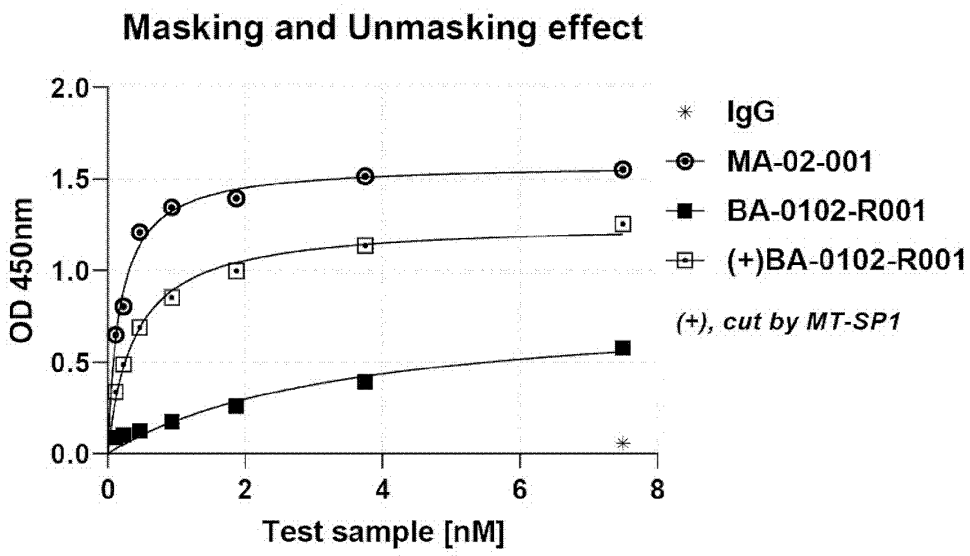
[도22a]


Masking and Unmasking effect
OD 450nm
Test sample [nM]
IgG
MA-02-001
BA-0102-001
(+)BA-0102-001
(+), cut by MT-SP1

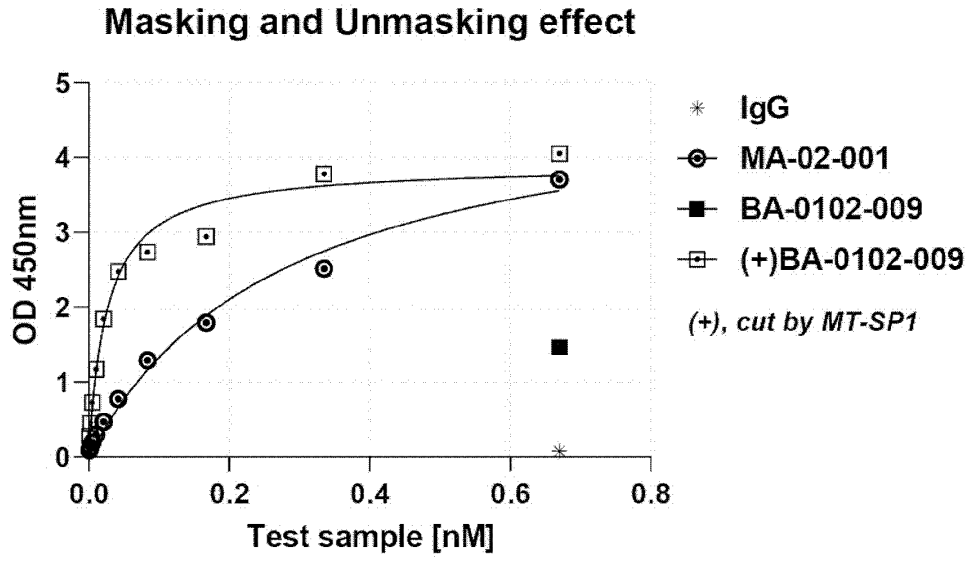
[도22b]


Masking and Unmasking effect
OD 450nm
Test sample [nM]
IgG
MA-02-001
BA-0102-002
(+)BA-0102-002
(+), cut by MT-SP1

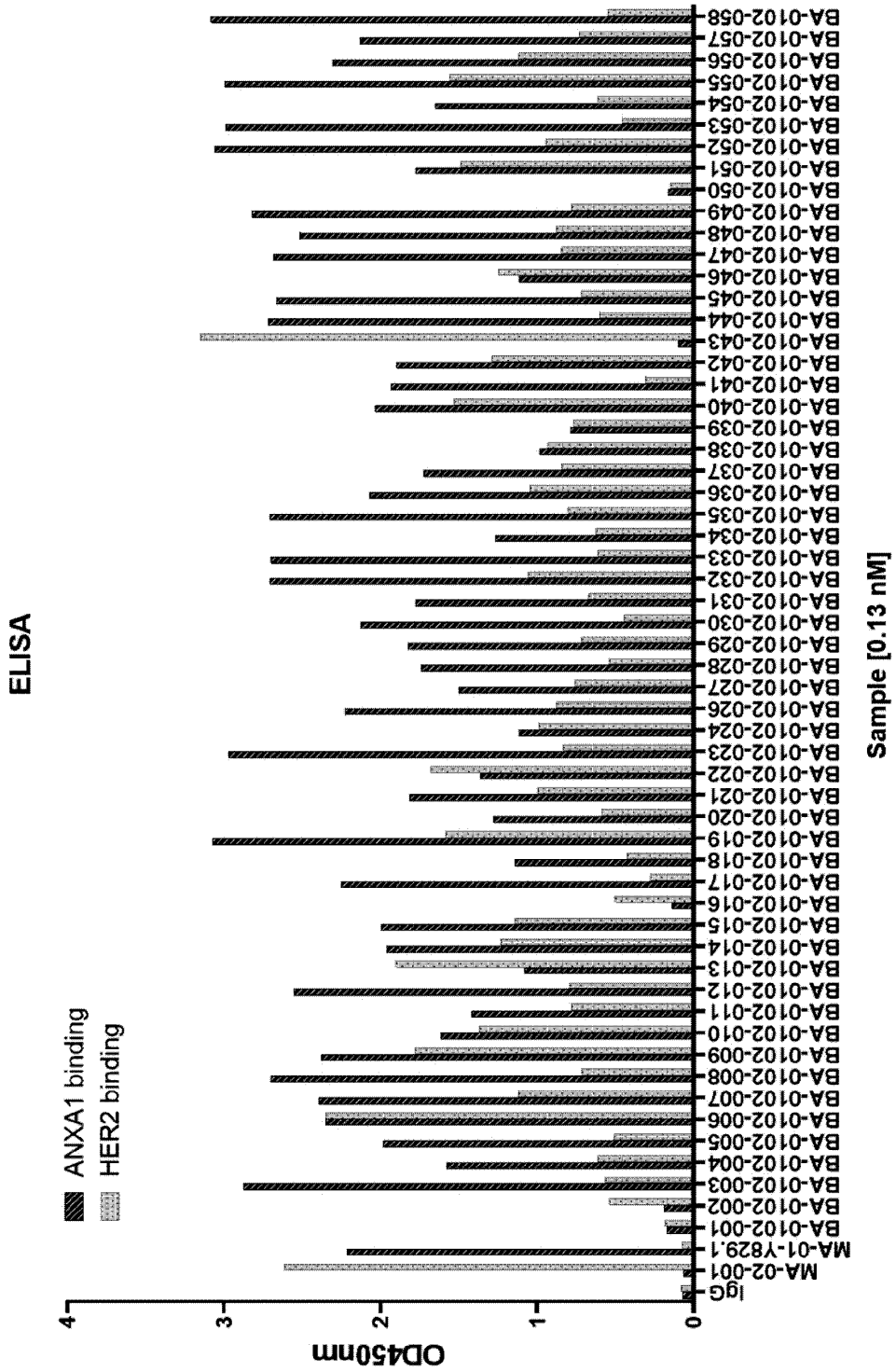
[도22c]


Masking and Unmasking effect
OD 450nm
Test sample [nM]
IgG
MA-02-001
BA-0102-R001
(+)BA-0102-R001
(+), cut by MT-SP1

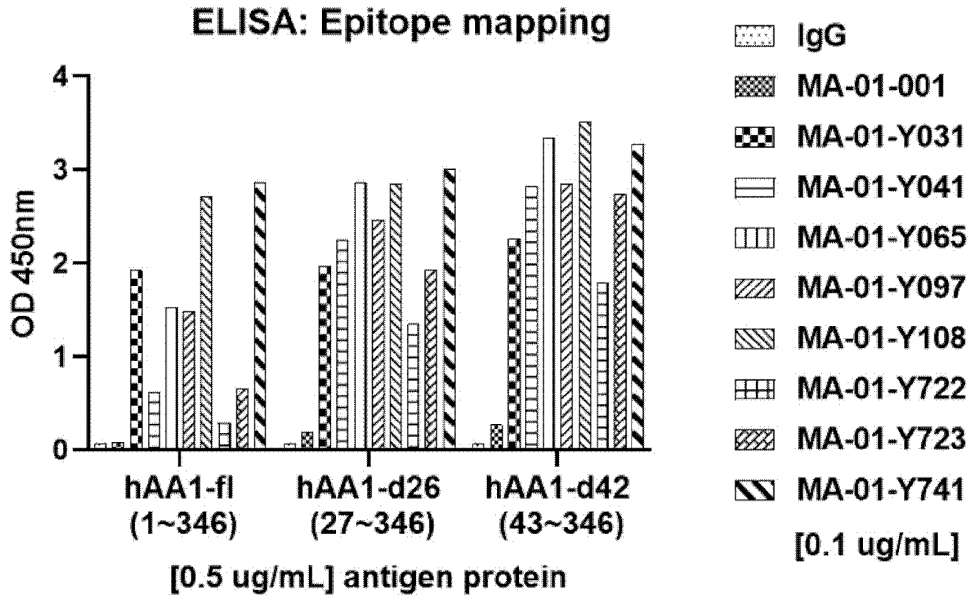
[도22d]


Masking and Unmasking effect
OD 450nm
Test sample [nM]
IgG
MA-02-001
BA-0102-009
(+)BA-0102-009
(+), cut by MT-SP1

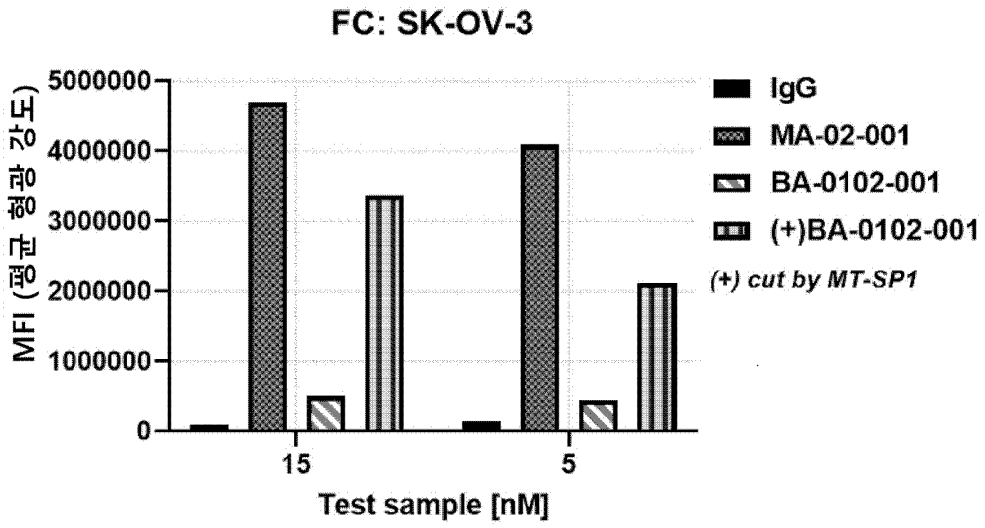
[도22e]


ELISA
ANXA1 binding
HER2 binding
OD450nm
0
1
2
3
4
Sample [0.13 nM]
IgG
MA-02-001
MA-01-Y829.1
BA-0102-001
BA-0102-002
BA-0102-003
BA-0102-004
BA-0102-005
BA-0102-006
BA-0102-007
BA-0102-008
BA-0102-009
BA-0102-010
BA-0102-011
BA-0102-012
BA-0102-013
BA-0102-014
BA-0102-015
BA-0102-016
BA-0102-017
BA-0102-018
BA-0102-019
BA-0102-020
BA-0102-021
BA-0102-022
BA-0102-023
BA-0102-024
BA-0102-026
BA-0102-027
BA-0102-028
BA-0102-029
BA-0102-030
BA-0102-031
BA-0102-032
BA-0102-033
BA-0102-034
BA-0102-035
BA-0102-036
BA-0102-037
BA-0102-038
BA-0102-039
BA-0102-040
BA-0102-041
BA-0102-042
BA-0102-043
BA-0102-044
BA-0102-045
BA-0102-046
BA-0102-047
BA-0102-048
BA-0102-049
BA-0102-050
BA-0102-051
BA-0102-052
BA-0102-053
BA-0102-054
BA-0102-055
BA-0102-056
BA-0102-057
BA-0102-058

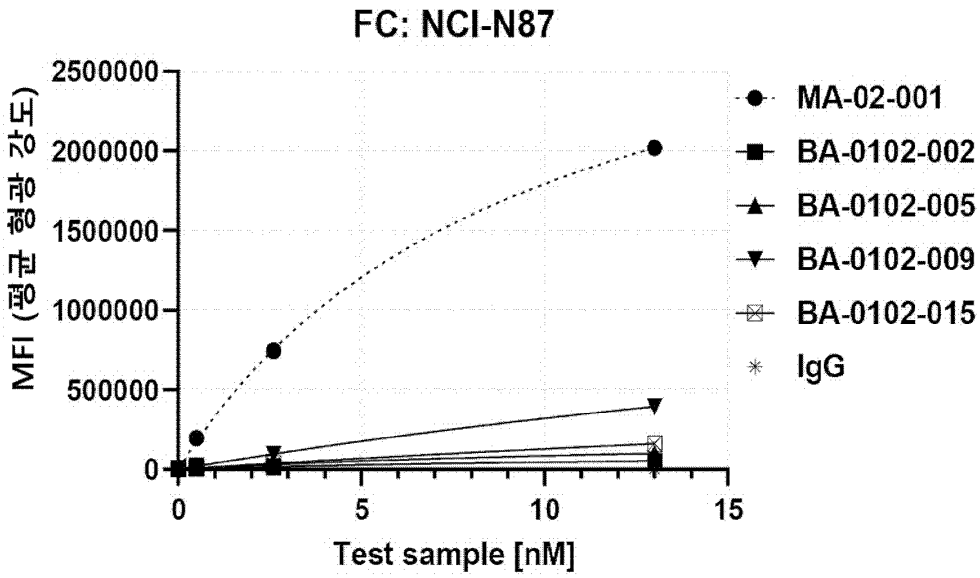
[도23]


ELISA: Epitope mapping
OD 450nm
4
3
2
1
0
hAA1-fl (1~346)
hAA1-d26 (27~346)
hAA1-d42 (43~346)
[0.5 ug/mL] antigen protein
IgG
MA-01-001
MA-01-Y031
MA-01-Y041
MA-01-Y065
MA-01-Y097
MA-01-Y108
MA-01-Y722
MA-01-Y723
MA-01-Y741
[0.1 ug/mL]

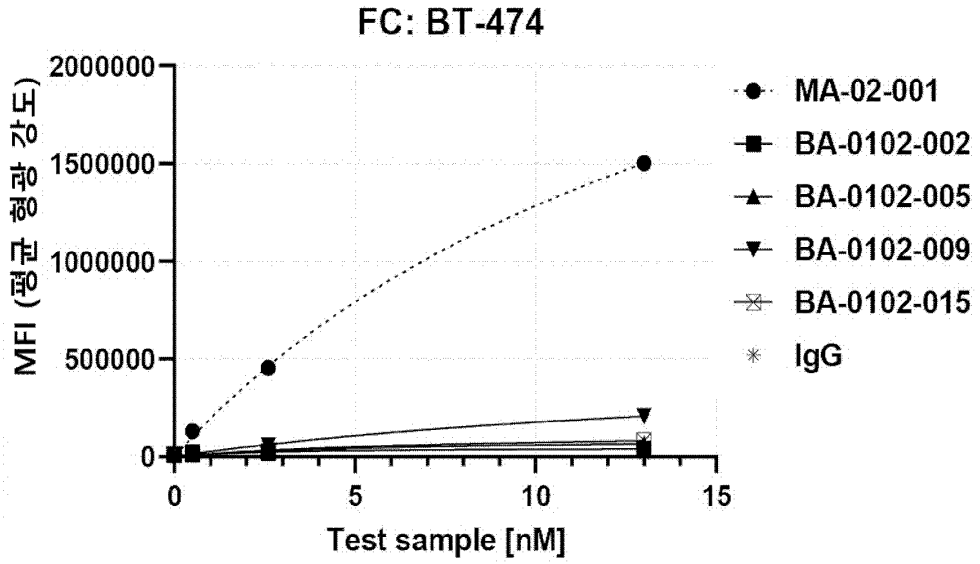
[도24a]


FC: SK-OV-3
MFI (평균 형광 강도)
5000000
4000000
3000000
2000000
1000000
0
15
5
Test sample [nM]
IgG
MA-02-001
BA-0102-001
(+)BA-0102-001
(+) cut by MT-SP1

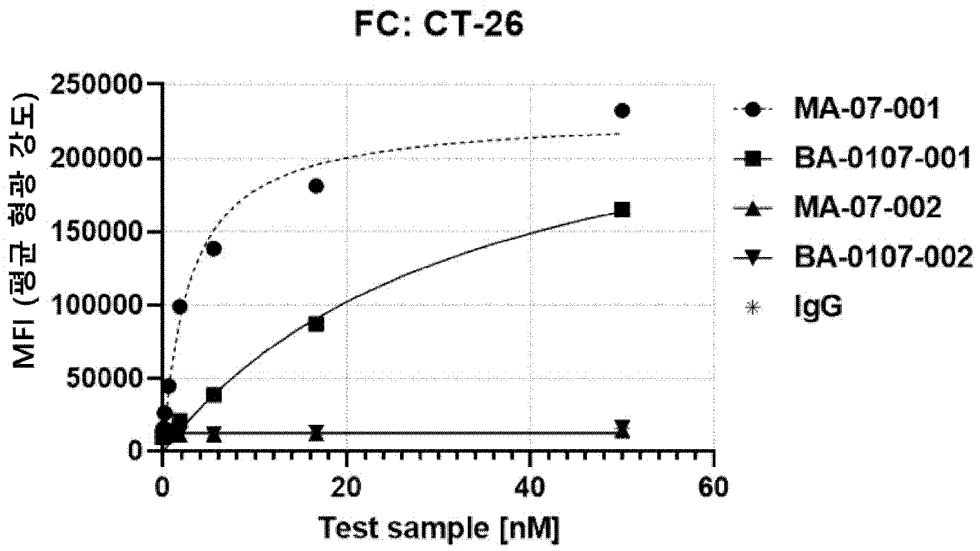
[도24b]


FC: NCI-N87
MFI (평균 형광 강도)
2500000
2000000
1500000
1000000
500000
0
0
5
10
15
Test sample [nM]
MA-02-001
BA-0102-002
BA-0102-005
BA-0102-009
BA-0102-015
IgG

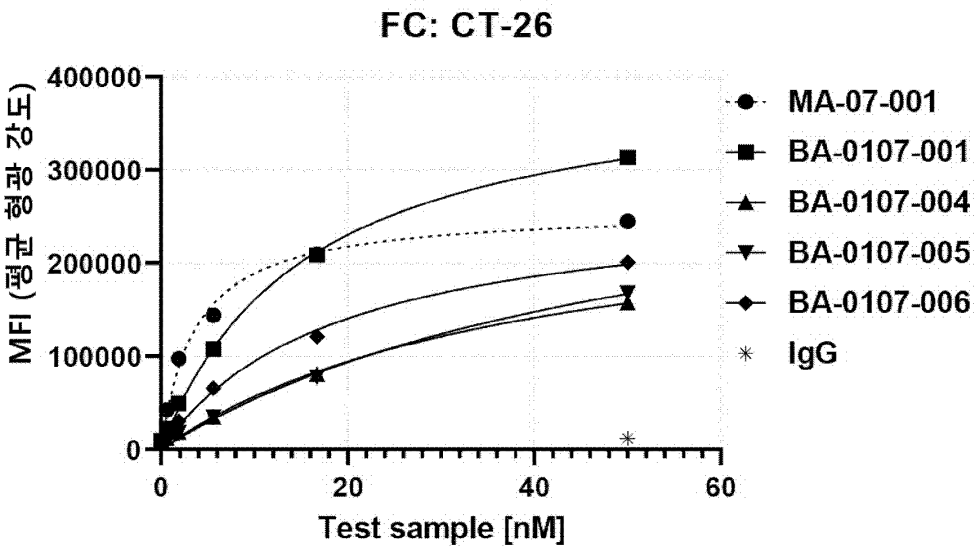
[도24c]


FC: BT-474
MFI (평균 형광 강도)
2000000
1500000
1000000
500000
0
0
5
10
15
Test sample [nM]
MA-02-001
BA-0102-002
BA-0102-005
BA-0102-009
BA-0102-015
IgG

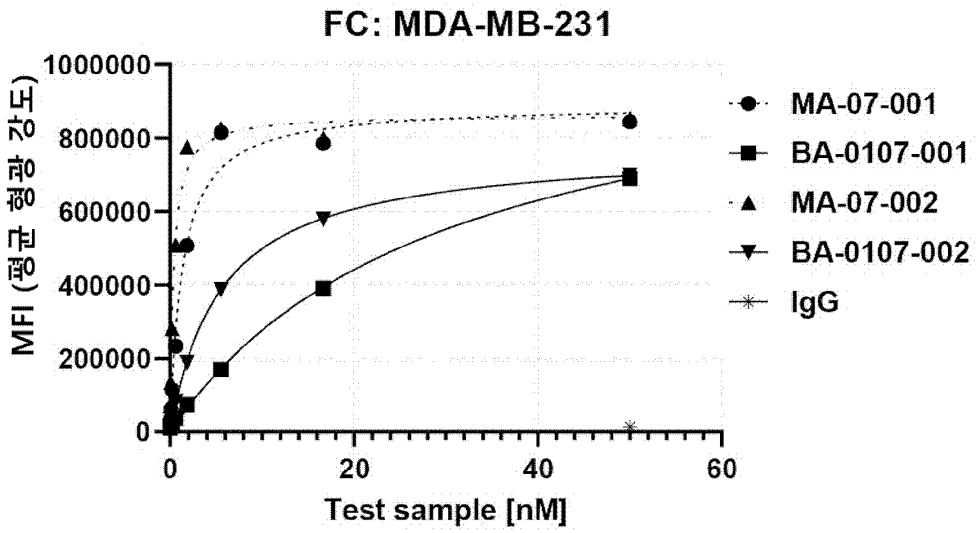
[도25a]


FC: CT-26
MFI (평균 형광 강도)
250000
200000
150000
100000
50000
0
0
20
40
60
Test sample [nM]
MA-07-001
BA-0107-001
MA-07-002
BA-0107-002
IgG

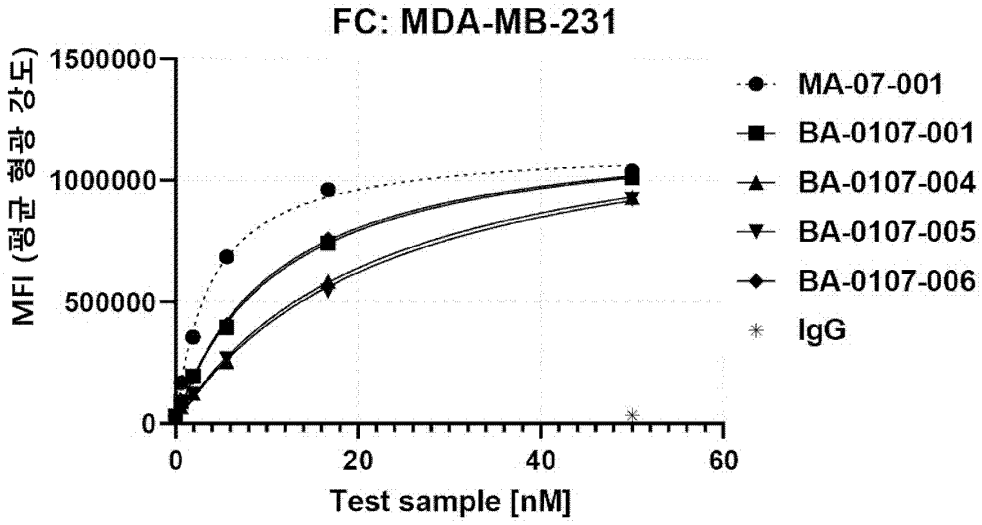
[도25b]


FC: CT-26
MFI (평균 형광 강도)
400000
300000
200000
100000
0
0
20
40
60
Test sample [nM]
MA-07-001
BA-0107-001
BA-0107-004
BA-0107-005
BA-0107-006
IgG

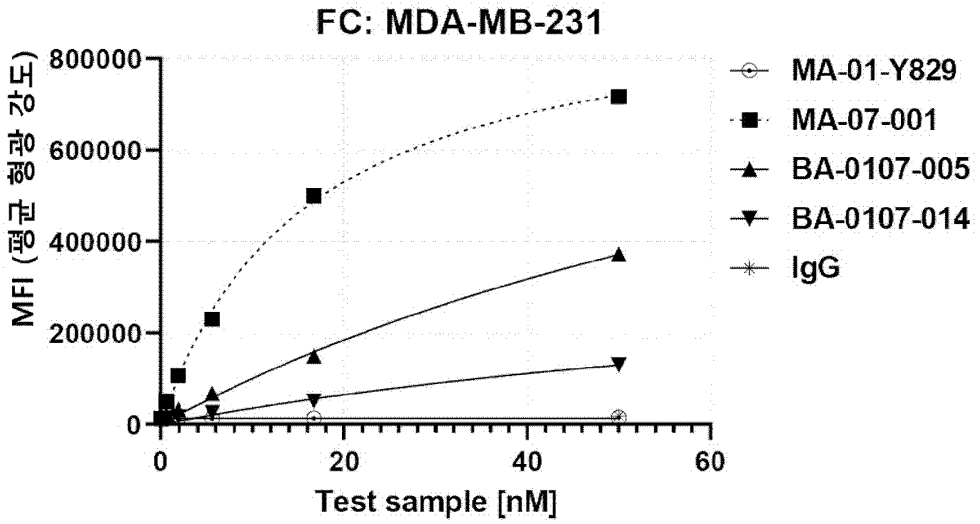
[도25c]


FC: MDA-MB-231
MFI (평균 형광 강도)
1000000
800000
600000
400000
200000
0
0
20
40
60
Test sample [nM]
MA-07-001
BA-0107-001
MA-07-002
BA-0107-002
IgG

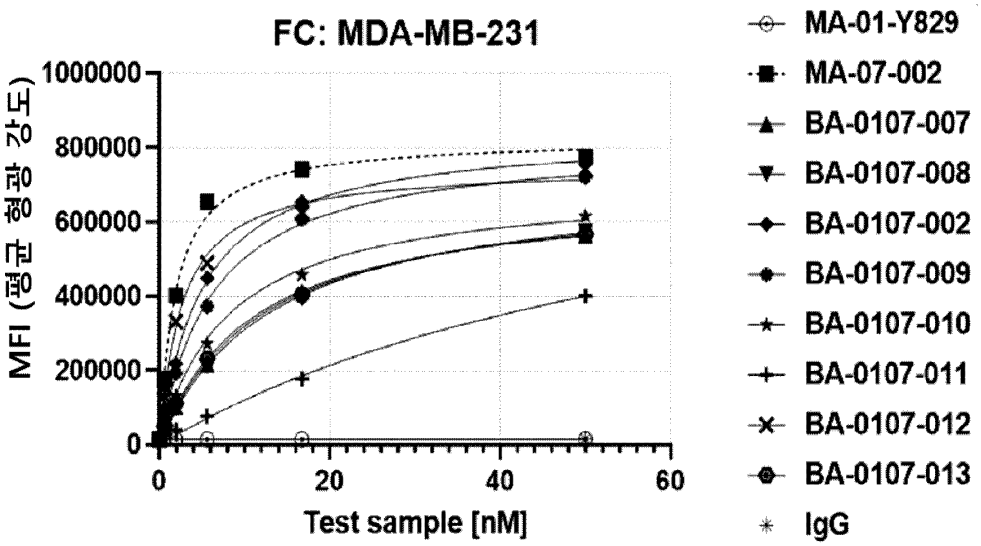
[도25d]


FC: MDA-MB-231
MFI (평균 형광 강도)
1500000
1000000
500000
0
0
20
40
60
Test sample [nM]
MA-07-001
BA-0107-001
BA-0107-004
BA-0107-005
BA-0107-006
IgG

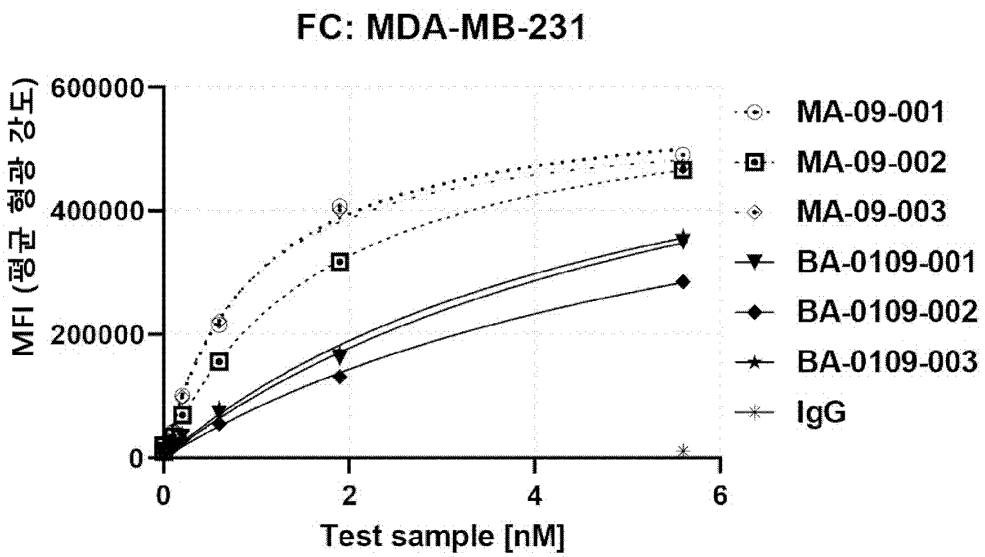
[도25e]


FC: MDA-MB-231
MFI (평균 형광 강도)
800000
600000
400000
200000
0
0
20
40
60
Test sample [nM]
MA-01-Y829
MA-07-001
BA-0107-005
BA-0107-014
IgG

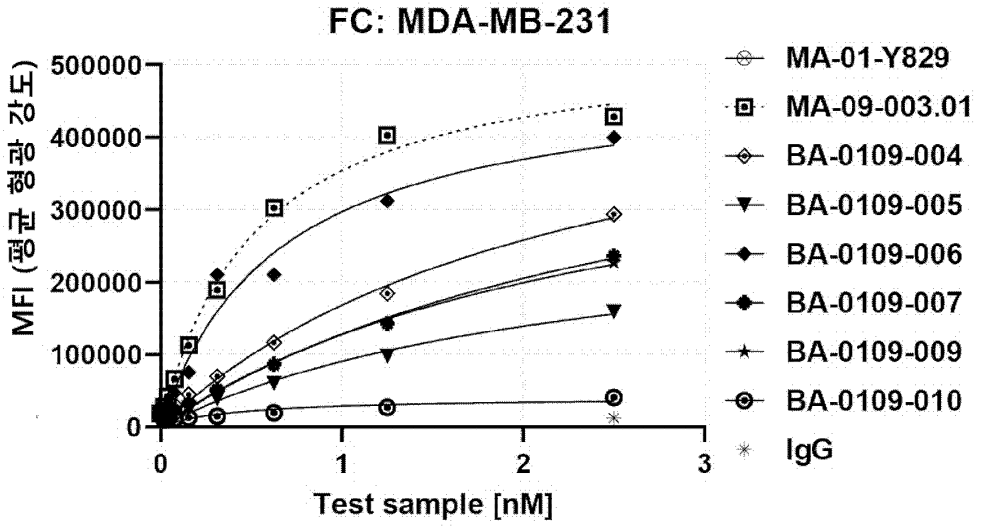
[도25f]


FC: MDA-MB-231
MFI (평균 형광 강도)
1000000
800000
600000
400000
200000
0
0
20
40
60
Test sample [nM]
MA-01-Y829
MA-07-002
BA-0107-007
BA-0107-008
BA-0107-002
BA-0107-009
BA-0107-010
BA-0107-011
BA-0107-012
BA-0107-013
IgG

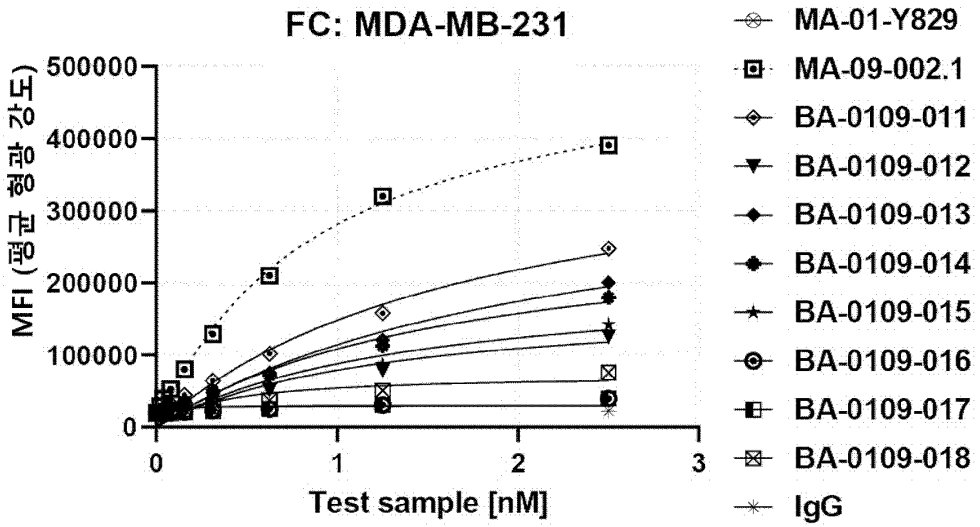
[도26a]


FC: MDA-MB-231
MFI (평균 형광 강도)
600000
400000
200000
0
0
2
4
6
Test sample [nM]
MA-09-001
MA-09-002
MA-09-003
BA-0109-001
BA-0109-002
BA-0109-003
IgG

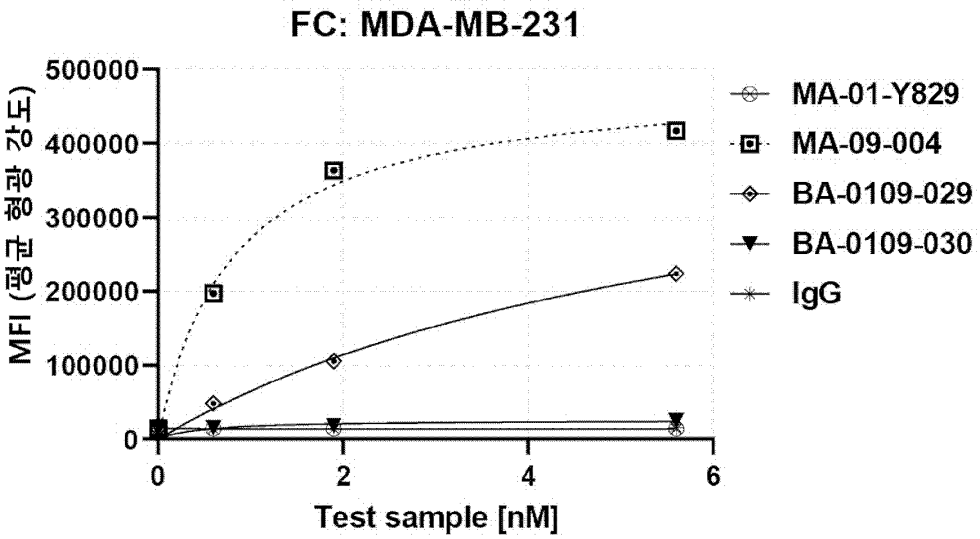
[도26b]


FC: MDA-MB-231
MFI (평균 형광 강도)
500000
400000
300000
200000
100000
0
0
1
2
3
Test sample [nM]
MA-01-Y829
MA-09-003.01
BA-0109-004
BA-0109-005
BA-0109-006
BA-0109-007
BA-0109-009
BA-0109-010
IgG

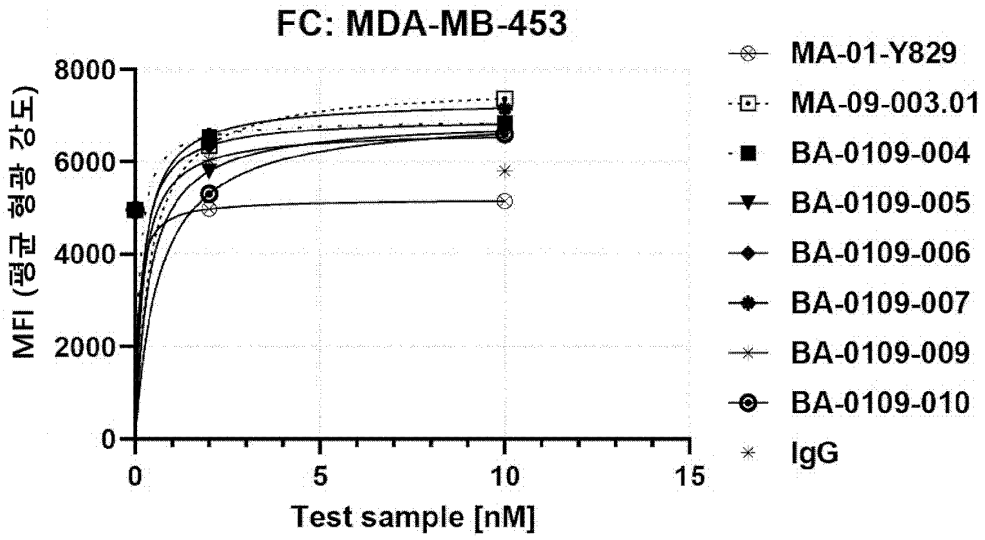
[도26c]


FC: MDA-MB-231
MFI (평균 형광 강도)
500000
400000
300000
200000
100000
0
0
1
2
3
Test sample [nM]
MA-01-Y829
MA-09-002.1
BA-0109-011
BA-0109-012
BA-0109-013
BA-0109-014
BA-0109-015
BA-0109-016
BA-0109-017
BA-0109-018
IgG

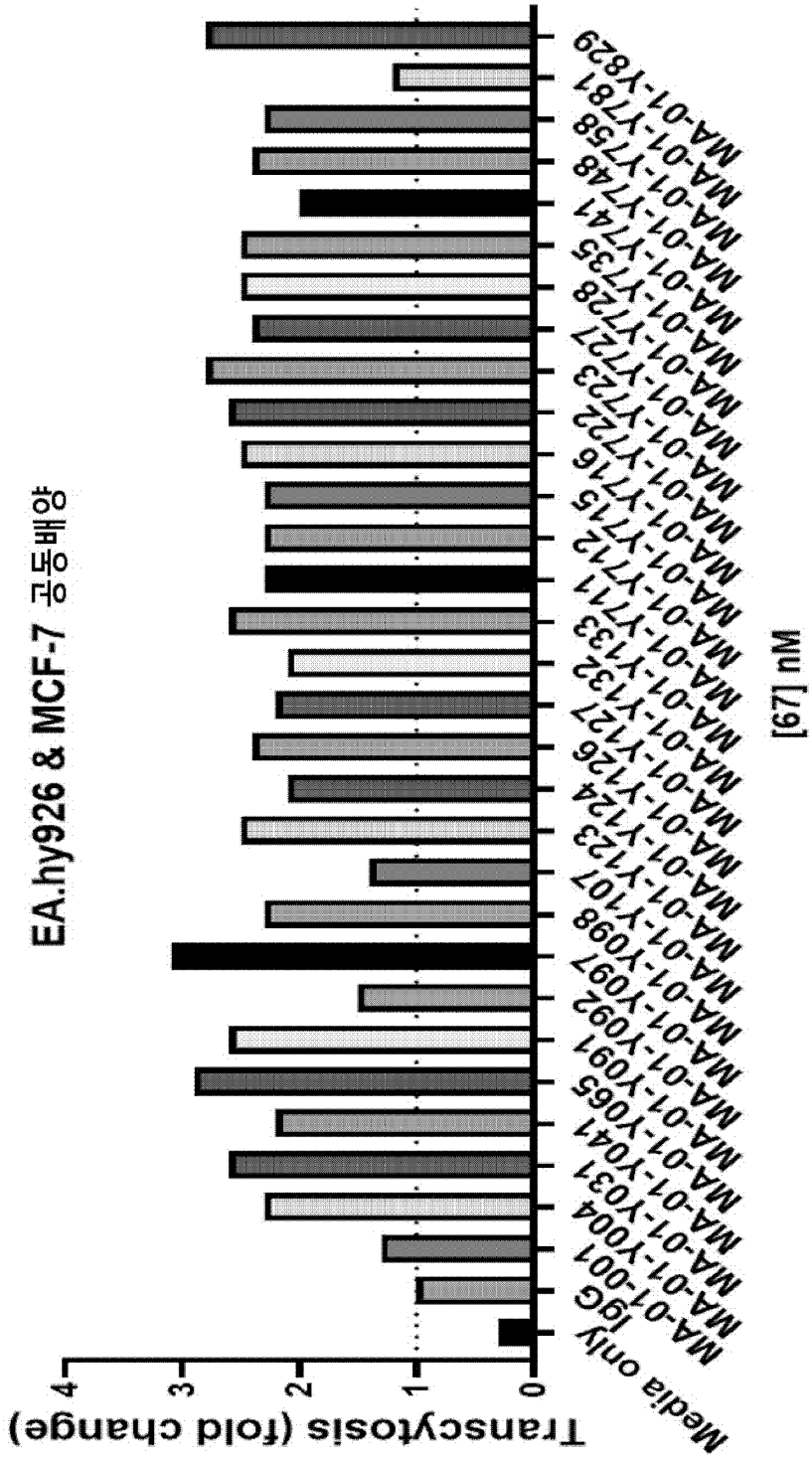
[도26d]


FC: MDA-MB-231
MFI (평균 형광 강도)
500000
400000
300000
200000
100000
0
0
2
4
6
Test sample [nM]
MA-01-Y829
MA-09-004
BA-0109-029
BA-0109-030
IgG

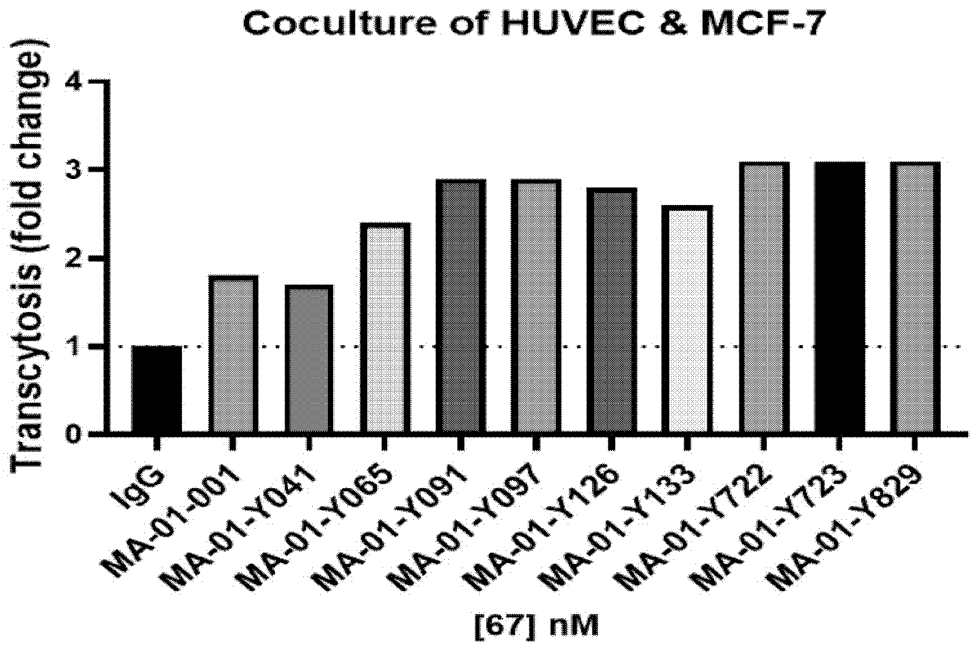
[도26e]


FC: MDA-MB-453
MFI (평균 형광 강도)
8000
6000
4000
2000
0
0
5
10
15
Test sample [nM]
MA-01-Y829
MA-09-003.01
BA-0109-004
BA-0109-005
BA-0109-006
BA-0109-007
BA-0109-009
BA-0109-010
IgG

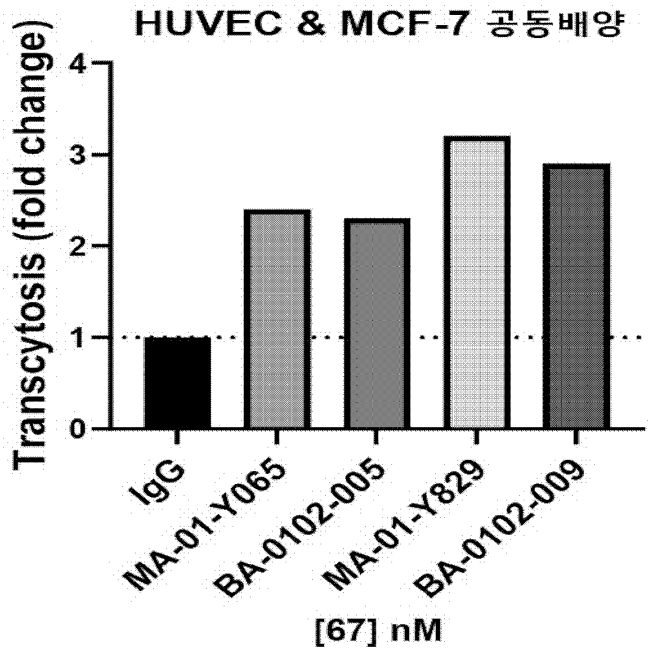
[도27a]


EA.hy926 & MCF-7 공동배양
Transcytosis (fold change)
0
1
2
3
4
Media only
IgG
MA-01-001
MA-01-004
MA-01-037
MA-01-047
MA-01-065
MA-01-091
MA-01-092
MA-01-097
MA-01-098
MA-01-107
MA-01-123
MA-01-124
MA-01-126
MA-01-127
MA-01-132
MA-01-133
MA-01-717
MA-01-712
MA-01-715
MA-01-716
MA-01-722
MA-01-723
MA-01-727
MA-01-728
MA-01-735
MA-01-741
MA-01-748
MA-01-758
MA-01-781
MA-01-829
[67] nM

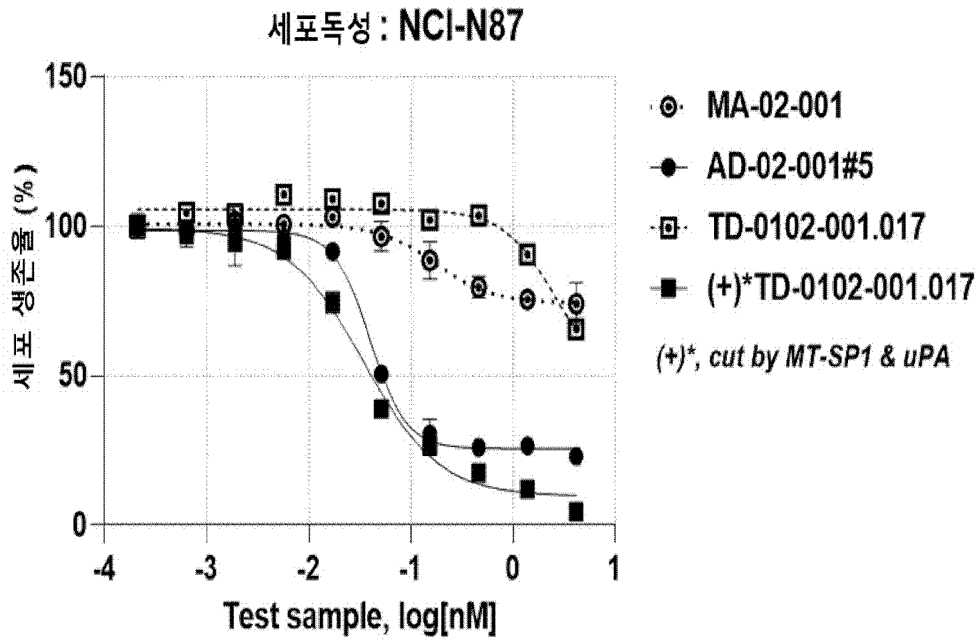
[도27b]


Coculture of HUVEC & MCF-7
Transcytosis (fold change)
0
1
2
3
4
IgG
MA-01-001
MA-01-Y041
MA-01-Y065
MA-01-Y091
MA-01-Y097
MA-01-Y126
MA-01-Y133
MA-01-Y722
MA-01-Y723
MA-01-Y829
[67] nM

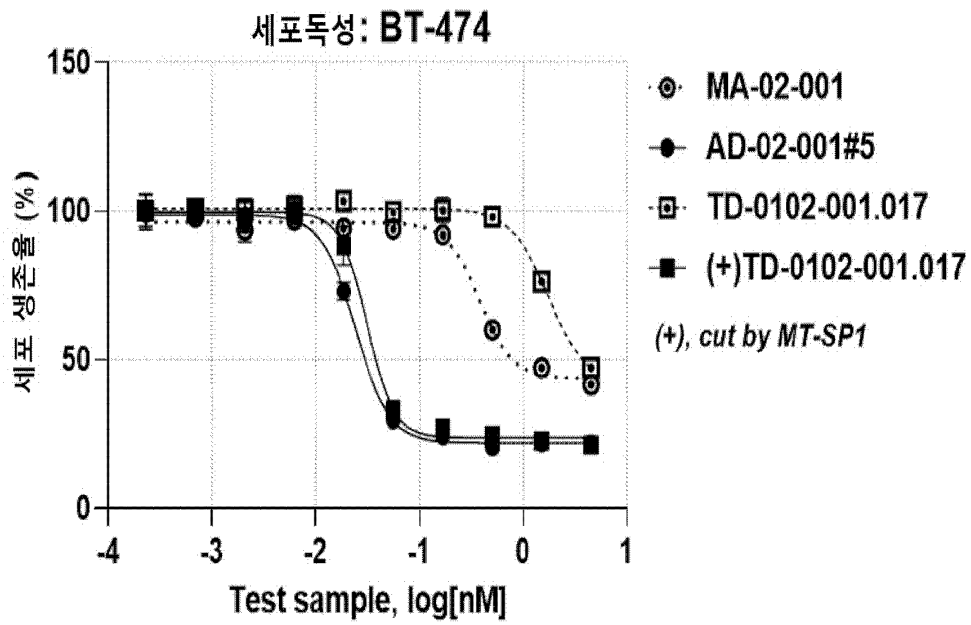
[도27c]


HUVEC & MCF-7 공동배양
Transcytosis (fold change)
0
1
2
3
4
IgG
MA-01-Y065
BA-0102-005
MA-01-Y829
BA-0102-009
[67] nM

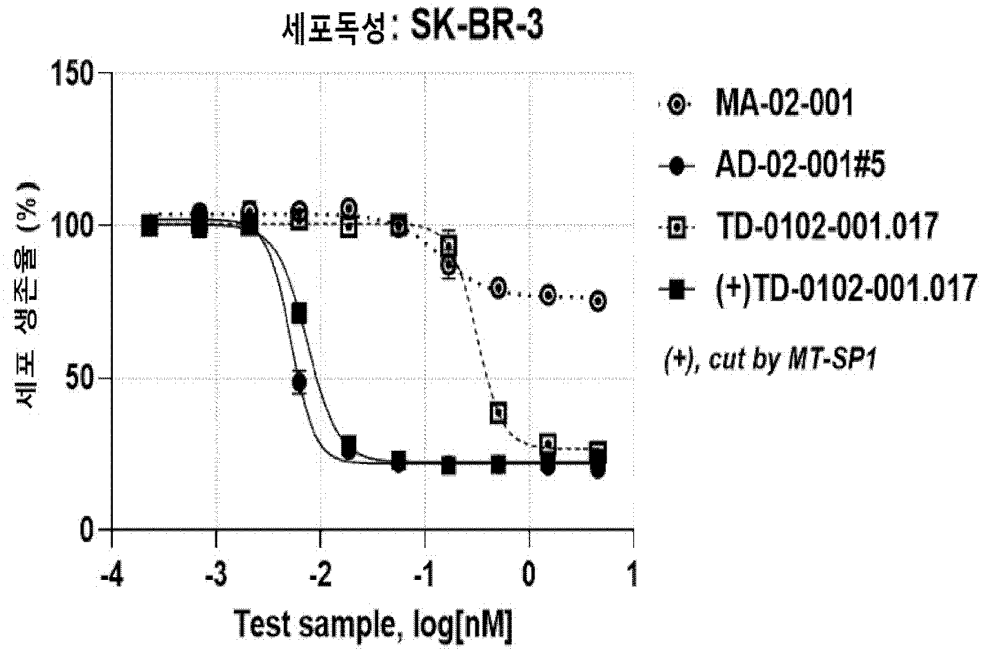
[도28a]


세포독성 : NCI-N87
세포 생존율 (%)
150
100
50
0
-4
-3
-2
-1
0
1
Test sample, log[nM]
MA-02-001
AD-02-001#5
TD-0102-001.017
(+)*TD-0102-001.017
(+)*, cut by MT-SP1 & uPA

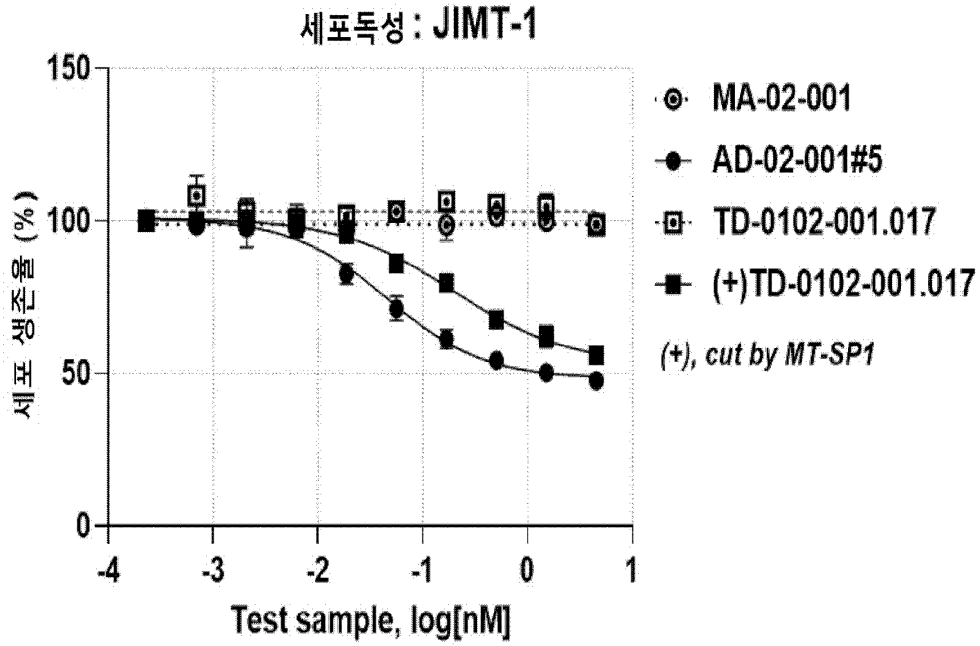
[도28b]


세포독성: BT-474
세포 생존율 (%)
150
100
50
0
-4
-3
-2
-1
0
1
Test sample, log[nM]
MA-02-001
AD-02-001#5
TD-0102-001.017
(+)TD-0102-001.017
(+), cut by MT-SP1

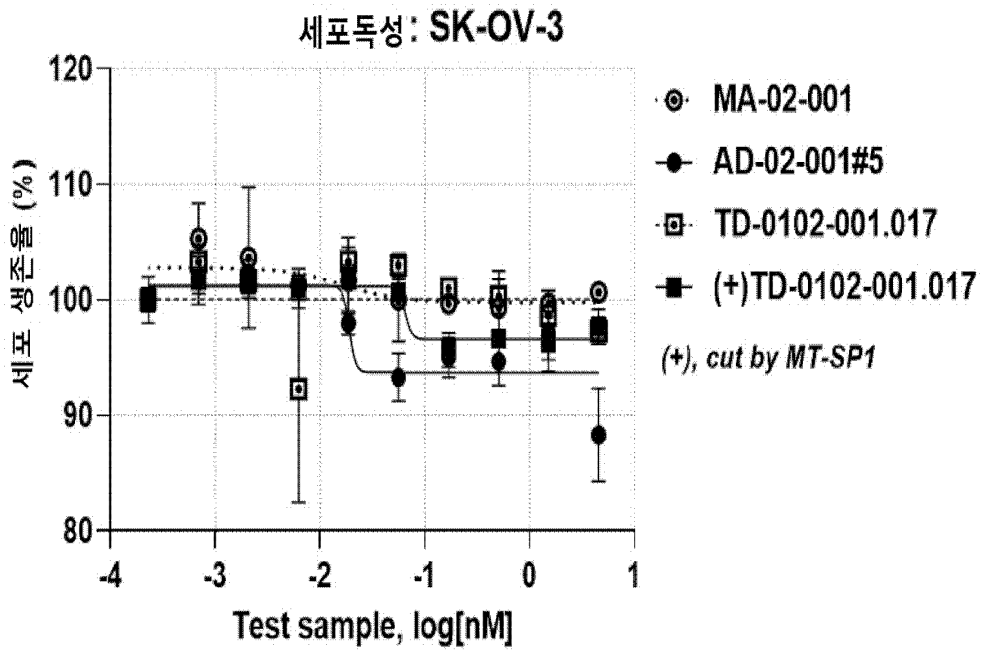
[도28c]


세포독성: SK-BR-3
세포 생존율 (%)
150
100
50
0
-4
-3
-2
-1
0
1
Test sample, log[nM]
MA-02-001
AD-02-001#5
TD-0102-001.017
(+)TD-0102-001.017
(+), cut by MT-SP1

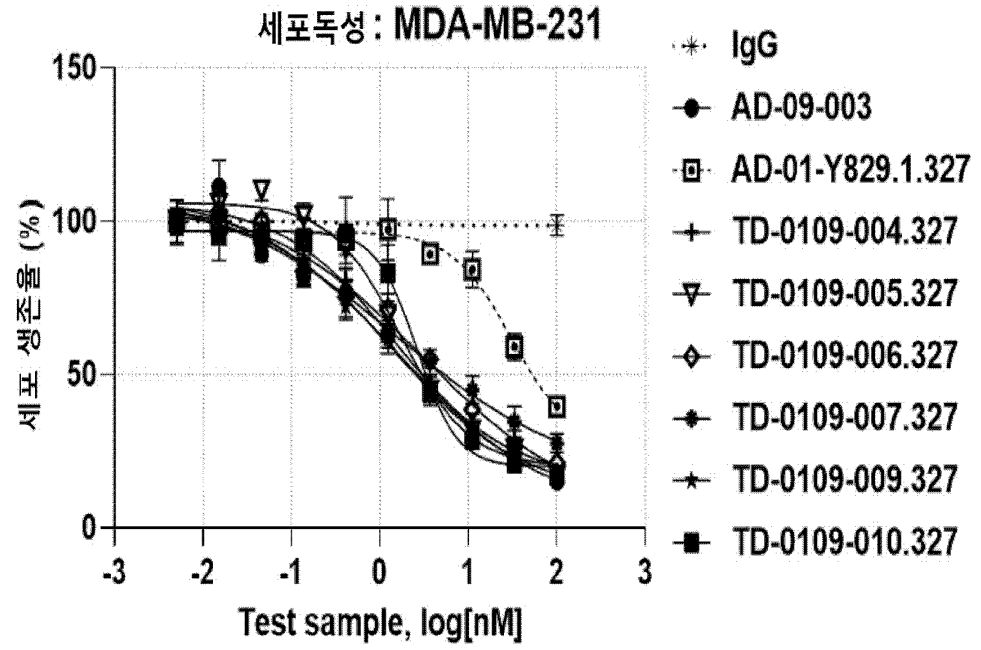
[도28d]


세포독성 : JIMT-1
세포 생존율 (%)
150
100
50
0
-4
-3
-2
-1
0
1
Test sample, log[nM]
MA-02-001
AD-02-001#5
TD-0102-001.017
(+)TD-0102-001.017
(+), cut by MT-SP1

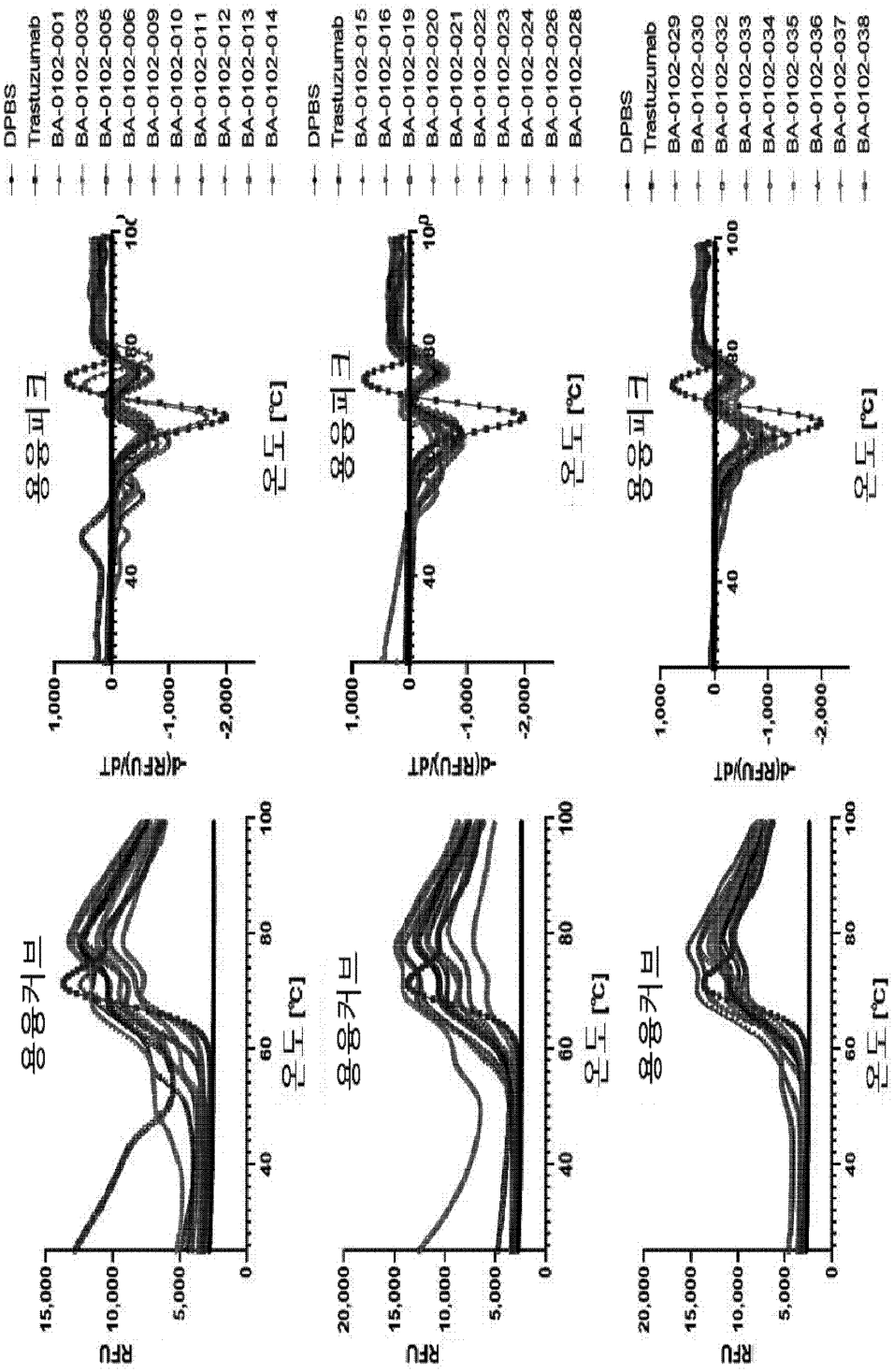
[도28e]


세포독성 : SK-OV-3
세포 생존율 (%)
120
110
100
90
80
-4
-3
-2
-1
0
1
Test sample, log[nM]
MA-02-001
AD-02-001#5
TD-0102-001.017
(+)TD-0102-001.017
(+), cut by MT-SP1

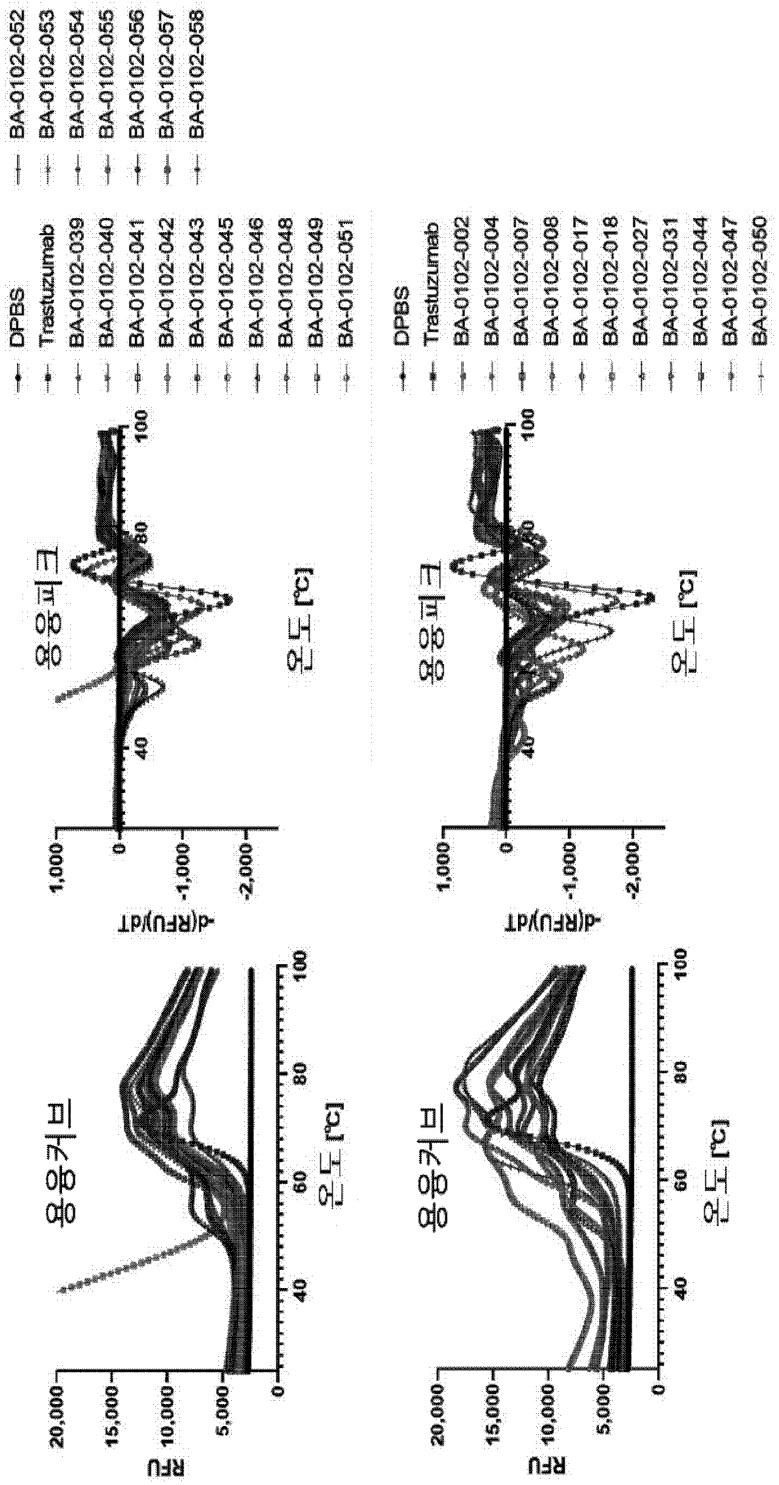
[도29]


세포독성 : MDA-MB-231
세포 생존율 (%)
150
100
50
0
-3
-2
-1
0
1
2
3
Test sample, log[nM]
IgG
AD-09-003
AD-01-Y829.1.327
TD-0109-004.327
TD-0109-005.327
TD-0109-006.327
TD-0109-007.327
TD-0109-009.327
TD-0109-010.327

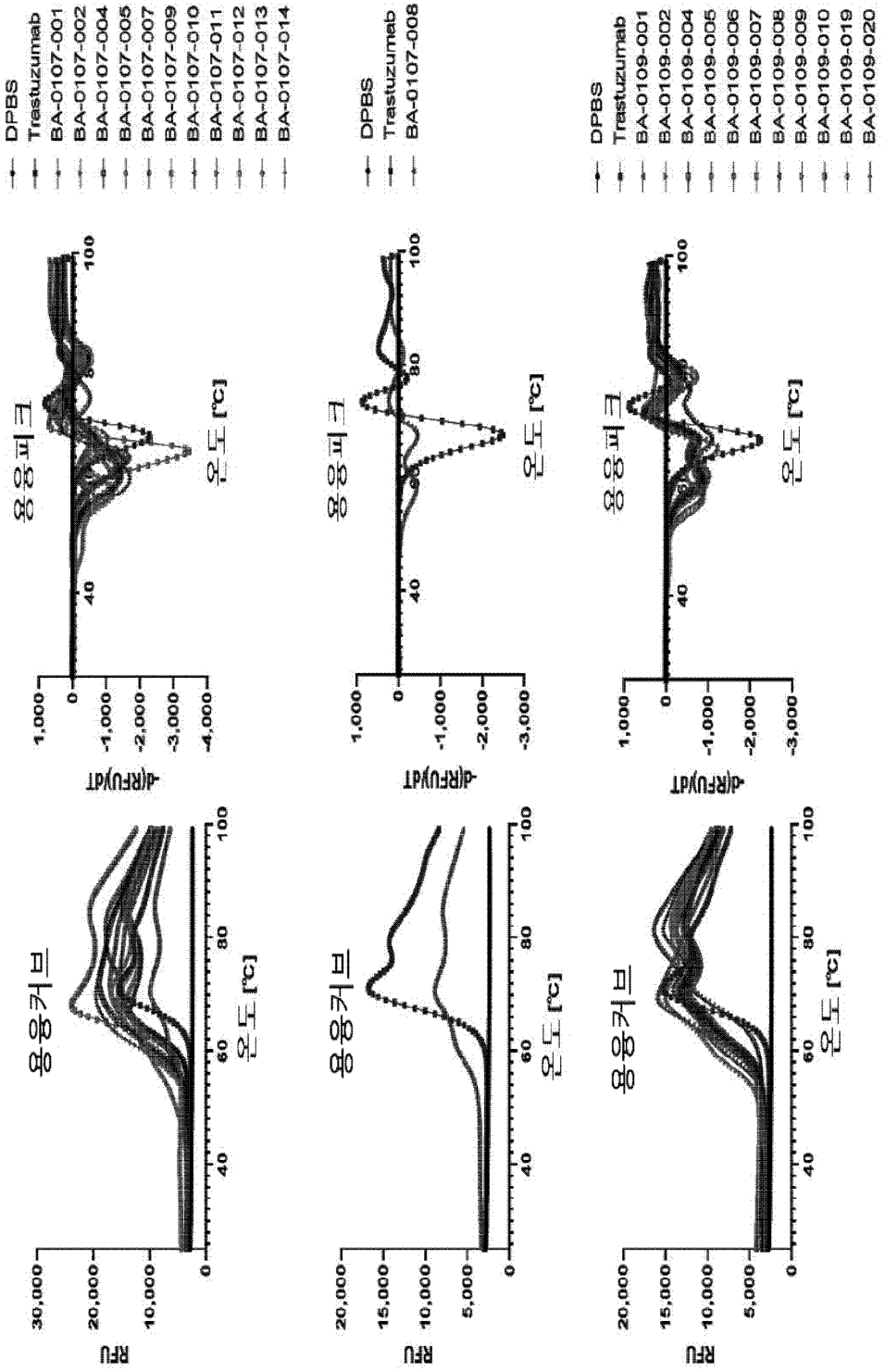
[도30a]


DPBS
Trastuzumab
BA-0102-001
BA-0102-003
BA-0102-005
BA-0102-006
BA-0102-009
BA-0102-010
BA-0102-011
BA-0102-012
BA-0102-013
BA-0102-014
DPBS
Trastuzumab
BA-0102-015
BA-0102-016
BA-0102-019
BA-0102-020
BA-0102-021
BA-0102-022
BA-0102-023
BA-0102-024
BA-0102-026
BA-0102-028
DPBS
Trastuzumab
BA-0102-029
BA-0102-030
BA-0102-032
BA-0102-033
BA-0102-034
BA-0102-035
BA-0102-036
BA-0102-037
BA-0102-038
용융피크
-d(RFU)/dT
온도 [℃]
용융커브
RFU
온도 [℃]

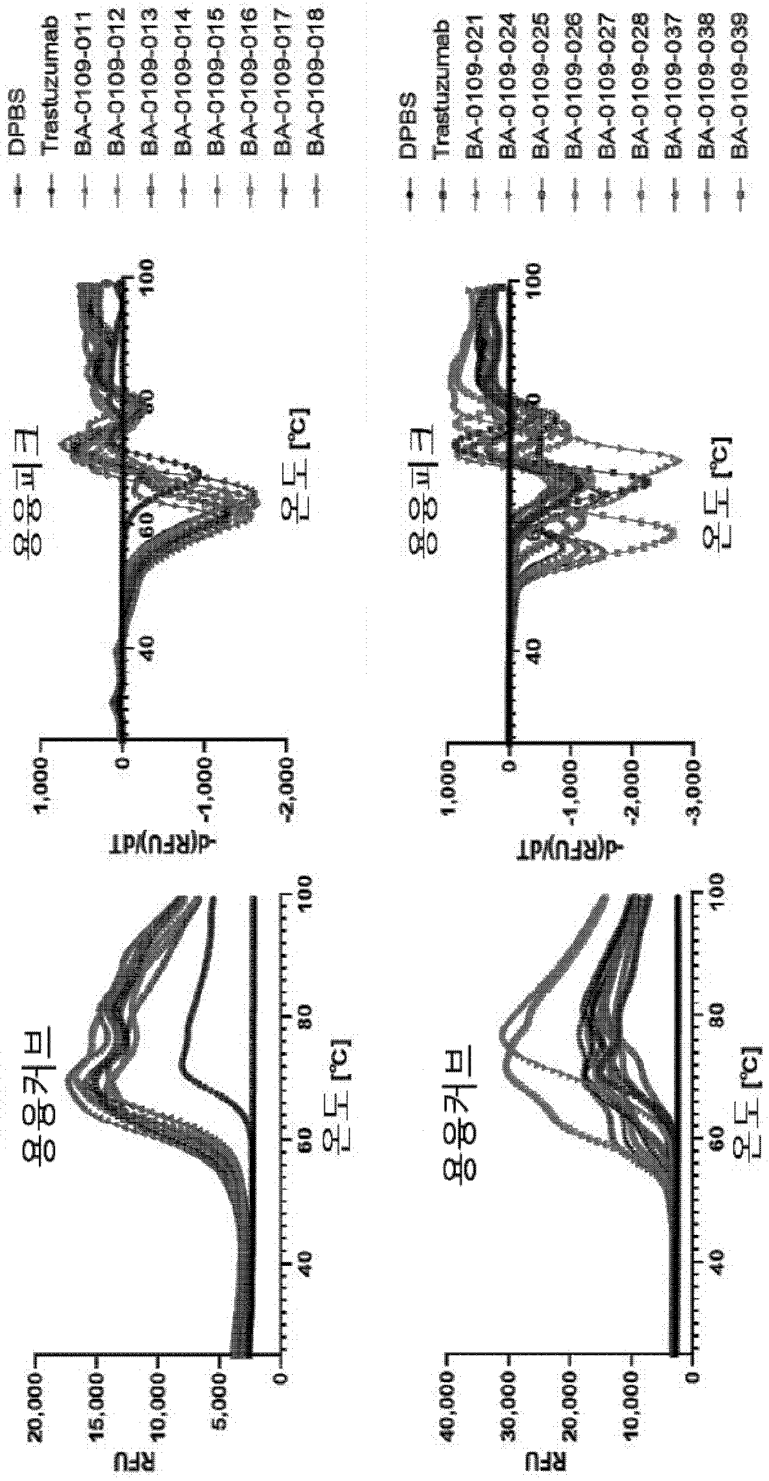
[도30b]


DPBS
Trastuzumab
BA-0102-039
BA-0102-040
BA-0102-041
BA-0102-042
BA-0102-043
BA-0102-045
BA-0102-046
BA-0102-048
BA-0102-049
BA-0102-051
BA-0102-052
BA-0102-053
BA-0102-054
BA-0102-055
BA-0102-056
BA-0102-057
BA-0102-058
BA-0102-002
BA-0102-004
BA-0102-007
BA-0102-008
BA-0102-017
BA-0102-018
BA-0102-027
BA-0102-031
BA-0102-044
BA-0102-047
BA-0102-050
용융커브
RFU
온도 [℃]
용융피크
-d(RFU)/dT
온도 [℃]

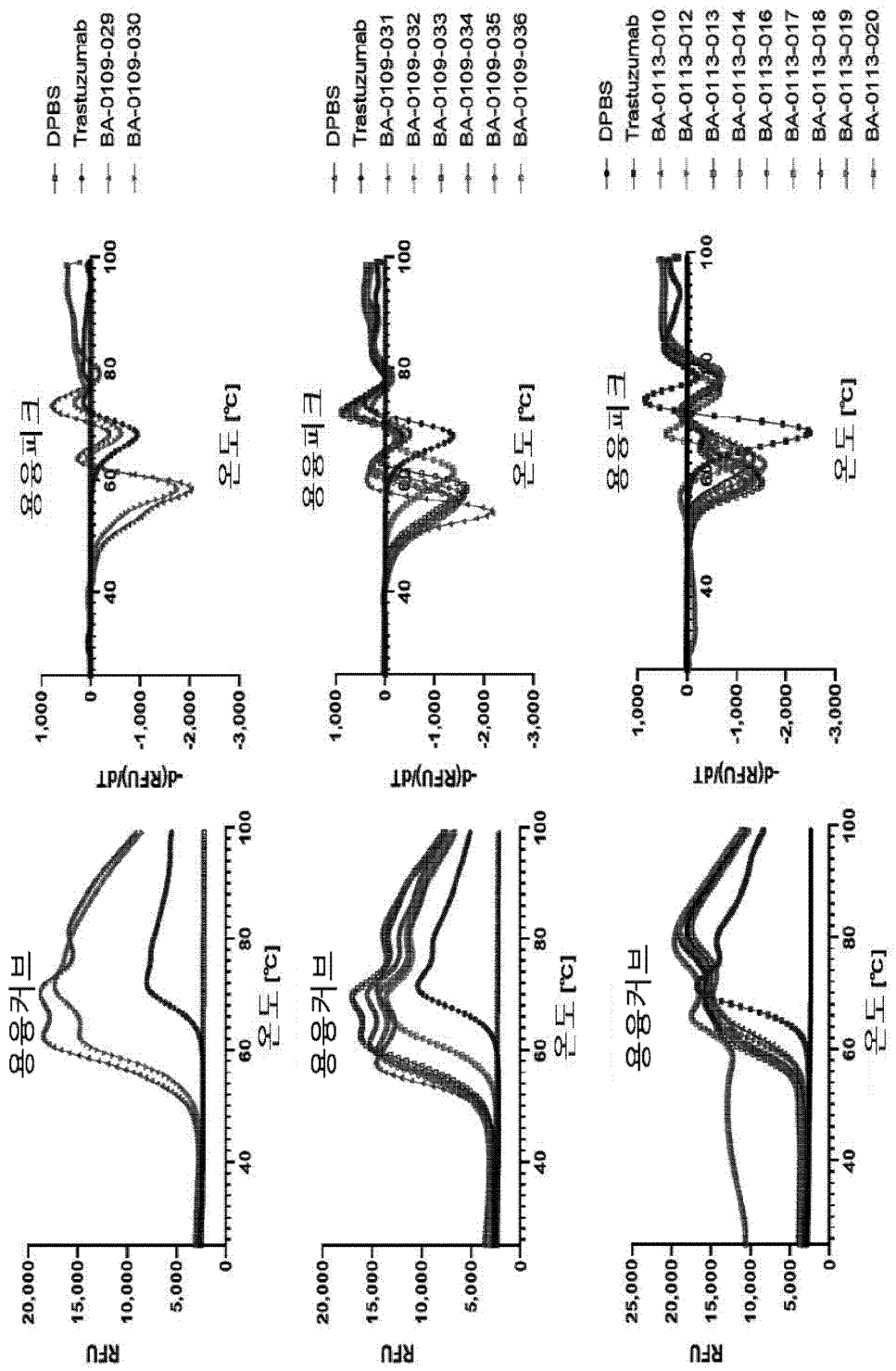
[도30c]


DPBS
Trastuzumab
BA-0107-001
BA-0107-002
BA-0107-004
BA-0107-005
BA-0107-007
BA-0107-009
BA-0107-010
BA-0107-011
BA-0107-012
BA-0107-013
BA-0107-014
DPBS
Trastuzumab
BA-0107-008
DPBS
Trastuzumab
BA-0109-001
BA-0109-002
BA-0109-004
BA-0109-005
BA-0109-006
BA-0109-007
BA-0109-008
BA-0109-009
BA-0109-010
BA-0109-019
BA-0109-020
용융피크
용융커브
온도 [℃]
-d(RFU)/dT
RFU

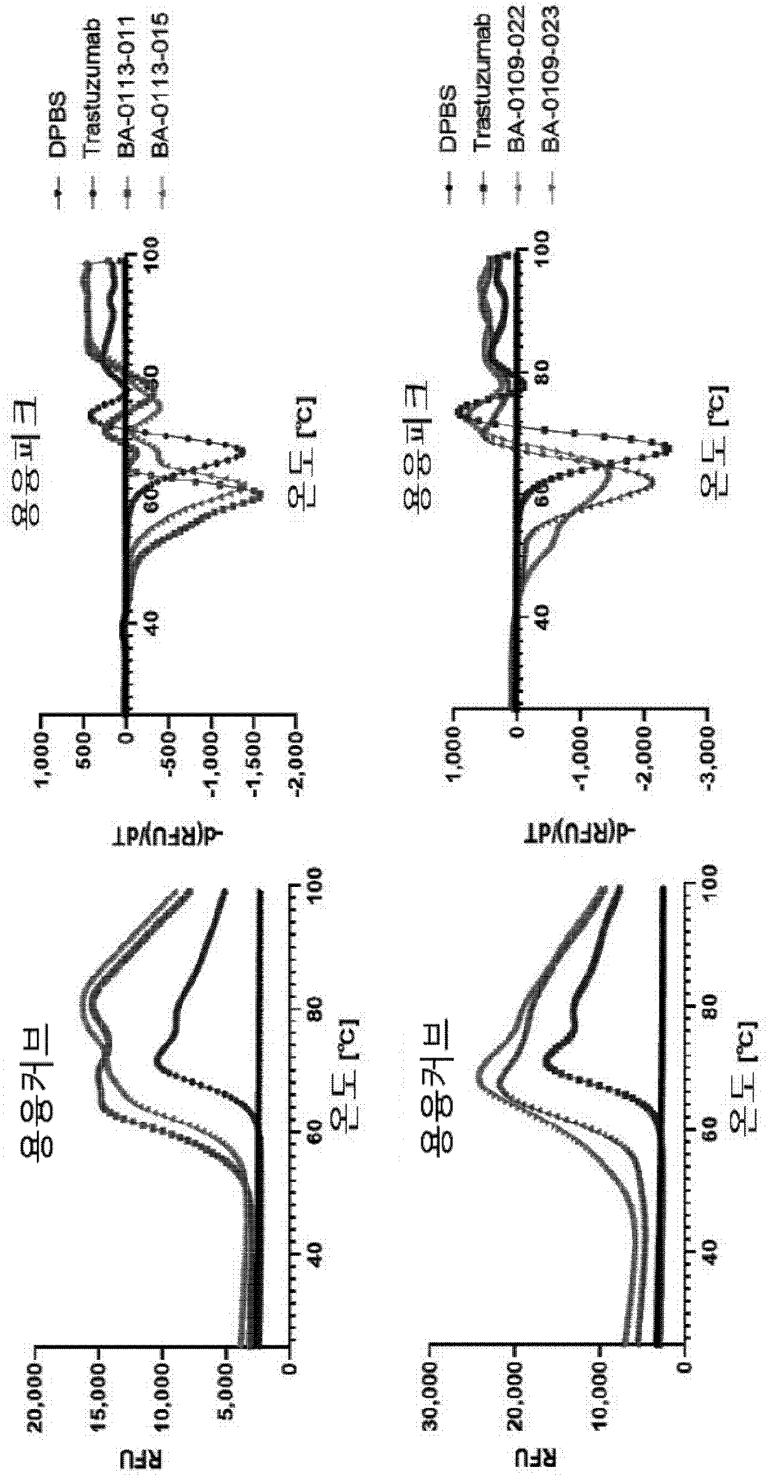
[도30d]


DPBS
Trastuzumab
BA-0109-011
BA-0109-012
BA-0109-013
BA-0109-014
BA-0109-015
BA-0109-016
BA-0109-017
BA-0109-018
DPBS
Trastuzumab
BA-0109-021
BA-0109-024
BA-0109-025
BA-0109-026
BA-0109-027
BA-0109-028
BA-0109-037
BA-0109-038
BA-0109-039
용융피크
-d(RFU)/dT
온도 [℃]
용융커브
RFU
온도 [℃]

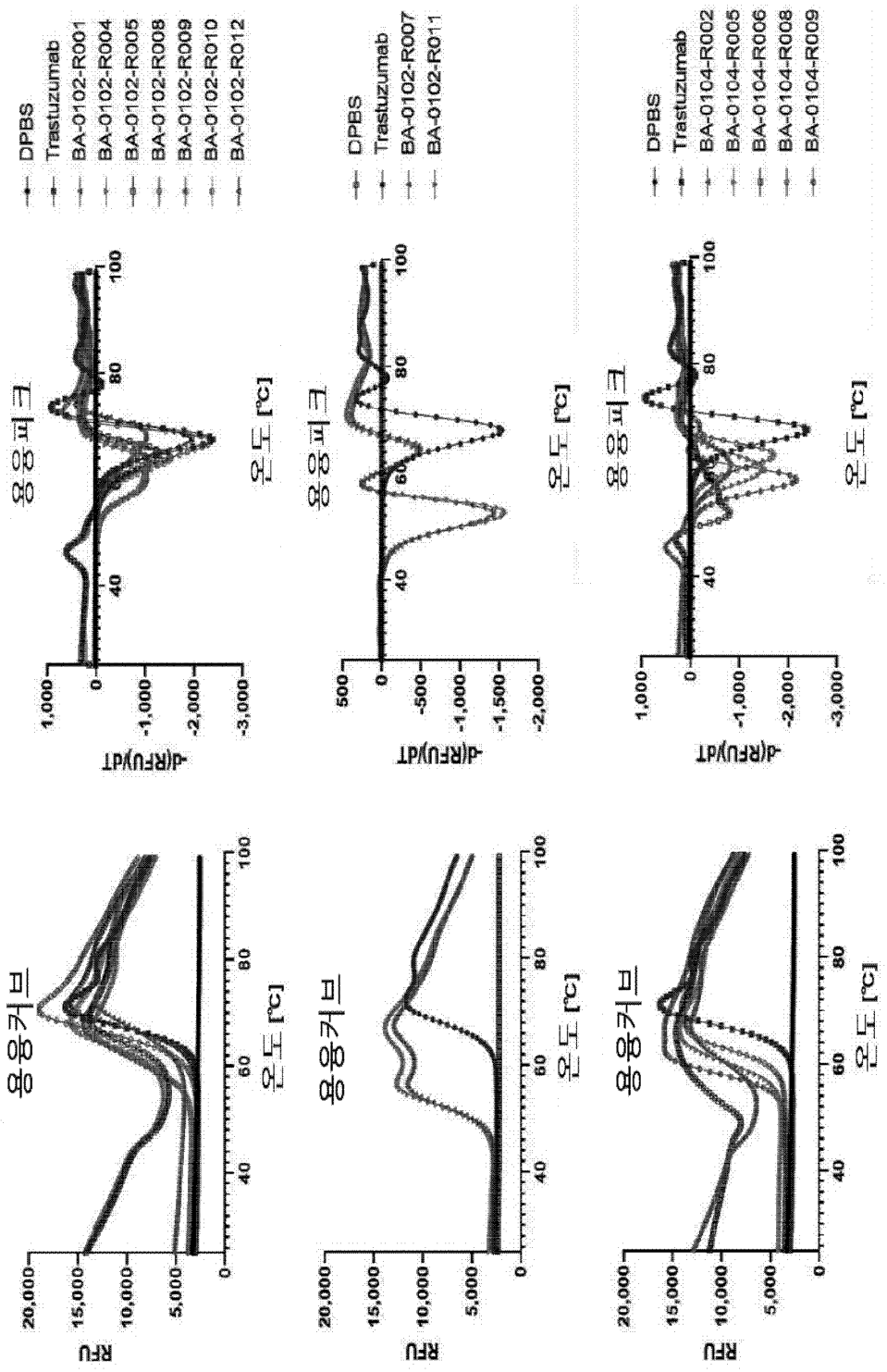
[도30e]


DPBS
Trastuzumab
BA-0109-029
BA-0109-030
DPBS
Trastuzumab
BA-0109-031
BA-0109-032
BA-0109-033
BA-0109-034
BA-0109-035
BA-0109-036
DPBS
Trastuzumab
BA-0113-010
BA-0113-012
BA-0113-013
BA-0113-014
BA-0113-016
BA-0113-017
BA-0113-018
BA-0113-019
BA-0113-020
용융피크
용융커브
-d(RFU)/dT
RFU
온도 [℃]

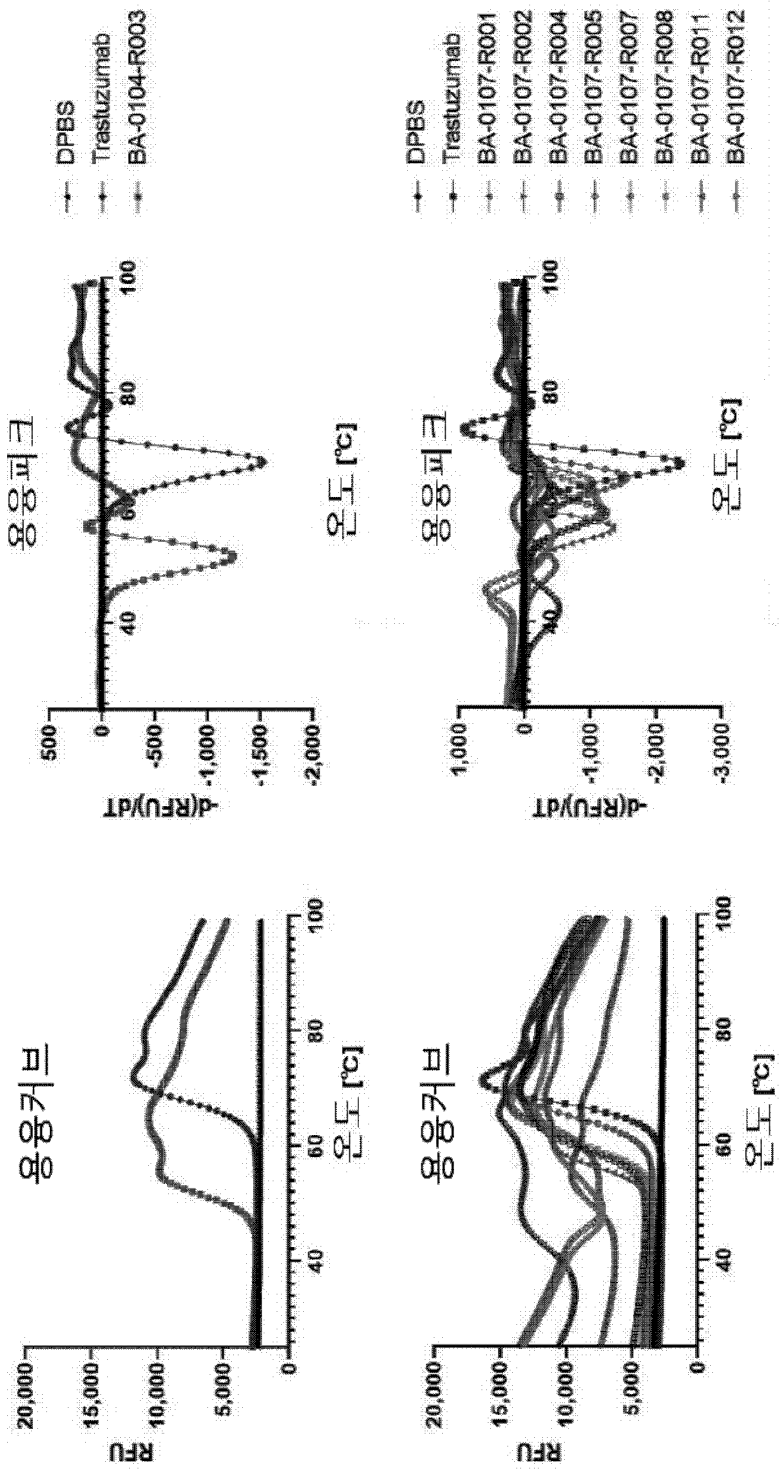
[도30f]


DPBS
Trastuzumab
BA-0113-011
BA-0113-015
DPBS
Trastuzumab
BA-0109-022
BA-0109-023
용융피크
용융커브
-d(RFU)/dT
RFU
온도 [℃]

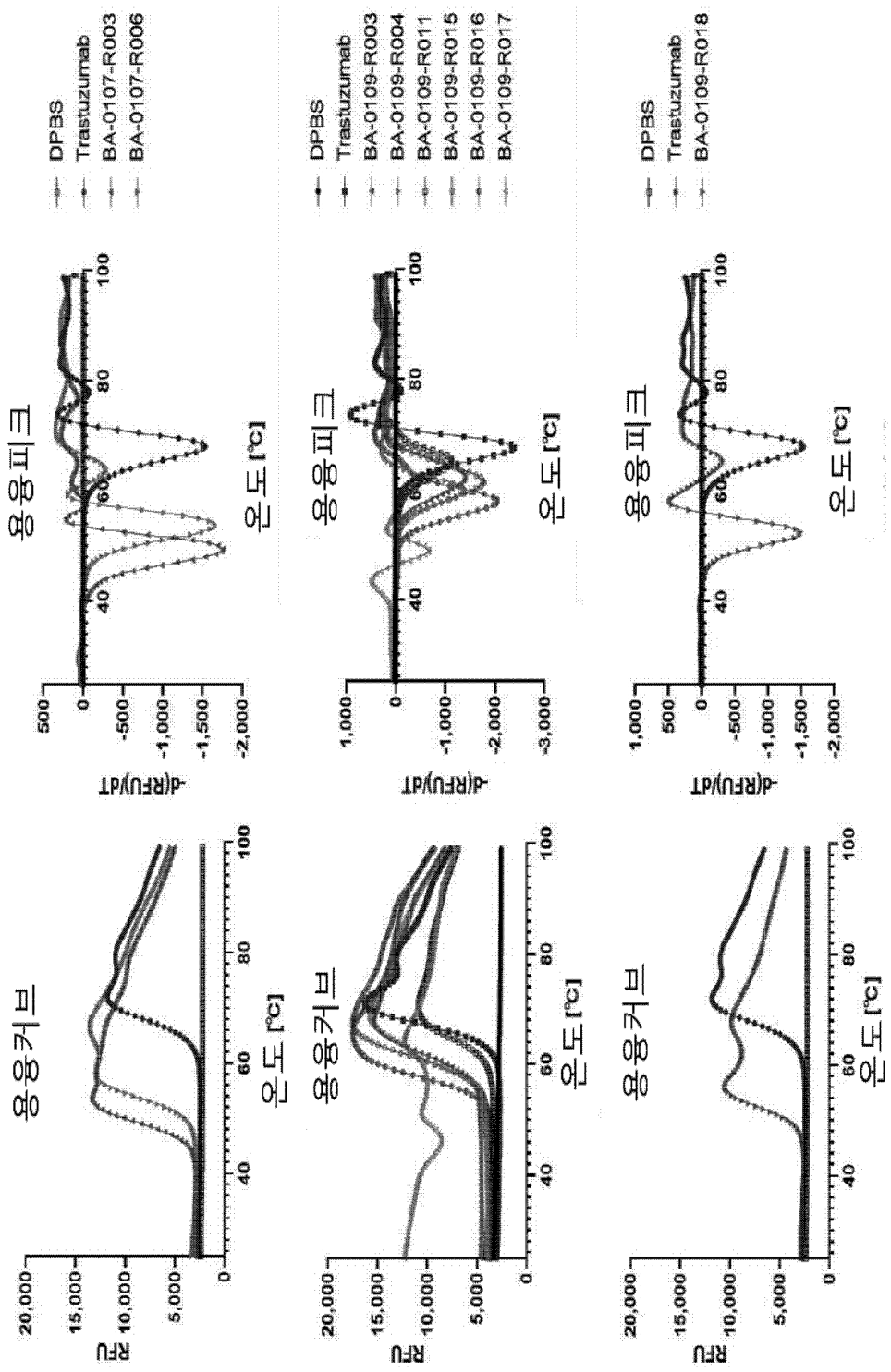
[도30g]


DPBS
Trastuzumab
BA-0102-R001
BA-0102-R004
BA-0102-R005
BA-0102-R008
BA-0102-R009
BA-0102-R010
BA-0102-R012
BA-0102-R007
BA-0102-R011
BA-0104-R002
BA-0104-R005
BA-0104-R006
BA-0104-R008
BA-0104-R009
용융피크
용융커브
-d(RFU)/dT
RFU
온도 [℃]

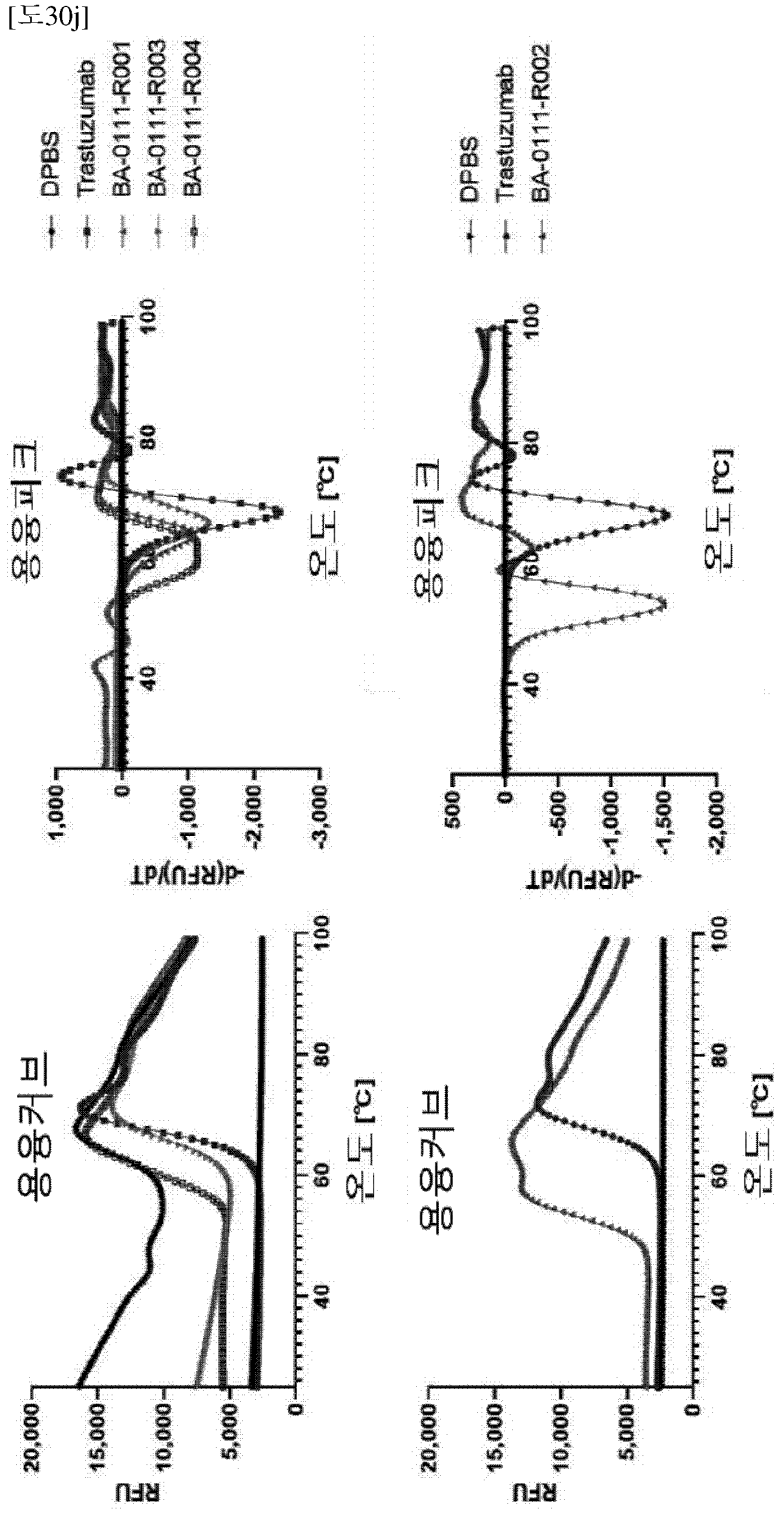
[도30h]


DPBS
Trastuzumab
BA-0104-R003
BA-0107-R001
BA-0107-R002
BA-0107-R004
BA-0107-R005
BA-0107-R007
BA-0107-R008
BA-0107-R011
BA-0107-R012
용융피크
용융커브
온도 [℃]
-d(RFU)/dT
RFU

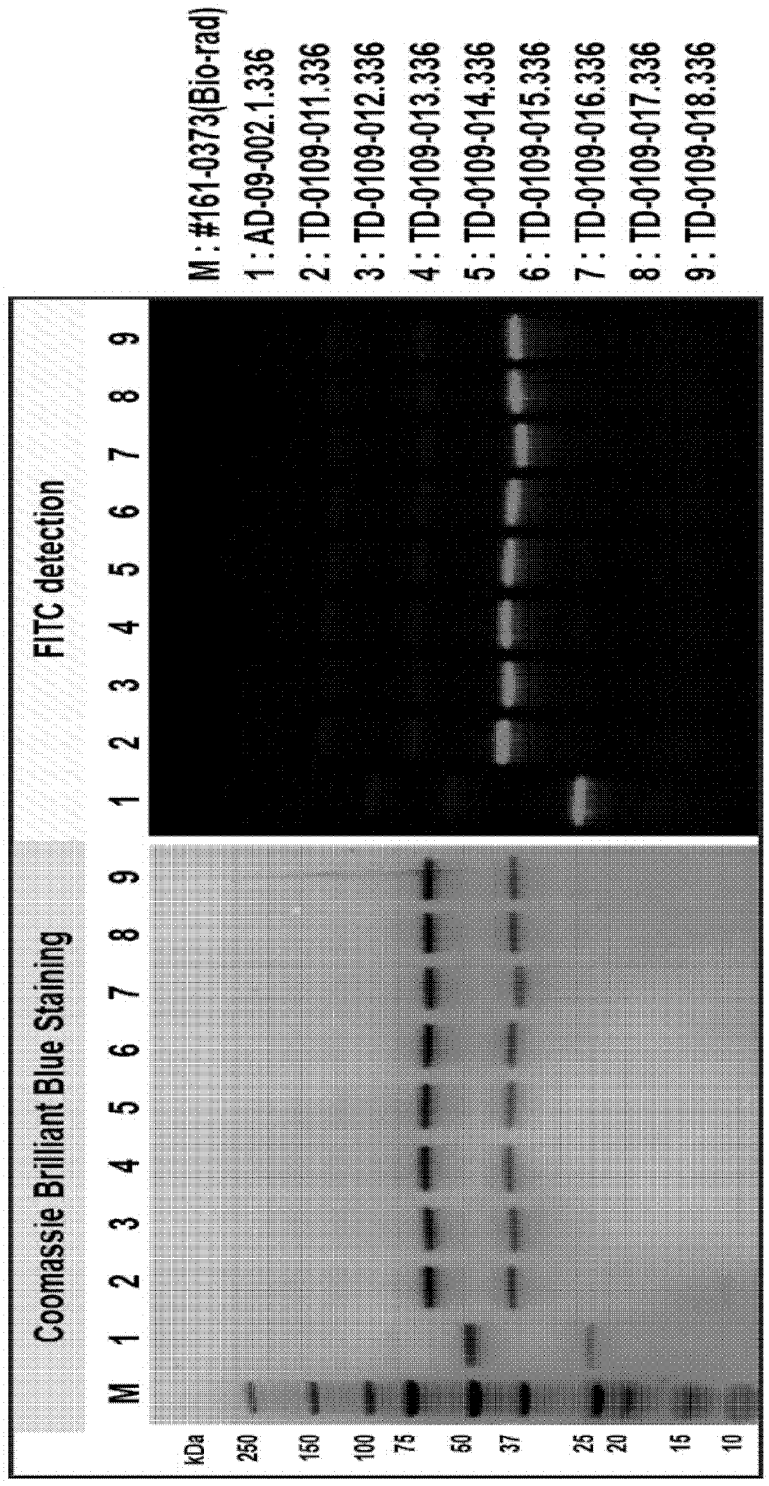
[도30i]


DPBS
Trastuzumab
BA-0107-R003
BA-0107-R006
DPBS
Trastuzumab
BA-0109-R003
BA-0109-R004
BA-0109-R011
BA-0109-R015
BA-0109-R016
BA-0109-R017
DPBS
Trastuzumab
BA-0109-R018
용융피크
용융커브
-d(RFU)/dT
RFU
온도 [℃]

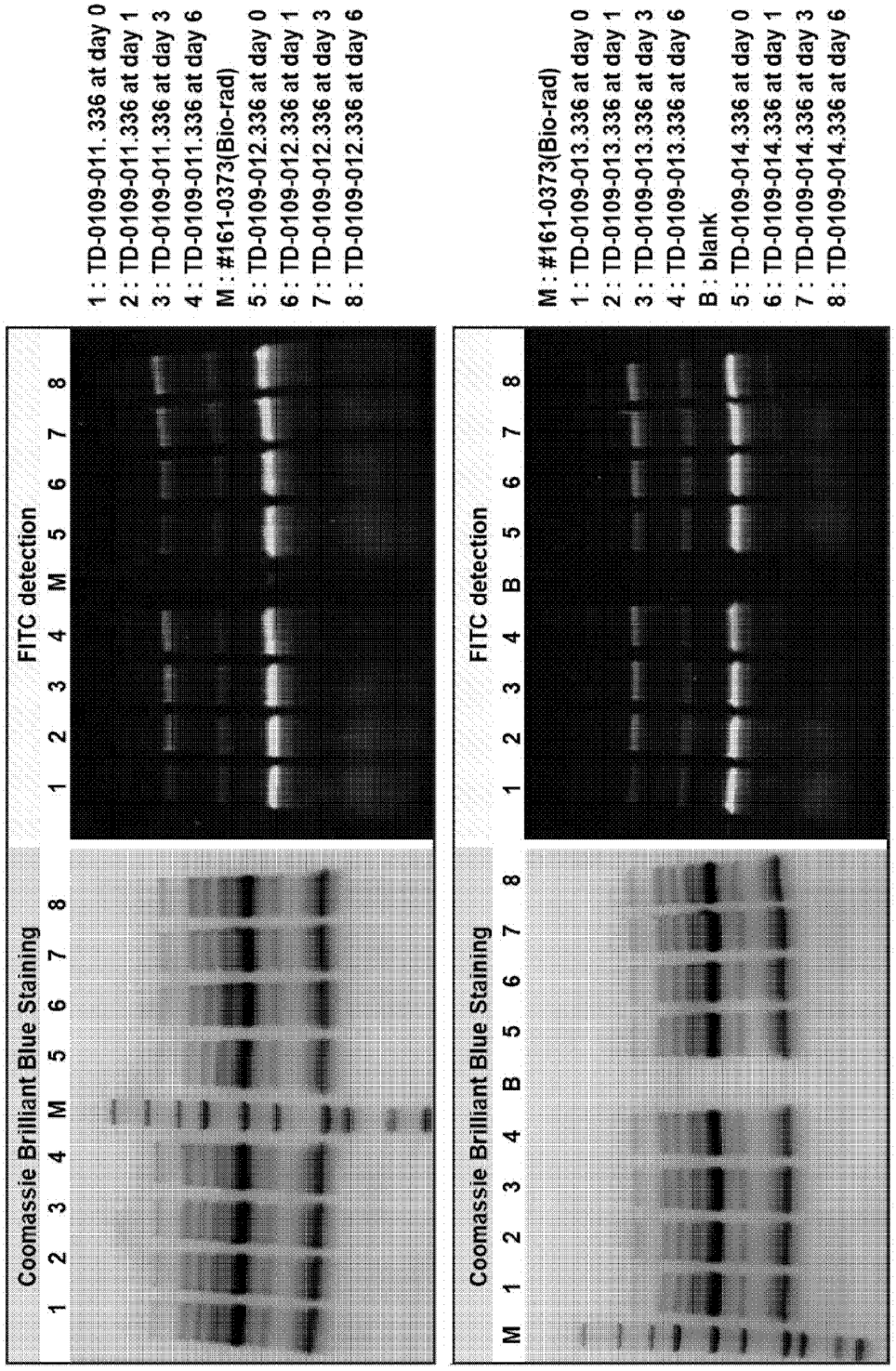
[도30j]


DPBS
Trastuzumab
BA-0111-R001
BA-0111-R003
BA-0111-R004
DPBS
Trastuzumab
BA-0111-R002
용융피크
용융커브
-d(RFU)/dT
RFU
온도 [℃]

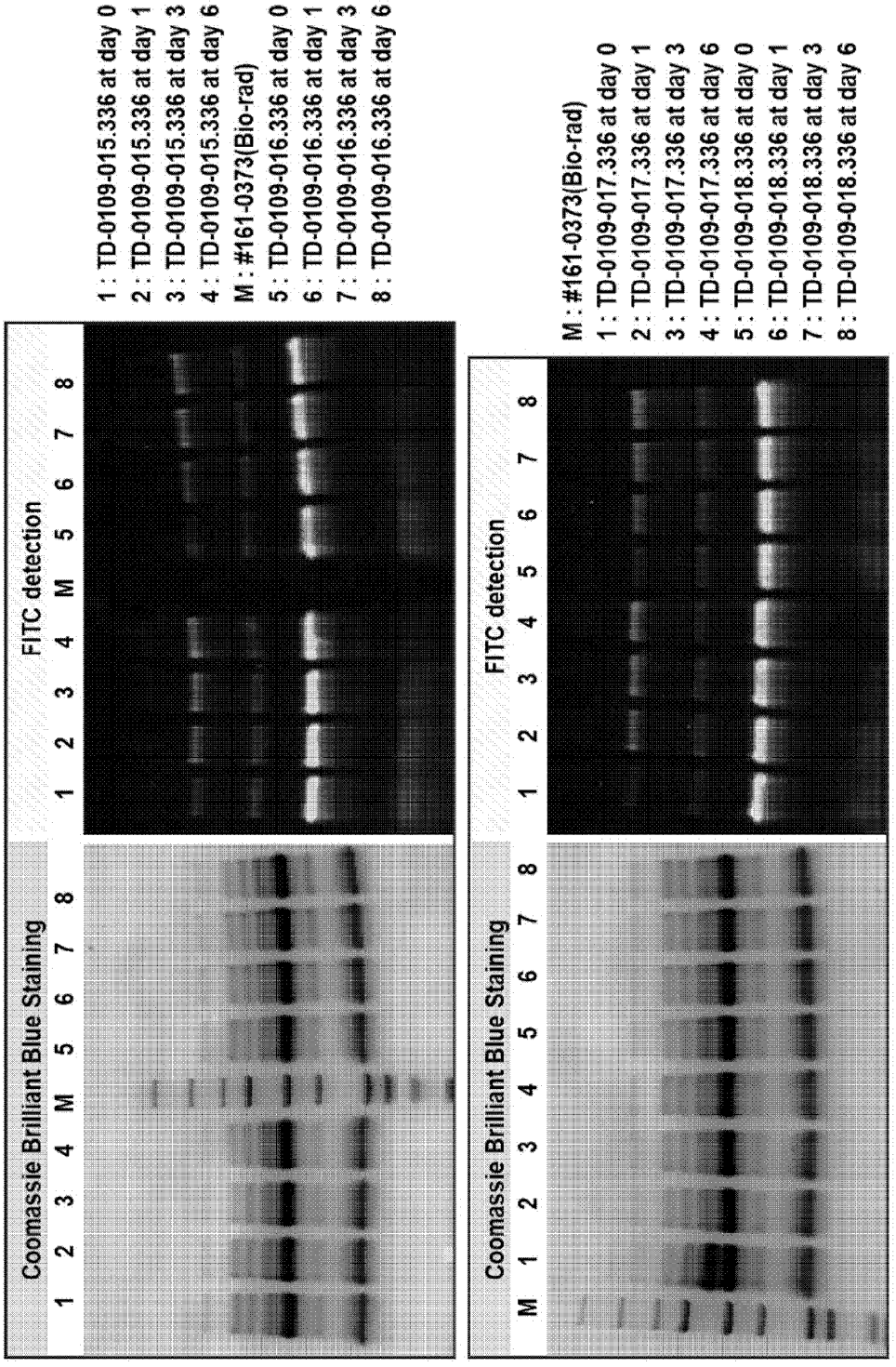
[도31a]


M : #161-0373(Bio-rad)
1 : AD-09-002.1.336
2 : TD-0109-011.336
3 : TD-0109-012.336
4 : TD-0109-013.336
5 : TD-0109-014.336
6 : TD-0109-015.336
7 : TD-0109-016.336
8 : TD-0109-017.336
9 : TD-0109-018.336
FITC detection
Coomassie Brilliant Blue Staining
M 1 2 3 4 5 6 7 8 9
1 2 3 4 5 6 7 8 9
kDa
250
150
100
75
60
37
25
20
15
10

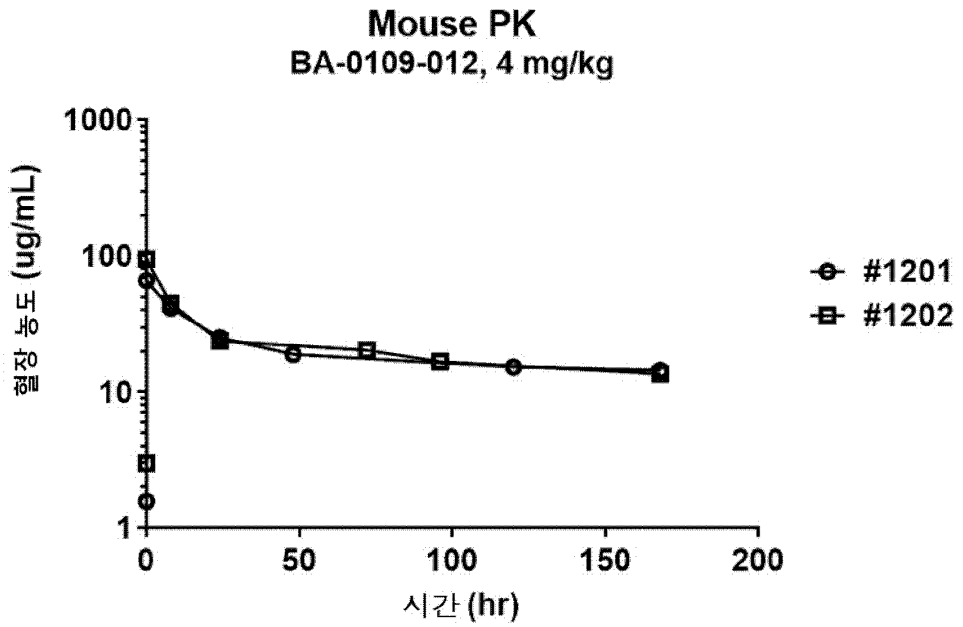
[도31b]


1 : TD-0109-011. 336 at day 0
2 : TD-0109-011.336 at day 1
3 : TD-0109-011.336 at day 3
4 : TD-0109-011.336 at day 6
M : #161-0373(Bio-rad)
5 : TD-0109-012.336 at day 0
6 : TD-0109-012.336 at day 1
7 : TD-0109-012.336 at day 3
8 : TD-0109-012.336 at day 6
FITC detection
1 2 3 4 M 5 6 7 8
Coomassie Brilliant Blue Staining
1 2 3 4 M 5 6 7 8
M : #161-0373(Bio-rad)
1 : TD-0109-013.336 at day 0
2 : TD-0109-013.336 at day 1
3 : TD-0109-013.336 at day 3
4 : TD-0109-013.336 at day 6
B : blank
5 : TD-0109-014.336 at day 0
6 : TD-0109-014.336 at day 1
7 : TD-0109-014.336 at day 3
8 : TD-0109-014.336 at day 6
FITC detection
1 2 3 4 B 5 6 7 8
Coomassie Brilliant Blue Staining
M 1 2 3 4 B 5 6 7 8

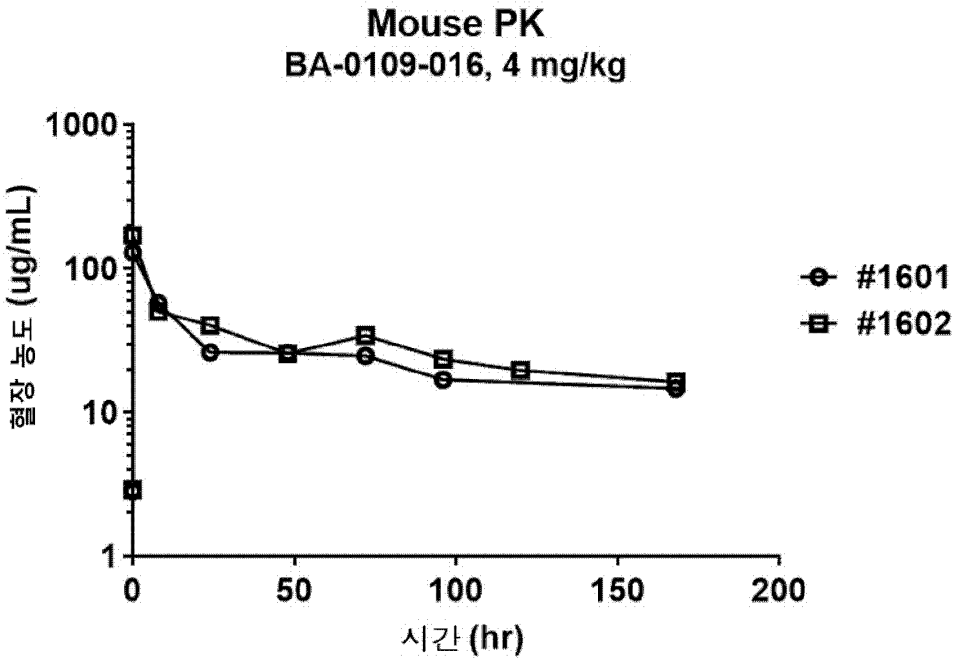
[도31c]


1 : TD-0109-015.336 at day 0
2 : TD-0109-015.336 at day 1
3 : TD-0109-015.336 at day 3
4 : TD-0109-015.336 at day 6
M : #161-0373(Bio-rad)
5 : TD-0109-016.336 at day 0
6 : TD-0109-016.336 at day 1
7 : TD-0109-016.336 at day 3
8 : TD-0109-016.336 at day 6
FITC detection
1 2 3 4 M 5 6 7 8
Coomassie Brilliant Blue Staining
1 2 3 4 M 5 6 7 8
M : #161-0373(Bio-rad)
1 : TD-0109-017.336 at day 0
2 : TD-0109-017.336 at day 1
3 : TD-0109-017.336 at day 3
4 : TD-0109-017.336 at day 6
5 : TD-0109-018.336 at day 0
6 : TD-0109-018.336 at day 1
7 : TD-0109-018.336 at day 3
8 : TD-0109-018.336 at day 6
FITC detection
1 2 3 4 5 6 7 8
Coomassie Brilliant Blue Staining
M 1 2 3 4 5 6 7 8

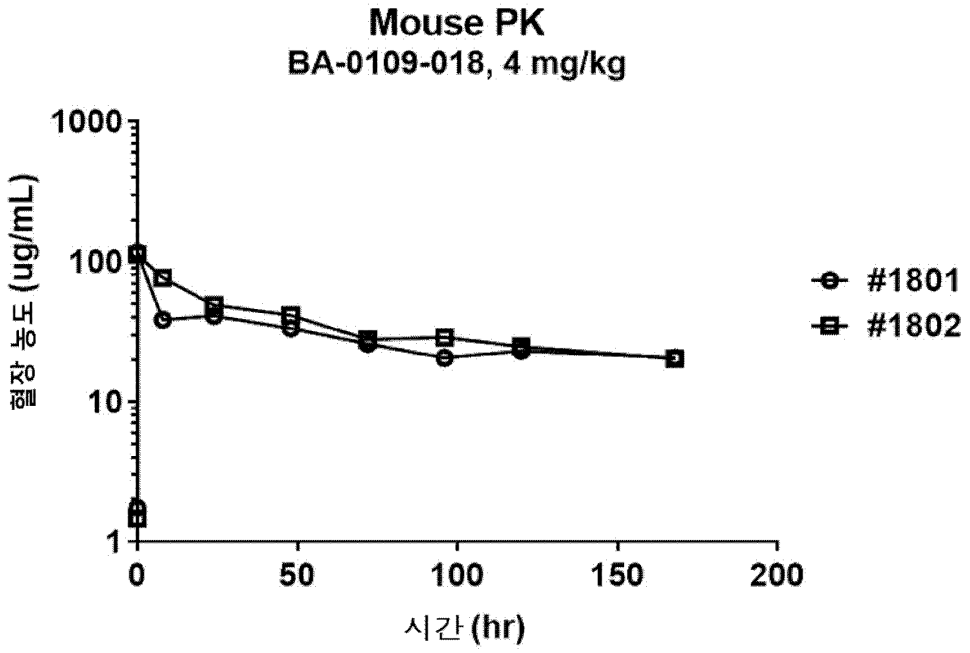
[도32a]


Mouse PK
BA-0109-012, 4 mg/kg
혈장 농도 (ug/mL)
1000
100
10
1
0
50
100
150
200
시간 (hr)
#1201
#1202

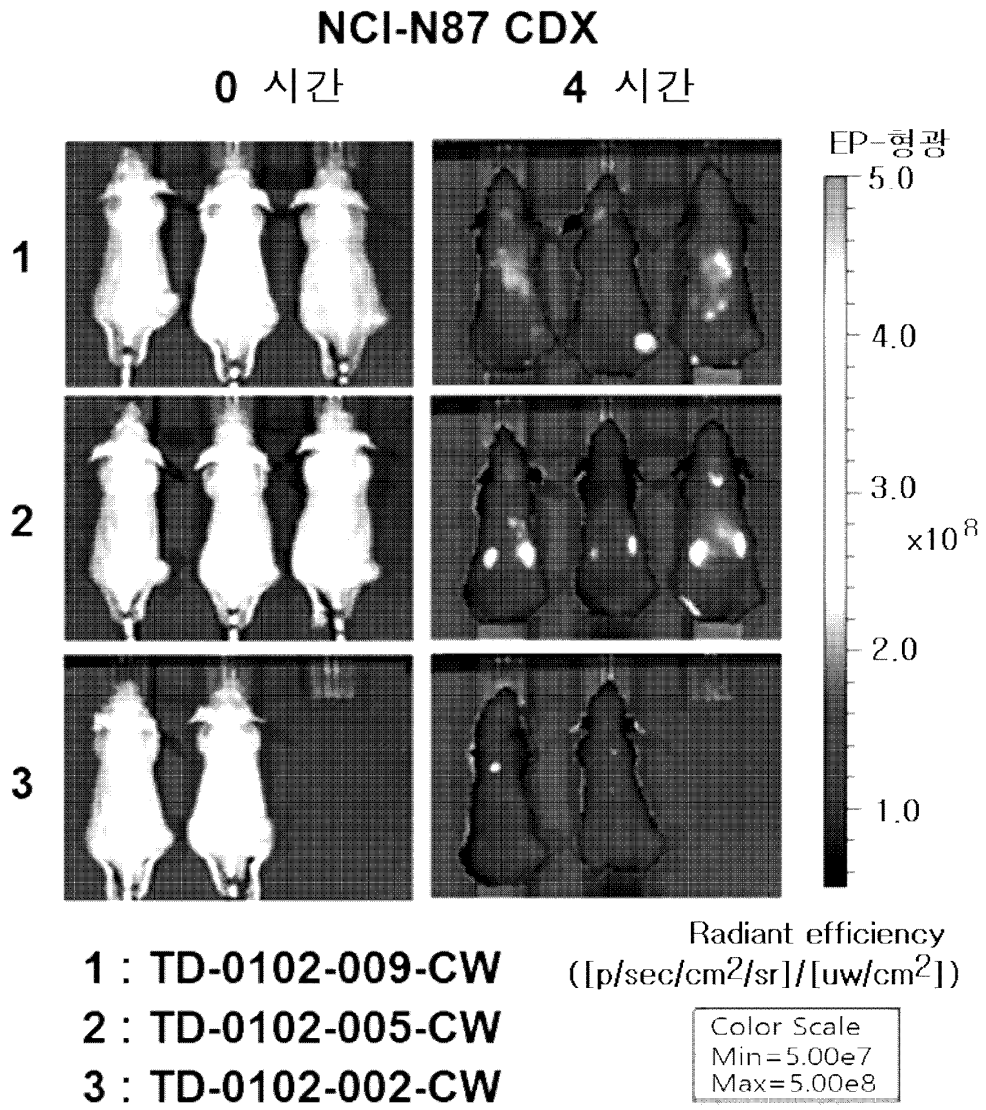
[도32b]


Mouse PK
BA-0109-016, 4 mg/kg
혈장 농도 (ug/mL)
1000
100
10
1
0
50
100
150
200
시간 (hr)
#1601
#1602

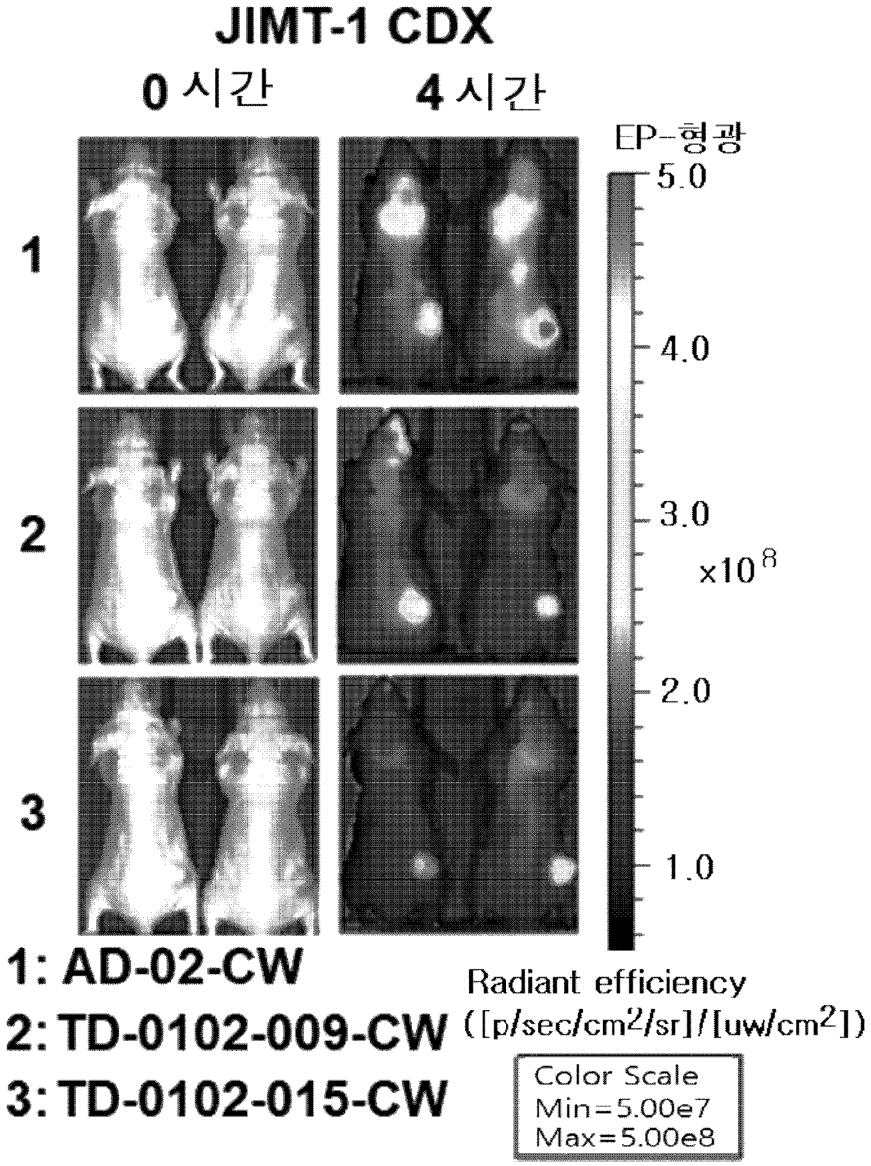
[도32c]


Mouse PK
BA-0109-018, 4 mg/kg
혈장 농도 (ug/mL)
1000
100
10
1
0
50
100
150
200
시간 (hr)
#1801
#1802

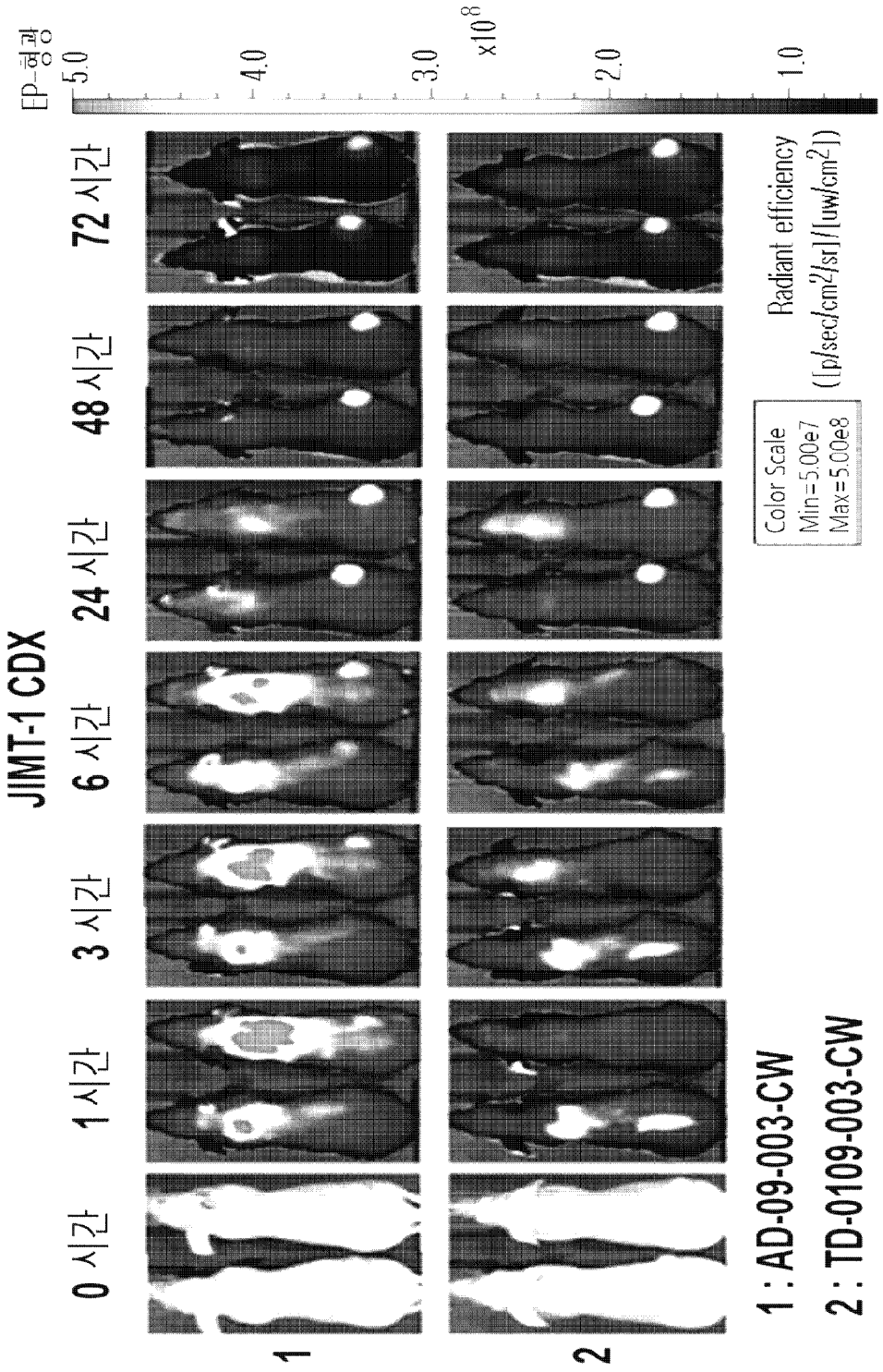
[도33a]


NCI-N87 CDX
0 시간
4 시간
1
2
3
EP-형광
5.0
4.0
3.0
x10^8
2.0
1.0
1 : TD-0102-009-CW
2 : TD-0102-005-CW
3 : TD-0102-002-CW
Radiant efficiency
([p/sec/cm2/sr]/[uw/cm2])
Color Scale
Min=5.00e7
Max=5.00e8

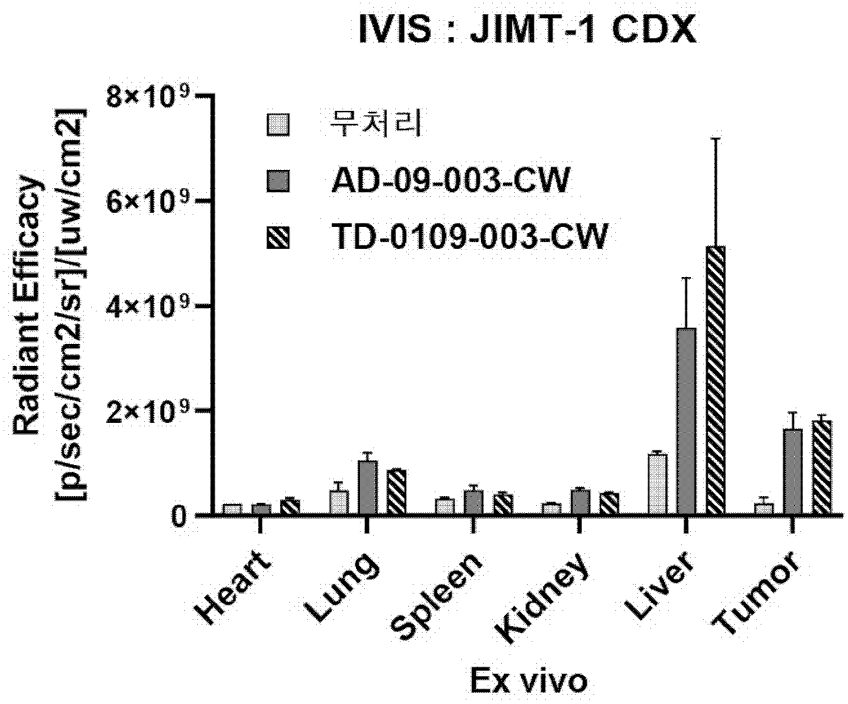
[도33b]


JIMT-1 CDX
0 시간
4 시간
EP-형광
5.0
4.0
3.0
x10^8
2.0
1.0
1
2
3
1: AD-02-CW
2: TD-0102-009-CW
3: TD-0102-015-CW
Radiant efficiency
([p/sec/cm2/sr]/[uw/cm2])
Color Scale
Min=5.00e7
Max=5.00e8

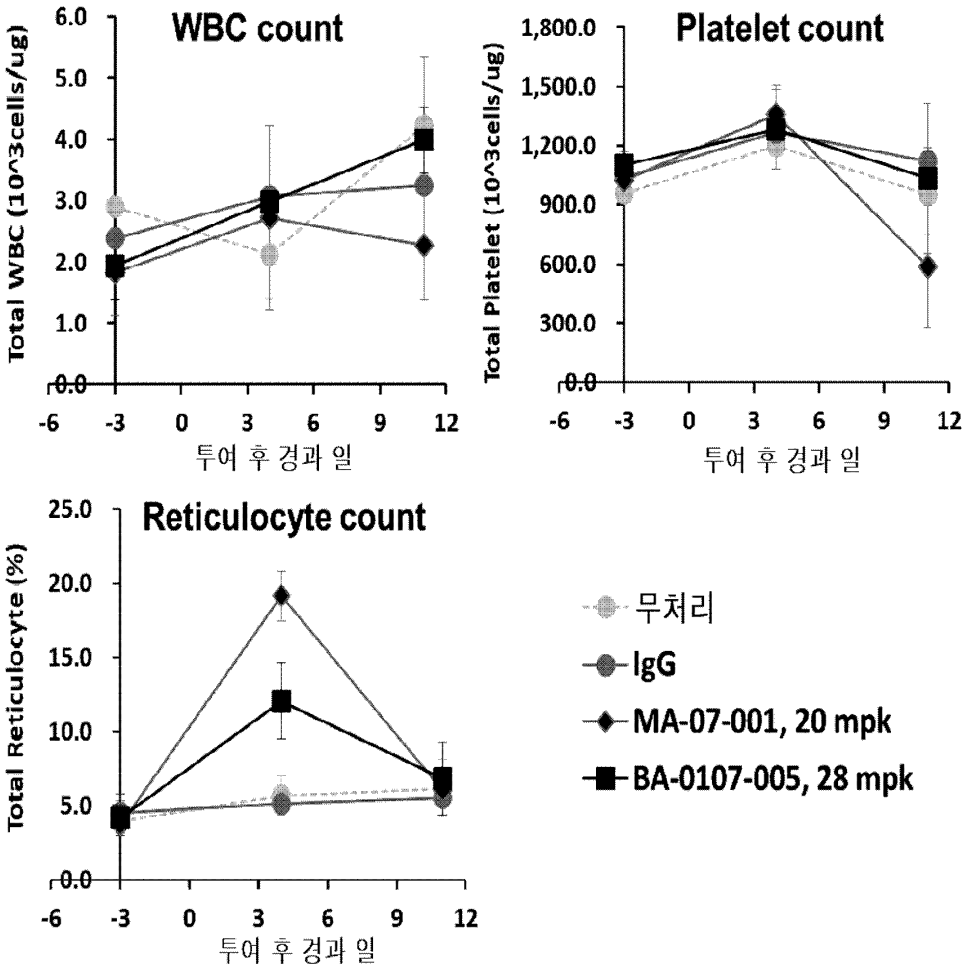
[도34a]


EP-형광
5.0
4.0
3.0
x10^8
2.0
1.0
JIMT-1 CDX
0 시간
1 시간
3 시간
6 시간
24 시간
48 시간
72 시간
1
2
Color Scale
Min=5.00e7
Max=5.00e8
Radiant efficiency
([p/sec/cm2/sr]/[uw/cm2])
1 : AD-09-003-CW
2 : TD-0109-003-CW

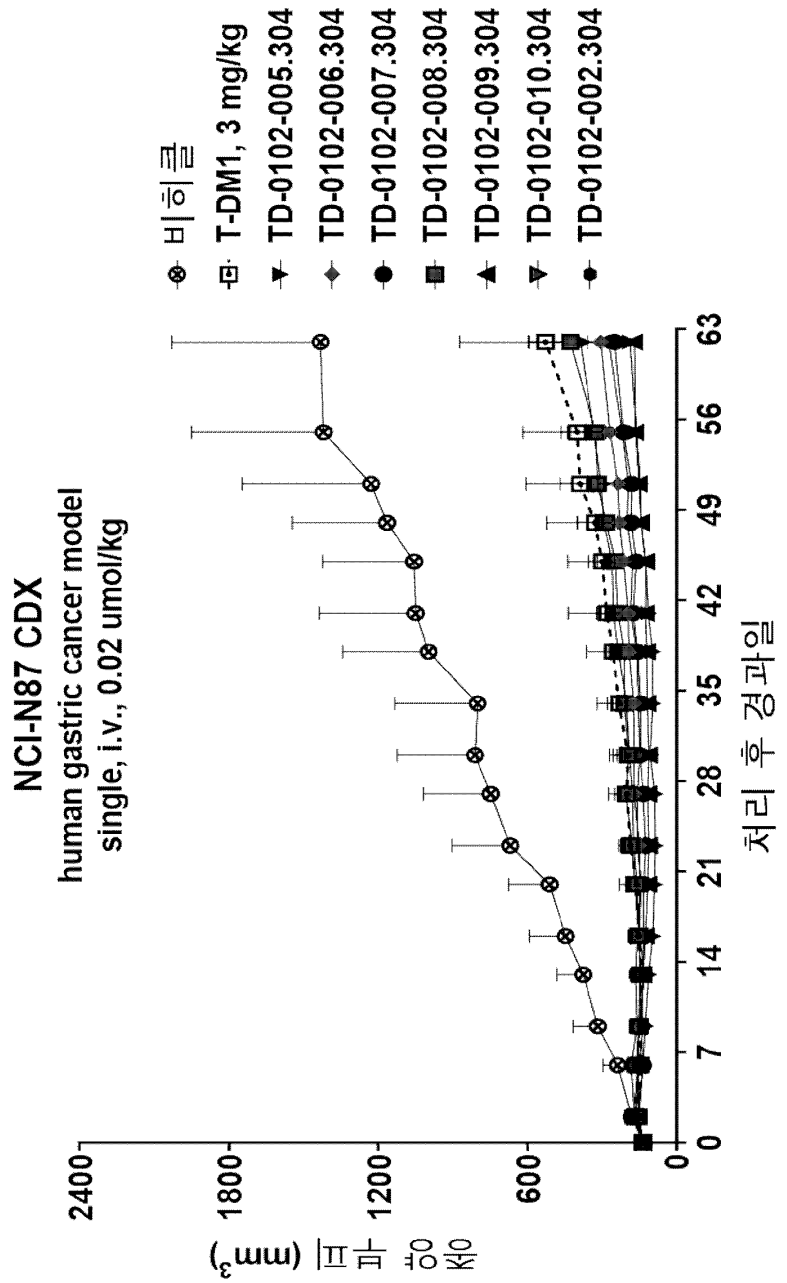
[도34b]


IVIS : JIMT-1 CDX
Radiant Efficacy [p/sec/cm2/sr]/[uw/cm2]
8×10⁹
6×10⁹
4×10⁹
2×10⁹
0
무처리
AD-09-003-CW
TD-0109-003-CW
Heart
Lung
Spleen
Kidney
Liver
Tumor
Ex vivo

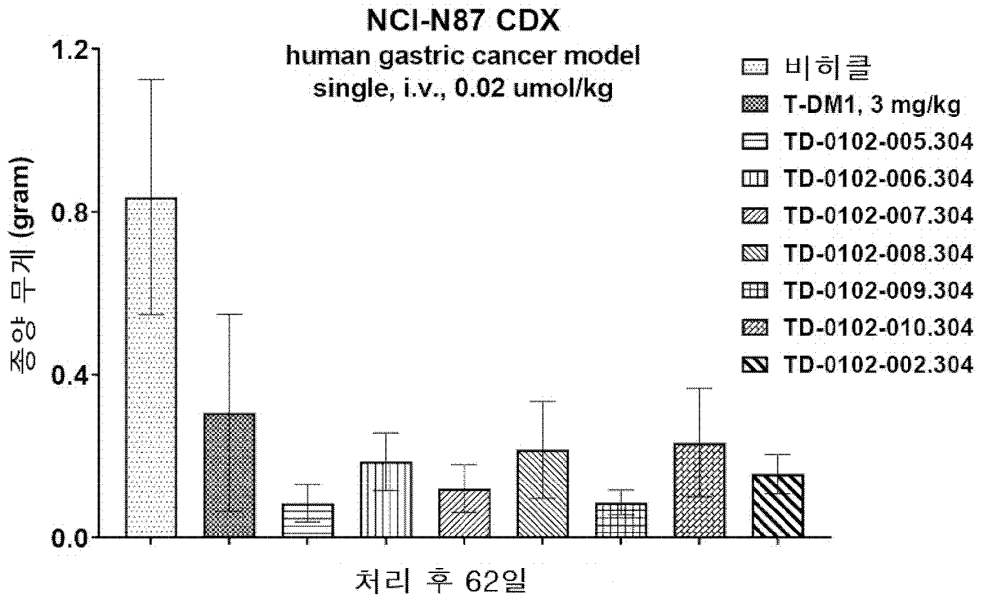
[도35]


WBC count
Total WBC (10^3cells/ug)
6.0
5.0
4.0
3.0
2.0
1.0
0.0
-6 -3 0 3 6 9 12
투여 후 경과 일
Platelet count
Total Platelet (10^3cells/ug)
1,800.0
1,500.0
1,200.0
900.0
600.0
300.0
0.0
-6 -3 0 3 6 9 12
투여 후 경과 일
Reticulocyte count
Total Reticulocyte (%)
25.0
20.0
15.0
10.0
5.0
0.0
-6 -3 0 3 6 9 12
투여 후 경과 일
무처리
IgG
MA-07-001, 20 mpk
BA-0107-005, 28 mpk

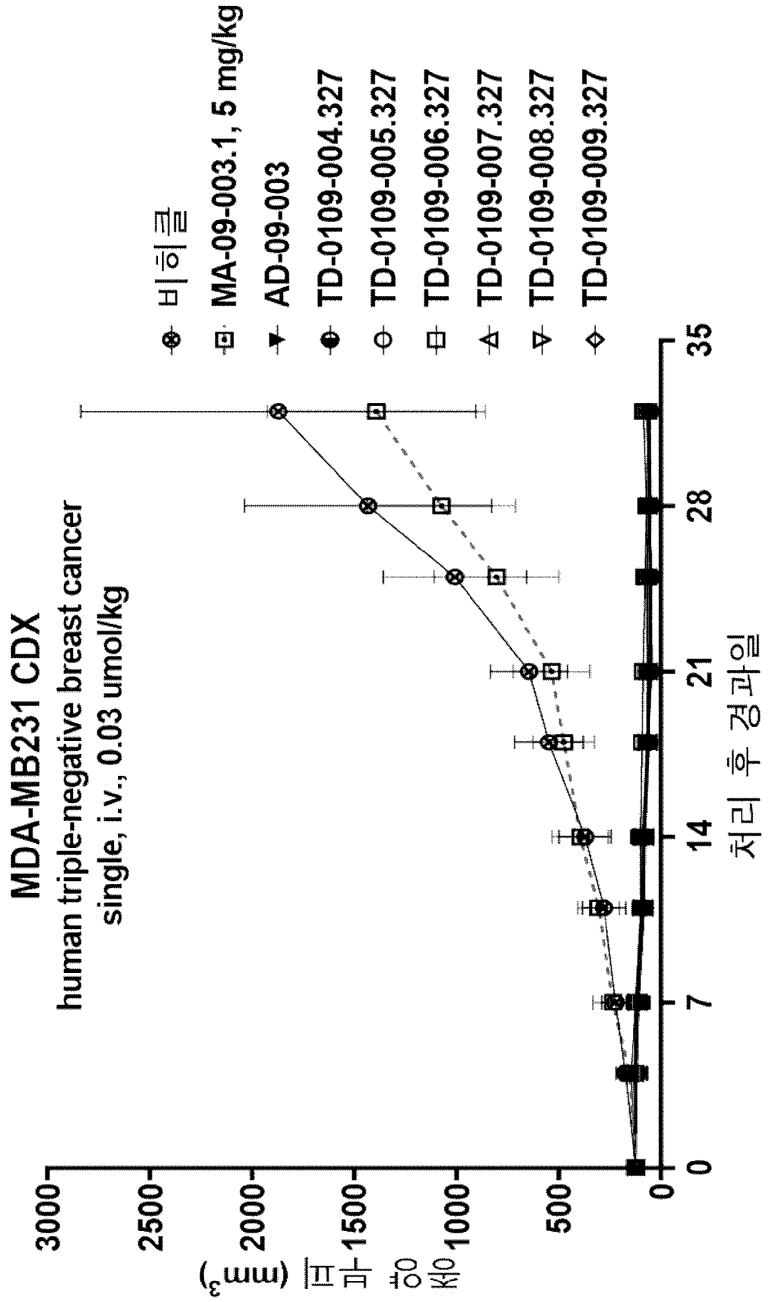
[도36a]


NCI-N87 CDX
human gastric cancer model
single, i.v., 0.02 umol/kg
비히클
T-DM1, 3 mg/kg
TD-0102-005.304
TD-0102-006.304
TD-0102-007.304
TD-0102-008.304
TD-0102-009.304
TD-0102-010.304
TD-0102-002.304
종양 부피 (mm³)
2400
1800
1200
600
0
0
7
14
21
28
35
42
49
56
63
처리 후 경과일

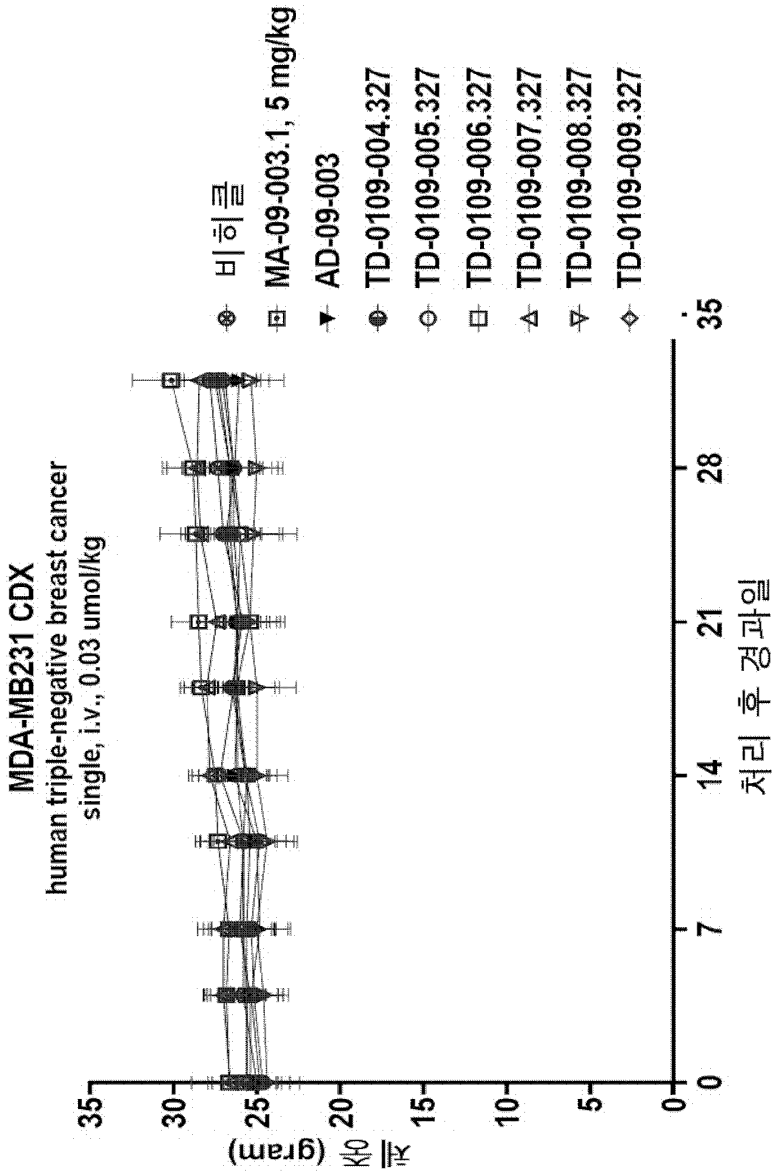
[도36b]


NCI-N87 CDX
human gastric cancer model
single, i.v., 0.02 umol/kg
종양 무게 (gram)
1.2
0.8
0.4
0.0
처리 후 62일
비히클
T-DM1, 3 mg/kg
TD-0102-005.304
TD-0102-006.304
TD-0102-007.304
TD-0102-008.304
TD-0102-009.304
TD-0102-010.304
TD-0102-002.304

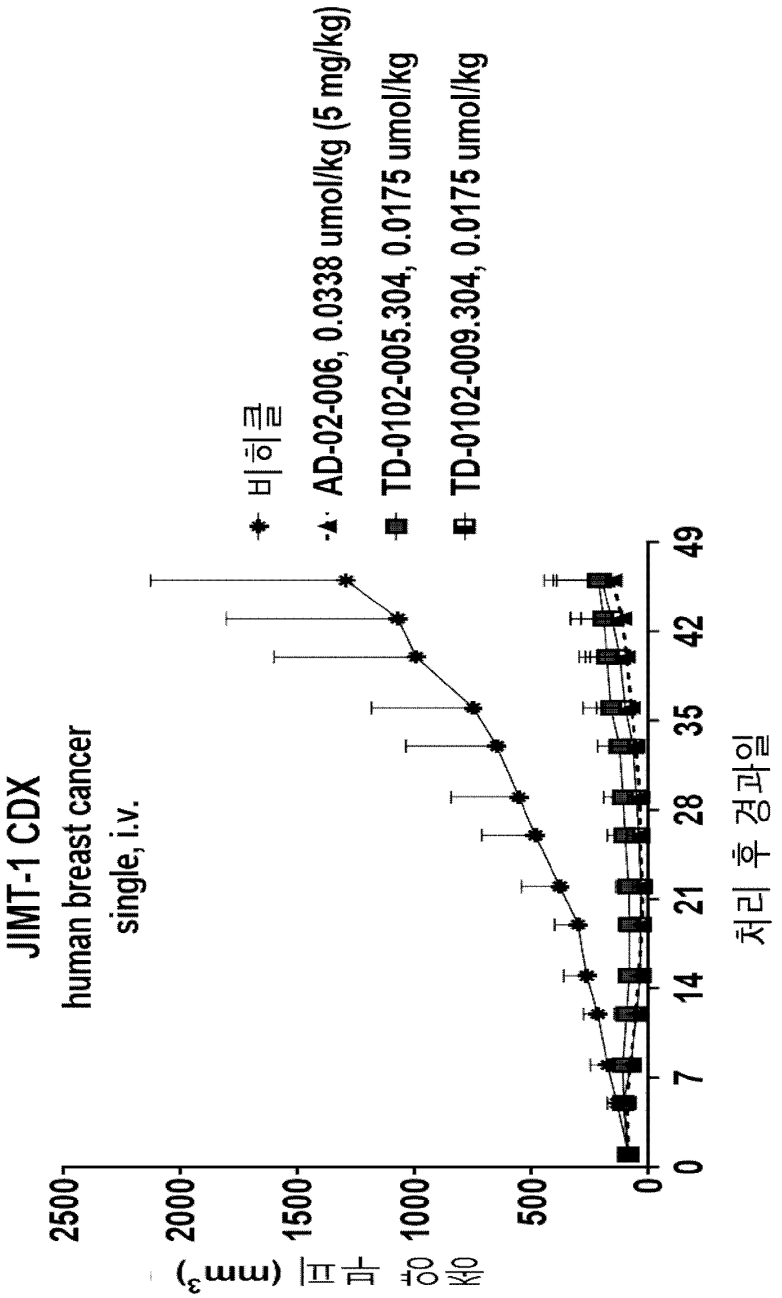
[도37a]


MDA-MB231 CDX
human triple-negative breast cancer
single, i.v., 0.03 umol/kg
비히클
MA-09-003.1, 5 mg/kg
AD-09-003
TD-0109-004.327
TD-0109-005.327
TD-0109-006.327
TD-0109-007.327
TD-0109-008.327
TD-0109-009.327
종양 부피 (mm³)
3000
2500
2000
1500
1000
500
0
0
7
14
21
28
35
처리 후 경과일

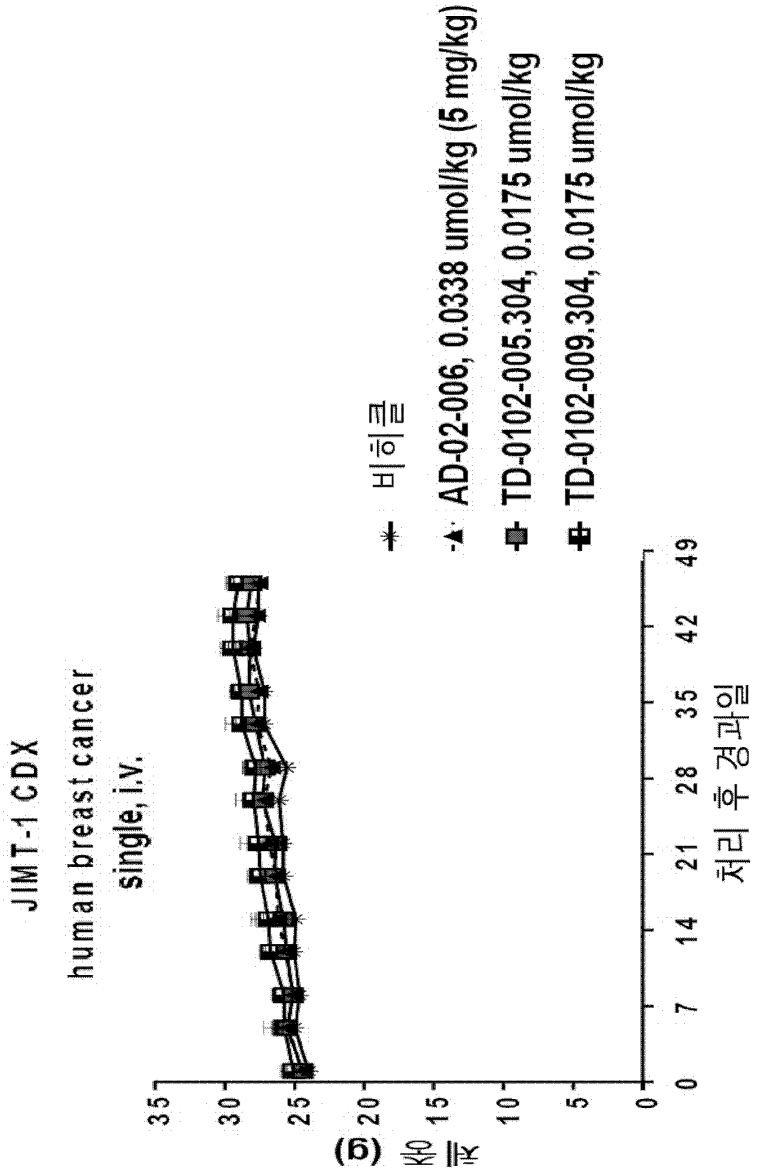
[도37b]


MDA-MB231 CDX
human triple-negative breast cancer
single, i.v., 0.03 umol/kg
비히클
MA-09-003.1, 5 mg/kg
AD-09-003
TD-0109-004.327
TD-0109-005.327
TD-0109-006.327
TD-0109-007.327
TD-0109-008.327
TD-0109-009.327
체중 (gram)
35
30
25
20
15
10
5
0
0
7
14
21
28
35
처리 후 경과일

[도38a]


JIMT-1 CDX
human breast cancer
single, i.v.
비히클
AD-02-006, 0.0338 umol/kg (5 mg/kg)
TD-0102-005.304, 0.0175 umol/kg
TD-0102-009.304, 0.0175 umol/kg
종양 부피 (mm³)
2500
2000
1500
1000
500
0
0
7
14
21
28
35
42
49
처리 후 경과일

[도38b]


JIMT-1 CDX
human breast cancer
single, i.v.
비히클
AD-02-006, 0.0338 umol/kg (5 mg/kg)
TD-0102-005.304, 0.0175 umol/kg
TD-0102-009.304, 0.0175 umol/kg
(б)
체중
처리 후 경과일
0
5
10
15
20
25
30
35
0
7
14
21
28
35
42
49