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G-3 総説

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G-4 参考文献

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H. 知的財産権の出願・登録状況

H-1 特許取得

1. 発明の名称:新規ペプチド
発明者:山崎基生、高橋憲行、南野直人、佐々木一樹、高尾敏文、里見佳典
出願番号:特願 2005-221635
2. 発明の名称:新規ポリペプチド及びその用途
発明者:中里雅光、高尾敏文
出願番号:特願 2005-130191
3. 同位体標識法、出願日:平成17年7月14日
出願番号:特願 2005-205749
4. 質量分析システムおよび質量分析法、出願日:
平成17年12月21日
出願番号:特願 2005-368472

H-2 実用新案登録

なし

H-3 その他

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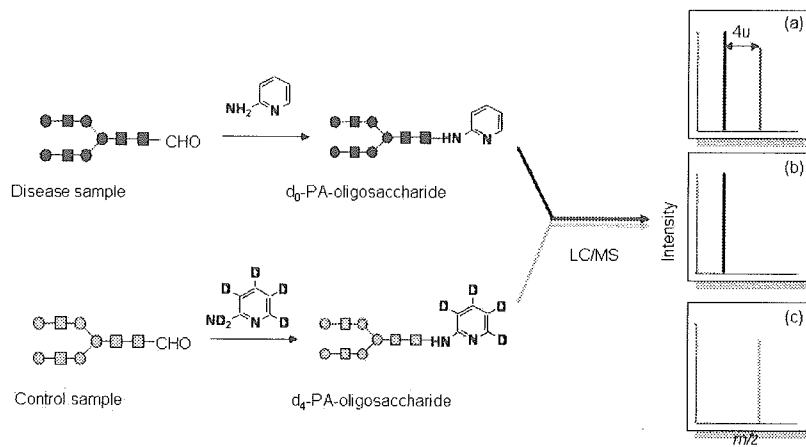


Fig 1. Procedure of differential analysis of oligosaccharides.

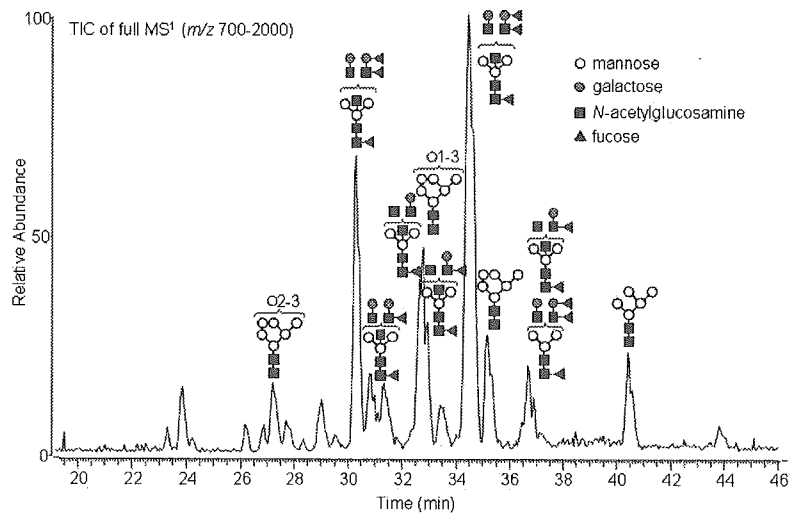


Fig 2. Oligosaccharides differential analysis of *lpr/lpr* and *+/+* mice kidney membrane fractions.

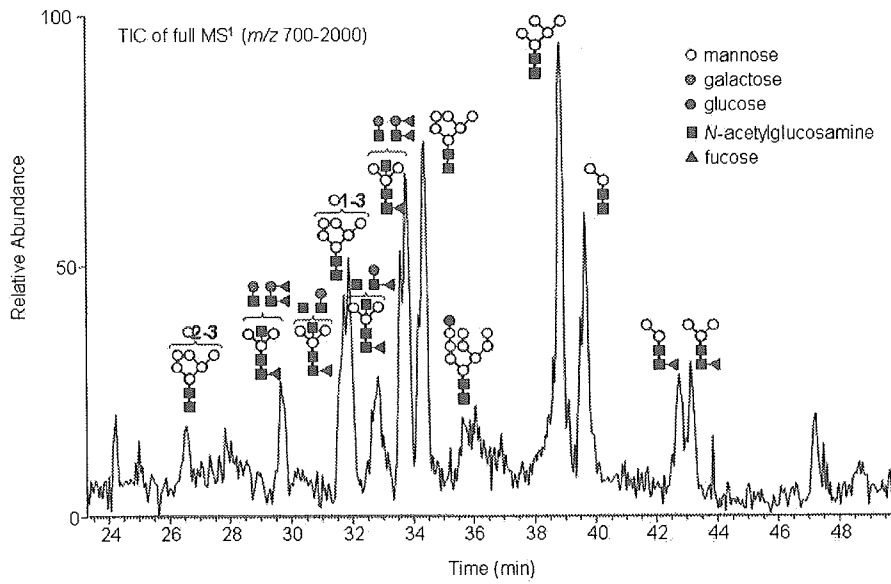


Fig 3. Oligosaccharides differential analysis of *lpr/lpr* and *+/+* mice kidney soluble fractions.

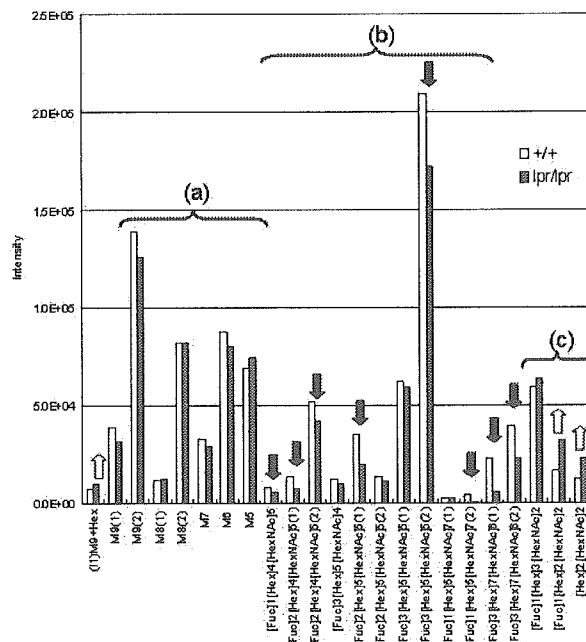


Fig 4. Relative quantification of N-linked oligosaccharides between *lpr/lpr* and *+/+* mice.

(a) high-mannose type, (b) complex type and (c) degraded core oligosaccharides.

Significantly decreased and increased oligosaccharides were marked with black and white arrows, respectively.

N-Glycan	Ave. Ratio (lpr/+)
M9+Hex	↑ 1.40
M9(1)	} (a) 0.81
M9(2)	
M8(1)	
M8(2)	
M7	
M6	
M5	1.08
[Fuc] ₁ [Hex] ₄ [HexNAc] ₅	} (b) ↓ 0.68
[Fuc] ₂ [Hex] ₄ [HexNAc] ₅ (1)	
[Fuc] ₂ [Hex] ₄ [HexNAc] ₅ (2)	
[Fuc] ₃ [Hex] ₅ [HexNAc] ₄	
[Fuc] ₂ [Hex] ₅ [HexNAc] ₅ (1)	
[Fuc] ₂ [Hex] ₅ [HexNAc] ₅ (2)	
[Fuc] ₃ [Hex] ₆ [HexNAc] ₃ (1)	
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[Fuc] ₁ [Hex] ₆ [HexNAc] ₇ (2)	
[Fuc] ₃ [Hex] ₇ [HexNAc] ₃ (1)	
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[Fuc] ₁ [Hex] ₃ [HexNAc] ₂	
[Fuc] ₁ [Hex] ₂ [HexNAc] ₂	↑ 1.97
[Hex] ₂ [HexNAc] ₂	↑ 1.82

表 1. Intensity ratios of N-linked oligosaccharides from lpr/lpr and +/+ mice.

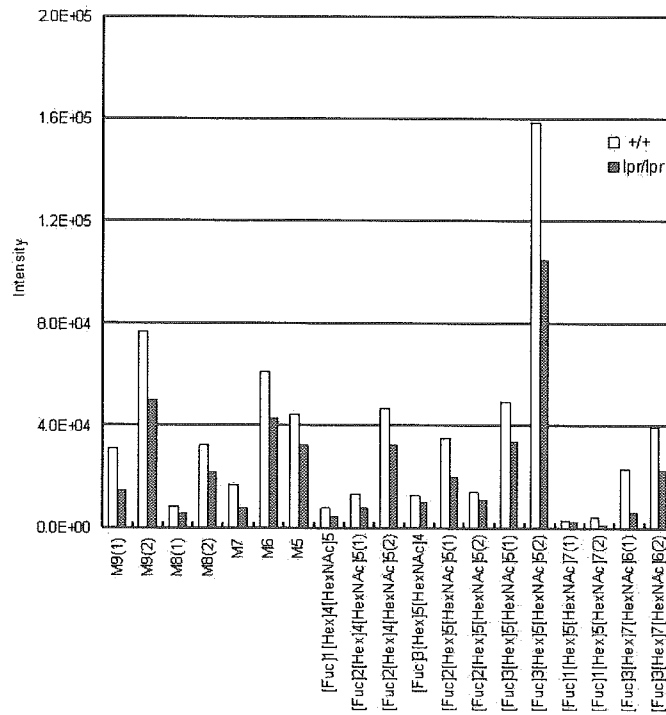


图 5. Relative quantifications of N-linked oligosaccharides of membrane fractions from lpr/lpr and +/+ mice.

N-Glycan	Ave. Ratio(lpr/+)
M9(1)	0.47
M9(2)	0.65
M8(1)	0.67
M8(2)	0.67
M7	0.45
M6	0.70
M5	0.72
[Fuc] ₁ [Hex] ₄ [HexNAc] ₅	0.55
[Fuc] ₂ [Hex] ₄ [HexNAc] ₅ (1)	0.58
[Fuc] ₂ [Hex] ₄ [HexNAc] ₅ (2)	0.69
[Fuc] ₃ [Hex] ₅ [HexNAc] ₄	0.79
[Fuc] ₂ [Hex] ₅ [HexNAc] ₅ (1)	0.57
[Fuc] ₂ [Hex] ₅ [HexNAc] ₅ (2)	0.81
[Fuc] ₃ [Hex] ₅ [HexNAc] ₅ (1)	0.68
[Fuc] ₃ [Hex] ₅ [HexNAc] ₅ (2)	0.66
[Fuc] ₁ [Hex] ₅ [HexNAc] ₇ (1)	0.88
[Fuc] ₁ [Hex] ₅ [HexNAc] ₇ (2)	0.24
[Fuc] ₃ [Hex] ₇ [HexNAc] ₆ (1)	0.24
[Fuc] ₃ [Hex] ₇ [HexNAc] ₆ (2)	0.58
[Fuc] ₁ [Hex] ₅ [HexNAc] ₂	0.76

表 2. Intensity ratios of N-linked oligosaccharides from lpr/lpr and +/+ membrane fractions.

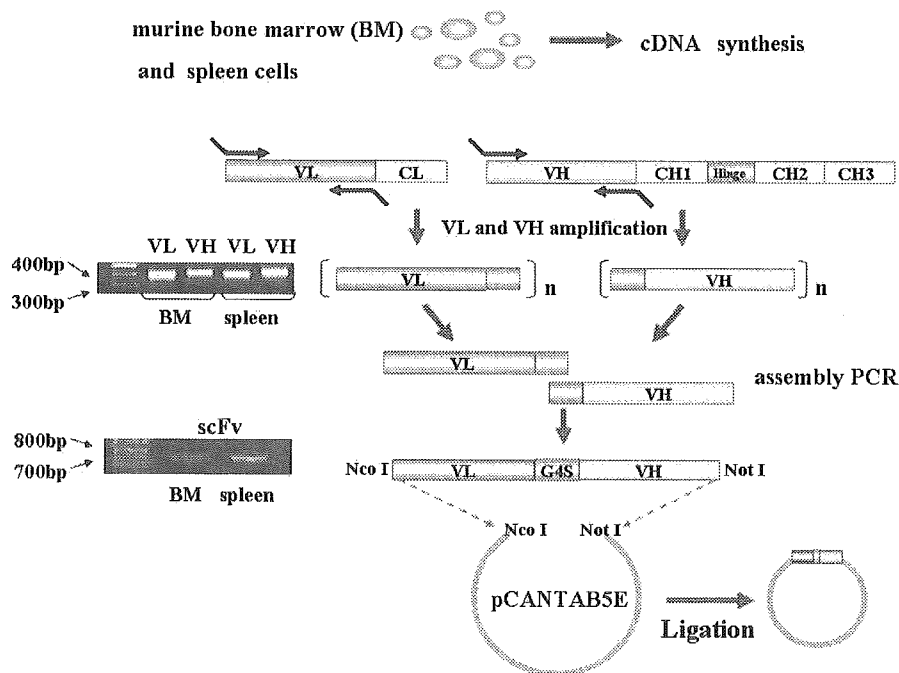


图 6. Construction of non-immune scFv phage antibody library.

VL

	FRL	CDRL	FR2	CDR2	FR3	CDR3	FR4	Linker
1	DIVMLSRKFMSTVSGHWSITC	KASQWSTAVV	WQQKPGASPKLLIY	SASVRS	GVFDRTGSGSHTDFTLISNQAEDLAVYIC	QQNSPYPT	FGGGKLEIKR	GGGGSGGGSGGGGS
2	---FSS-YA-L-E-T---	---INSTLS	-F-K-T---	R-NRLVD	-S-S-Q-YS-SLEY-ME1-	LLSTPSS-	---	---
3	---TFLTL-VTI-QPA-S---	-S-SLLIEDGKTYLN	-LL-R-R-	LV-KLD-	---K-R-E-G---	W-GIHF-R-	---	---
4	-Q-AAPSPVIVP-ES-S-	KS-KSLIEDGKTYLY	-FL-R-Q---	RM-NLA-	---S-A-R-R-E-VG-	M-HLE-L-	-A-	---
5	---Q---	---H-G-R-	---	---	---	S-E-F-	---	---
6	-LL-	---	---	W-T-HT	---Y-S-L-	-HY-T-L-	-A-LE-	---
7	-E-Q-V-	---H-G-R-	---	---	---	S-E-F-	-L-	-L-
8	H-Q-V-	---H-G-R-	---	YF-RHF-	---	S-E-F-	-L-	---
9	---PAI-A-P-EX-DA-	S-SS-SYMI	---S-T-EM-	DT-KLA-	-A-S-SYS-R-E-A-T-	-MS-N-P-	-A-	---
10	---	---	---	W-TRHT	---	S-E-F-	---	-L-
11	-LN-	---	---	---	---	F-S-	-HY-T-	-L-
12	---	-G-	---	W-T-HT	---Y-S-L-	-HY-T-	---	---

VH

	FRL	CDRL	FR2	CDR2	FR3	CDR3	FR4
1	EVQLVDSGGGLKPGASIKLCAASGPTFS	SYGAS	VVWQTPERGLEHVA	YISSGGSTIYPDSVKG	RFTISDRHKNILYLOKSLKSEDIAMFYCAR	GGGVFDY	WGGITLVSS
2	Q-QQ-AE---A-V-I-K-YA---W-H	---W-H	-K-R-G---IG	Q-YP-IGD-H-REKTF-	KA-LTA-KSSS-A-MQL-T-S-V-F-G	GTYFDY	---
3	D-H---D-	-T-	---R-	---GH-	---B-	GRY	---
4	-H-	D-H	A-	S-I-A-T-	---F-T-R-	LTIYVDY	---
5	-K-Q---	---	D-R-L-	T-H-N-GS-	---	DGNLYLLAY	-IV-
6	-H-	-T-	---R-	---GH-	---B-	RGRYVDYDGYFDY	-A-V-
7	---Q---	D-H	A-	S-I-A-T-	P-F-	GIMWDFDY	---
8	-K-E---	A-	R-	DYI-A-T-	---B-	EERYPDY	---
9	-H-E-Q-S-M-T-	D-Y-A	---	H-NYD-S-L-L-S-	-I-I-	DLYYFDY	---
10	-R---	A-	R-	T-D-Y-	---H-	HGSSSGFAY	-IV-
11	-K-E-Q-S-M-T-	D-Y-A	V-	H-NYD-S-L-L-S-	-I-I-	RGGVWFYD	---
12	Q-QQ-AE---A-V-I-K-YA---SSAM-N	SSAM-N	-K-R-G---IG	R-YP-IGD-H-REKTF-	KA-LTA-KSSS-A-MQL-T-S-V-F-	DDD	---

表 3. DNA sequence of VL and VH genes of the phage clones which were randomly isolated from the scFv library.

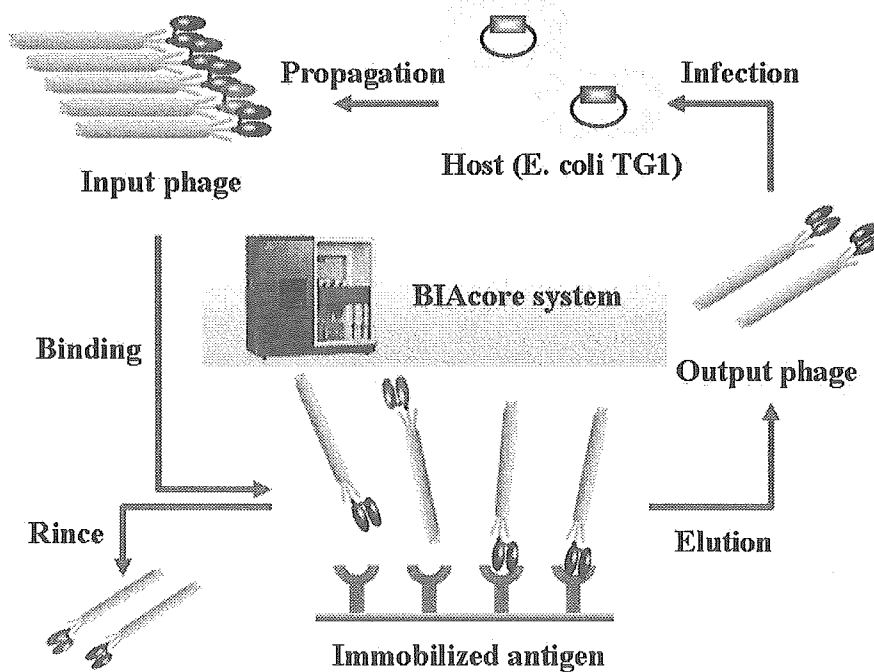


图 7. Affinity panning procedure of scFv phage antibody library using BIAcore automated microfluidics system.

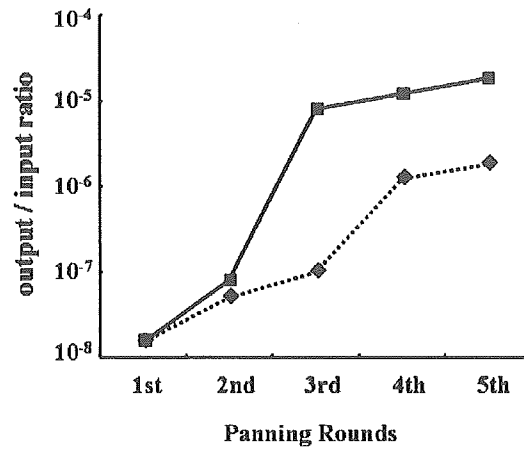


Figure 8. Enrichment of anti-KDR scFv clones as repeated affinity panning. Closed line: rinse 10 times a panning; dashed line: rinse 2 times a panning. Vertical axis indicates the ratio (output phage titer / input phage titer).

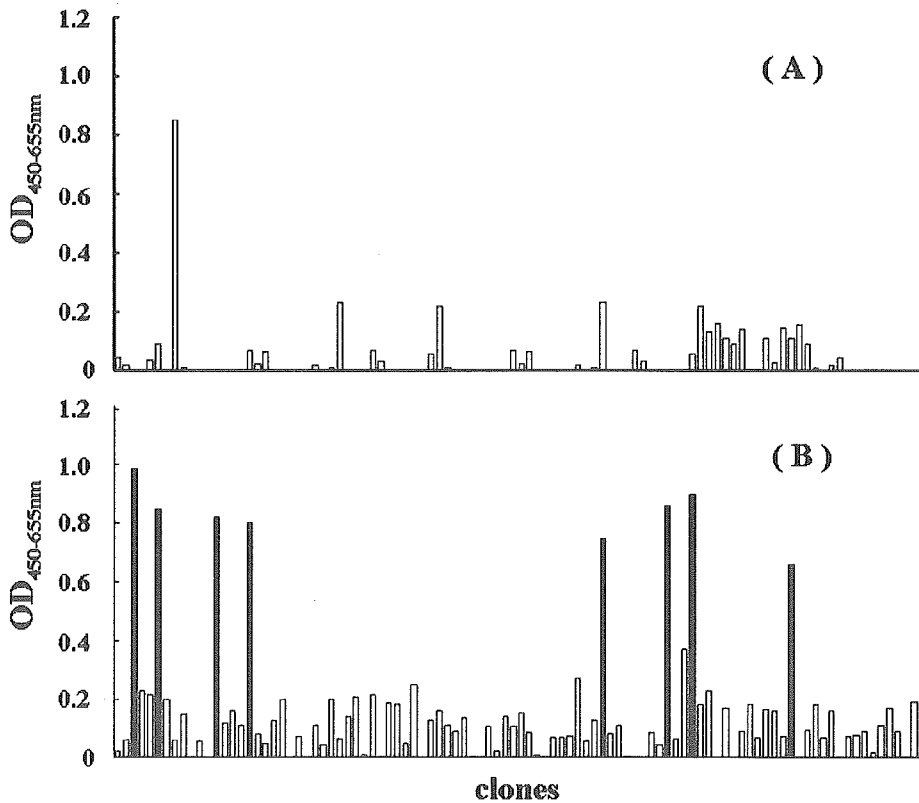


Figure 9. Screening of high-affinity anti-KDR scFv clones after 5th panning by phage ELISA. (A) 2 times rinse protocol (B) 10 times rinse protocol. KDR-Fc chimera was immobilized in the immunoplate coated with anti-mouse IgG. The phage clones were added to the wells followed by addition of HRP-conjugated anti M13 antibody.

VL

	FB1	CDR1	FB2	CDR2	FB3	CDR3	FB4	Linker
1	DIYMTQSPATLSVTPGDWVSLSC	RASQMSAYLH	WYQQKSHESPLLIIK	YASQSIIS	GIPSRFSGSGSGSFTLSINSVEPEDVGVVYTC	QNGHSPPYT	FGGGTKLEIKR	GGGGSGGGSGGGGS
2	-----QKPH-TSV-----VT-	X-----VGINVA	----PGQ--KA--Y	S--YHY-	-V-D--T-----TD--T-SN-GS--LAE-F-	-QYN-Y-Q-	-----L--	-----
3	-----HKPH-TSV-----VT-	X-----VGINVA	----PGQ--KA--Y	S--YHY-	-V-D--T-----TD--T-SN-GS--LAE-F-	-QYN-Y-LI-	-A-----I--	-----

VH

	FB1	CDR1	FB2	CDR2	FB3	CDR3	FB4
1	EVELVQSSAELVHPGTSVKLSCKASGYTFY	SYWNI	WYQRPGGLEWIG	AIYPGNSDTSYNGKPKG	KAKLTAVTSASTAYHELSSLINDESIYVYCTB	EVDIYANDY	WGGGTSYVYSS
2	Q-QV-E--GG--Y--G-L---A--F--S	--A-S	--R-T-EKR--VA	T-SS-G-Y-Y-PDSY--	RFTISRDAEN-L-LQI---ES-T-N--A-	QRDGSIVYFDV	--A--T----
3	E-QL-E--GG--Q--G-L---A--F--S	--G-S	--R-T-DKR--VA	T-SS-G-Y-Y-PDSY--	RFTISRDAEN-L-LQI---IS--T-N--A-	HYGSSYFDY	----TL----

表 4. DNA sequences of the isolated anti-KDR scFv clones.

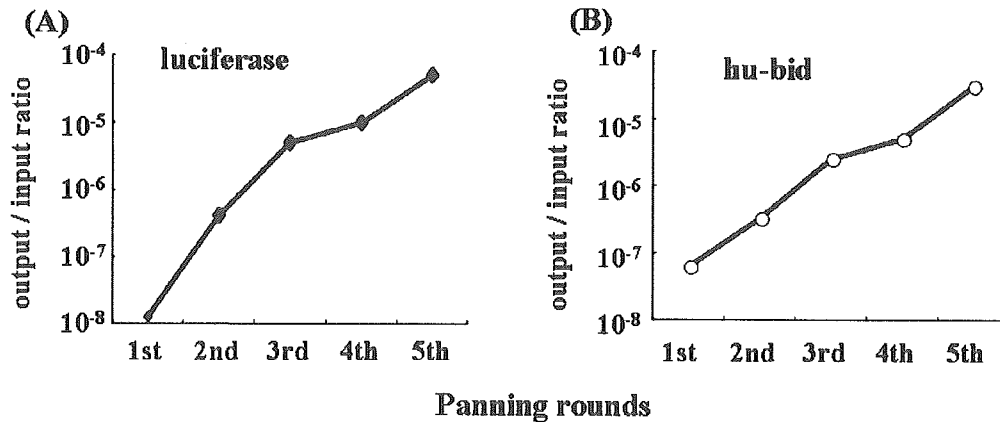


图 10. Enrichment of antigen-specific scFv clones from the non-immune phage antibody library by repeated affinity panning.

Model protein and intracellular apoptosis-related protein were immobilized and affinity panning to them were performed using BIAcore. (A) luciferase (B) human bid. Ratio of phage titer at each panning round was measured.

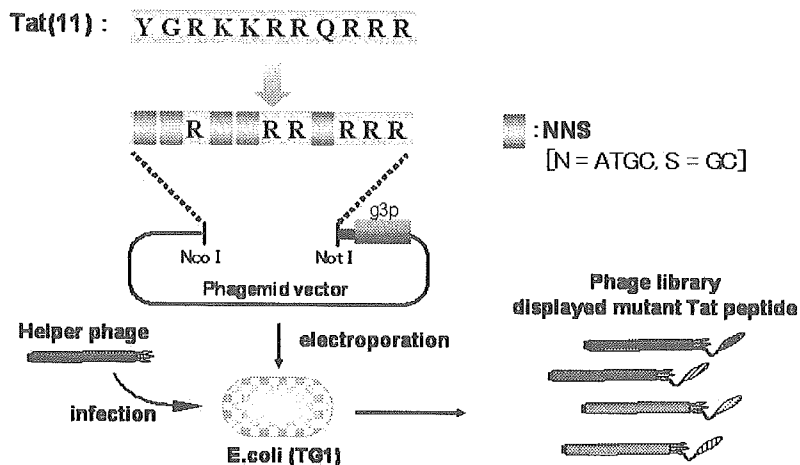


图 11. Scheme of the construction of mutant Tat-PTD peptides library

(a)

Tat	Y	G	R	K	K	R	R	Q	R	R	R
	(TAC)	(GGT)	(CGT)	(AAA)	(AAA)	(CGT)	(CGT)	(CAG)	(CGT)	(CGT)	(CGT)
position	47	48	49	50	51	52	53	54	55	56	57

(b)

clone	position					clone	position				
	47	48	50	51	54		47	48	50	51	54
1	T (ACC)	L (CTC)	T (ACC)	R (AGG)	N (AAC)	6	K (AAG)	E (GAG)	H (CAC)	L (CTC)	H (CAC)
2	N (AAC)	Y (TAC)	T (ACC)	G (GGC)	K (AAG)	7	D (GAC)	R (CGG)	N (AAC)	S (TCC)	N (AAC)
3	L (CTG)	T (ACG)	W (TGG)	T (ACC)	M (ATG)	8	H (CAC)	R (CGG)	P (CCC)	V (GTC)	F (TTC)
4	Y (TAC)	P (CCG)	I (ATC)	D (GAC)	P (CCC)	9	N (AAC)	K (AAG)	R (CGC)	Q (TAG)	K (AAG)
5	S (TCC)	K (AAG)	T (ACC)	W (TGG)	N (AAC)	10	A (GCC)	P (CCC)	D (GAC)	W (TGG)	A (GCC)

表 5 Phage clones from mutant Tat-PTD peptides library

(a) wild type Tat-PTD (b) mutant Tat-PTDs displayed on phage surface

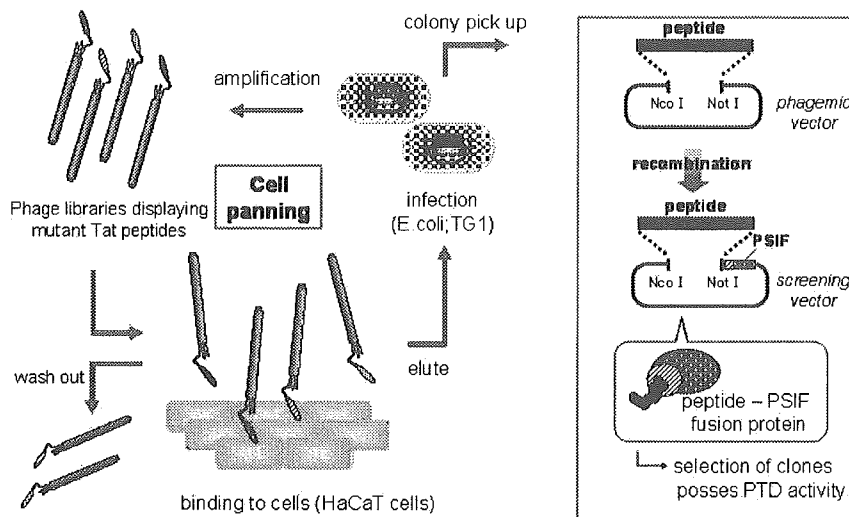


Fig 12 . Screening of the PTDs penetrating through cell membrane by the method of cell panning..
 (left) scheme of cell panning method (right) scheme of construction of the library of mutant PTDs fused to the protein synthesis inhibitory factor (PSIF)

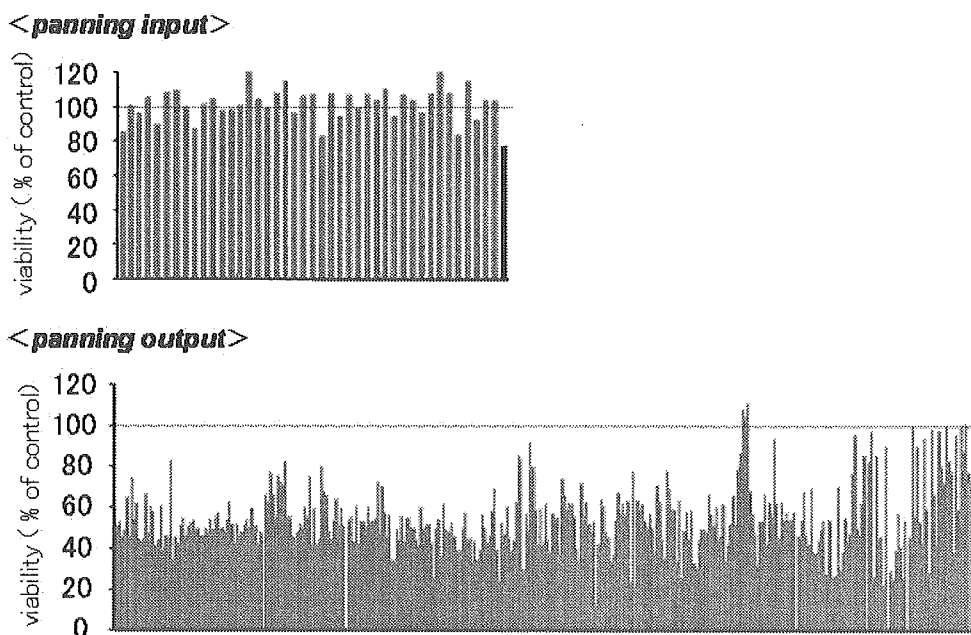
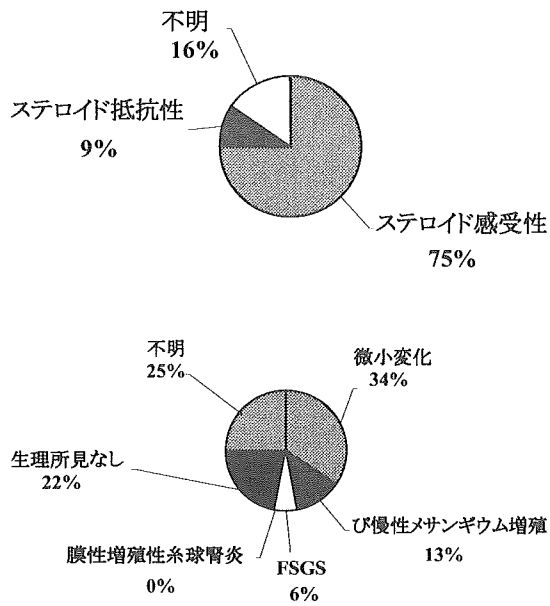
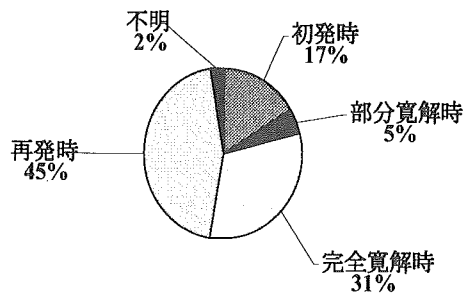


Fig 13 . Screening of the cell penetrating peptides by treating the PTD peptide-PSIF fusions to cultured HaCat cells.
 Viability was measured by MTT assay. Cell-killing activities of PTD-PSIF fusions were compared with wild type tat-PSIF. Non-treated sample was calculated as 100%. Viability.



ネフローゼ症候群	32
FSGS (巣状分節性糸球体硬化症) 腎移植後	7
IgA 腎症	2
その他	1
計	42

図 14 ネフローゼ症候群における組織型等内訳



初発時	7
部分寛解時	2
完全寛解時	13
再発時	19
不明	1
計	42(検体)

図 15 検体提供時病期

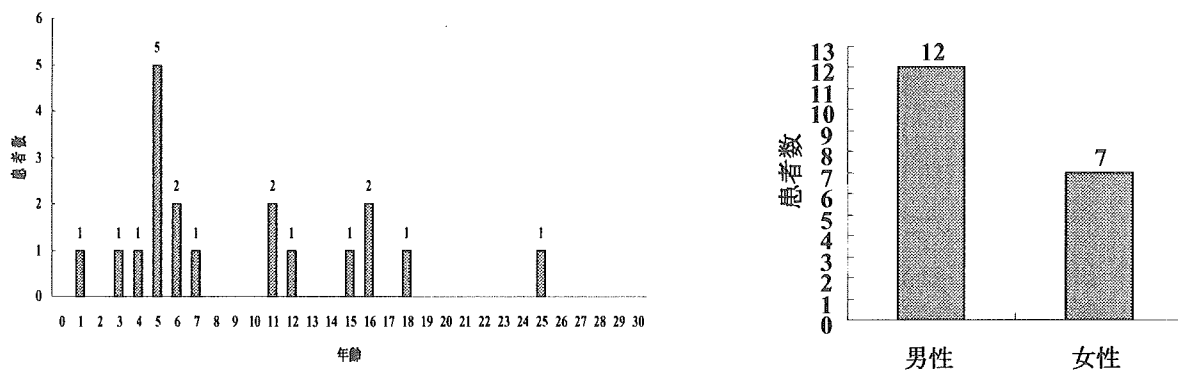


図 16 初回検体提供時年齢、性別

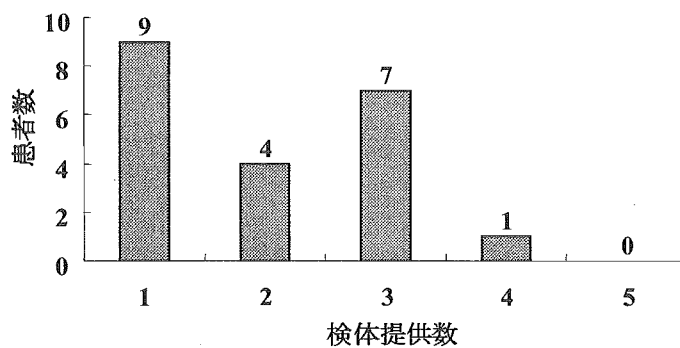


図 17 患者一人あたりの検体提供回数

表6. 研究協力機関からのヒト試料の受け入れ状況一覧表

(2006年1月31現在)

研究協力機関名称	ヒト試料種類	疾患名称	受け入れ状況	
			症例数	試料数
国立成育医療センター	血清	ネフローゼ	16	33
	血清	FSFG	2	7
	血清	IgA 腎症	2	2
	血清	膜性増殖性糸球体腎炎	1	1
国立精神・神経センター	血清	パーキンソン病	12	12
	血清	パーキンソン病症候群(多系統萎縮症)	1	1
国立循環器病センター	血清	急性脳梗塞	8	16
	血清	糖尿病性動脈硬化症	6	12
国立長寿医療センター	血清	骨粗しょう症	13	13
		認知症	2	2
国立国際医療センター	血清	糖尿病	42	42
大阪府立成人病センター	血清	胃がん	7	11
	組織	胃がん(正常部位、病巣部位)	3	3
合 計	血清		110	150
	組織		3	3

プロテームファクトリーにおけるデータ解析の流れ たんぱく質の同定及び比較定量

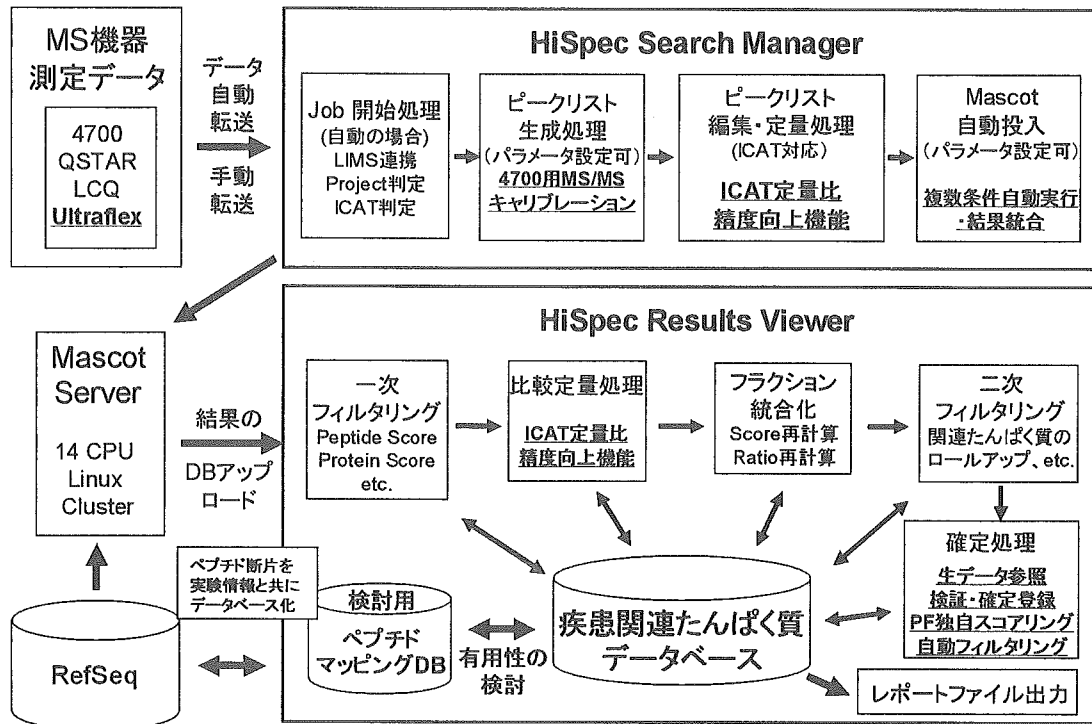


図18. プロテームファクトリーにおけるデータ解析の流れ

ペプチドマッピングDB活用例: たんぱく質の同定・比較定量情報の網羅性向上(QSTAR)

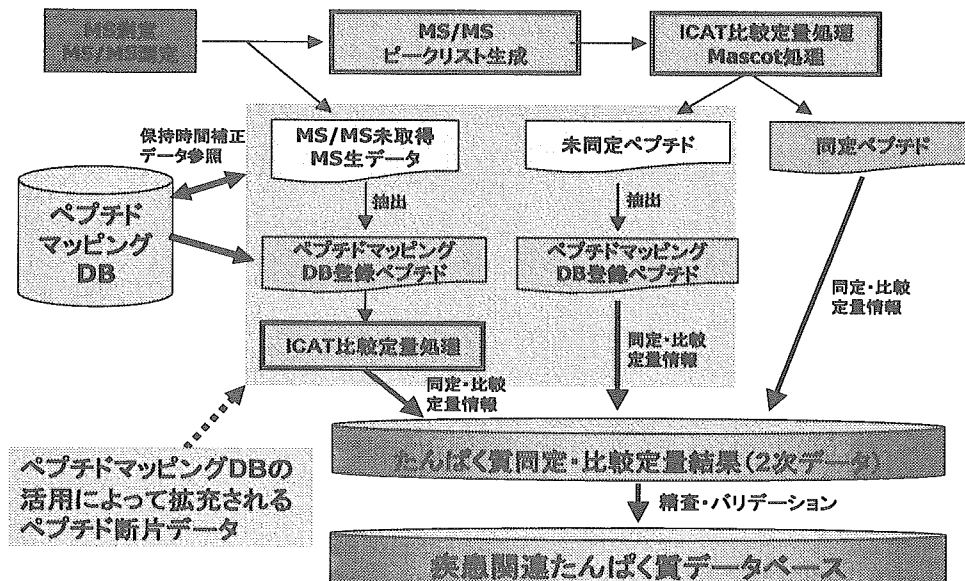


図19. ペプチドマッピングDBの活用例

表7. cICAT 法による標準血清と個別外国人の血清たんぱく質の比較・検討。
(上位 1-150 たんぱく質) その 1.

	Description	EVVC27	EVVC28	EVVC31	EVVC32
1	H factor 1 (complement); H factor-1 (complement);	1.06	0.84	0.92	0.74
2	plasminogen	0.96	0.90	0.87	0.92
3	coagulation factor II precursor; prothrombin	1.10	0.90	0.96	0.92
4	complement component 3 precursor; acylation-stimulati	1.07	0.92	1.02	0.91
5	alpha 2 macroglobulin precursor	1.09	0.77	0.96	0.73
6	kininogen 1; alpha-2-thiol proteinase inhibitor; bradykinin	1.02	1.07	0.81	0.90
7	ceruloplasmin (ferroxidase); Ceruloplasmin	0.96	0.86	0.90	0.79
8	fibronectin 1 isoform 3 preproprotein; cold-insoluble glob	1.07	1.18	1.02	1.03
9	complement component 7 precursor	1.05	1.03	0.82	0.94
10	vitamin D-binding protein precursor; vitamin D-binding	0.87	0.99	1.00	0.79
11	apolipoprotein B precursor; apoB-100; apoB-48	0.91	0.84	0.99	0.80
12	plasma kallikrein B1 precursor; Kallikrein, plasma; kallik	0.97	0.95	0.89	0.79
13	coagulation factor XIII B subunit precursor; TGase	1.00	0.88	0.90	0.66
14	complement component 5	0.99	0.98	0.87	0.75
15	Complement component 6 precursor	0.87	1.07	1.01	0.89
16	beta-2-glycoprotein I precursor	0.95	1.04	0.84	1.02
17	complement factor B preproprotein; C3 proactivator;	0.99	1.06	0.93	0.58
18	complement component 4 binding protein, alpha;	1.19	0.85	0.89	0.69
19	afamin precursor; alpha-albumin	1.23	1.02	1.04	0.84
20	hemopexin	0.93	0.94	0.89	1.03
21	albumin precursor; PRO0883 protein	1.93		1.73	0.16
22	complement component 4A preproprotein; acidic C4;	0.79	1.00	0.92	0.94
23	I factor (complement)	0.90	0.98	0.86	0.79
24	alpha-1-microglobulin/bikunin precursor; Alpha-1-	0.84	0.82	0.84	0.92
25	coagulation factor XII precursor; Hageman factor	0.85	1.06	0.78	1.04
26	complement component 8, alpha polypeptide precursor	1.15	0.63	0.99	0.97
27	complement component 1, r subcomponent	0.82	0.92	0.91	0.82
28	lipoprotein, Lp(a); Apolipoprotein Lp(a); antiangiogenic	1.38	0.41	1.86	0.10
29	complement component 1, s subcomponent	0.83	1.09	0.88	0.83
30	alpha-2-HS-glycoprotein; Alpha-2HS-glycoprotein	0.85	1.27	1.05	0.89
31	complement component 8, beta polypeptide	1.00	0.85	1.01	1.37
32	complement component 9	0.74	0.92	1.16	0.61
33	peptidoglycan recognition protein L precursor	0.71	0.98	0.79	1.13
34	properdin P factor, complement	1.30	0.97	1.24	0.67
35	attractin isoform 2; attractin-2; mahogany protein	0.93	0.91	0.91	0.87
36	retinol-binding protein 4, plasma precursor	0.85	0.92	0.72	1.14
37	coagulation factor X precursor; prothrombinase; factor X;	1.01	0.89	0.79	1.21
38	vitronectin precursor; serum spreading factor;	0.96	0.81	0.89	1.02
39	inter-alpha (globulin) inhibitor H1; inter-alpha (globulin)	0.88	0.79	0.86	0.80
40	complement component 2 precursor; C3/C5 convertase	1.04	0.88	1.01	0.81
41	protein S (alpha); Protein S, alpha	1.10	0.78	0.87	0.91
42	alpha 1B-glycoprotein	0.95	0.98	0.83	0.88
43	histidine-rich glycoprotein precursor; histidine-proline	0.89	1.55	0.67	0.58
44	tetranectin (plasminogen binding protein); tetranectin	1.10	0.96	0.88	0.80
45	complement component 8, gamma polypeptide	1.06	1.03	1.09	1.14
46	von Willebrand factor precursor; Coagulation factor VIII V	0.83	0.56	0.85	1.41
47	cartilage oligomeric matrix protein precursor; epiphyseal	1.16	0.98	0.89	0.96
48	complement factor H-related 3	0.95	1.47	1.35	0.72
49	clusterin isoform 1; complement-associated protein SP-4	0.82	1.15	0.72	0.85
50	macrophage stimulating 1 (hepatocyte growth factor-like	0.68	1.00	1.04	0.93
51	H factor (complement)-like 1		1.00	0.94	0.72
52	Fc fragment of IgG binding protein; IgG Fc binding protein	0.72	1.12	0.39	1.24
53	plasma coagulation factor XI precursor isoform a; plasma	1.29	1.04	1.03	0.71
54	mannan-binding lectin serine protease 1 isoform 1,	1.03	0.68	0.97	1.03
55	serine (or cysteine) proteinase inhibitor, clade C (anti	1.02	1.09	0.83	0.92
56	apolipoprotein D precursor	0.80	1.06	0.85	0.91
57	mannan-binding lectin serine protease 1 isoform 2,			0.97	1.03
58	apolipoprotein M; NG20-like protein	0.93	0.76	0.87	0.92
59	alpha-2-plasmin inhibitor; alpha-2-antiplasmin	0.97	0.81	0.67	1.17
60	extracellular matrix protein 1 isoform 1 precursor; secret	1.63	1.18	0.90	1.62
61	hyaluronan binding protein 2; hyaluronic acid binding prot	0.89	0.94	1.04	0.98
62	PREDICTED: similar to Carboxypeptidase N 83 kDa chain	1.04	0.84	0.76	0.89
63	HGF activator preproprotein	1.09	0.82	0.79	1.11
64	pregnancy-zone protein; Pregnancy zone protein	0.42	0.56	0.58	0.62
65	insulin-like growth factor binding protein 3	1.50	1.01	0.94	2.08
66	fetuin B; fetuin-like protein	0.85	0.84	0.80	0.58
67	fibulin 1 isoform C precursor	0.88	1.11	1.21	0.98
68	factor H-related protein 5	1.00	0.96	0.86	0.48
69	protein Z, vitamin K-dependent plasma glycoprotein	1.08	1.08	0.77	0.52
70	complement component 4 binding protein, beta; complem	1.21	0.98	0.97	0.73
71	apolipoprotein A-II precursor	0.81	0.94	0.95	1.09
72	insulin-like growth factor binding protein 4; insulin-like gr	0.86	0.98	0.93	1.26
73	transthyretin; prealbumin	0.95	1.21	0.73	0.97
74	H factor 1 (complement); H factor-1 (complement); comp	0.97	0.98	0.86	1.01
75	plasminogen	0.97	0.98	0.86	1.01

その2

Description	Ratio			
	EVVC27	EVVC28	EVVC31	EVVC32
76 coagulation factor V precursor; labile factor; factor V	1.02	1.31	0.88	1.15
77 complement factor D preproprotein; adipsin; properdin	0.84	0.98	0.70	1.09
78 cholesteryl ester transfer protein, plasma precursor	0.84	0.90	1.03	0.78
79 plasma carboxypeptidase B2 isoform a preproprotein;	0.93	0.88	0.71	1.57
80 gelsolin isoform a	0.98	0.83	0.77	0.92
81 quiescin Q6	1.14	1.14	0.79	1.02
82 alpha-2-glycoprotein 1, zinc; Alpha-2-glycoprotein, zinc	1.45	1.42	0.75	0.70
83 dopamine beta-hydroxylase precursor; dopamine		0.96	N/A	1.73
84 pro-platelet basic protein precursor; connective tissue	1.03			0.49
85 coagulation factor IX; Coagulation factor IX (plasma		1.16	1.17	1.40
86 plasminogen-related protein B; type B plasminogen			0.75	
87 complement component 1 inhibitor precursor	1.11	1.26	0.74	0.67
88 proteoglycan 4; megakaryocyte stimulating factor;	1.12	0.74	1.06	0.88
89 apolipoprotein E precursor; apolipoprotein E3	0.96	0.90	0.79	1.08
90 CD5 antigen-like (scavenger receptor cysteine rich	1.31	0.77	0.77	1.80
91 serine (or cysteine) proteinase inhibitor, clade A,	0.98	1.06	0.72	0.74
92 cell adhesion molecule with homology to L1CAM	1.44	0.73	0.84	
93 CD14 antigen precursor	0.95	0.83		1.10
94 procollagen C-endopeptidase enhancer; procollagen,	0.75	0.96	0.70	1.39
95 H factor (complement)-like 3; factor H-related gene 2	0.73	1.22	1.27	0.71
96 apolipoprotein C-IV		0.97	0.78	0.87
97 sex hormone-binding globulin; Sex hormone-binding g	0.67	1.09	1.02	0.96
98 complement component 1, q subcomponent, alpha	0.93	0.71	0.71	0.77
99 angiogenin, ribonuclease, RNase A family, 5 precursor	1.06	0.95		1.13
100 fibrinogen, beta chain preproprotein	N/A	2.67	0.41	0.30
101 CD163 antigen isoform a; macrophage-associated		1.12		1.50
102 lecithin-cholesterol acyltransferase precursor	1.19			0.94
103 tenascin XB isoform 1; tenascin XB1; tenascin XB2;			1.00	0.50
104 complement component 1, q subcomponent, gamma	0.68	0.58	0.64	0.91
105 cysteine-rich secretory protein 3; specific granule	1.38	1.00	0.81	0.78
106 beta-2-microglobulin precursor	0.75	0.80		1.25
107 insulin-like growth factor binding protein 2 (36kD)		1.55		
108 orosomucoid 2; alpha-1-acid glycoprotein, type 2	2.23	0.81	2.31	1.13
109 insulin-like growth factor binding protein 7	0.85	1.12	0.88	
110 apolipoprotein F precursor	1.44		1.68	0.68
111 heparin cofactor II	1.05	0.89	0.76	1.00
112 immunoglobulin J chain		0.92		
113 transforming growth factor, beta-induced, 68kDa;	0.91		0.89	0.84
114 lumican	0.93	0.93	0.84	0.81
115 EGF-containing fibulin-like extracellular matrix	1.11	1.10		
116 cartilage acidic protein 1; chondrocyte expressed		1.47	0.69	0.89
117 serine (or cysteine) proteinase inhibitor, clade F	1.06	0.57	0.72	0.88
118 cathelicidin antimicrobial peptide	0.97	1.01	0.89	0.42
119 dynein, axonemal, heavy polypeptide 8			0.99	
120 a disintegrin and metalloproteinase with	1.00		0.94	
121 inter-alpha (globulin) inhibitor H2; inter-alpha	0.75	0.99	1.02	0.96
122 protein C (inactivator of coagulation factors	1.16	1.21		0.84
123 carboxypeptidase N, polypeptide 1, 50kD precursor	1.26	0.93	1.14	
124 heparan sulfate proteoglycan 2; heparan sulfate		0.85		
125 vanin 1 precursor; Vannin 1; pantetheinase	2.43	0.45		
126 transmembrane protease, serine 6; membrane-c			0.99	
127 Xaa-Pro dipeptidase; proline dipeptidase		0.89		0.75
128 butyrylcholinesterase precursor	1.10	0.84		
129 platelet glycoprotein Ib alpha polypeptide precursor;	1.63	1.07	0.77	
130 transferrin; PRO2086 protein			N/A	
131 galectin 3 binding protein; L3 antigen; Mac-	0.84	1.12	0.43	1.16
132 complement component 1, q subcomponent, beta	0.84	0.78	0.73	0.85
133 pancreas-enriched phospholipase C			N/A	
134 nuclear receptor binding SET domain protein 1			0.74	
135 prenylcysteine oxidase 1; prenylcysteine lyase	0.73			
136 PREDICTED: similar to RIKEN cDNA 2610209A20			0.81	
137 leukocyte immunoglobulin-like receptor, subfamily A		1.11	1.34	
138 ficolin 2 isoform a precursor; ficolin (collagen	1.18	1.39	1.13	0.54
139 L-plastin; Lymphocyte cytosolic protein-1	0.98	1.02		0.71
140 plastin 1; I isoform; Plastin-1	0.98	1.02		0.71
141 ARHGAP15; uncharacterized bone marrow protein			1.25	
142 mannan-binding lectin serine protease 2 isoform 1		0.57		
143 thrombospondin 4 precursor	0.98	0.50		
144 Fc fragment of IgG, low affinity IIIb, receptor for		0.98		
145 polybromo 1	N/A	N/A		
146 selenoprotein P precursor	1.05	1.20		0.80
147 calcium binding protein 39-like	1.31		0.93	1.01
148 defensin, alpha 1 preproprotein; myeloid-related		0.90	0.53	
149 paraoxonase 1; Paraoxonase	0.88	0.94	0.94	0.97
150 serine protease inhibitor, Kazal type, 5; lymphoe			1.05	