

1. Monocyte
2. IPC
3. IPC+HSV
4. B cell (CD19 positive)
5. T cell (CD3 positive)
6. Activated T cell
7. NK cell (CD56 positive)

FIG. 1a

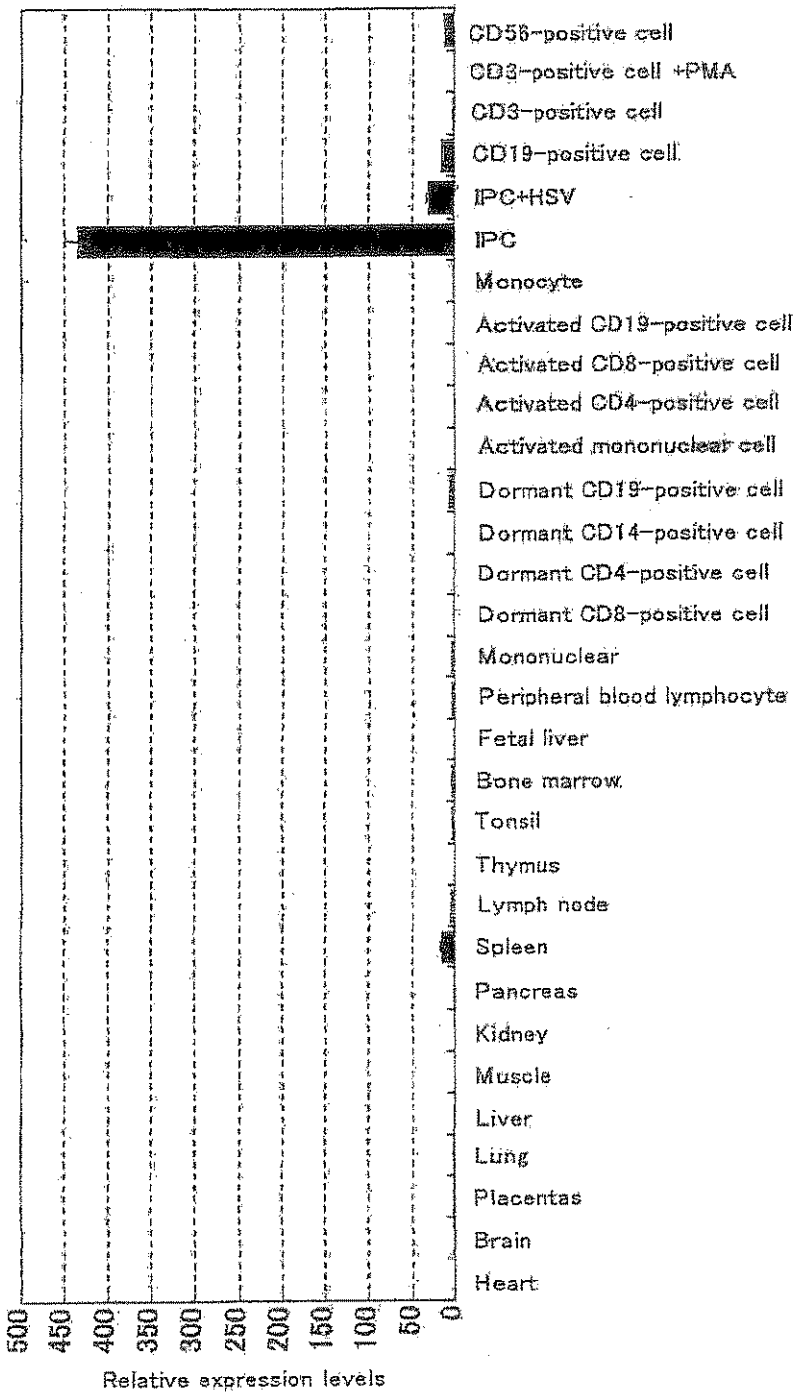

CD56-positive cell
CD3-positive cell +PMA
CD3-positive cell
CD19-positive cell
IPC+HSV
IPC
Monocyte
Activated CD19-positive cell
Activated CD8-positive cell
Activated CD4-positive cell
Activated mononuclear cell
Dormant CD19-positive cell
Dormant CD14-positive cell
Dormant CD4-positive cell
Dormant CD8-positive cell
Mononuclear
Peripheral blood lymphocyte
Fetal liver
Bone marrow
Tonsil
Thymus
Lymph node
Spleen
Pancreas
Kidney
Muscle
Liver
Lung
Placentas
Brain
Heart
500
450
400
350
300
250
200
150
100
50
0
Relative expression levels

FIG. 1b

(a) Signal sequence

MTLILTSLLFFGLSLGPRTRVQAENLPKPILWAEPGPVITWHNPVTIWCQGTLEAQGYRL
DKEGNSMSRHILKTLESENKVKLSIPSMMWEHAGRYHCYYQSPAGWSEPSDPLELVVTAY
SRPTLSALPSPVVTSGVNVTLRCASRLGLGRFTLIEEGDHRLSWTLNSHQHNHGKFQALF
PMGPLTFSNRGTFRCYGYENNTPYVWSEPSDPLQLLVSGVSRKPSLLTLQGPVVTPGENL
TLQCGSDVGYIRYTLYKEGADGLPQRPGRQPQAGLSQANFTLSPVSRSYGGQYRCYGAHN
VSSEWSAPSDPLDILIAGQISDRPSLSVQPGPTVTSGEKVTLLCQSWDPMFTFLLTKEGA
AHPPLRLRSMYGAHKYQAEFPMSPVTSAHAGTYRCYGSRSSNPYLLSHPSEPLELVVSGA
TETLNPAQKKSDSKTAPHLQDYTVENLIRMGVAGLVLLFLGILLFEAQHSQRSPPRCSQE
ANSRKDNAPFRVVEPWEQI (SEQ ID NO:2) Transmembrane region (TM)

(b)

N-FLAG ILT7(57KDa)



C-FLAG ILT7(57KDa)



FIG. 2

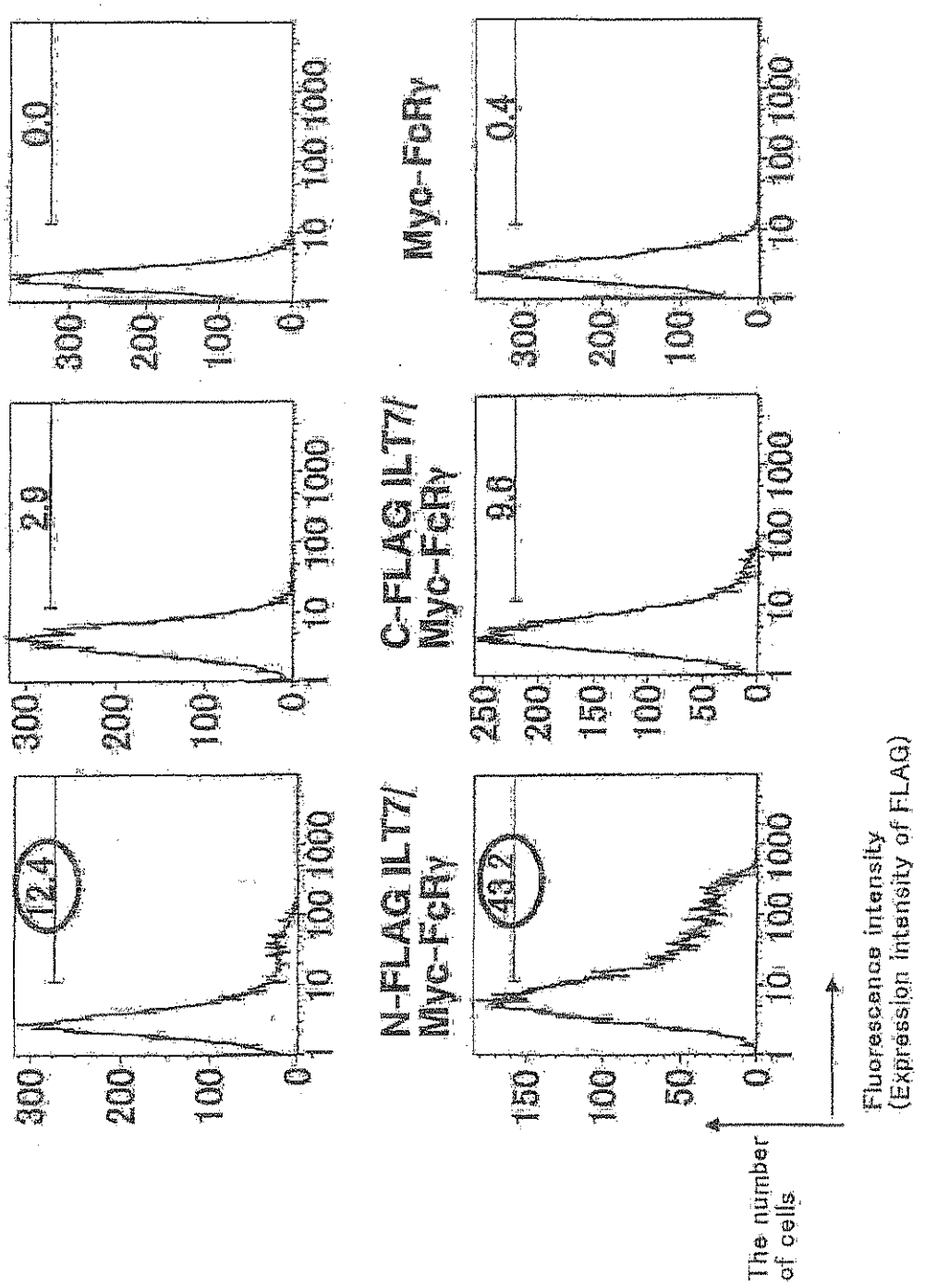

N-FLAG IL7
C-FLAG IL7
NO TF (Host cells)
N-FLAG IL7/ Myc-FcRγ
C-FLAG IL7/ Myc-FcRγ
Myc-FcRγ
12.4
2.9
0.0
43.2
9.6
0.4
The number of cells
Fluorescence intensity (Expression intensity of FLAG)

FIG. 3

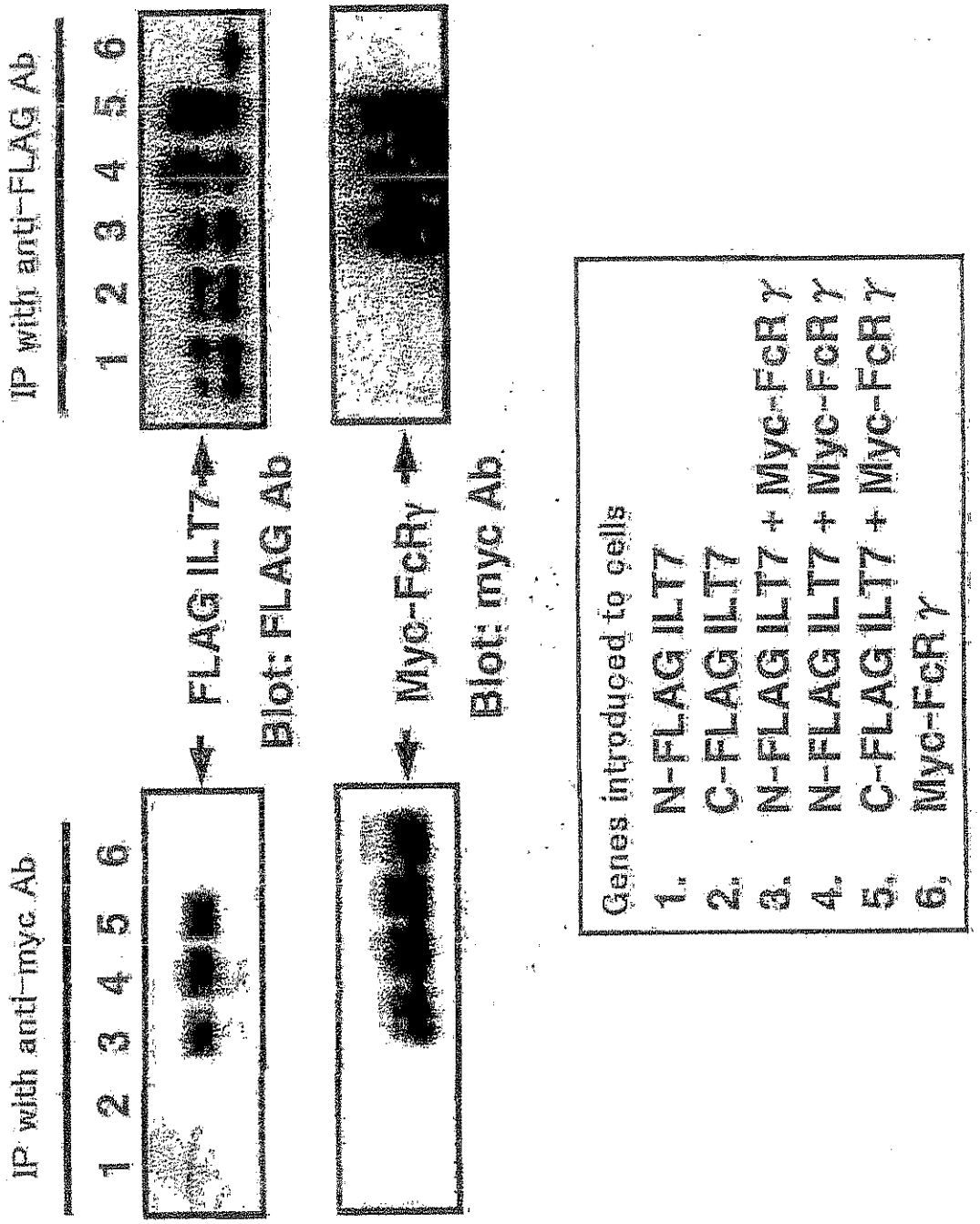

IP with anti-myc Ab
1 2 3 4 5 6
IP with anti-FLAG Ab
1 2 3 4 5 6
FLAG ILT7
Blot: FLAG Ab
Myc-FcRγ
Blot: myc Ab
Genes introduced to cells
1. N-FLAG ILT7
2. C-FLAG ILT7
3. N-FLAG ILT7 + Myc-FcRγ
4. N-FLAG ILT7 + Myc-FcRγ
5. C-FLAG ILT7 + Myc-FcRγ
6. Myc-FcRγ

FIG. 4

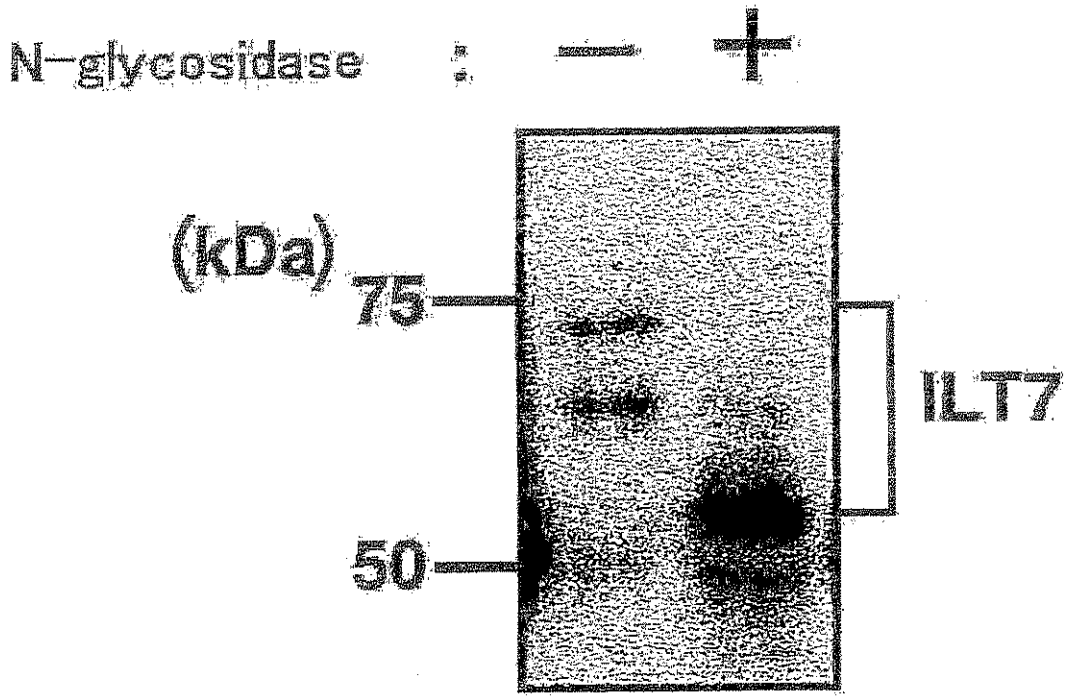


FIG. 5

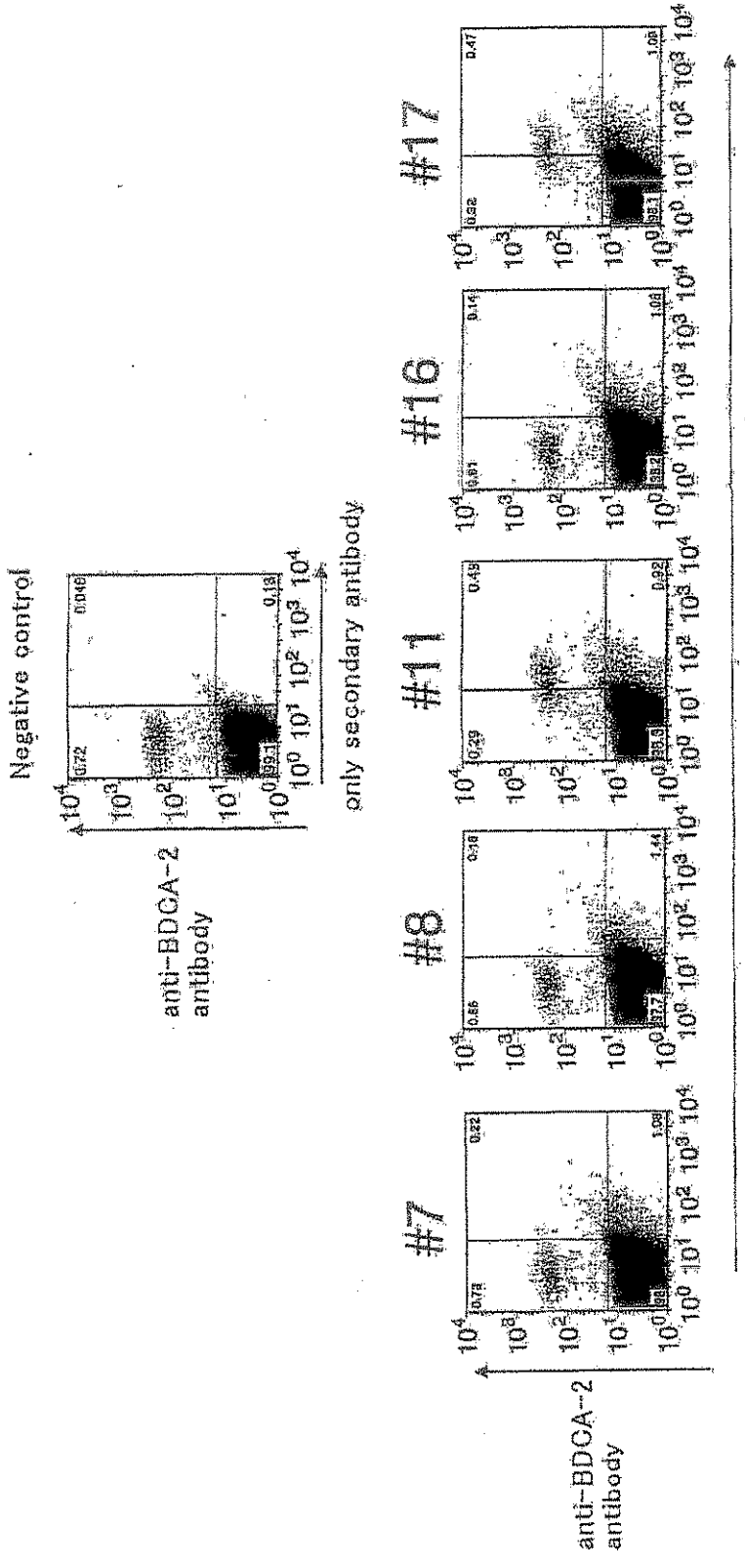

Negative control
anti-BDCA-2 antibody
only secondary antibody
#7
#8
#11
#16
#17
anti-BDCA-2 antibody
anti-ILT7 antibody

FIG. 6a

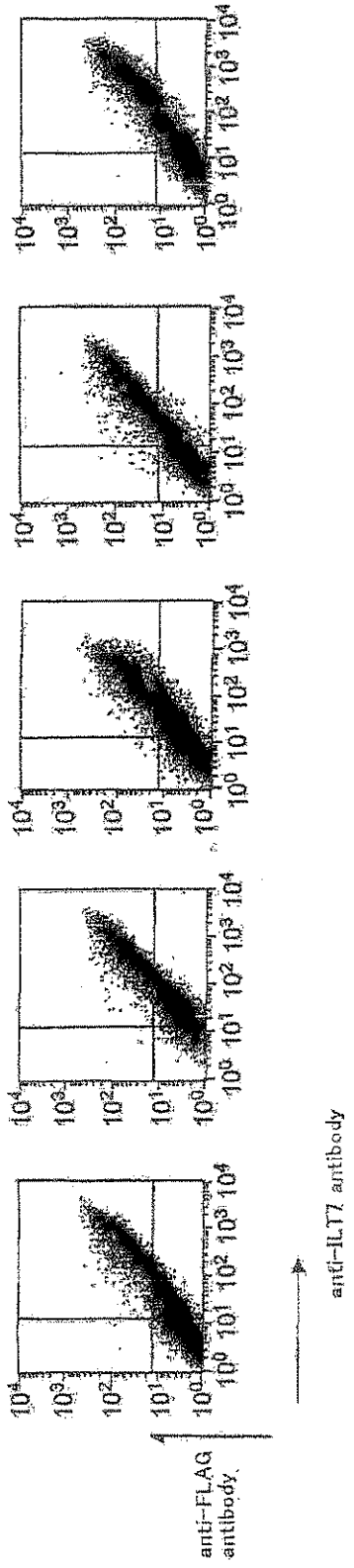


FIG. 6b

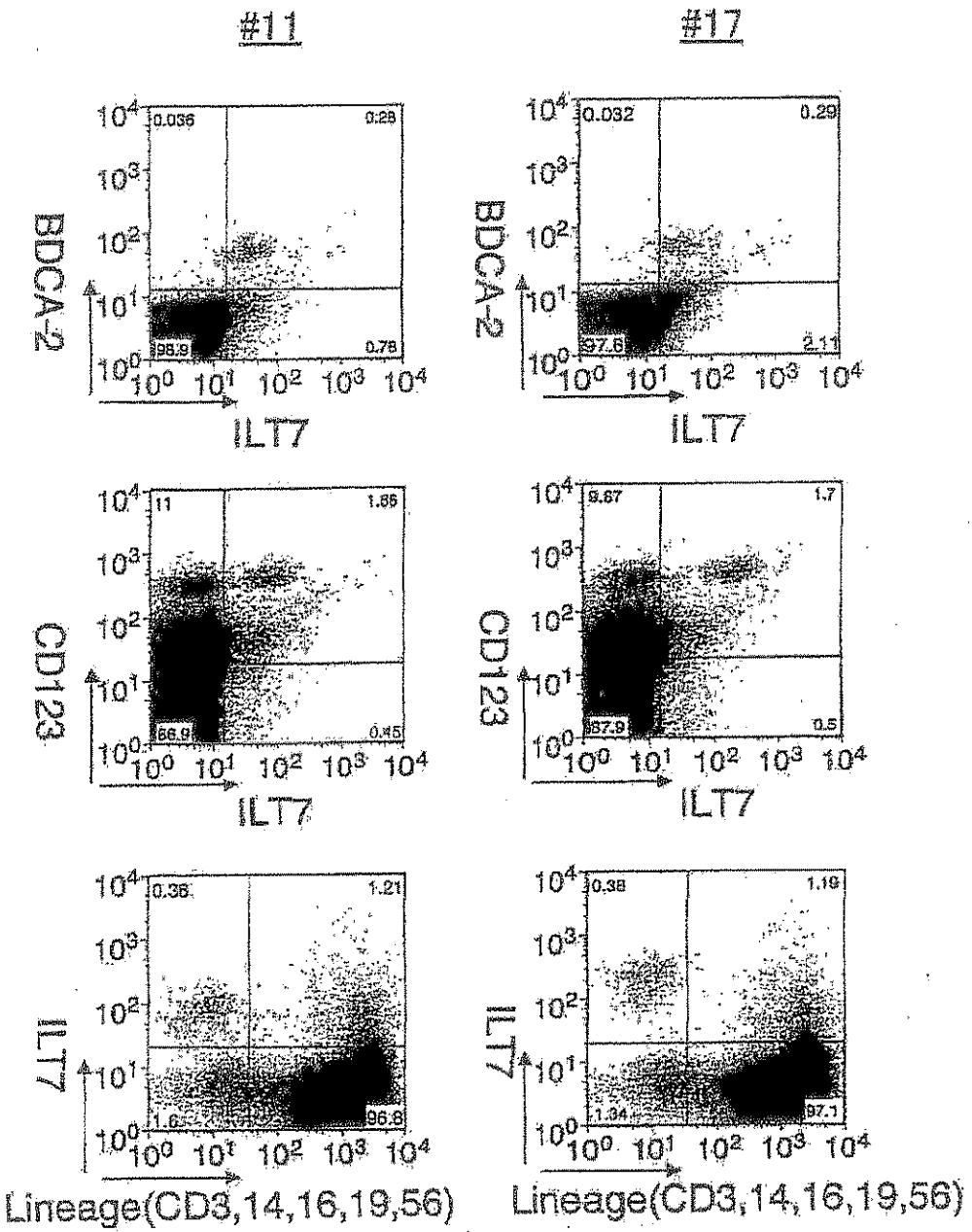

#11
#17
BDCA-2
ILT7
0.036
0.28
96.9
0.76
0.032
0.29
97.6
2.11
CD123
11
1.86
66.9
0.45
9.67
1.7
87.9
0.5
ILT7
0.36
1.21
1.6
96.8
0.38
1.19
1.34
97.1
Lineage(CD3,14,16,19,56)

FIG. 7

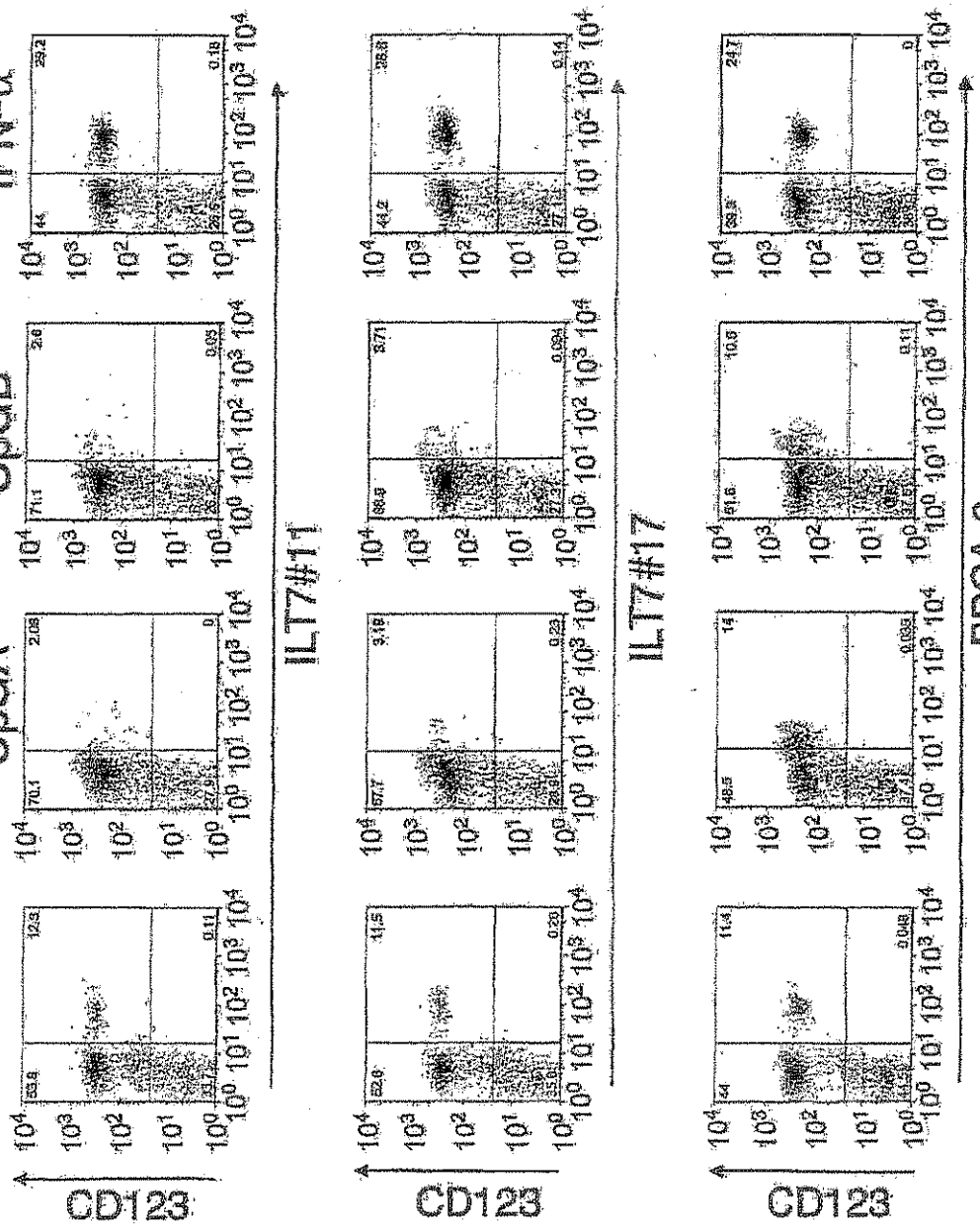


FIG. 8

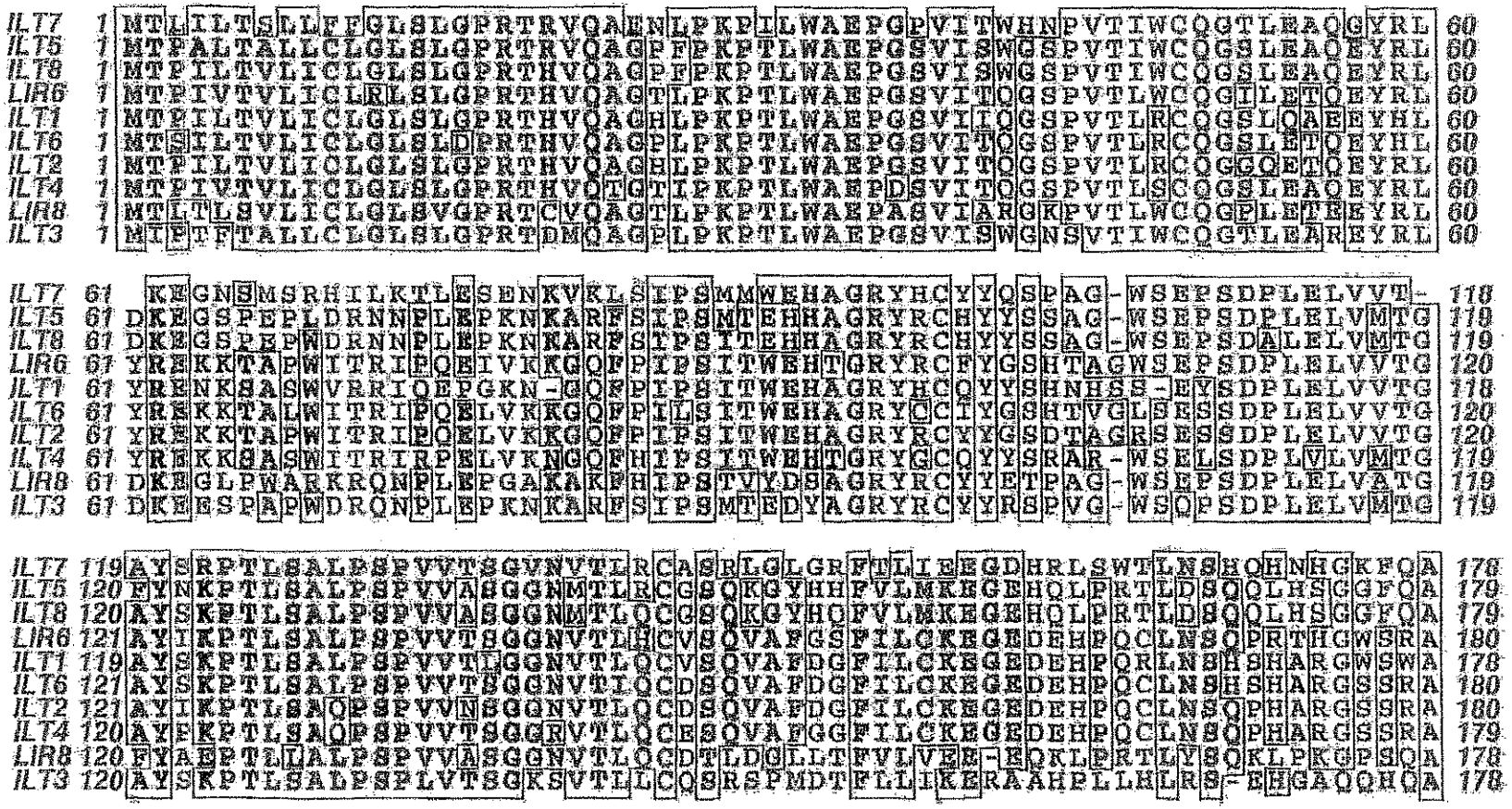

ILT7 1 MTLILTSLLFFGLSLGPRTRVQAENLPKPILWAEPGPVITWHNPVTIWCQGTLEAQGYRL 60
ILT5 1 MTPALTALLCLGLSLGPRTRVQAGPFPKPTLWAEPGSVISWGSPVTIWCQGSLEAQEYRL 60
ILT8 1 MTPILTVLICLGLSLGPRTHVQAGPFPKPTLWAEPGSVISWGSPVTIWCQGSLEAQEYRL 60
LIR6 1 MTPIVTVLICLRLSLGPRTHVQAGTLPKPTLWAEPGSVITQGSPVTLWCQGILETQEYRL 60
ILT1 1 MTPILTVLICLGLSLGPRTHVQAGHLPKPTLWAEPGSVITQGSPVTLRCQGSLQAEEYHL 60
ILT6 1 MTSILTVLICLGLSLDPRTHVQAGPLPKPTLWAEPGSVITQGSPVTLRCQGSLETQEYHL 60
ILT2 1 MTPILTVLICLGLSLGPRTHVQAGHLPKPTLWAEPGSVITQGSPVTLRCQGGQETQEYRL 60
ILT4 1 MTPIVTVLICLGLSLGPRTHVQTGTIPKPTLWAEPDSVITQGSPVTLSCQGSLEAQEYRL 60
LIR8 1 MTLTLSVLICLGLSVGPRTCVQAGTLPKPTLWAEPASVIARGKPVTLWCQGPLETEEYRL 60
ILT3 1 MTPTFTALLCLGLSLGPRTDMQAGPLPKPTLWAEPGSVISWGNSVTIWCQGTLEAREYRL 60
ILT7 61 KEGNSMSRHILKTLESENKVKLSIPSMMWEHAGRYHCYYQSPAG-WSEPSDPLELVVT- 118
ILT5 61 DKEGSPEPLDRNNPLEPKNKARFSIPSMTEHHAGRYRCHYYSSAG-WSEPSDPLELVMTG 119
ILT8 61 DKEGSPEPWDRNNPLEPKNKARFSTPSITEHHAGRYRCHYYSSAG-WSEPSDALELVMTG 119
LIR6 61 YREKKTAPWITRIPQEIVKKGQFPIPSITWEHTGRYRCFYGSHTAGWSEPSDPLELVVTG 120
ILT1 61 YRENKSASWVRRIQEPGKN-GQFPIPSITWEHAGRYHCQYYSHNHSS-EYSDPLELVVTG 118
ILT6 61 YREKKTALWITRIPQELVKKGQFPILSITWEHAGRYCCIYGSHTVGLSESSDPLELVVTG 120
ILT2 61 YREKKTAPWITRIPQELVKKGQFPIPSITWEHAGRYRCYYGSDTAGRSESSDPLELVVTG 120
ILT4 61 YREKKSASWITRIRPELVKNGQFHIPSITWEHTGRYGCQYYSRAR-WSELSDPLVLVMTG 119
LIR8 61 DKEGLPWARKRQNPLEPGAKAKFHIPSTVYDSAGRYRCYYETPAG-WSEPSDPLELVATG 119
ILT3 61 DKEESPAPWDRQNPLEPKNKARFSIPSMTEDYAGRYRCYYRSPVG-WSQPSDPLELVMTG 119
ILT7 119 AYSRPTLSALPSPVVTSGVNVTLRCASRLGLGRFTLIEEGDHRLSWTLNSHQHNHGKFQA 178
ILT5 120 FYNKPTLSALPSPVVASGGNMTLRCGSQKGYHHFVLMKEGEHQLPRTLDSQQLHSGGFQA 179
ILT8 120 AYSKPTLSALPSPVVASGGNMTLQCGSQKGYHQFVLMKEGEHQLPRTLDSQQLHSGGFQA 179
LIR6 121 AYIKPTLSALPSPVVTSGGNVTLHCVSQVAFGSFILCKEGEDEHPQCLNSQPRTHCWSSRA 180
ILT1 119 AYSKPTLSALPSPVVTIGGNVTLQCVSQVAFDGFILCKEGEDEHPQRLNSHSHARGWSWA 178
ILT6 121 AYSKPTLSALPSPVVTSGGNVTIQCDSQVAFDGFILCKEGEDEHPQCLNSHSHARGSSRA 180
ILT2 121 AYIKPTLSAQPSPVVNSGQNVTLQCDSQVAFDGFILCKEGEDEHPQCLNSQPHARGSSRA 180
ILT4 120 AYFKPTLSAQPSPVVTSGGRVTLQCESQVAFGGFILCKEGEDEHPQCLNSQPHARGSSRA 179
LIR8 120 FYAEPTLLALPSPVVASGGNVTLQCDTLDGLLTFVLVEE-EQKLPRTLYSQKLPKGPSQA 178
ILT3 120 AYSKPTLSALPSPLVTSGKSVTLLCQSRSPMDTFLLIKERAAHPLLHLRS-EHGAQQHQA 178

FIG. 9a


ILT7 179 LFPMGPLTFSNRGTFRCYGYENNTPYVWSEPSDPIQLLVSGVSRKPSLLTLQGPVVTPGE 238
ILT5 180 LFPVGPVNPSHRWRFTCYYYYMNTPQVWSHPSDPLEILPSGVSRKPSLLTLQGPVLAPGQ 239
ILT8 180 LFPVGPVNPSHRWRFTCYYYYMNTPRVWSHPSDPLEILPSGVSRKPSLLTLQGPVLAPGQ 239
LIR6 181 IFSVGPVSPSRRWSYRCYAYDSNSPHVWSLPSDLLELLVLGVSKKPSLSVQPGPIVAPGE 240
ILT1 179 IFSVGPVSPSRRWSYRCYAYDSNSPYVWSLPSDLLELLVPGVSKKPSLSVQPGPMVAPGE 238
ILT6 181 IFSVGPVSPSRRWSYRCYGYDSRAPYVWSLPSDLLGLLVPGVSKKPSLSVQPGPVVAPGE 240
ILT2 181 IFSVGPVSPSRRWWYRCYAYDSNSPYEWSLPSDLLELLVLGVSKKPSLSVQPGPIVAPEE 240
ILT4 180 IFSVGPVSPNRRWSHRCYGYDLNSPYVWSSPSDLLELLVPGVSKKPSLSVQPGPVVAPGE 239
LIR8 179 LFPVGPVTPSCRWRFRCYYYYRKNPQVWSNPSDLLEILVPGVSRKPSLLIPQGSVVARGG 238
ILT3 179 EFPMSPVTSVHGGTYRCFSSHGFSHYLLSHPSDPLELIVSGSLE--------GPRPSP-- 228
ILT7 239 NLTLQCQSDVGYIRYTLYKEGADGLR-QRPGRQPQAGLSQANFTLSPVSRSYGGQYRCYG 297
ILT5 240 SLTLQCQGSDVGYDRFVLYKEGERDFL-QRPGQQPQAGLSQANFTLGPVSPSHGGQYRCYG 298
ILT8 240 SLTLQCQGSDVGYDRFVLYKEGERDFL-QRPGQQPQAGLSQANFTLGPVSPSHGGQYRCYG 298
LIR6 241 SLTLQCVSDVSYDRFVLYKEGERDFL-QLPGPQPQAGLSQANFTLGPVSRSYGGQYRCSG 299
ILT1 239 SLTLQCVSDVGYDRFVLYKEGERDFL-QRPGWQPQAGLSQANFTLGPVSPSHGGQYRCYS 297
ILT6 241 KLTFQCQSDAGYDRFVLYKEWGRDFL-QRPGRQPQAGLSQANFTLGPVSRSYGGQYTCSG 299
ILT2 241 TLTLQCQGSDAGYNRFVLYKDGERDFL-QLAGAQPQAGLSQANFTLGPVSRSYGGQYRCYG 299
ILT4 240 SLTLQCVSDVGYDRFVLYKEGERDLR-QLPGRQPQAGLSQANFTLGPVSRSYGGQYRCYG 298
LIR8 239 SLTLQCRSDVGYDIFVLYKEGEHDLV-QGSGQQPQAGLSQANFTLGPVSRSHGGQYRCYG 297
ILT3 229 --TRSVSTAAGPEDQPLMPTGSVPHSGLRRHWEVLIGVLVVSILLLSLLLFLLLQHWRQG 286
ILT7 298 AHNVSSEWSAPSDPLDILIAGQISDRPSLSVQPGPTVTSGEKVTLLCQSWDPMFTFLLTK 357
ILT5 299 AHNLSSEWSAPSDPLNILMAGQIYDTVSLSAQPGPTVASGENVTLLCQSWWQFDTFLLTK 358
ILT8 299 AHNLSSEWSAPSDPLNILMAGQIYDTVSLSAQPGPTVASGENVTLLCQSWWQFDTFLLTK 358
LIR6 300 AYNLSSEWSAPSDPLDILIAGQFRQRPFISVHPGPTVASGENVTLLCQSWGPFHTFLLTK 359
ILT1 298 AHNLSSEWSAPSDPLDILITGQFYDRPSLSVQPVPTVAPGKNVTLLCQSRGQFHTFLLTK 357
ILT6 300 AYNLSSEWSAPSDPLDILITGQIRARPFLSVRPGPTVASGENVTLLCQSQGGMHTFLLTK 359
ILT2 300 AHNLSSEWSAPSDPLDILIAGQFYDRVSLSVQPGPTVASGENVTLLCQSQGWMQTFLLTK 359
ILT4 299 AYNLSSEWSAPSDPLDILITGQIHGTPFISVQPGPTVASGENVTLLCQSWRQFHTFLLTK 358
LIR8 298 AHNLSFRWSAPSDPLDILIAGLIPDIPALSVQPGPRVASGENVTLLCQSWHQIDTFFLTK 357
ILT3 287 KHRTLAQRQADFQ----------RPPGAAEFEPKDGGLQRRSSPAADVQGENFCAAVK 334

FIG. 9b

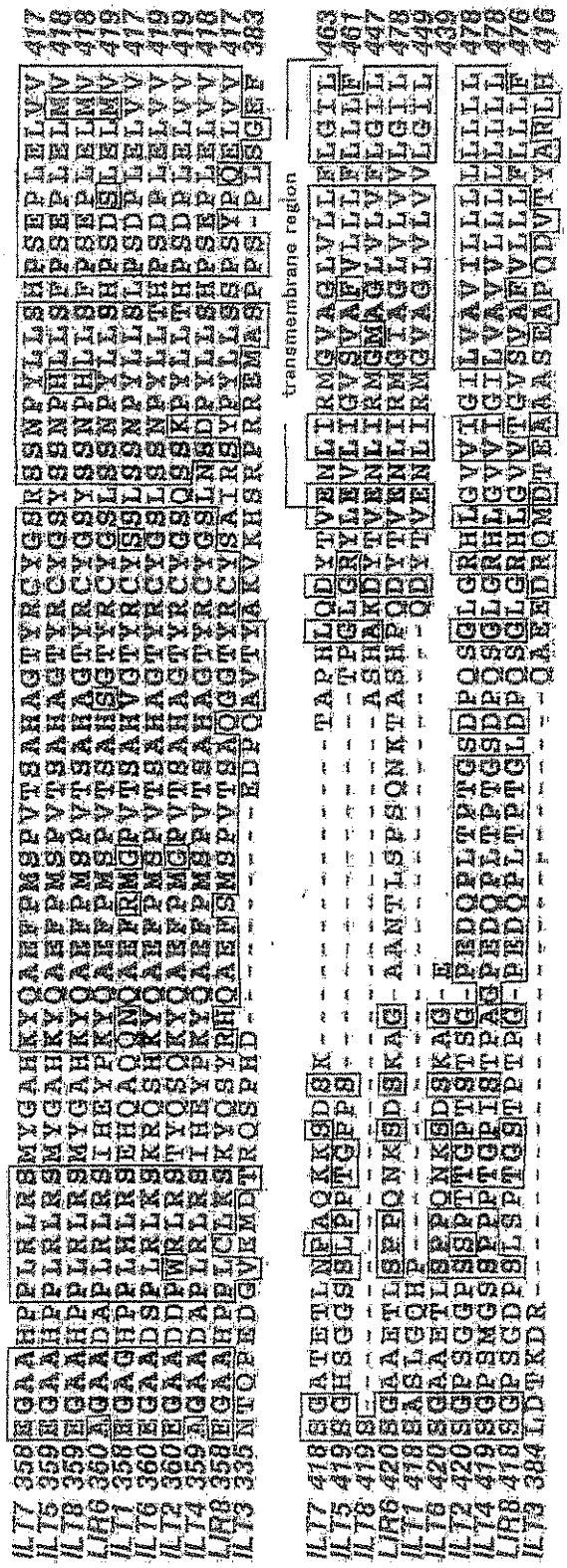


FIG. 9c

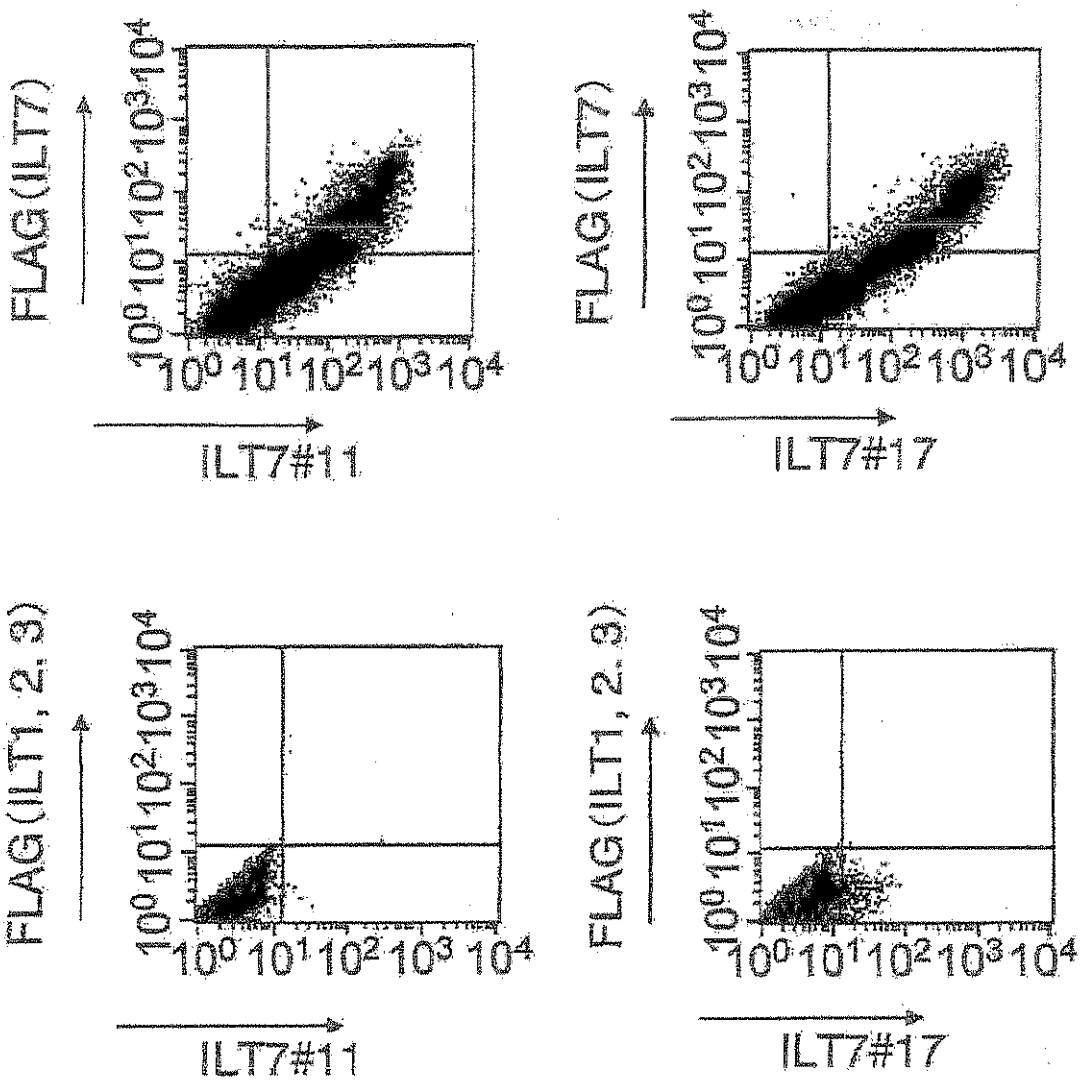

FLAG(ILT7)
10^0 10^1 10^2 10^3 10^4
ILT7#11
FLAG(ILT7)
10^0 10^1 10^2 10^3 10^4
ILT7#17
FLAG(ILT1, 2, 3)
10^0 10^1 10^2 10^3 10^4
ILT7#11
FLAG(ILT1, 2, 3)
10^0 10^1 10^2 10^3 10^4
ILT7#17

FIG. 10

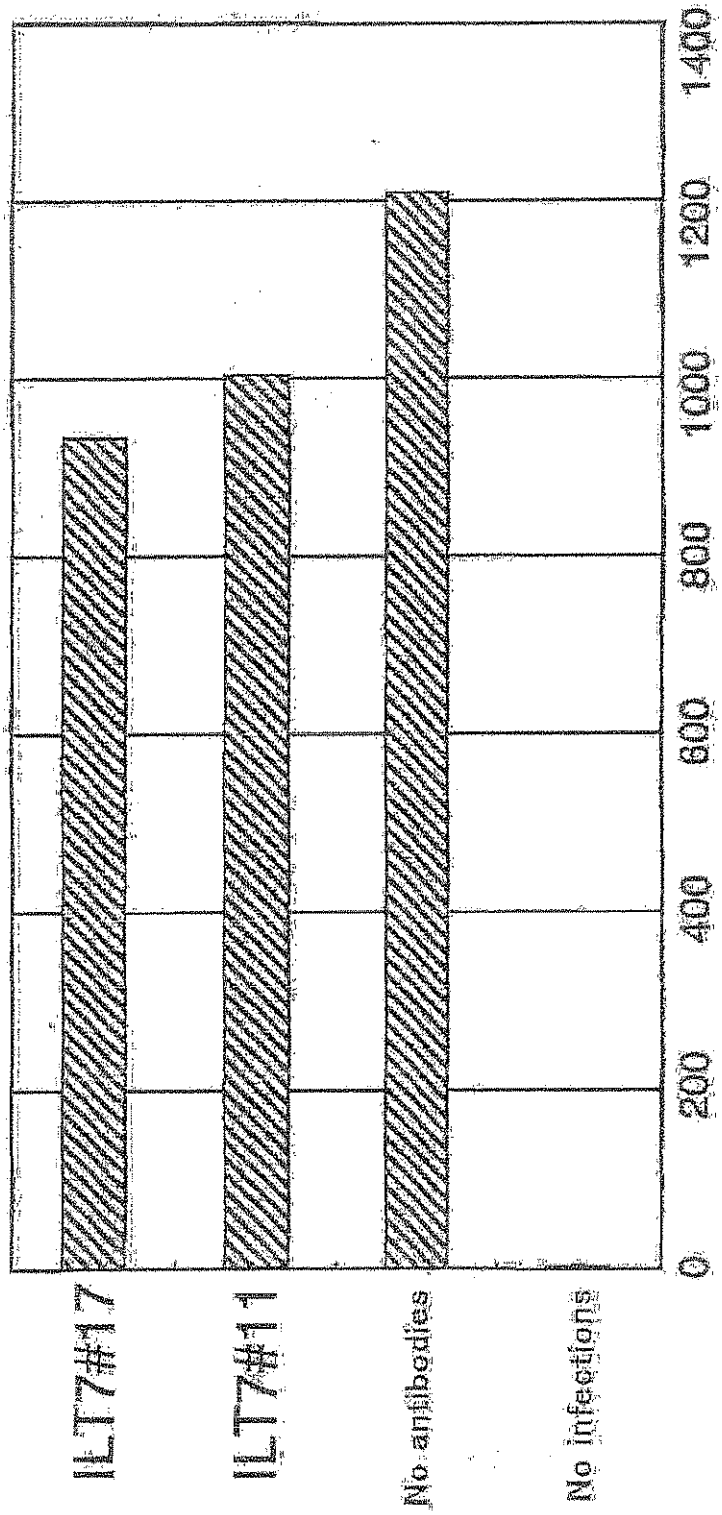

ILT7#17
ILT7#11
No antibodies
No infections
0
200
400
600
800
1000
1200
1400
IFN α (pg/ml)

FIG. 11

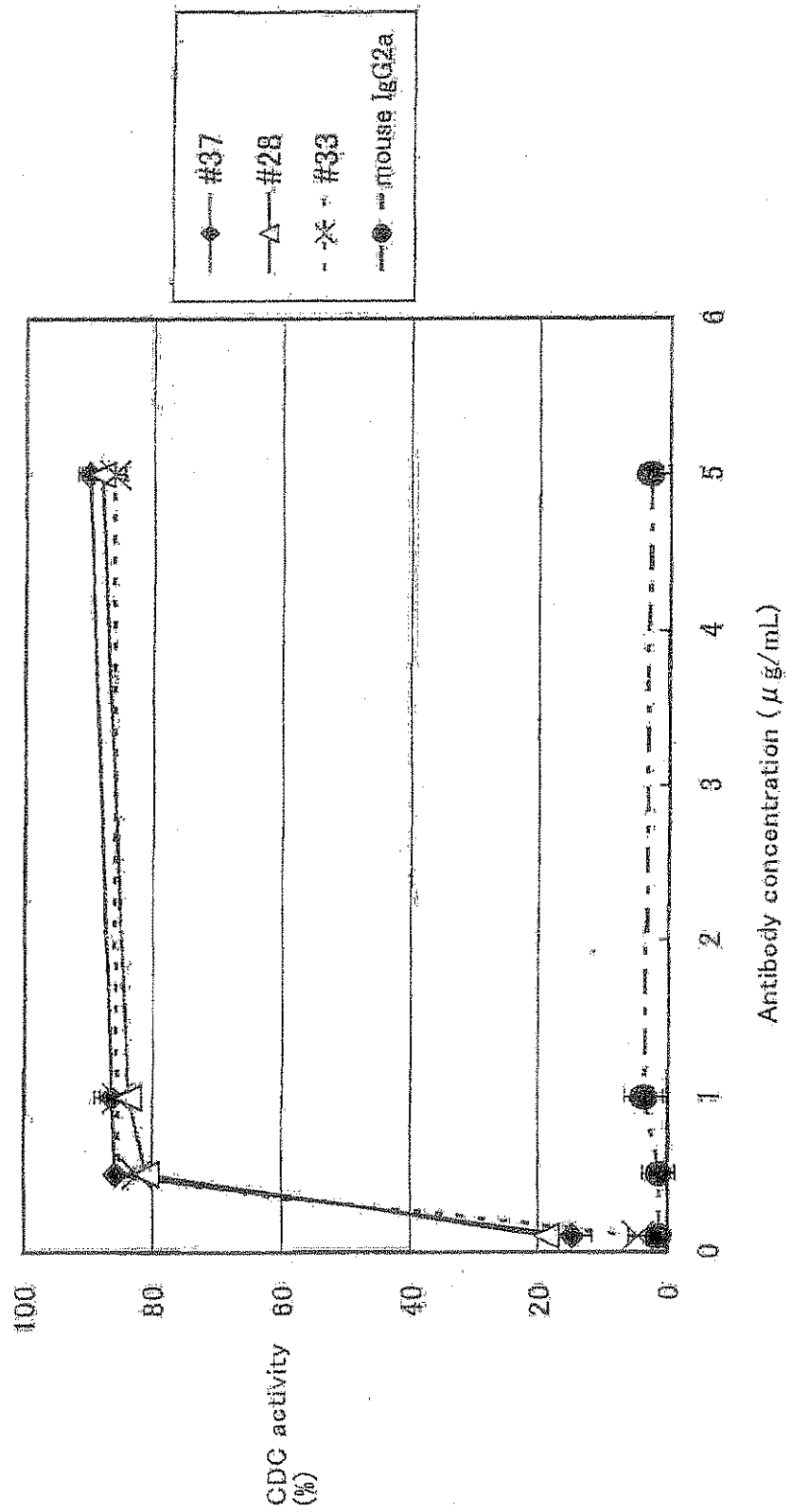

#37
#28
#33
mouse IgG2a
CDC activity (%)
100
80
60
40
20
0
0
1
2
3
4
5
6
Antibody concentration (μg/mL)

FIG. 12

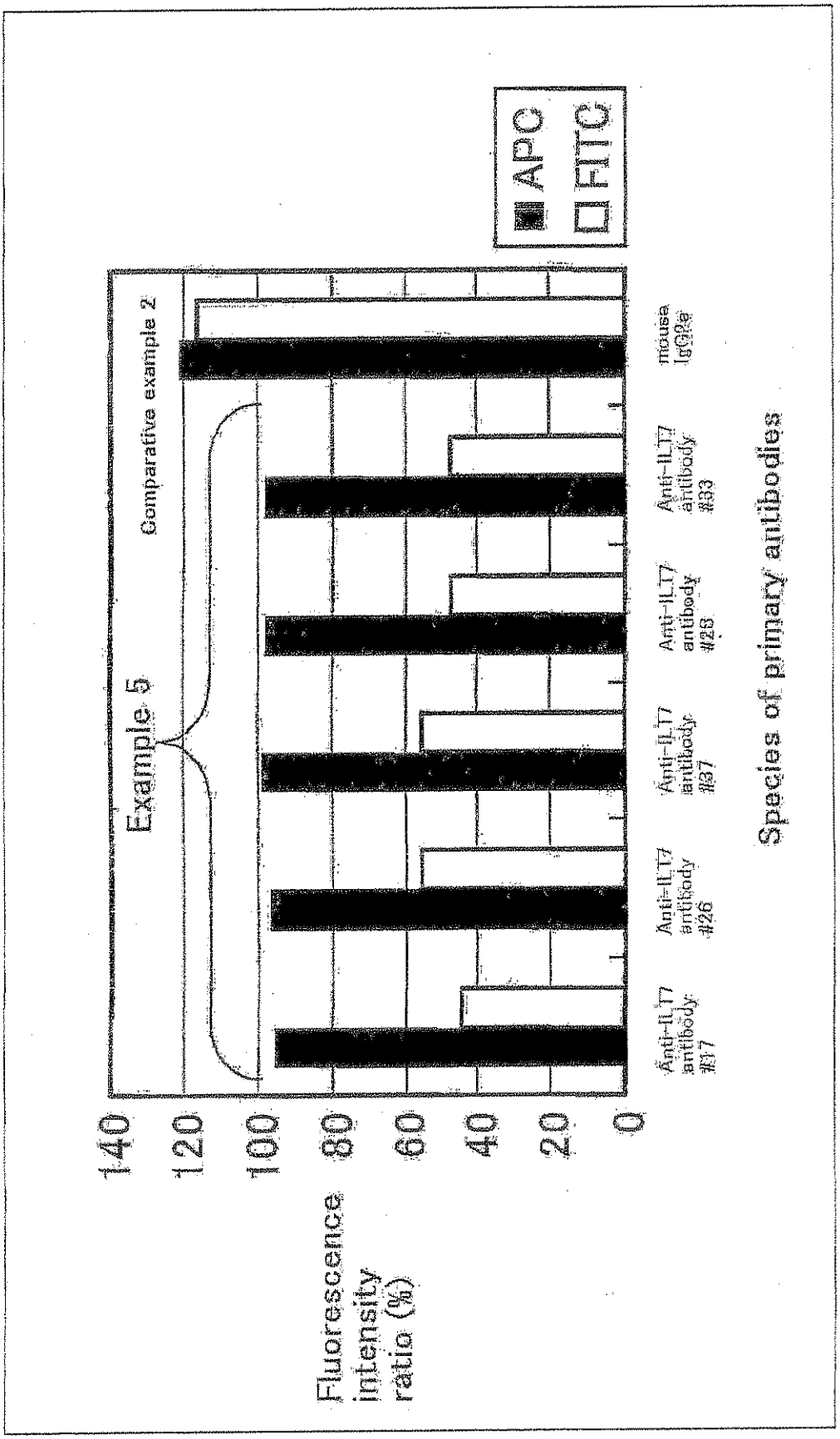

Example 5
Comparative example 2
APO
FITC
Fluorescence intensity ratio (%)
140
120
100
80
60
40
20
0
Anti-IL17 antibody #17
Anti-IL17 antibody #26
Anti-IL17 antibody #37
Anti-IL17 antibody #28
Anti-IL17 antibody #33
mouse IgG2a
Species of primary antibodies

FIG. 13