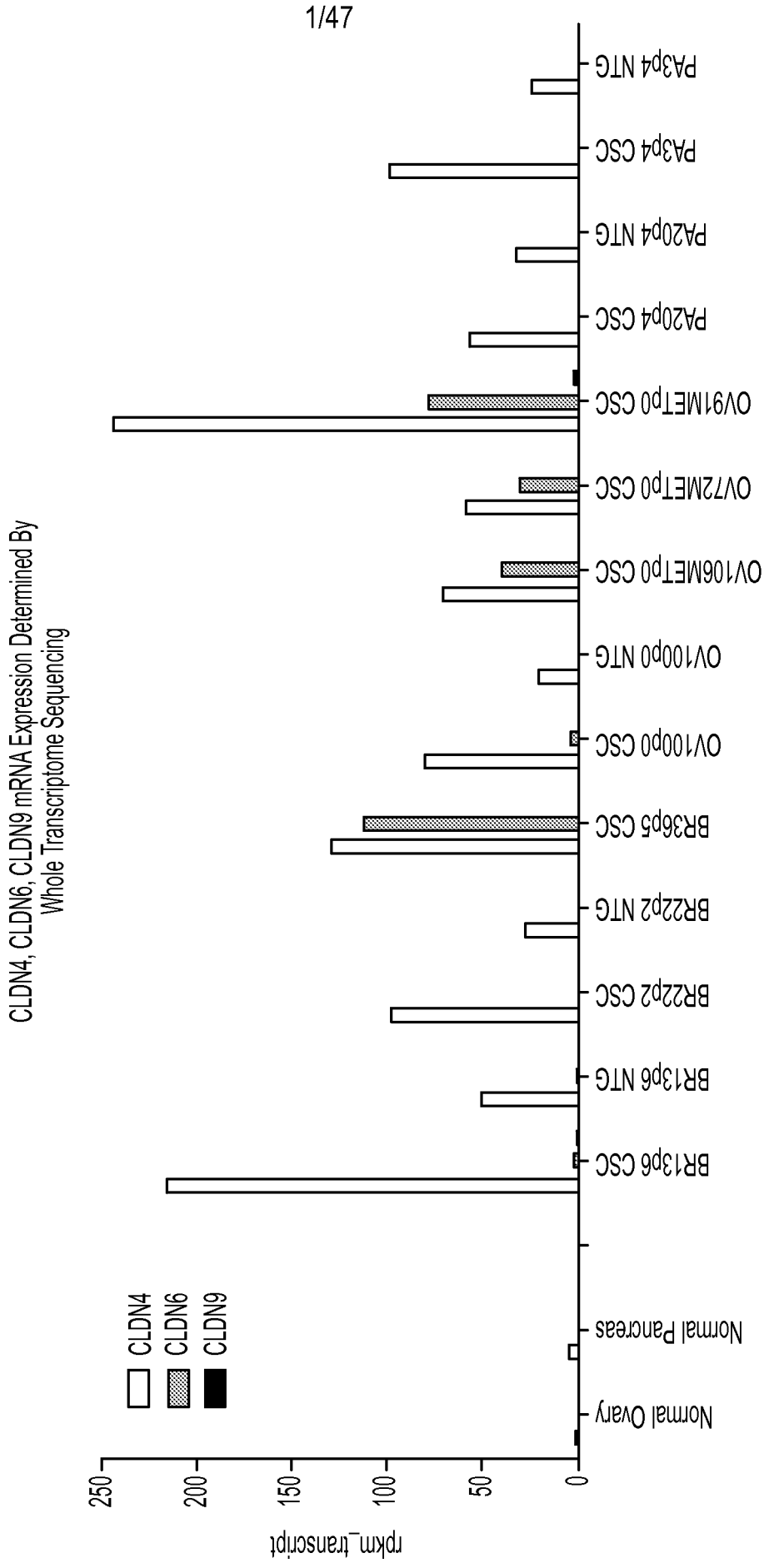

CLDN4, CLDN6, CLDN9 mRNA Expression Determined By
Whole Transcriptome Sequencing
rpkm_transcript
250
200
150
100
50
0
CLDN4
CLDN6
CLDN9
Normal Ovary
Normal Pancreas
BR13p6 CSC
BR13p6 NTG
BR22p2 CSC
BR22p2 NTG
BR36p5 CSC
OV100p0 CSC
OV100p0 NTG
OV106METp0 CSC
OV72METp0 CSC
OV91METp0 CSC
PA20p4 CSC
PA20p4 NTG
PA3p4 CSC
PA3p4 NTG

FIG. 1

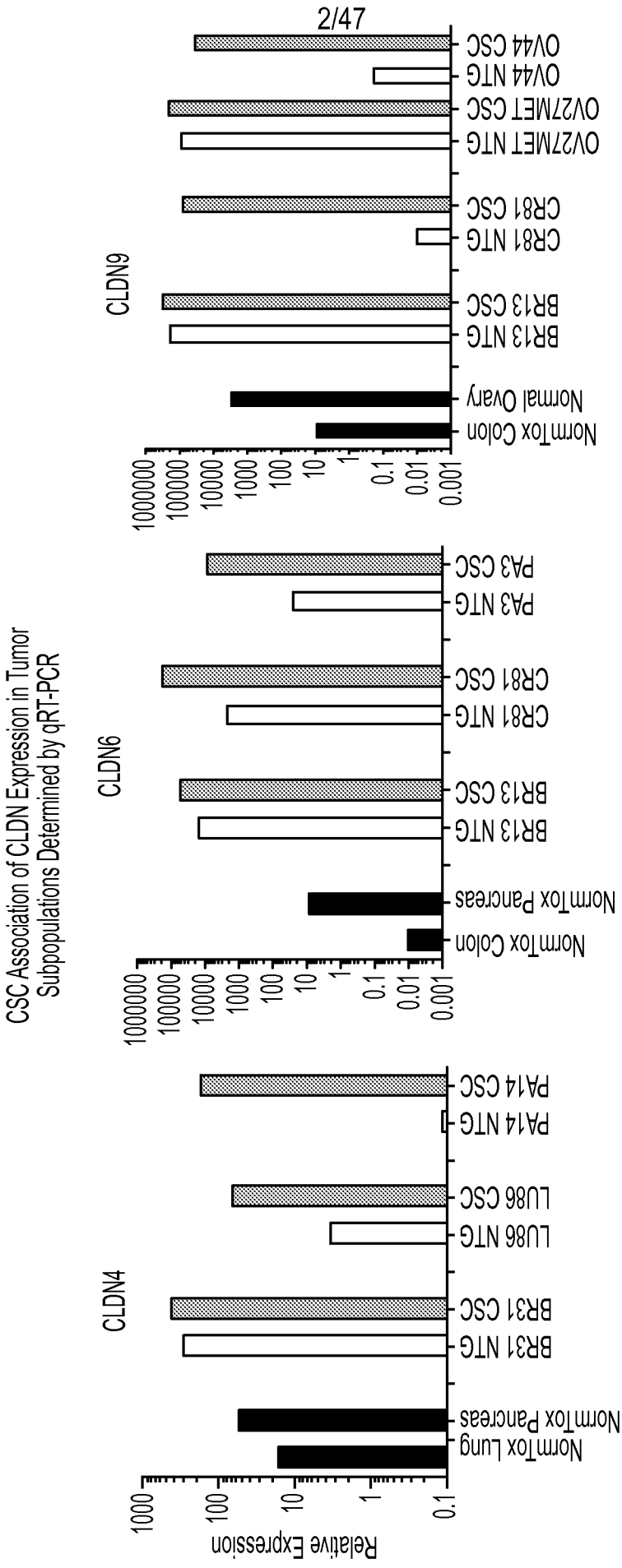

CSC Association of CLDN Expression in Tumor Subpopulations Determined by qRT-PCR
Relative Expression
1000
100
10
1
0.1
CLDN4
NormTox Lung
NormTox Pancreas
BR31 NTG
BR31 CSC
LU86 NTG
LU86 CSC
PA14 NTG
PA14 CSC
CLDN6
1000000
100000
10000
1000
100
10
1
0.1
0.01
0.001
NormTox Colon
NormTox Pancreas
BR13 NTG
BR13 CSC
CR81 NTG
CR81 CSC
PA3 NTG
PA3 CSC
CLDN9
1000000
100000
10000
1000
100
10
1
0.1
0.01
0.001
NormTox Colon
Normal Ovary
BR13 NTG
BR13 CSC
CR81 NTG
CR81 CSC
OV27MET NTG
OV27MET CSC
OV44 NTG
OV44 CSC

FIG. 2A

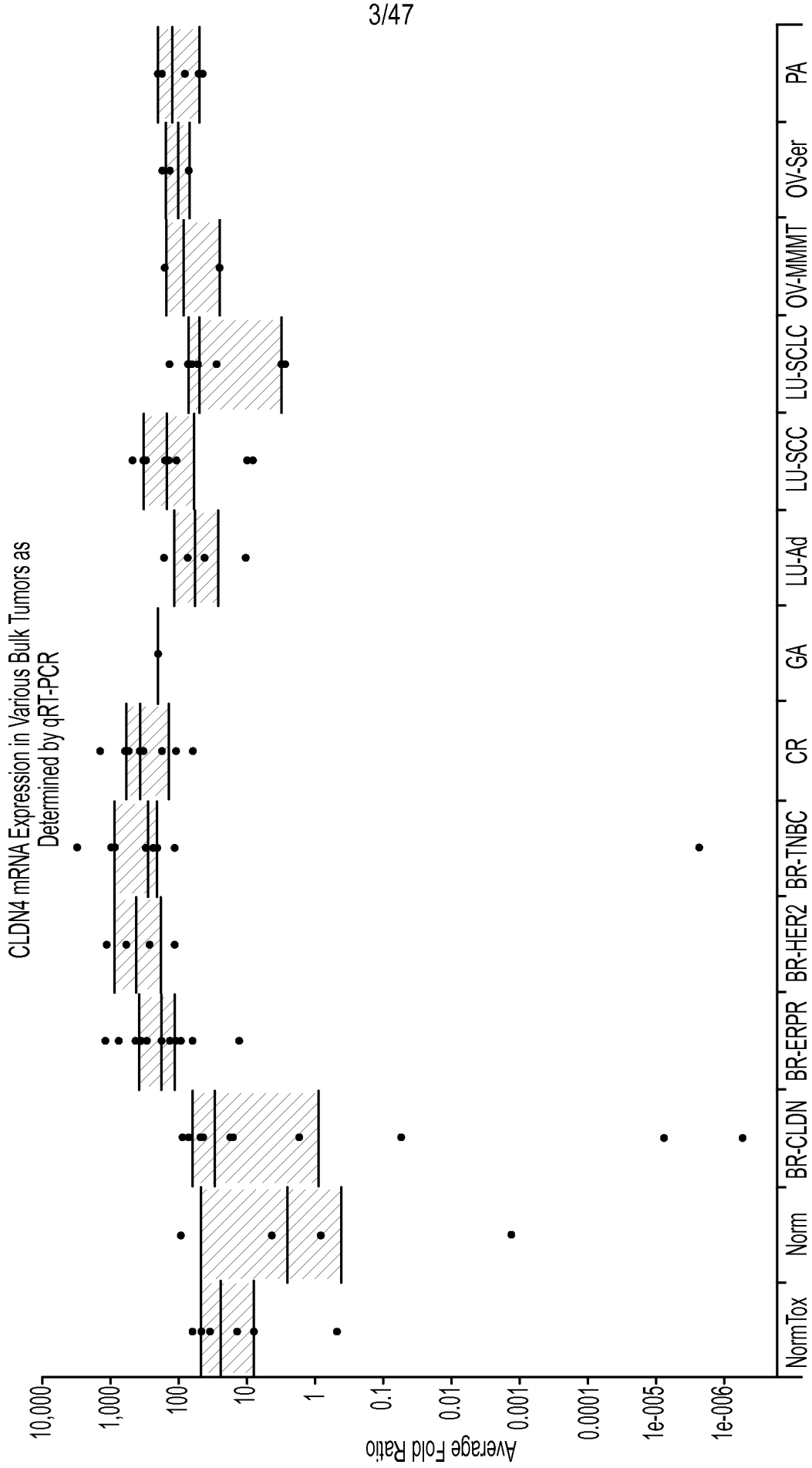

CLDN4 mRNA Expression in Various Bulk Tumors as Determined by qRT-PCR
Average Fold Ratio
10,000
1,000
100
10
1
0.1
0.01
0.001
0.0001
1e-005
1e-006
NormTox
Norm
BR-CLDN
BR-ERPR
BR-HER2
BR-TNBC
CR
GA
LU-Ad
LU-SCC
LU-SCLC
OV-MMMT
OV-Ser
PA

FIG. 2B

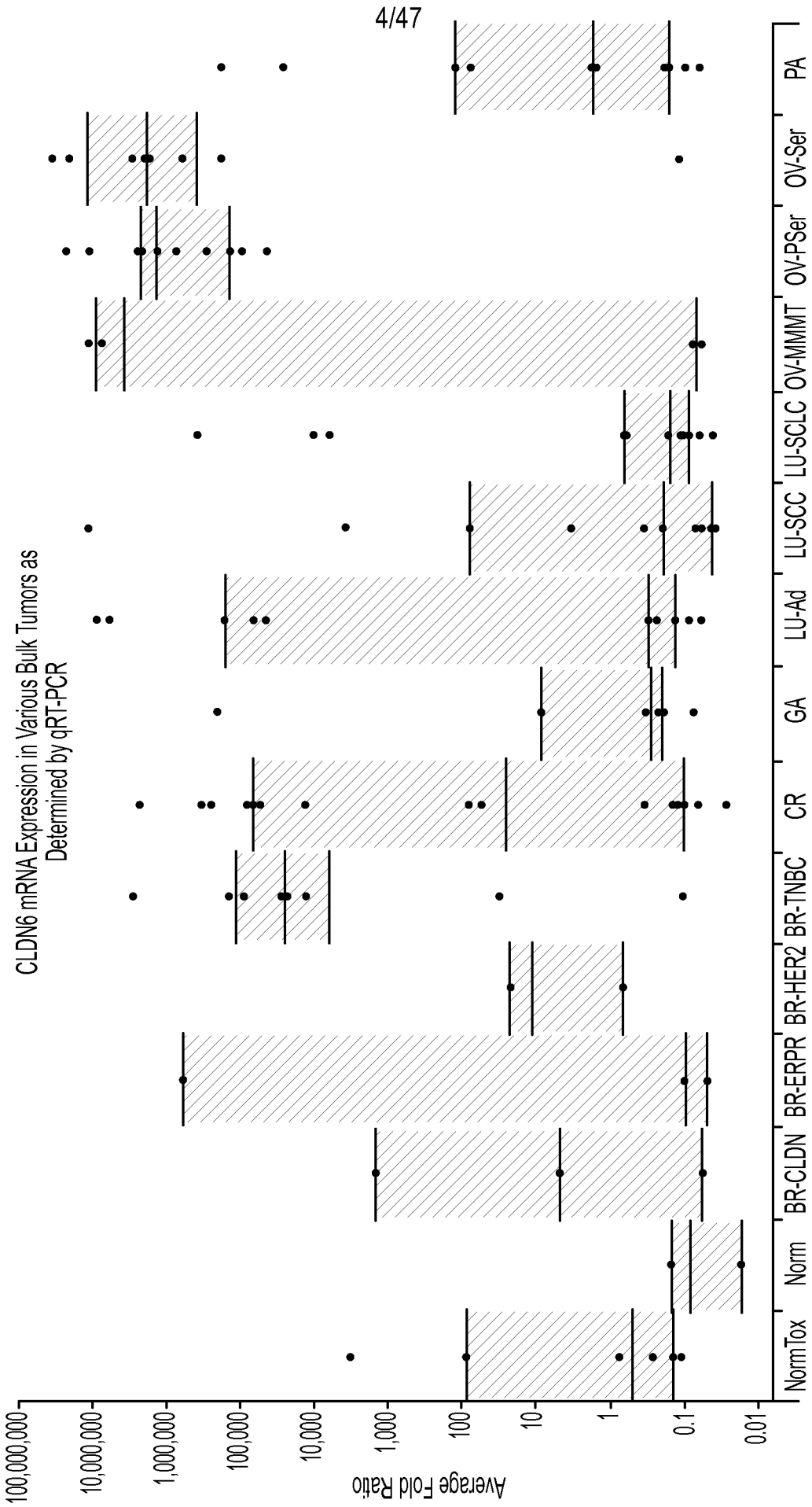

CLDN6 mRNA Expression in Various Bulk Tumors as Determined by qRT-PCR
Average Fold Ratio
100,000,000
10,000,000
1,000,000
100,000
10,000
1,000
100
10
1
0.1
0.01
NormTox
Norm
BR-CLDN
BR-ERPR
BR-HER2
BR-TNBC
CR
GA
LU-Ad
LU-SCC
LU-SCLC
OV-MMMT
OV-PSer
OV-Ser
PA

FIG. 2C

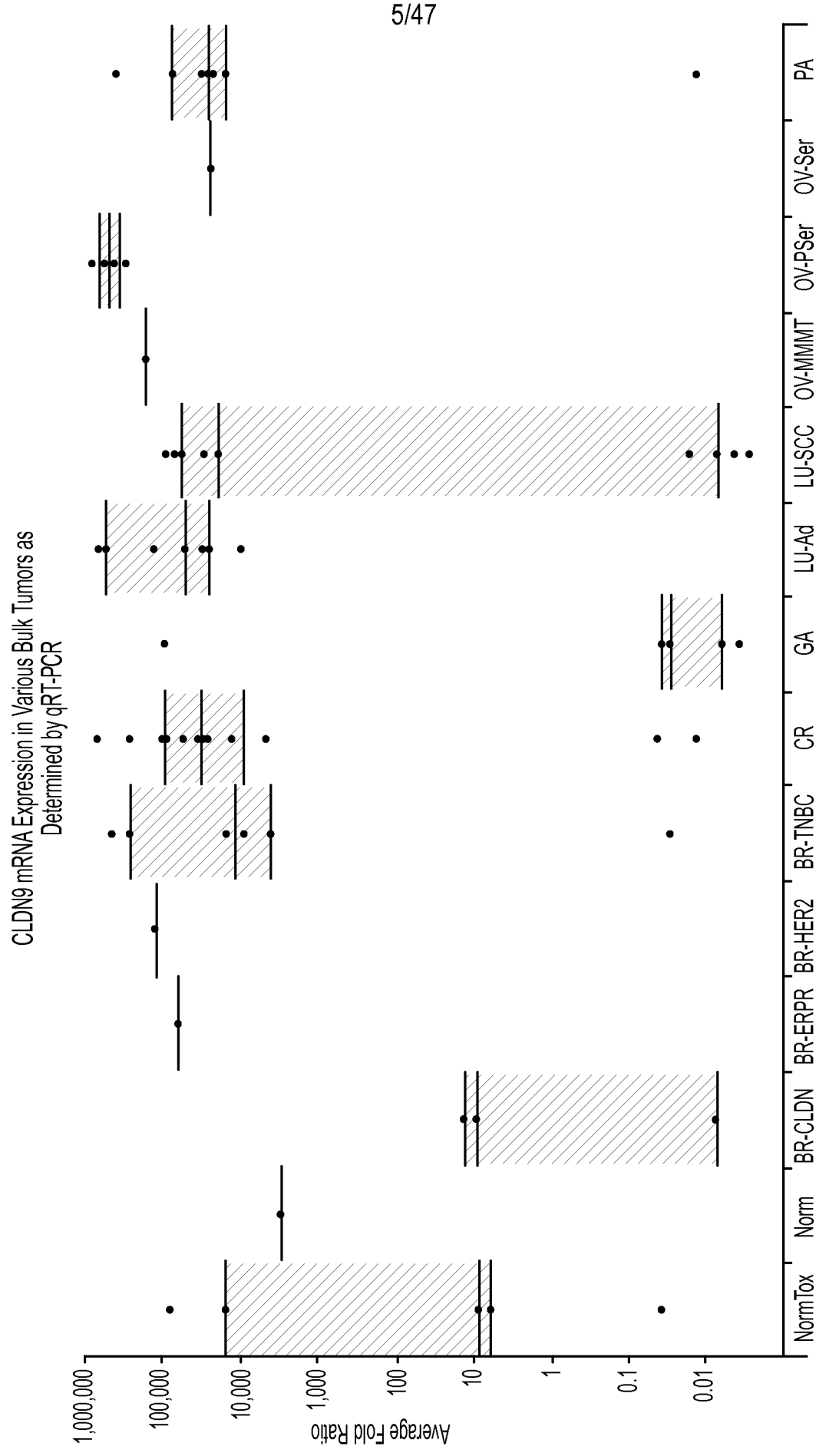

CLDN9 mRNA Expression in Various Bulk Tumors as Determined by qRT-PCR
Average Fold Ratio
1,000,000
100,000
10,000
1,000
100
10
1
0.1
0.01
NormTox
Norm
BR-CLDN
BR-ERPR
BR-HER2
BR-TNBC
CR
GA
LU-Ad
LU-SCC
OV-MMMT
OV-PSer
OV-Ser
PA

FIG. 2D

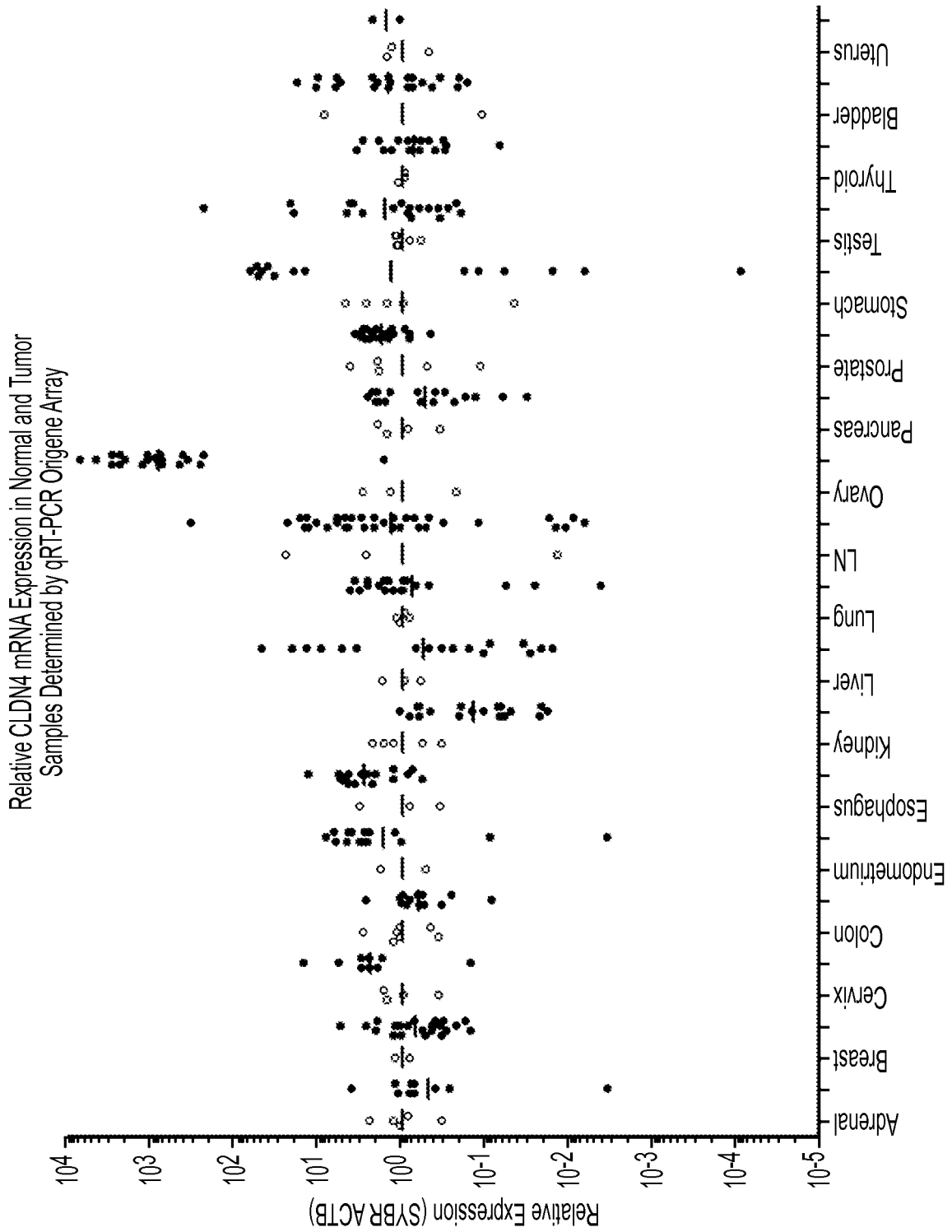

Relative CLDN4 mRNA Expression in Normal and Tumor Samples Determined by qRT-PCR Origene Array
Relative Expression (SYBR ACTB)
10-4
10-3
10-2
10-1
100
101
102
103
104
10-5
Adrenal
Breast
Cervix
Colon
Endometrium
Esophagus
Kidney
Liver
Lung
LN
Ovary
Pancreas
Prostate
Stomach
Testis
Thyroid
Bladder
Uterus

FIG. 2E

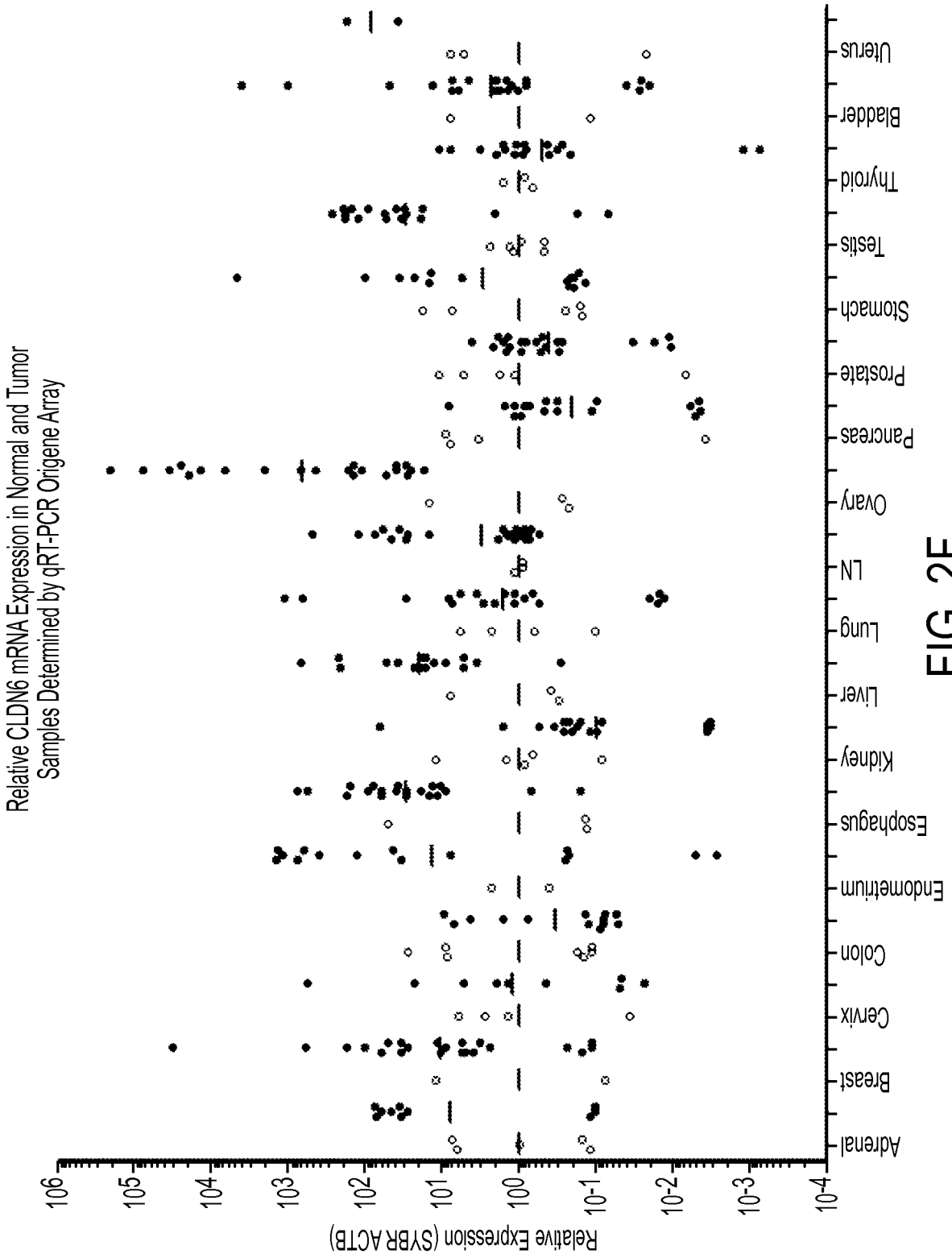

Relative CLDN6 mRNA Expression in Normal and Tumor Samples Determined by qRT-PCR Origene Array
Relative Expression (SYBR ACTB)
10^6
10^5
10^4
10^3
10^2
10^1
10^0
10^-1
10^-2
10^-3
10^-4
Adrenal
Breast
Cervix
Colon
Endometrium
Esophagus
Kidney
Liver
Lung
LN
Ovary
Pancreas
Prostate
Stomach
Testis
Thyroid
Bladder
Uterus

FIG. 2F

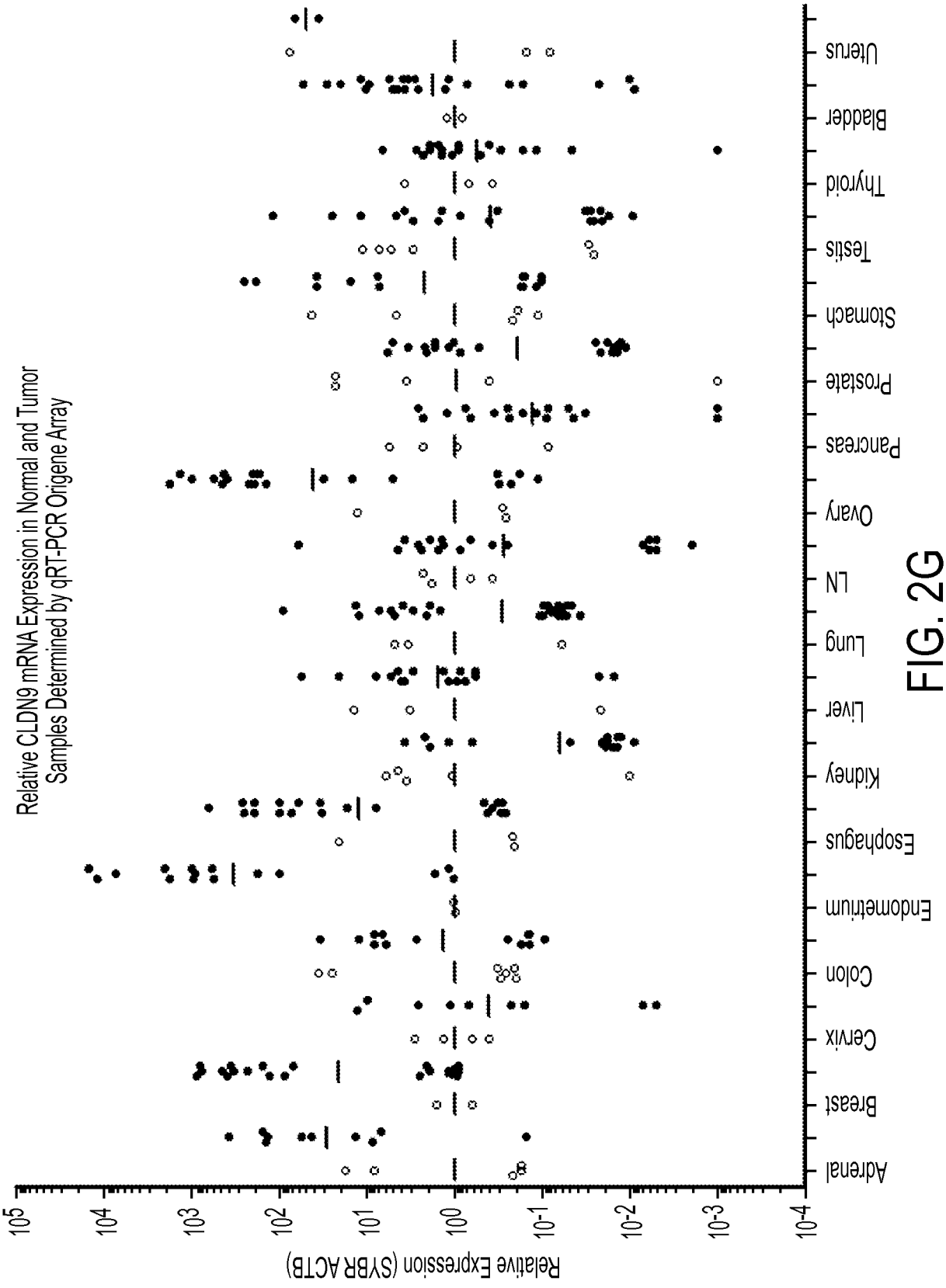

Relative CLDN9 mRNA Expression in Normal and Tumor Samples Determined by qRT-PCR Origene Array
Relative Expression (SYBR ACTB)
10^5
10^4
10^3
10^2
10^1
10^0
10^-1
10^-2
10^-3
10^-4
Adrenal
Breast
Cervix
Colon
Endometrium
Esophagus
Kidney
Liver
Lung
LN
Ovary
Pancreas
Prostate
Stomach
Testis
Thyroid
Bladder
Uterus

FIG. 2G

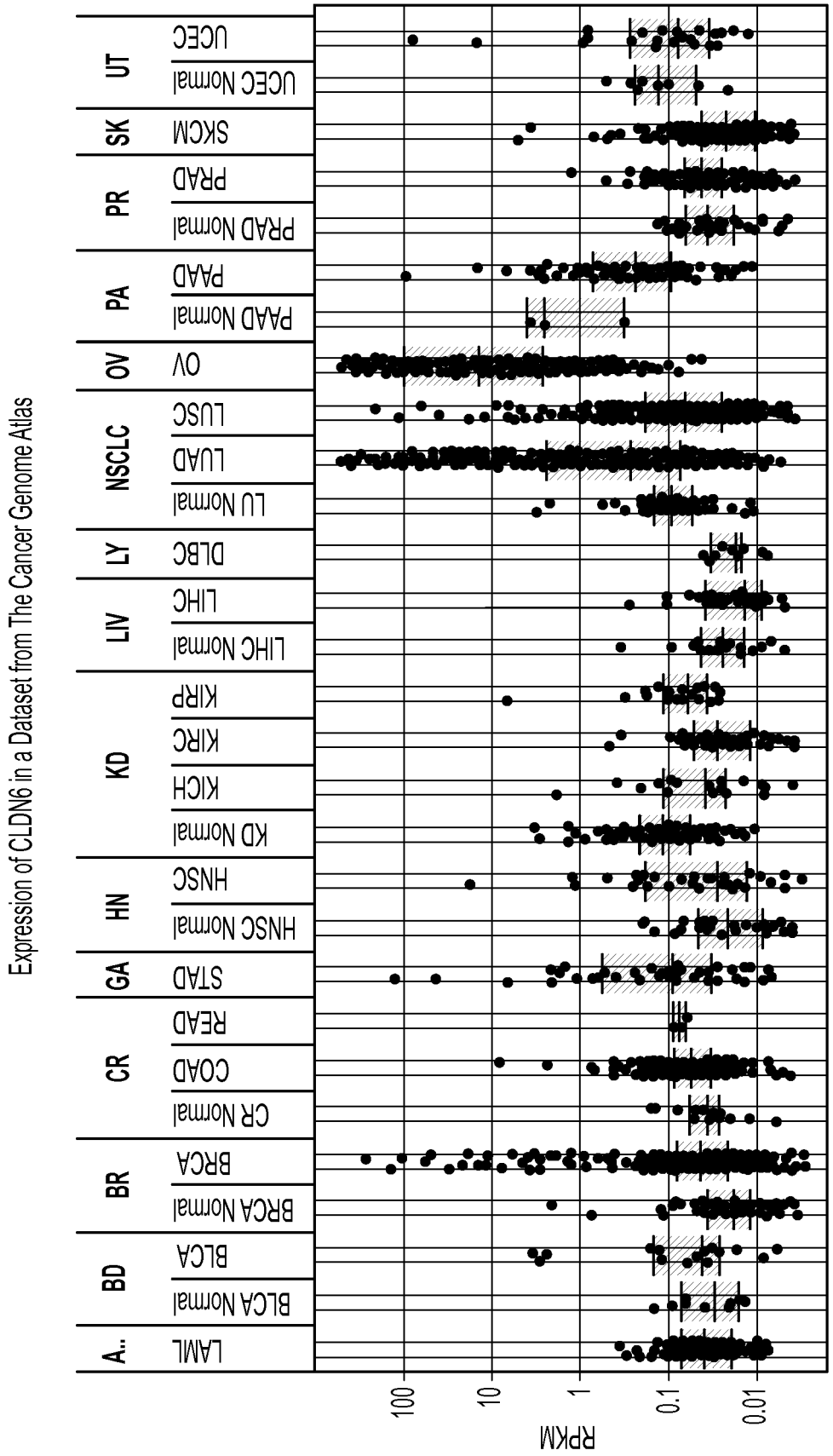

Expression of CLDN6 in a Dataset from The Cancer Genome Atlas
A..
BD
BR
CR
GA
HN
KD
LIV
LY
NSCLC
OV
PA
PR
SK
UT
LAML
BLCA Normal
BLCA
BRCA Normal
BRCA
CR Normal
COAD
READ
STAD
HNSC Normal
HNSC
KD Normal
KICH
KIRC
KIRP
LIHC Normal
LIHC
DLBC
LU Normal
LUAD
LUSC
OV
PAAD Normal
PAAD
PRAD Normal
PRAD
SKCM
UCEC Normal
UCEC
100
10
1
0.1
0.01
RPKM

FIG. 3A

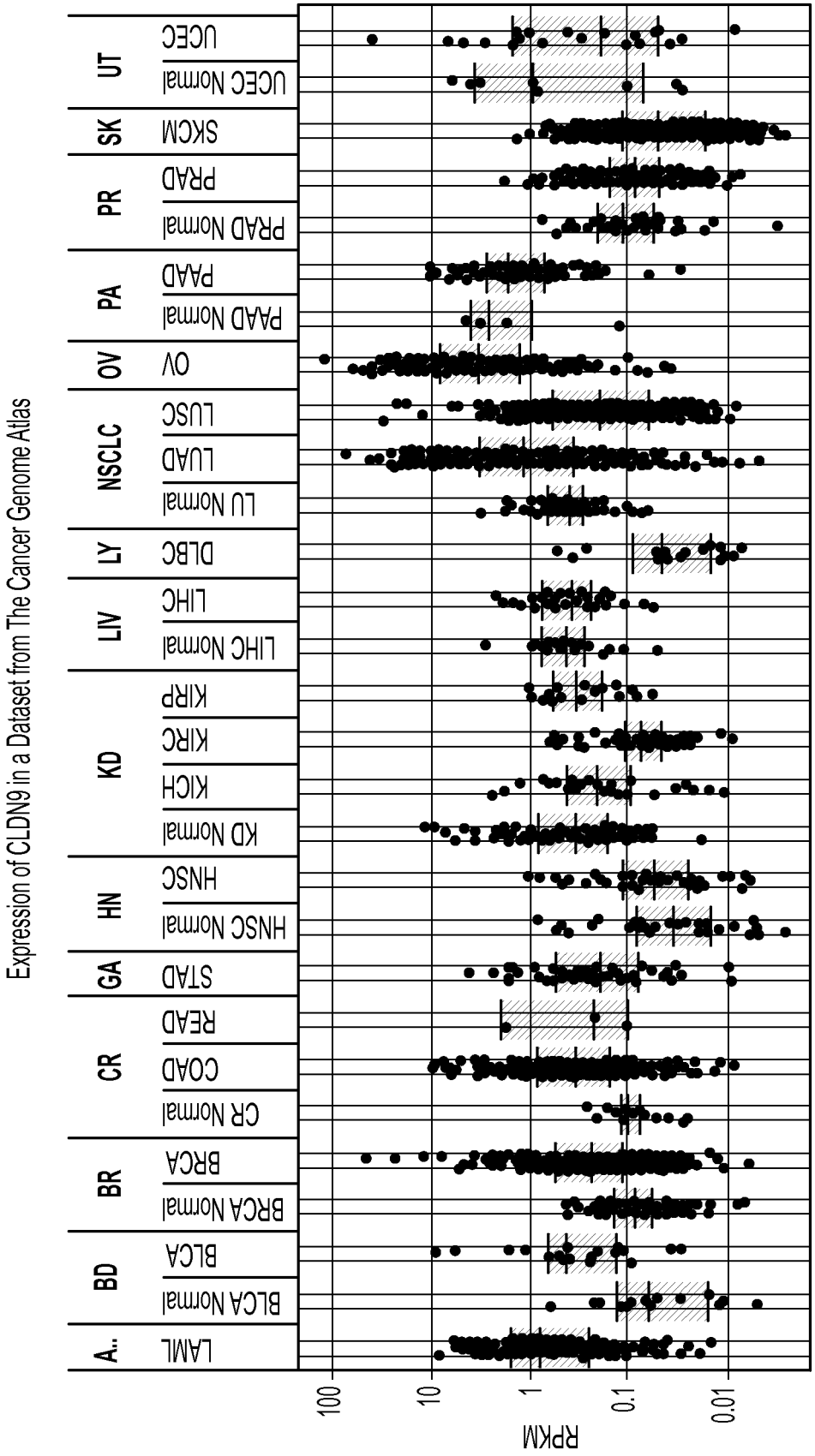

Expression of CLDN9 in a Dataset from The Cancer Genome Atlas
A..
BD
BR
CR
GA
HN
KD
LIV
LY
NSCLC
OV
PA
PR
SK
UT
LAML
BLCA Normal
BLCA
BRCA Normal
BRCA
CR Normal
COAD
READ
STAD
HNSC Normal
HNSC
KD Normal
KICH
KIRC
KIRP
LIHC Normal
LIHC
DLBC
LU Normal
LUAD
LUSC
OV
PAAD Normal
PAAD
PRAD Normal
PRAD
SKCM
UCEC Normal
UCEC
100
10
1
0.1
0.01
RPKM

FIG. 3B

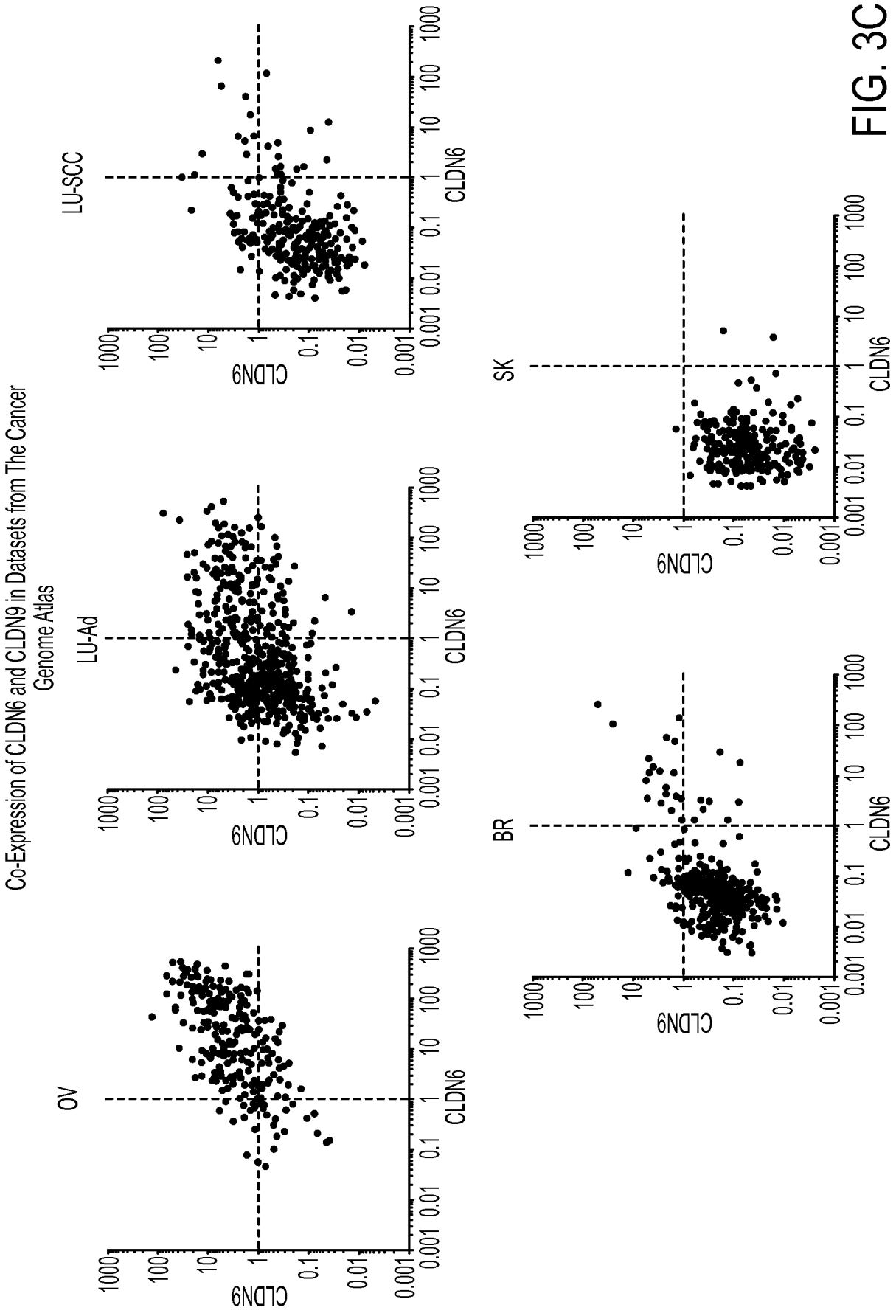

Co-Expression of CLDN6 and CLDN9 in Datasets from The Cancer Genome Atlas
LU-SCC
LU-Ad
SK
OV
BR
CLDN9
CLDN6
1000
100
10
1
0.1
0.01
0.001

FIG. 3C

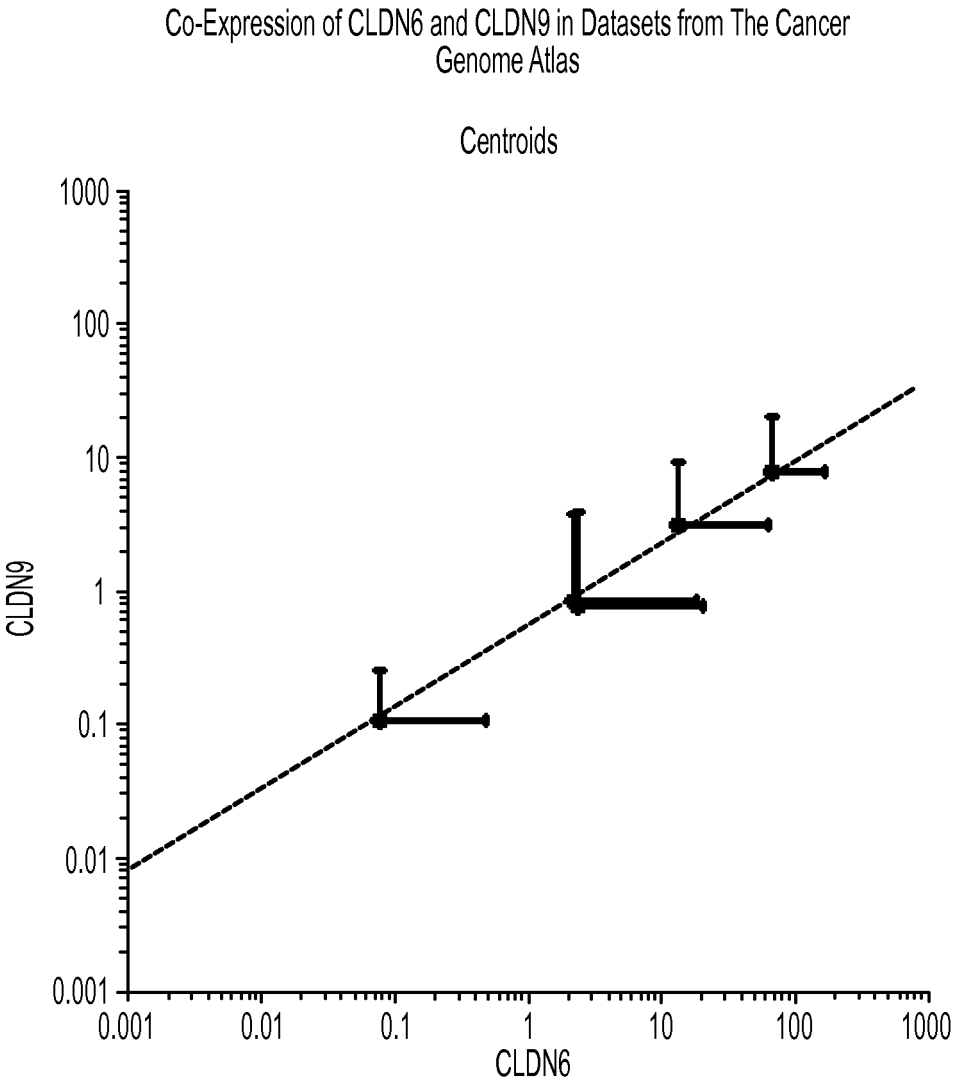

Co-Expression of CLDN6 and CLDN9 in Datasets from The Cancer Genome Atlas
Centroids
CLDN9
1000
100
10
1
0.1
0.01
0.001
0.001
0.01
0.1
1
10
100
1000
CLDN6

FIG. 3D

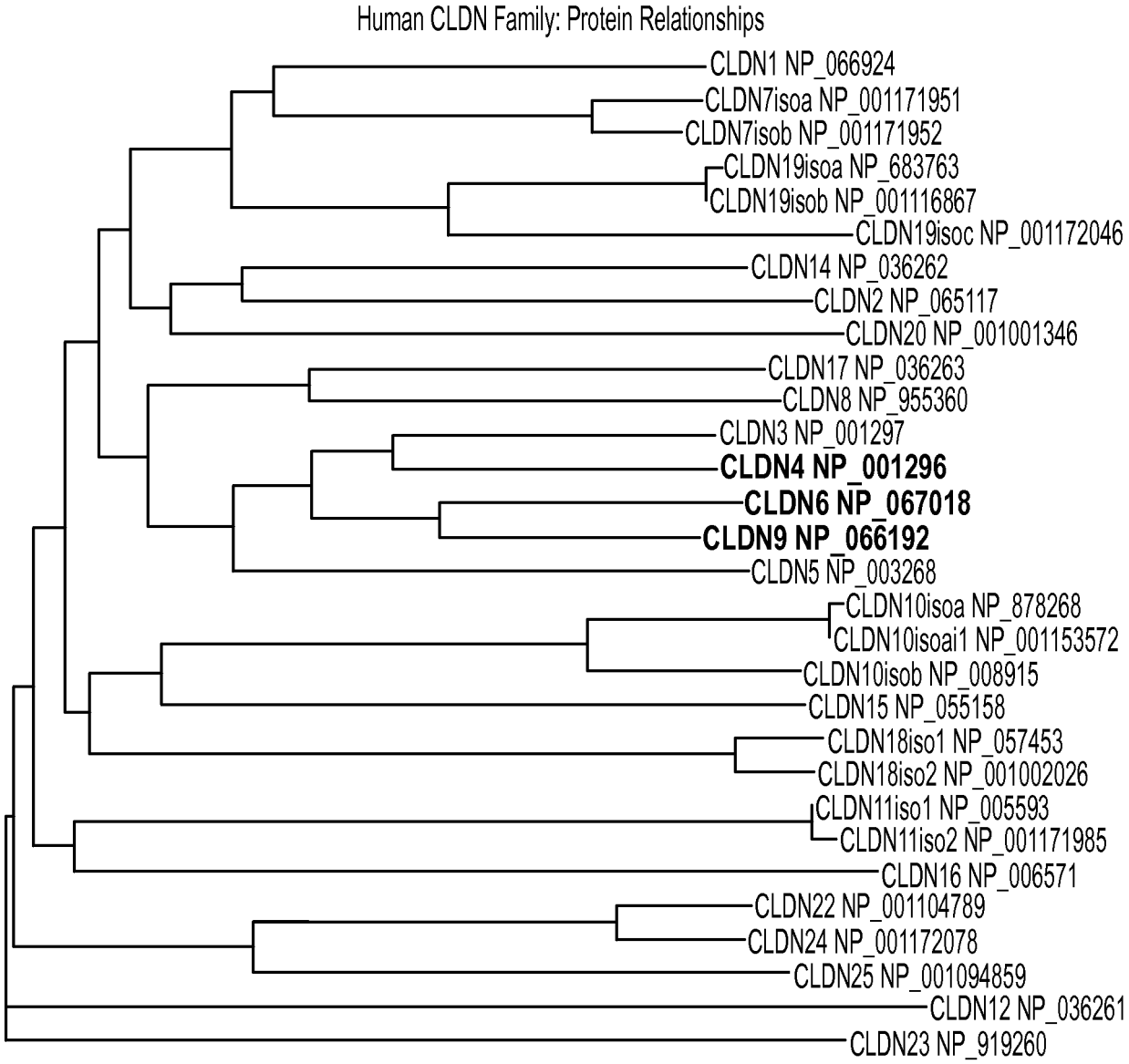

Human CLDN Family: Protein Relationships
CLDN1 NP_066924
CLDN7isoa NP_001171951
CLDN7isob NP_001171952
CLDN19isoa NP_683763
CLDN19isob NP_001116867
CLDN19isoc NP_001172046
CLDN14 NP_036262
CLDN2 NP_065117
CLDN20 NP_001001346
CLDN17 NP_036263
CLDN8 NP_955360
CLDN3 NP_001297
CLDN4 NP_001296
CLDN6 NP_067018
CLDN9 NP_066192
CLDN5 NP_003268
CLDN10isoa NP_878268
CLDN10isoai1 NP_001153572
CLDN10isob NP_008915
CLDN15 NP_055158
CLDN18iso1 NP_057453
CLDN18iso2 NP_001002026
CLDN11iso1 NP_005593
CLDN11iso2 NP_001171985
CLDN16 NP_006571
CLDN22 NP_001104789
CLDN24 NP_001172078
CLDN25 NP_001094859
CLDN12 NP_036261
CLDN23 NP_919260

FIG. 4A

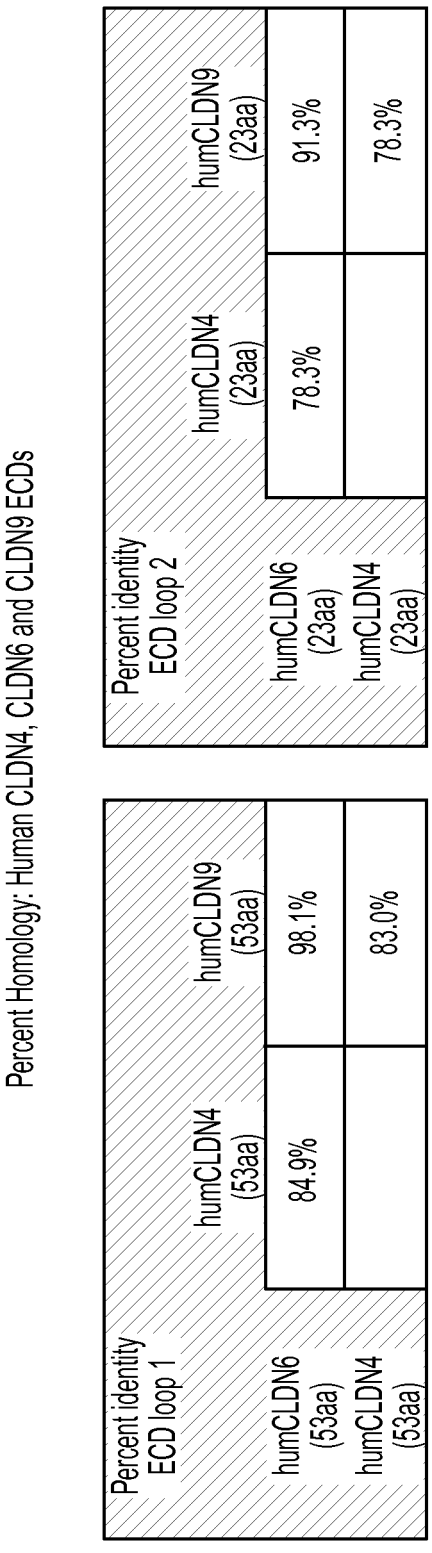

Percent Homology: Human CLDN4, CLDN6 and CLDN9 ECDs
Percent identity ECD loop 1
humCLDN4 (53aa)
humCLDN9 (53aa)
84.9%
98.1%
humCLDN6 (53aa) humCLDN4 (53aa)
83.0%
Percent identity ECD loop 2
humCLDN4 (23aa)
humCLDN9 (23aa)
78.3%
91.3%
humCLDN6 (23aa) humCLDN4 (23aa)
78.3%

FIG. 4B

Percent Homology of ECDs for Various CLDN Ortholog Proteins

ECD loop 1	cynoCLDN6	musCLDN6 NP_061247	ratCLDN6 NP_001095834
humCLDN6 NP_067018	100.0%	98.00%	98.00%
musCLDN6 NP_061247			99.00%

ECD loop 2	cynoCLDN6	musCLDN6 NP_061247	ratCLDN6 NP_001095834
humCLDN6 NP_067018	100.0%	86.96%	91.30%
musCLDN6 NP_061247			95.65%

ECD loop 1	cynoCLDN9	musCLDN9 NP_064689	ratCLDN9 NP_001011889
humCLDN9 NP_006192	100.0%	100.0%	100.0%
musCLDN9 NP_064689			100.0%

ECD loop 2	cynoCLDN9	musCLDN9 NP_064689	ratCLDN9 NP_001011889
humCLDN9 NP_006192	100.0%	100.0%	100.0%
musCLDN9 NP_064689			100.0%

ECD loop 1	cynoCLDN4	musCLDN4 NP_034033	ratCLDN4 NP_001012022
humCLDN4 NP_001296	100.0%	92.31%	92.31%
musCLDN4 NP_034033			100.0%

ECD loop 2	cynoCLDN4	musCLDN4 NP_034033	ratCLDN4 NP_001012022
humCLDN4 NP_001296	100.0%	86.96%	91.30%
musCLDN4 NP_034033			95.65%

FIG. 4C

SUBSTITUTE SHEET (RULE 26)

Anti-CLDN Mouse Antibody Light Chain Variable Region Amino Acid Sequences

Name	FR1	CDRL1	FR2	CDRL2	FR3	CDRL3	FR4	SEQ ID NO
SC27.1	DIQMTQSSSSFSVSLGDRVTITC	KASEDIYNRLA	WYQQKPGNAPRLLIS	GATSLET	GTPSRFSGSGSGKDYTLSITSLRTEDAATYYC	QQYWSTPLT	FGTGTKLELK	21
SC27.22	DIVLTQSPASLAVSLGQRATISC	RASQTVSTSSYSYMH	WFQQKPGQPPKLLIK	FASNVES	GVPARFSGSGSGTDFTLNIHPVEEEDISTYYC	QHSWEIPWT	FGGGTKLEIK	25
SC27.103	QIVLTQSPAIMSASLGERVTMTC	TASSSVSSSYLH	WYQQKPGSSPTLWIY	RTSDLAS	GVPARFSGSGSGTSYSLTISSMEAEDAATYYC	HQYHRSPWT	FGGGTRLEIK	29
SC27.104	DIQMTQSSSSFSVSLGDRVTITC	KASEDIYNRLA	WYQQKPGNAPRLLIS	GATSLET	GVPSRFSGSGSGKDYTLSITSLQTEDVATYYC	QQYWSNPPT	FGGGTKLEIK	33
SC27.105	DVQMTQSPSSLSASLGERVSLTC	QASQSVSNNLN	WYQQTPGKAPRLLIY	GASKLED	GVSSRFSGTGYGTDFTFTISSLEEEDVATYFC	LQHRYLWT	FGGGTKLEIK	37
SC27.106	DIQMTQSSSSFSVSLGDRVTITC	KASEDIYNRLA	WYQQKPGNAPRLLIC	GATSLET	GVPSRFSGSGSGKDYTLSITSLQTEDVATYYC	QQYWSTPLT	FGAGTKLELK	41
SC27.108	EIVLTQSPALMAASPGEKVTITC	SVSSSISSSNLH	WYQQKSGTSPKLWIY	GTSNLAS	GVPVRFSGSGSGTSYSLTISNMEAEDAATYYC	QQWSSYPHT	FGGGTKLEIK	45
SC27.201	DIQMTQSSSSFSVSLGDRVTITC	KASEDIYNRLA	WYQQKPGNAPRLLIS	GATSLEA	GVPSGFSGSGSGKDYTLSITSLQTEDVATYYC	QQYWSTPPT	FGGGTKLELK	49
SC27.203	DIQMTQSSSSFSVSLGDRVTITC	KASEDIYNRLA	WYQQNPGNTPRLLMS	GATSLET	GVPSRFSGSGSGKDYTLSITSLQIEDVSTYYC	QQYWSTPPT	FGGGTRLEIK	53
SC27.204	DIVMTQSQKFMSTSVGDRVSVAC	KAGQNVGTSVA	WYQQKPGHSPKSLIY	SASYRYS	GVPNRFTGSGSGTDFTLTISNVQSEDLADYFC	QQYITYPYT	FGGGTKLEII	57

FIG. 5A

Anti-CLDN Humanized Antibody Light Chain Variable Region Amino Acid Sequences

Name	FR1	CDRL1	FR2	CDRL2	FR3	CDRL3	FR4	SEQ ID NO
hSC27.1	DIQMTQSPSSVSASVGDRVTITC	KASEDIYNRLA	WYQQKPGKAPKLLIY	GATSLET	GVPSRFSGSGSGTDYTLTISSLQPEDFATYYC	QQYWSTPLT	FGQGTKLEIK	61
hSC27.22	DIVMTQSPDSLAVSLGERATINC	RASQTVSTSSYSYMH	WYQQKPGQPPKLLIY	FASNVES	GVPDRFSGSGSGTDFTLTISSLQAEDVAVYYC	QHSWEIPWT	FGQGTKLEIK	65
hSC27.108	EIVLTQSPATLSLSPGERATLSC	SVSSSISSSNLH	WYQQKPGQAPRLLIY	GTSNLAS	GIPARFSGSGSGTDFTLTISSLEPEDFAVYYC	QQWSSYPHT	FGGGTKVEIK	69
hSC27.204	DIQMTQSPSSLSASVGDRVTITC	KAGQNVGTSVA	WFQQKPGKAPKSLIY	SASYRYS	GVPSRFSGSGSGTDFTLTISSLQPEDFATYYC	QQYITYPYT	FGGGTKVEIK	73
hSC27.108v1	EIVLTQSPDFQSVTPKEKVTITC	SVSSSISSSNLH	WYQQKPDQSPKLWIY	GTSNLAS	GVPSRFSGSGSGTDFTLTINSLEAEDAATYYC	QQWSSYPHT	FGGGTKVEIK	77

FIG. 5A Cont.

Anti-CLDN Mouse Antibody Heavy Chain Variable Region Amino Acid Sequences

Name	FR1	CDRH1	FR2	CDRH2	FR3	CDRH3	FR4	SEQ ID NO
SC27.1	EVQLQESRPELVKPGASVKISCKTSGYTFT	EYTLH	WVKQSHGKSLEWIG	GINPNNGDTIYNQKFKG	KATLTVDKSSSTAYMELRSLTSEYSAVYYCAR	RAITVYAMDY	WGQGTSVTVSS	23
SC27.22	QVQLQQPGAELVRPGASVKLSCKASGYTFT	SYWMN	WVKQRPGQGLEWIA	MIHPSDSEIRLNQKFKD	KATLTVDRSSSTAYMQLSSPTSEDSAVYYCAR	IDSYYGYLFYFDY	WGQGTTLTVSS	27
SC27.103	EVHLQQSGPELVKPGGSMKISCKASGYSFT	GYTMN	WVKQSHGKNLEWIG	LFNPYNGGTSYNQKFKG	KATLTVDKSSSTAYMELLSLTSEDSAVYYCAR	CYRYDGLDY	WGQGTTLTVSS	31
SC27.104	EVQLQQSGPELVKPGASVKISCKTSGYTFT	EYTVH	WVKQSHGKSLEWIG	GVYPKNGDTTYNQKFRG	KATLTVDKSSNTAYMELRSLTSEDSAVYYCTG	KDGYDGFAY	WGQGTLVTVSA	35
SC27.105	EVQLQQSGPELVKPGASVKISCKASGYSFT	GYYMN	WVKQSPEKSLEWIG	EINPSTGSTTYNQKFKA	KATLTVDKSSSTAYMQLKSLTSEDSAVYYCAR	RDYYYGSGFYAMDY	WGQGTSVTVSS	39
SC27.106	EVQLQQSGPELVKPGASVKISCKTSGYTFT	EYTMH	WVKQSHGKSLEWIG	GINPNNGGTNYNQKFKG	KATLTVDKSSSTAYMELRSLTSEDSAVYYCAR	RLITYYAMDY	WGQGTSVTVSS	43
SC27.108	QVQMQQSGAELVRPGTSVKVSCKASGYAFT	NYLIE	WVKQRPGQGLEWIG	LINPGSGGTNYNEKFKG	KATLTADKSSTTAYMQLSSLTSDDSAVYFCAR	RSPLGSWIYYAYDGVAY	WGQGTLVTVSA	47
SC27.201	EVQLQQSGPELVKPGASVKISCKTSGYTFT	ENIRH	WVKQSRGKSLEWIG	TINPNNGETRYNQKFKG	KATLTVDKSSSTAYMELRSLTSEDSAVYYCTR	GITKSPYGMDY	WGQGTSITVSS	51
SC27.203	EVQLQQSGPELVKPGASVKISCKTSGYTFT	ENIIH	WVKQSHGKSLEWIG	GINPINGGTSYNQKFKG	KATLTVDKSSSTAYMELRSLTSEDSAVYYCAR	GITTSPYAMDY	WGQGTSVTVSS	55
SC27.204	EVKVLESGGGLVQPGGSLKLSCAASGFDFS	RYWMS	WVRQAPGKGLEWIG	EINPDSSTINYTPSLKA	KFIISRDNAKNTLYLQMSKVRSEDTALYYCTG	PAY	WGQGTLVTVSA	59

FIG. 5B

Anti-CLDN Humanized Antibody Heavy Chain Variable Region Amino Acid Sequences

Name	FR1	CDRH1	FR2	CDRH2	FR3	CDRH3	FR4	SEQ ID NO
hSC27.1	QVQLVQSGAEVKKPGASVKVSCKASGYTFT	EYTLH	WVRQAPGQRLEWMG	GINPNNGDTIYNQKFKG	RVTITRDTSASTAYMELSSLRSEDTAVYYCAR	RAITVYAMDY	WGQGTLVTVSS	63
hSC27.22	QVQLVQSGAEVKKPGASVKVSCKASGYTFT	SYWMN	WVRQAPGQRLEWMG	MIHPSDSEIRLNQKFKD	RVTITRDTSASTAYMELSSLRSEDTAVYYCAR	IDSYYGYLFYFDY	WGQGTTVTVSS	67
hSC27.108	QVQLVQSGAEVKKPGASVKVSCKASGYTFT	NYLIE	WVRQAPGQGLEWMG	LINPGSGGTNYNEKFKG	RVTMTTDTSTSTAYMELRSLRSDDTAVYYCAR	RSPLGSWIYYAYDGVAY	WGQGTLVTVSS	71
hSC27.204	EVQLLESGGGLVQPGGSLRLSCAASGFTFS	RYWMS	WVRQAPGKGLEWVS	EINPDSSTINYTPSLKA	RFTISRDNSKNTLYLQMNSLRAEDTAVYYCTG	PAY	WGQGTLVTVSS	75
hSC27.22 - VH1 - 8	QVQLVQSGAEVKKPGASVKVSCKASGYTFT	SYWMN	WVRQATGQGLEWMG	MIHPSDSEIRLNQKFKD	RVTMTRNTSISTAYMELSSLRSEDTAVYYCAR	IDSYYGYLFYFDY	WGQGTTVTVSS	79
hSC27.22 - VH1 - 46	QVQLVQSGAEVKKPGASVKVSCKASGYTFT	SYWMN	WVRQAPGQGLEWMG	MIHPSDSEIRLNQKFKD	RVTMTRDTSTSTVYMELSSLRSEDTAVYYCAR	IDSYYGYLFYFDY	WGQGTTVTVSS	81
hSC27.22 - VH1 - 69	QVQLVQSGAEVKKPGSSVKVSCKASGGTFS	SYWMN	WVRQAPGQGLEWMG	MIHPSDSEIRLNQKFKD	RVTITADESTSTAYMELSSLRSEDTAVYYCAR	IDSYYGYLFYFDY	WGQGTTVTVSS	83
hSC27.204v1	EVQLLESGGGLVQPGGSLRLSCAASGFTFS	RYWMS	WVRQAPGKGLEWVS	EINPDSSTIKYTPSLKA	RFTISRDNSKNTLYLQMNSLRAEDTAVYYCTG	PAY	WGQGTLVTVSS	85
hSC27.204v2	EVQLLESGGGLVQPGGSLRLSCAASGFTFS	RYWMS	WVRQAPGKGLEWVS	EINPDSSTIQYTPSLKA	RFTISRDNSKNTLYLQMNSLRAEDTAVYYCTG	PAY	WGQGTLVTVSS	87
hSC27.204v3	EVQLLESGGGLVQPGGSLRLSCAASGFTFS	RYWMS	WVRQAPGKGLEWVS	EINPDSSTINYNPSLKA	RFTISRDNSKNTLYLQMNSLRAEDTAVYYCTG	PAY	WGQGTLVTVSS	89
hSC27.204v4	EVQLLESGGGLVQPGGSLRLSCAASGFDFS	RYWMS	WVRQAPGKGLEWVS	EINPDSSTINYTPSLKA	RFTISRDNSKNTLYLQMNSLRAEDTAVYYCTG	PAY	WGQGTLVTVSS	91

FIG. 5B Cont.

Anti-CLDN Humanized Antibody Heavy Chain Variable Region Amino Acid Sequences

Name	FR1	CDRH1	FR2	CDRH2	FR3	CDRH3	FR4	SEQ ID NO
hSC27.204v5	EVQLLESGGGLVQPGGSLRLSCAASGFDFS	RYWMS	WVRQAPGKGLEWVS	EINPDSSTIKYTPSLKA	RFTISRDNSKNTLYLQMNSLRAEDTAVYYCTG	PAY	WGQGTLVTVSS	93
hSC27.204v6	EVQLLESGGGLVQPGGSLRLSCAASGFDFS	RYWMS	WVRQAPGKGLEWVS	EINPDSSTIQYTPSLKA	RFTISRDNSKNTLYLQMNSLRAEDTAVYYCTG	PAY	WGQGTLVTVSS	95
hSC27.204v7	EVQLLESGGGLVQPGGSLRLSCAASGFDFS	RYWMS	WVRQAPGKGLEWVS	EINPDSSTINYNPSLKA	RFTISRDNSKNTLYLQMNSLRAEDTAVYYCTG	PAY	WGQGTLVTVSS	97
hSC27.204v8	EVQLLESGGGLVQPGGSLRLSCAASGFTFS	RYWMS	WVRQAPGKGLEWVS	EINPDSSTINYTPSLKA	RFTISRDNSKNTLYLQMNSLRAEDTAVYYCAG	PAY	WGQGTLVTVSS	99
hSC27.204v9	EVQLLESGGGLVQPGGSLRLSCAASGFTFS	RYWMS	WVRQAPGKGLEWVS	EINPDSSTIKYTPSLKA	RFTISRDNSKNTLYLQMNSLRAEDTAVYYCAG	PAY	WGQGTLVTVSS	101
hSC27.204v10	EVQLLESGGGLVQPGGSLRLSCAASGFTFS	RYWMS	WVRQAPGKGLEWVS	EINPDSSTIQYTPSLKA	RFTISRDNSKNTLYLQMNSLRAEDTAVYYCAG	PAY	WGQGTLVTVSS	103
hSC27.204v11	EVQLLESGGGLVQPGGSLRLSCAASGFTFS	RYWMS	WVRQAPGKGLEWVS	EINPDSSTINYNPSLKA	RFTISRDNSKNTLYLQMNSLRAEDTAVYYCAG	PAY	WGQGTLVTVSS	105
hSC27.204v12	EVQLLESGGGLVQPGGSLRLSCAASGFDFS	RYWMS	WVRQAPGKGLEWVS	EINPDSSTINYTPSLKA	RFTISRDNSKNTLYLQMNSLRAEDTAVYYCAG	PAY	WGQGTLVTVSS	107
hSC27.204v13	EVQLLESGGGLVQPGGSLRLSCAASGFDFS	RYWMS	WVRQAPGKGLEWVS	EINPDSSTIKYTPSLKA	RFTISRDNSKNTLYLQMNSLRAEDTAVYYCAG	PAY	WGQGTLVTVSS	109
hSC27.204v14	EVQLLESGGGLVQPGGSLRLSCAASGFDFS	RYWMS	WVRQAPGKGLEWVS	EINPDSSTIQYTPSLKA	RFTISRDNSKNTLYLQMNSLRAEDTAVYYCAG	PAY	WGQGTLVTVSS	111
hSC27.204v15	EVQLLESGGGLVQPGGSLRLSCAASGFDFS	RYWMS	WVRQAPGKGLEWVS	EINPDSSTINYNPSLKA	RFTISRDNSKNTLYLQMNSLRAEDTAVYYCAG	PAY	WGQGTLVTVSS	113

FIG. 5B Cont.

Anti-CLDN Mouse Antibody Variable Region Nucleic Acid Sequences

Name	Chain	Nucleic Acid Sequence	SEQ ID NO
SC27.1	Light Chain	GACATCCAGATGACACAATCTTCATCCTCCTTTTCTGTATCTCTAGGAGACAGTCACCATTACTTGCAAGGCAAGTGAAGACATATATAATCGGTTAGCCTGGTATCAGCAGAAACCAGGAAA TGCTCCCAGGCTCTTAATATCTGGTGCAACCAGTTTGGAAACTGGGACTCCTTCAAGATTCAGTGGCAGTGGATCTGGAAAGGATTACACTCTCAGTATTACCAGTCTTCGGACTGAAGATGCTG CTACTTATTACTGTCAACAATATTGGAGTACTCCACTCACGTTCGGTACTGGGACCAAGCTGGAGCTGAAA	20
SC27.1	Heavy Chain	GAGGTCCAGCTGCAAGAGTCTAGACCTGAGCTGGTGAAGCCTGGGGCTTCAGTGAAGATATCCTGCAAGACTTCTGGATACACATTCACCTTGCACTGGGTGAAGCAGAGTCATGG AAAGAGCCTTGAGTGGATTGGAGGTATTAATCCTAACAATGGTGATACTATCTACAACCAGAAATTCAAGGGCAAGGCCACATTGACTGTAGACAAGTCCTCCAGCACAGCCTACATGGAGCTCC GCAGCCTGACATCTGAATATTCTGCAGTCTATTACTGTGCAAGAAGGGCGATTACGGTCTATGCTATGGACTACTGGGGTCAAGGTACCTCAGTCACCGTCTCCTCA	22
SC27.22	Light Chain	GACATTGTGCTGACACAGTCTCCTGCTTCCTTAGCTGTATCTCTGGGGCAGAGGGCCACCATCTCATGCAGGGCCAGCCAGACTGTCAGTACATCTAGCTATAGTTATATGCACTGGTTCCAACA GAAACCAGGACAGCCACCCAAACTCCTCATCAAGTTTGCATCCAACGTAGAATCTGGGGTCCCTGCCAGATTCAGTGGCAGTGGGTCTGGGACAGACTTCACCCTCAACATCCATCCTGTGGAGG AGGAGGATATTTCAACATATTACTGTCAGCACAGTTGGGAGATTCCGTGGAGGCACCAAGCTGGAAATCAAA	24
SC27.22	Heavy Chain	CAGGTCCAACTGCAGCAGCCTGGGGCTGAGCTGGTGAGGCCTGGAGCTTCAGTGAAGCTGTCCTGCAAGGCTTCTGGCTACACCTTCACCAGCTACTGGATGAACTGGGTGAAGCAGAGGCCTGG ACAAGGCCTTGAATGGATTGGCCATGATTCATCCTTCCGATAGTGAAATTAGGTTAAATCAGAAGTTCAAGGACAAGGCCACATTGACTGTAGACAAGATCCTCCAGCACAGCCTACATGCAACTCA GCAGCCCGACATCTGAGGACTCTGCGGTCTATTACTGTGCAAGAATTGATAGTTATTATGGTTACCTGTTTTACTTTGACTACTGGGGCCAAGGCACCACTCTCACAGTCTCCTCA	26
SC27.103	Light Chain	CAAATTGTTCTCACCCAGTCTCCAGCAATCATGTCTGCATCTCTAGGGGAACGGGTCACCATGACCTGCAGTCAAGTGTAAGTTCCAGTTACTTGCACTGGTACCAGCAGAAGCCAGG ATCCTCCCCCACACTCTGGATTTATAGGACATCCGACCTGGCTTCTGGAGTCCCAGCTCGCTTCAGTGGCAGTGGATCTGGGACCTCTTACTCTCTCACAATCAGCAGCATGGAGGCTGAAGATG CTGCCACTTATTACTGCCACCAGTATCATCGTTCCCCGTGGACGTTCGGTGGAGGCACCAGGCTGGAAATCAAA	28
SC27.103	Heavy Chain	GAGGTCCACCTGCAACAGTCTGGACCTGAGCTAGTGAAGCCTGGAGGTTCAATGAAGATATCCTGCAAGGCTTCTGGTTACTCATTCACTGGCTACACCATGAACTGGGTGAAGCAGAGCCATGG AAAGAACCTTGAGTGGATTGGACTTTTTAATCCTTACAATGGTGGTACTAGTTATAACCAGAAGTTCAAGGGCAAGGCCACATTAACTGTAGACAAGTCATCCAGCACAGCCTACATGGAGCTCC TCAGTCTGACATCTGAGGACTCTGCAGTCTATTACTGTGCAAGATGCTATAGGTACGACGGGTCTTGACTACTGGGGCCAAGGCACCACTCTCACAGTCTCCTCA	30

FIG. 5C

Anti-CLDN Mouse Antibody Variable Region Nucleic Acid Sequences

Name	Chain	Nucleic Acid Sequence	SEQ ID NO
SC27.104	Light Chain	GACATCCAGATGACACAATCTTCATCCTCCTTTTCTGTATCTCTAGGAGACAGAGTCACCATTACTTGCAAGGCAAGTGAGGACATATATAATCGGTTAGCCTGGTATCAGCAGAAACCAGGAAA TGCTCCCAGGCTCTTAATATCTGGTGCAACCAGTTTGGAAACTGGGGTTCCTTCAAGATTCAGTGGCAGTGGATCTGGAAAGGATTACACTCTCAGCATTACCAGTCTTCAGACTGAAGATGTTG CTACTTATTACTGTCAACAGTATTGGAGTAATCCTCCGACGTTCGGTGGAGGCACCAAGCTGGAAATCAAA	32
SC27.104	Heavy Chain	GAGGTCCAGCTGCAACAGTCTGGACCTGAGCTGGTGAAGCCTGGGGCTTCAGTGAAGATATCCTGCAAGACTTCTGGATACACATTCACTGAATACACCGTGCACTGGGTGAAGCAGAGCCATGG AAAGAGCCTTGAGTGGATTGGAGGTGTTTATCCTAAGAATGGTGATACTACCTACAACCAGAAGTTCAGGGGCAAGGCCACACTTGACTGTAGACAAGTCCTCCAACACAGCCTATATGGAACTCC GCAGCCTGACATCTGAGGATTCTGCAGTCTATTACTGTACAGGAAAGGATGGGTACGACGGGTTTGCTTACTGGGGCCAAGGGACTCTGGTCACTGTCTCTGCA	34
SC27.105	Light Chain	GATGTTCAAATGACCCAGTCTCCATCCTCCCTGTCTGCATCTTTGGGAGAGAGAGTCTCCCTGACTTGCCAGGCAAGTCAGAGTGTTAGCAATAATTTAAACTGGTATCAGCAAACACCAGGGAA AGCTCCTAGGCTCTTGATCTATGGTGCAAGCAAATTGGGAAGATGGGGTCTCTTCAAGGTTCAGTGGCACTGGATATGGGACAGATTTCACTTTCACCATCAGCAGCCTGGAGGAAGATGTGG CAACTTATTTTTGTCTACAGCATAGGTATCTGTGGACGTTCGGTGGAGGCACCAAGCTGGAAATCAAA	36
SC27.105	Heavy Chain	GAGGTCCAGCTGCAGCAGTCTGGACCTGAGTTGGTGAAGCCTGGGGCTTCAGTGAAGATATCCTGCAAGGCTTCTGGTTACTCATTCACTGGCTACTACATGAACTGGGTGAAGCAAAGTCCTGA AAAGAGCCTTGAGTGGATTGGAGAGATTAATCCTAGCACTGGTAGTACTACTTACAACCAGAAGTTCAAGGGCCACACATTGACTGTAGACAAATCCTCCAGCACAGCCTACATGCAGCTCA AGAGCCTGACATCTGAGGACTCTGCAGTCTATTACTGTGCAAGAAGGGATTATTACTACGGTAGTGGTTTCTATGCTATGGACTACTGGGGTCAAGGAACCTCAGTCACCGTCTCCTCA	38
SC27.106	Light Chain	GACATCCAGATGACACAATCTTCATCCTCCTTTTCTGTATCTCTAGGAGACAGAGTCACCATTACTTGCAAGGCAAGTGAGGACATATATAATCGGTTAGCCTGGTATCAGCAGAAACCAGGAAA TGCTCCTAGGCTCTTAATATGTGGTGCAACCAGTTTGGAAACTGGGGTTCCTTCAAGATTCAGTGGCAGTGGATCTGGAAAGGATTACACTCTCAGCATTACCAGTCTTCAGACTGAAGATGTTG CTACTTATTACTGTCAACAGTATTGGAGTACTCCGCTCACGTTCGGTGCTGGGACCAAACTGGAGCTGAAA	40
SC27.106	Heavy Chain	GAGGTCCAGCTGCAACAGTCTGGACCTGAGCTGGTGAAGATATCCTGCAAGACTTCTGGATACACATTCACTGAATACACCATGCACTGGGTGAAGCAGAGCCATGG AAAGAGCCTTGAGTGGATTGGAGGTATTAATCCTAACAATGGTGGTACTAACTACAACCAGAAGTTCAAGGGCAAGGCCACACTTGACTGTTGACAAGTCCTCCAGCACAGCCTACATGGAGCTCC GCAGCCTGACATCTGAGGATTCTGCAGTCTATTACTGTGCAAGAAGGCTTATTACTATGCTATGGACTACTGGGGTCAAGGAACCTCAGTCACCGTCTCCTCA	42

FIG. 5C Cont.

Anti-CLDN Mouse Antibody Variable Region Nucleic Acid Sequences

Name	Chain	Nucleic Acid Sequence	SEQ ID NO
SC27.108	Light Chain	GAAATTGTGCTCACCCAGTCTCCAGCACTCATGGCTGCATCTCCAGGGGAGAAGGTCACCATCACCTGCAGTGTCAGCTCAAGTATAAGTTCCAGCAACTTGCACTGGTACCAGCAGAAGTCAGG AACCTCCCCCAAACTCTGGATTTATGGCACATCCAACCTGGCTTCTGGAGTCCCTGTTCGCTTCAGTGGCAGTGGATCTGGGACCTCTTATTCTCTCACAATCAGCAACATGGAGGCTGAAGATG CTGCCACTTATTACTGTCAACAGTGGAGTAGTTACCCACACACGTTCGGAGGGGGGACCAAGCTGGAAATAAAA	44
SC27.108	Heavy Chain	CAGGTCCAAATGCAGCAGTCTGGAGCTGAGCTGGTAAGGCCTGGGACTTCAGTGAAGGTGTCCTGCAAGGCTTCTGGATACGCCTTCACTAATTACTTGATAGAGTGGGTAAAGCAGAGGCCTGG ACAGGGCCTTGAGTGGATTGGACTGATTAATCCTGGAAGTGGTGGTACTAATTACAATGAGAAGTTCAAGGGCAAGGCCAACACTGACTGCAGACAAATCCTCCACCACTGCCTACATGCAGCTCA GCAGCCTGACATCTGATGACTCTGCGGTTTATTTCTGTGCAAGACGGTCCCCTCTAGGGAGTTGGATCTACTATGCTTACGACGGTGTTGCTTACTGGGGCCAAGGGACTCTGGTCACTGTCTCT GCA	46
SC27.201	Light Chain	GACATCCAGATGACACAATCTTCATCCTCCTTTTCTGTCTCTCTGGGAGACAGAGTCACTATTACTTGCAAGGCAAGTGAGGACATCTATAATCGGTTAGCCTGGTATCAACAGAAACCAGGAAA TGCTCCTAGGCTCTTAATATCTGGTGCAACCAGTTTGGAAGCTGGGGTTCCTTCAGGATTCAGTGGCAGTGGATCTGGAAAGGATTACACTCTCAGCATTACCAGTCTTCAGACTGAAGATGTTG CTACTTATTACTGTCAACAGTATTGGAGTACTCCTCCGACGTTCGGTGGAGGCACCAAGCTGGAACTCAAG	48
SC27.201	Heavy Chain	GAGGTCCAGCTGCAACAGTCTGGACCTGAACTGGTGAAGCCTGGGGCTTCAGTGAAGATATCCTGCAAGACTTCTGGATACACATTCACTGAAAACATCAGACACTGGGTGAAGCAGAGCCGAGG AAAGAGCCTTGAGTGGATTGGTACTATTAATCCTAATAATGGTGAGACTAGGTACAATCAGAAGTTCAAGGGCAAGGCCACACTTGACTGTAGACAAGTCCTCCAGCACAGCCTACATGGAGCTCC GCAGCCTGACATCTGAGGATTCTGCAGTCTATTACTGTACAAGGGGGATTACAAAGTCCCCTTATGGTATGGACTACTGGGGTCAAGGAACCTCAATCACCGTCTCCTCA	50
SC27.203	Light Chain	GACATCCAGATGACACAATCTTCATCCTCCTTTTCTGTATCTCTAGGAGACAGAGTCACCATCACTTGCAAGGCAAGTGAGGACATATATAATCGGTTAGCCTGGTATCAGCAGAATCCAGGAAA TACTCCTAGGCTCTTAATGTCTGGTGCAACCAGTTTGGAAACTGGGGTTCCTTCAAGATTCAGTGGCAGTGGATCTGGAAAGGATTACACTCTCAGCATTACCAGTCTTCAGATTGAAGATGTTT CTACTTATTACTGTCAACAATATTGGAGTACTCCTCCGACGTTCGGTGGAGGCACCAGGCTGGAAATCAAA	52
SC27.203	Heavy Chain	GAGGTCCAGCTGCAACAGTCTGGACCTGAGCTGGTGAAGCCTGGGGCTTCAGTGAAGATATCCTGCAAGACTTCTGGATACACATTCACTGAAAACATCATACACTGGGTGAAGCAGAGCCATGG AAAGAGCCTTGAGTGGATTGGAGGTATTAATCCTATCAATGGTGGTACTAGCTACAACCAGAAGTTCAAGGGCAAGGCCACATTGACTGTAGACAAGTCCTCCAGCACAGCCTACATGGAGCTCC GTAGCCTGACATCTGAGGATTCTGCAGTCTATTACTGTGCAAGGGGGATTACTACGTCCCCTTATGCTATGGACTACTGGGGTCAAGGAACCTCAGTCACCGTCTCCTCA	54
SC27.204	Light Chain	GACATTGTGATGACCCAGTCTCAAAAATTCATGTCCACATCAGTAGGAGACAGGGTCAGCGTCGCCTGCAAGGCCGGTCAGAATGTGGGTACTAGTGTAGCCTGGTATCAACAGAAACCAGGACA TTCTCCTAAATCACTGATTTACTCGGCATCCTACCGGTACAGTGGAGTCCCTAATCGCTTCACAGGCAGTGGATCTGGGACAGATTTCACTCTCACCATCAGCAATGTGCAGTCTGAAGACTTGG CAGACTATTTCTGTCAGCAATATATCACCTATCCGTACACGTTCGGAGGGGGGACCAAGCTGGAAATAATA	56
SC27.204	Heavy Chain	GAGGTGAAGGTTCTCGAGTCTGGAGGTGGCCTGGTGCAGCCTGGAGGATCCCTGAAACTCTCCTGTGCAGCCTCAGGATTCGATTTTAGTAGATACTGGATGAGTTGGGTCCGGCAGGCTCCAGG GAAAGGCCTAGAATGGATTGGAGAAATTAATCCAGATAGCAGTACGATAAACTATACGCCATCTCTAAAGGCTAAATTCATCATCTCCAGAGACAACGCCAAAAATACGGCTGTACCTGCAAATGA GCAAAGTGAGATCTGAGGACACAGCCCTTTATTACTGTACAGGACCAGCTTACTGGGGCCAAGGGACTCTGGTCACTGTCTCTGCA	58

FIG. 5C Cont.

Anti-CLDN Humanized Antibody Variable Region Nucleic Acid Sequences

Name	Chain	Nucleic Acid Sequence	SEQ ID NO
hSC27.1	Light Chain	GACATCCAGATGACCCAGTCTCCATCTTCCGTGTCTGCATCTGTAGGAGACAGAGTCACCATCACTTGTAAGGCGAGTGAGGATATTTACAACCGGTTAGCCTGGTATCAGCAGAAACCA GGGAAAGCCCCTAAGCTCCTGATCTATGGTGCAACCAGTTTGGAAACTGGGGTCCCATCAAGGTTCAGCGGCAGTGGATCTGGGACAGATTACACTCTCACCATCAGCAGCCTGCAGCCT GAAGATTTTGCAACTTACTATTGTCAACAGTATTGGAGTACTCCACTCACGTTCGGTCAAGGGACCAAGCTGGAGATTAAA	60
hSC27.1	Heavy Chain	CAGGTCCAGCTTGTGCAGTCTGGGGCTGAGGTGAAGAAGCCTGGGGCCTCAGTGAAGGTTTCCTGCAAGGCTTCTGGATACACCTTCACTGAGTATACTCTGCATTGGGTGCGCCAGGCC CCCGGACAAAGGCTTGAGTGGATGGGAGGGATCAACCCTAACAATGGTGACACAATATATAACCAGAAGTTCAAGGGCAGAGTCACCATTACCAGGGACACATCCGCGAGCACAGCCTAC ATGGAGCTGAGCAGCCTGAGATCTGAAGACACGGCTGTGTATTACTGTGCGAGAAGGGCGATTACGGTCTATGCTATGGACTACTGGGGTCAAGGTACCCTAGTCACCGTCTCGAGC	62
hSC27.22	Light Chain	GACATTGTCATGACCCAGTCCCCTGACAGTTTGGCCGTTAGCTTGGGGGAGCGGTGCCACCATCAACTGTAGGGCTAGTCAAACTGTTTCTACATCCTCCTACTCTTACATGCATTGGTAT CAGCAGAAACCTGGTCAGCCTCCAAAACTGCTGATTTATTTTCGCATCTAACGTCGAGTCCGGAGTTCCTGACCGGTTCAGCGGCAGTGGATCTGGGACAGATTTTACACTTACCATCTCA TCTCTGCAAGCAGAAGATGTGGCCGTGTACTATTGTCAGCATTCCTGGGAGATCCCCTGGACCTTCGGGCAGGGAACCAAGCTCGAGATTAAA	64
hSC27.22	Heavy Chain	CAGGTGCAGTTGGTGCAGAGGCGGCGCCGAAGTCAAGAAACCAGGAGCTTCTGTCAAAGTCTCCTGTAAAGCCTCCGGATATACCTTCACCAGCTACTGGATGAATTGGGTAAGACAGGCC CCCGGACAGAGGCTTGAGTGGATGGGAATGATCCATCCCTCTGACAGCGAGATTCGGCTCAACCAGAAGTTTAAAGACCGAGTGACTATCACACGCGATACCAGTGCTAGCACAGCCTAC ATGGAGTTGAGTTCTCTTCGTAGCGAGGACACTGCCGTGTATTATTGCGCCCGCATCGACTCATATTATGGTTATCTCTGTTCTACTTCGACTATTGGGGCCAGGGGACCACGGTGACTGTG TCTTCC	66
hSC27.108	Light Chain	GAAATCGTGCTTACACAATCCCCTGCCACTCTGAGCCTTTCTCCAGGCGAGCGAGCAACCCTTTCCTGCAGTGTTTCCTCTTCAATCAGTTCCAGCAATTTGCACTGGTACCAGCAGAAG CCTGGTCAGGCACCCCGATTGTTGATCTATGGCACATCTAACCTGGCCAGCGGCATCCCTGCTCGGTTCAGTGGATCTGGCTCCGGAACAGATTTCACTCTCACTATCAGCTCCCTTGAG CCTGAAGATTTTGCCGTGTACTACTGTCAGCAATGGAGTTCCTACCCCCACACCTTTGGCGGCGGGACAAAGGTCGAGATAAAA	68
hSC27.108	Heavy Chain	CAGGTACAGCTGGTCCAGTCCGGCGCTGAGGTTAAGAAGCCCGGTGCCTCCGTGAAGGTATCTTGTAAGGCCTCAGGTTACACCTTTACAAATTATCTGATCGAATGGGTGAGACAGGCC CCAGGTCAGGGTCTGGAATGGATGGGACTCATCAACCCTGGGAGTGGCGGGACCAACTACAACGAAAAGTTTAAGGGGAGAGTGACAATGACCACAGATACCAGTACCTCCACCGCATAT ATGGAGCTGCGAAGCTTGAGGTCCGATGACACTGCTGTGTACTATTGCGCCCGTAGAAGCCCACTCGGGTCTTGGATCTATTACGCATAGATGGTGTGGGGCCAGGGCACC CTGGTGACAGTCAGCTCC	70
hSC27.204	Light Chain	GACATCCAGATGACCCAGTCCCCCTCCAGCCTGTCTGCTTCCGTGGGCGACAGAGTGACCATCACATGCAAGGCCGGCCAGAACGTGGGCACCTCTGTGGCCTGGTTCCAGCAGAAGCCT GGCAAGGCCCCCAAGTCCCTGATCTACTCCGGCGTGCCCTCCAGATTCTCCGGCTCTGGCTCTGGCACCGACTTTACCCTGACCATCAGCTCCCTGCAGCCC GAGGACTTCGCCACCTACTACTGCCAGCAGTACATCACCTACCCCTACACCTTCGGCGGAGGCACCAAGGTGGAAATCAAG	72
hSC27.204	Heavy Chain	GAAGTGCAGCTGCTGGAATCTGGCGGCGGCTTGGTGCAGCCTGGCGGATCTCTGAGACTGTCTTGTGCCGCCTCCGGCTTCACCTTCTCCGGTACTGGATGTCCTGGGTGCGACAGGCT CCTGGCAAGGGCCTGGAATGGGTGTCCGAGATCAACCCCGACTCCTCCACCATCAACTACACCCCCAGCCTGAAGGACCGGTTCACCATCTCTCGGGACAACTCCAAGAACACCCTGTAC CTGCAGATGAACTCCCTGCGGGCCGAGGACACCGCCGTGTACTACTGTACCGGCCCTGCTTATTGGGGCCAGGGCACCCTCGTGACCGTCTCCTCT	74

FIG. 5C Cont.

Anti-CLDN Humanized Antibody Variable Region Nucleic Acid Sequences

Name	Chain	Nucleic Acid Sequence	SEQ ID NO
hSC27.108v1	Light Chain	GAAATCGTGCTGACTCAGTCTCCCGATTTCCAGTCCGTCACACCCAAGGAGAAAGTCACCATCACTTGTTCTGTCTCCTCCAAGCATCTCTTCTAGTAACCTGCACTGGTATCAGCAGAAG CCTGATCAGTCCCCTAAGCTTTGGATATACGGCACCTCAAACCTCGCCTCCGGAGTTCCTTCAAGGTTTTCAGGTAGTGGATCTGGAACGGATTTCACCCTTACAATAAACAGTCTTGAG GCCGAGGACGCCGCCACTTACTACTGCCAGCAGTGGAGTTCTTACCCCCACACATTTGGGGGCGGCACCAAAGTGGAGATCAAA	76
hSC27.22 - VH1 - 8	Heavy Chain	CAGGTGCAGCTGGTGCAGTCTGGCGCCGAAGTGAAGAAACCTGGCGCCTCCGTGAAGGTGTCCTGCAAGGCCTCCGGCTACACCTTTACCAGCTACTGGATGAACTGGGTGCGACAGGCT ACCGGCCAGGGCCTGGAATGGATGGGCATGATCGATCCCAACCCCTCCGACTCCGAGATCCGGCTGAACCAGAAATTCAAGGACAGAGTGACCATGACCCGGAACACCTCCATCTCCACCGCCTAC ATGGAACTGTCCTCCCTGCGGAGCGAGGACACCGCCGTGTACTACTGCGCCCCGGATGGACTCCTACTACGGCTACCTGTTCTACTTCGACTACTGGGGCCAGGGCACCACCGTGACCGTG TCATCT	78
hSC27.22 - VH1 - 46	Heavy Chain	CAGGTGCAGCTGGTGCAGTCTGGCGCCGAAGTGAAGAAACCTGGCGCCTCCGTGAAGGTGTCCTGCAAGGCCTCCGGCTACACCTTTACCAGCTACTGGATGAACTGGGTGCGACAGGCC CCTGGACAGGGCCTGGAATGGATGGGCATGATCGATCCCAACCCCTCCGACTCCGAGATCCGGCTGAACCAGAAATTCAAGGACCGCGTGACCATGACCCGGAACACCTCCATCAGCACCGTGTAC ATGGAACTGTCCTCCCTGCGGAGCGAGGACACCGCCGTGTACTACTGCGCCCCGGATCGACTCCTACTACGGCTACCTGTTCTACTTCGACTACTGGGGCCAGGGCACCACCGTGACCGTG TCATCT	80
hSC27.22 - VH1 - 69	Heavy Chain	CAGGTGCAGCTGGTGCAGTCTGGCGCCGAAGTGAAGAAACCCGGCTCCTCCGTGAAGGTGTCCTGCAAGGCTTCCGGCGGCACCTTCTCCAGCTACTGGATGAACTGGGTGCGACAGGCC CCTGGACAGGGCCTGGAATGGATGGGCATGATCGATCCCAACCCCTCCGACTCCGAGATCCGGCTGAACCAGAAATTCAAGGACAGAGTGACCATCACCGCCGACGAGTCCACCTCCACCGCCTAC ATGGAACTGTCCTCCCTGCGGAGCGAGGACACCGCCGTGTACTACTGCGCCCCGGATCGACTCCTACTACGGCTACCTGTTCTACTTCGACTACTGGGGCCAGGGCACCACCGTGACCGTG TCATCT	82
hSC27.204v1	Heavy Chain	GAAGTGCAGCTGCTGGAATCTGGCGGGCGGACTGGTGCAGCCTGGCGGATCTCTGAGACTGTCTTGTGCCGCCTCCGGCTTCACCTTCTCCGGTACTGGATGTCCTGGGTGCGACAGGCT CCTGGCAAGGGCCTGGAATGGGTGTCCGAGATCAACCCCGACTCCTCCACCATCAAGTACACCCCCAGCCTGAAGGACCGGTTCACCATCTCTCGGGACAACTCCAAGAACACCCTGTAC CTGCAGATGAACTCCCTGCGGGCCGAGGACACCGCCGTGTACTACTGTACCGGCCCTGCTTATTGGGGCCAGGGCACCCTCGTGACCGTGTCCTCT	84
hSC27.204v2	Heavy Chain	GAAGTGCAGCTGCTGGAATCTGGCGGGCGGACTGGTGCAGCCTGGCGGATCTCTGAGACTGTCTTGTGCCGCCTCCGGCTTCACCTTCTCCGGTACTGGATGTCCTGGGTGCGACAGGCT CCTGGCAAGGGCCTGGAATGGGTGTCCGAGATCAACCCCGACTCCTCCACCATCCAGTACACCCCCAGCCTGAAGGACCGGTTCACCATCTCTCGGGACAACTCCAAGAACACCCTGTAC CTGCAGATGAACTCCCTGCGGGCCGAGGACACCGCCGTGTACTACTGTACCGGCCCTGCTTATTGGGGCCAGGGCACCCTCGTGACCGTGTCCTCT	86
hSC27.204v3	Heavy Chain	GAAGTGCAGCTGCTGGAATCTGGCGGGCGGACTGGTGCAGCCTGGCGGATCTCTGAGACTGTCTTGTGCCGCCTCCGGCTTCACCTTCTCCGGTACTGGATGTCCTGGGTGCGACAGGCT CCTGGCAAGGGCCTGGAATGGGTGTCCGAGATCAACCCCGACTCCTCCACCATCAACTACACCCCCAGCCTGAAGGACCGGTTCACCATCTCTCGGGACAACTCCAAGAACACCCTGTAC CTGCAGATGAACTCCCTGCGGGCCGAGGACACCGCCGTGTACTACTGTACCGGCCCTGCTTATTGGGGCCAGGGCACCCTCGTGACCGTGTCCTCT	88

FIG. 5C Cont.

Anti-CLDN Humanized Antibody Variable Region Nucleic Acid Sequences

Name	Chain	Nucleic Acid Sequence	SEQ ID NO
hSC27.204v4	Heavy Chain	GAAGTGCAGCTGCTGGAATCTGGCGGCGGGACTGGTGCAGCCTGGCGGGATCTCTGAGACTGTCTTGTGCCGCCTCCGGCTTCGACTTCTCCCGGTACTGGATGTCCTGGGTGCGACAGGCT CCTGGCAAGGGGCCTGGAATGGGTGTCCGAGATCAACCCCGACTCCTCCACCATCAACTACACCCCCAGCCTGAAGGCCCGGTTCACCATCTCTCGGGACAACTCCAAGAACACCCTGTAC CTGCAGATGAACTCCCTGCGGGCCGAGGACACCGCCGTGTACTACTGTACCGGCCCTGCTTATTGGGGCCAGGGCACCCTCGTGACCGTGTCCTCT	90
hSC27.204v5	Heavy Chain	GAAGTGCAGCTGCTGGAATCTGGCGGCGGGACTGGTGCAGCCTGGCGGGATCTCTGAGACTGTCTTGTGCCGCCTCCGGCTTCGACTTCTCCCGGTACTGGATGTCCTGGGTGCGACAGGCT CCTGGCAAGGGGCCTGGAATGGGTGTCCGAGATCAACCCCGACTCCTCCACCATCAAGTACACCCCCAGCCTGAAGGCCCGGTTCACCATCTCTCGGGACAACTCCAAGAACACCCTGTAC CTGCAGATGAACTCCCTGCGGGCCGAGGACACCGCCGTGTACTACTGTACCGGCCCTGCTTATTGGGGCCAGGGCACCCTCGTGACCGTGTCCTCT	92
hSC27.204v6	Heavy Chain	GAAGTGCAGCTGCTGGAATCTGGCGGCGGGACTGGTGCAGCCTGGCGGGATCTCTGAGACTGTCTTGTGCCGCCTCCGGCTTCGACTTCTCCCGGTACTGGATGTCCTGGGTGCGACAGGCT CCTGGCAAGGGGCCTGGAATGGGTGTCCGAGATCAACCCCGACTCCTCCACCATCCAGTACACCCCCAGCCTGAAGGCCCGGTTCACCATCTCTCGGGACAACTCCAAGAACACCCTGTAC CTGCAGATGAACTCCCTGCGGGCCGAGGACACCGCCGTGTACTACTGTACCGGCCCTGCTTATTGGGGCCAGGGCACCCTCGTGACCGTGTCCTCT	94
hSC27.204v7	Heavy Chain	GAAGTGCAGCTGCTGGAATCTGGCGGCGGGACTGGTGCAGCCTGGCGGGATCTCTGAGACTGTCTTGTGCCGCCTCCGGCTTCGACTTCTCCCGGTACTGGATGTCCTGGGTGCGACAGGCT CCTGGCAAGGGGCCTGGAATGGGTGTCCGAGATCAACCCCGACTCCTCCACCATCAACTACACCCCCAGCCTGAAGGCCCGGTTCACCATCTCTCGGGACAACTCCAAGAACACCCTGTAC CTGCAGATGAACTCCCTGCGGGCCGAGGACACCGCCGTGTACTACTGTACCGGCCCTGCTTATTGGGGCCAGGGCACCCTCGTGACCGTGTCCTCT	96
hSC27.204v8	Heavy Chain	GAAGTGCAGCTGCTGGAATCTGGCGGCGGGACTGGTGCAGCCTGGCGGGATCTCTGAGACTGTCTTGTGCCGCCTCCGGCTTCACCTTCTCCCGGTACTGGATGTCCTGGGTGCGACAGGCT CCTGGCAAGGGGCCTGGAATGGGTGTCCGAGATCAACCCCGACTCCTCCACCATCAACTACACCCCCAGCCTGAAGGCCCGGTTCACCATCTCTCGGGACAACTCCAAGAACACCCTGTAC CTGCAGATGAACTCCCTGCGGGCCGAGGACACCGCCGTGTACTACTGTGCCGGCCCTGCTTATTGGGGCCAGGGCACCCTCGTGACCGTGTCCTCT	98
hSC27.204v9	Heavy Chain	GAAGTGCAGCTGCTGGAATCTGGCGGCGGGACTGGTGCAGCCTGGCGGGATCTCTGAGACTGTCTTGTGCCGCCTCCGGCTTCACCTTCTCCCGGTACTGGATGTCCTGGGTGCGACAGGCT CCTGGCAAGGGGCCTGGAATGGGTGTCCGAGATCAACCCCGACTCCTCCACCATCAAGTACACCCCCAGCCTGAAGGCCCGGTTCACCATCTCTCGGGACAACTCCAAGAACACCCTGTAC CTGCAGATGAACTCCCTGCGGGCCGAGGACACCGCCGTGTACTACTGTGCCGGCCCTGCTTATTGGGGCCAGGGCACCCTCGTGACCGTGTCCTCT	100
hSC27.204v10	Heavy Chain	GAAGTGCAGCTGCTGGAATCTGGCGGCGGGACTGGTGCAGCCTGGCGGGATCTCTGAGACTGTCTTGTGCCGCCTCCGGCTTCACCTTCTCCCGGTACTGGATGTCCTGGGTGCGACAGGCT CCTGGCAAGGGGCCTGGAATGGGTGTCCGAGATCAACCCCGACTCCTCCACCATCCAGTACACCCCCAGCCTGAAGGCCCGGTTCACCATCTCTCGGGACAACTCCAAGAACACCCTGTAC CTGCAGATGAACTCCCTGCGGGCCGAGGACACCGCCGTGTACTACTGTGCCGGCCCTGCTTATTGGGGCCAGGGCACCCTCGTGACCGTGTCCTCT	102

FIG. 5C Cont.

Anti-CLDN Humanized Antibody Variable Region Nucleic Acid Sequences

Name	Chain	Nucleic Acid Sequence	SEQ ID NO
hSC27.204v11	Heavy Chain	GAAGTGCAGCTGCTGGAATCTGGCGGCGGACTGGTGCAGCCTGGCGGATCTCTGAGACTGTCTTGTGCCGCCTCCGGCTTCACCTTCTCCCGGTACTGGATGTCCTGGGTGCGACAGGCT CCTGGCAAGGGCCTGGAATGGGTGTCCGAGATCAACCCCGACTCCTCCACCATCAACTACACCCCAGCCTGAAGGCCCGGTTCACCATCTCTCGGGACAACTCCAAGAACACCCTGTAC CTGCAGATGAACTCCCTGCGGGCCGAGGACACCGCCGTGTACTACTGTGCCGGCCCTGCTTATTGGGGCCAGGGCACCCTCGTGACCGTGTCCTCT	104
hSC27.204v12	Heavy Chain	GAAGTGCAGCTGCTGGAATCTGGCGGCGGACTGGTGCAGCCTGGCGGATCTCTGAGACTGTCTTGTGCCGCCTCCGGCTTCGACTTCTCCCGGTACTGGATGTCCTGGGTGCGACAGGCT CCTGGCAAGGGCCTGGAATGGGTGTCCGAGATCAACCCCGACTCCTCCACCATCAACTACACCCCAGCCTGAAGGCCCGGTTCACCATCTCTCGGGACAACTCCAAGAACACCCTGTAC CTGCAGATGAACTCCCTGCGGGCCGAGGACACCGCCGTGTACTACTGTGCCGGCCCTGCTTATTGGGGCCAGGGCACCCTCGTGACCGTGTCCTCT	106
hSC27.204v13	Heavy Chain	GAAGTGCAGCTGCTGGAAATCTGGCGGCGGACTGGTGCAGCCTGGCGGATCTCTGAGACTGTCTTGTGCCGCCTCCGGCTTCGACTTCTCCCGGTACTGGATGTCCTGGGTGCGACAGGCT CCTGGCAAGGGCCTGGAATGGGTGTCCGAGATCAACCCCGACTCCTCCACCATCAAGTACACCCCCAGCCTGAAGGCCCGGTTCACCATCTCTCGGGACAACTCCAAGAACACCCTGTAC CTGCAGATGAACTCCCTGCGGGCCGAGGACACCGCCGTGTACTACTGTGCCGGCCCTGCTTATTGGGGCCAGGGCACCCTCGTGACCGTGTCCTCT	108
hSC27.204v14	Heavy Chain	GAAGTGCAGCTGCTGGAATCTGGCGGCGGACTGGTGCAGCCTGGCGGATCTCTGAGACTGTCTTGTGCCGCCTCCGGCTTCGACTTCTCCCGGTACTGGATGTCCTGGGTGCGACAGGCT CCTGGCAAGGGCCTGGAATGGGTGTCCGAGATCAACCCCGACTCCTCCACCATCCAGTACACCCCCAGCCTGAAGGCCCGGTTCACCATCTCTCGGGACAACTCCAAGAACACCCTGTAC CTGCAGATGAACTCCCTGCGGGCCGAGGACACCGCCGTGTACTACTGTGCCGGCCCTGCTTATTGGGGCCAGGGCACCCTCGTGACCGTGTCCTCT	110
hSC27.204v15	Heavy Chain	GAAGTGCAGCTGCTGGAATCTGGCGGCGGACTGGTGCAGCCTGGCGGATCTCTGAGACTGTCTTGTGCCGCCTCCGGCTTCGACTTCTCCCGGTACTGGATGTCCTGGGTGCGACAGGCT CCTGGCAAGGGCCTGGAATGGGTGTCCGAGATCAACCCCGACTCCTCCACCATCAACTACACCCCAGCCTGAAGGCCCGGTTCACCATCTCTCGGGACAACTCCAAGAACACCCTGTAC CTGCAGATGAACTCCCTGCGGGCCGAGGACACCGCCGTGTACTACTGTGCCGGCCCTGCTTATTGGGGCCAGGGCACCCTCGTGACCGTGTCCTCT	112

FIG. 5C Cont.

Anti-CLDN Humanized Antibody Full Length Amino Acid Sequences

Name	Chain	Full Sequence	SEQ ID NO
hSC27.1	Light Chain	DIQMTQSPSSVSASVGDRVTITCKASEDIYNRLAWYQQKPGKAPKLLIYGATSLETGVPSRFSGSGSGTDYTLTISSLQPEDFATYYCQQYWSTPLTFGQGTKLEIKRTVAAPSVFIFPPSDEQLKSGTASVVCLLNNFY PREAKVQWKVDNALQSGNSQESVTEQDSKDSTYSLSSTLTLSKADYEKHKVYACEVTHQGLSSPVTKSFNRGEC	114
hSC27.1	Heavy Chain	QVQLVQSGAEVKKPGASVKVSCKASGYTFTEYTLHWVRQAPGQRLEWMGGINPNNGDTIYNQKFKGRVTITRDTSASTAYMELSSLRSEDTAVYYCARRAITVYAMDYWGQGTLVTVSSASTKGPSVFPLAPSSKSTSGG TAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVTVPSSSLGTQTYICNVNHKPSNTKVDKKVEPKSSDKTHTCPPCPAPELLGGPSVFLFPPKPKDTLMISRTPEVTCVVVDVSHEDPEVKFNWY VDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSRDELTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTPPVLDSDGSFFLYSKLTVDKSRWQ QGNVFSCSVMHEALHNHYTQKSLSLSPG	115
hSC27.22	Light Chain	DIVMTQSPDSLAVSLGERATINCRASQTVSTSSYSYMHWYQQKPGQPPKLLIYFASNVESGVPDRFSGSGSGTDFTLTISSLQAEDVAVYYCQHSWEIPWTFGQGTKLEIKRTVAAPSVFIFPPSDEQLKSGTASVVCLL NNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSTYSLSSTLTLSKADYEKHKVYACEVTHQGLSSPVTKSFNRGEC	116
hSC27.22	Heavy Chain	QVQLVQSGAEVKKPGASVKVSCKASGYTFTSYWMNWVRQAPGQRLEWMGMIHPSDSEIRLNQKFKDRVTITRDTSASTAYMELSSLRSEDTAVYYCARIDSYYGYLFYFDYWGQGTTVTVSSASTKGPSVFPLAPSSKST SGGTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVTVPSSSLGTQTYICNVNHKPSNTKVDKKVEPKSCDKTHTCPPCPAPELLGGPSVFLFPPKPKDTLMISRTPEVTCVVVDVSHEDPEVKF NWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSRDELTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTPPVLDSDGSFFLYSKLTVDKS RWQQGNVFSCSVMHEALHNHYTQKSLSLSPG	117
hSC27.108	Light Chain	EIVLTQSPATLSLSPGERATLSCSVSSSISSSNLHWYQQKPGQAPRLLIYGTSNLASGIPARFSGSGSGTDFTLTISSLEPEDFAVYYCQQWSSYPHTFGGGTKVEIKRTVAAPSVFIFPPSDEQLKSGTASVVCLLNNF YPREAKVQWKVDNALQSGNSQESVTEQDSKDSTYSLSSTLTLSKADYEKHKVYACEVTHQGLSSPVTKSFNRGEC	118
hSC27.108	Heavy Chain	QVQLVQSGAEVKKPGASVKVSCKASGYTFTNYLIEWVRQAPGQGLEWMGLINPGSGGTNYNEKFKGRVTMTTDTSTSTAYMELRSLRSDDTAVYYCARRSPLGSWIYYAYDGVAYWGQGTLVTVSSASTKGPSVFPLAPS SKSTSGGTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVTVPSSSLGTQTYICNVNHKPSNTKVDKKVEPKSCDKTHTCPPCPAPELLGGPSVFLFPPKPKDTLMISRTPEVTCVVVDVSHEDP EVKFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSRDELTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTPPVLDSDGSFFLYSKLT VDKSRWQQGNVFSCSVMHEALHNHYTQKSLSLSPG	119
hSC27.204	Light Chain	DIQMTQSPSSLSASVGDRVTITCKAGQNVGTSVAWFQQKPGKAPKSLIYSASYRYSGVPSRFSGSGSGTDFTLTISSLQPEDFATYYCQQYITYPYTFGGGTKVEIKRTVAAPSVFIFPPSDEQLKSGTASVVCLLNNFY PREAKVQWKVDNALQSGNSQESVTEQDSKDSTYSLSSTLTLSKADYEKHKVYACEVTHQGLSSPVTKSFNRGEC	120
hSC27.204	Heavy Chain	EVQLLESGGGLVQPGGSLRLSCAASGFTFSRYWMSWVRQAPGKGLEWVSEINPDSSTINYTPSLKARFTISRDNSKNTLYLQMNSLRAEDTAVYYCTGPAYWGQGTLVTVSSASTKGPSVFPLAPSS KSTSGGTAALGCL VKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVTVPSSSLGTQTYICNVNHKPSNTKVDKKVEPKSCDKTHTCPPCPAPELLGGPSVFLFPPKPKDTLMISRTPEVTCVVVDVSHEDPEVKFNWYVDGVEVH NAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSRDELTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTPPVLDSDGSFFLYSKLTVDKSRWQQGNVFSC SVMHEALHNHYTQKSLSLSPG	121

FIG. 5D

Anti-CLDN Humanized Antibody Full Length Amino Acid Sequences

Name	Chain	Full Sequence	SEQ ID NO
hSC27.22ss1	Heavy Chain	QVQLVQSGAEVKKPGASVKVSCKASGYTFTSYWMNWVRQAPGQRLEWMGMIHPSDSEIRLNQKFKDRVTITRDTSASTAYMELSSLRSEDTAVYYCARIDSYYGYLFYFDYWGQGTTVTVSSASTKGPSVFPLAPSSKST SGGTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVTVPSSSLGTQTYICNVNHKPSNTKVDKKVEPKSSDKTHTCPPCPAPELLGGPSVFLFPPKPKDTLMISRTPEVTCVVVDVSHEDPEVKF NWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSRDELTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTPPVLDSDGSFFLYSKLTVDKS RWQQGNVFSCSVMHEALHNHYTQKSLSLSPG
hSC27.22 - VH1- 8	Heavy Chain	QVQLVQSGAEVKKPGASVKVSCKASGYTFTSYWMNWVRQATGQGLEWMGMIHPSDSEIRLNQKFKDRVTMTRNTSISTAYMELSSLRSEDTAVYYCARIDSYYGYLFYFDYWGQGTTVTVSSASTKGPSVFPLAPSSKST SGGTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVTVPSSSLGTQTYICNVNHKPSNTKVDKKVEPKSCDKTHTCPPCPAPELLGGPSVFLFPPKPKDTLMISRTPEVTCVVVDVSHEDPEVKF NWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSRDELTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTPPVLDSDGSFFLYSKLTVDKS RWQQGNVFSCSVMHEALHNHYTQKSLSLSPG	123
hSC27.22 - VH1- 46	Heavy Chain	QVQLVQSGAEVKKPGASVKVSCKASGYTFTSYWMNWVRQAPGQGLEWMGMIHPSDSEIRLNQKFKDRVTMTRDTSTSTVYMELSSLRSEDTAVYYCARIDSYYGYLFYFDYWGQGTTVTVSSASTKGPSVFPLAPSSKST SGGTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVTVPSSSLGTQTYICNVNHKPSNTKVDKKVEPKSCDKTHTCPPCPAPELLGGPSVFLFPPKPKDTLMISRTPEVTCVVVDVSHEDPEVKF NWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSRDELTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTPPVLDSDGSFFLYSKLTVDKS RWQQGNVFSCSVMHEALHNHYTQKSLSLSPG	124
hSC27.22 - VH1- 69	Heavy Chain	QVQLVQSGAEVKKPGSSVKVSCKASGGTFSSYWMNWVRQAPGQGLEWMGMIHPSDSEIRLNQKFKDRVTITADESTSTAYMELSSLRSEDTAVYYCARIDSYYGYLFYFDYWGQGTTVTVSSASTKGPSVFPLAPSSKST SGGTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVTVPSSSLGTQTYICNVNHKPSNTKVDKKVEPKSCDKTHTCPPCPAPELLGGPSVFLFPPKPKDTLMISRTPEVTCVVVDVSHEDPEVKF NWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSRDELTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTPPVLDSDGSFFLYSKLTVDKS RWQQGNVFSCSVMHEALHNHYTQKSLSLSPG	125
hSC27.22 IgG2	Heavy Chain	QVQLVQSGAEVKKPGASVKVSCKASGYTFTSYWMNWVRQAPGQRLEWMGMIHPSDSEIRLNQKFKDRVTITRDTSASTAYMELSSLRSEDTAVYYCARIDSYYGYLFYFDYWGQGTTVTVSSASTKGPSVFPLAPCSRST SESTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVTVPSSNFGTQTYTCNVDHKPSNTKVDKTVERKCCVECPPCPAPPVAGPSVFLFPPKPKDTLMISRTPEVTCVVVDVSHEDPEVQFNWYV DGVEVHNAKTKPREEQFNSTFRVVSVLTVVHQDWLNGKEYKCKVSNKGLPAPIEKTISKTKGQPREPQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTPPMLDSDGSFFLYSKLTVDKSRWQQ GNVFSCSVMHEALHNHYTQKSLSLSPG	126

FIG. 5D Cont.

Anti-CLDN Humanized Antibody Full Length Amino Acid Sequences

Name	Chain	Full Sequence	SEQ ID NO
hSC27.22 IgG4 R409K	Heavy Chain	QVQLVQSGAEVKKPGASVKVSCKASGYTFTSYWMNWVRQAPGQRLEWMGMIHPSDSEIRLNQKFKDRVTITRDTSASTAYMELSSLRSEDTAVYYCARIDSYYGYLFYFDYWGQGTTVTVSSASTKGPSVFPLAPCSRST SESTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVTVPSSSLGTKTYTCNVDHKPSNTKVDKRVESKYGPPCPSCPAPEFLGGPSVFLFPPKPKDTLMISRTPEVTCVVVD VSQEDPEVQFNWY VDGVEVHNAKTKPREEQFNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKGLPSSIEKTISKAKGQPREPQVYTLPPSQEEMTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTPPVLDSDGSFFLYSKLTVDKSRWQ EGNVFSCSVMHEALHNHYTQKSLSLSLG	127
hSC27.22 IgG4 S228P	Heavy Chain	QVQLVQSGAEVKKPGASVKVSCKASGYTFTSYWMNWVRQAPGQRLEWMGMIHPSDSEIRLNQKFKDRVTITRDTSASTAYMELSSLRSEDTAVYYCARIDSYYGYLFYFDYWGQGTTVTVSSASTKGPSVFPLAPCSRST SESTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVTVPSSSLGTKTYTCNVDHKPSNTKVDKRVESKYGPPCPPCPAPEFLGGPSVFLFPPKPKDTLMISRTPEVTCVVVD VSQEDPEVQFNWY VDGVEVHNAKTKPREEQFNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKGLPSSIEKTISKAKGQPREPQVYTLPPSQEEMTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTPPVLDSDGSFFLYSRLTVDKSRWQ EGNVFSCSVMHEALHNHYTQKSLSLSLG	128
hSC27.22 IgG4 S228P K370E R409K	Heavy Chain	QVQLVQSGAEVKKPGASVKVSCKASGYTFTSYWMNWVRQAPGQRLEWMGMIHPSDSEIRLNQKFKDRVTITRDTSASTAYMELSSLRSEDTAVYYCARIDSYYGYLFYFDYWGQGTTVTVSSASTKGPSVFPLAPCSRST SESTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVTVPSSSLGTKTYTCNVDHKPSNTKVDKRVESKYGPPCPPCPAPEFLGGPSVFLFPPKPKDTLMISRTPEVTCVVVD VSQEDPEVQFNWY VDGVEVHNAKTKPREEQFNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKGLPSSIEKTISKAKGQPREPQVYTLPPSQEEMTKNQVSLTCLVEGFYPSDIAVEWESNGQPENNYKTTPPVLDSDGSFFLYSKLTVDKSRWQ EGNVFSCSVMHEALHNHYTQKSLSLSLG	129
hSC27.22 IgG4 K370E	Heavy Chain	QVQLVQSGAEVKKPGASVKVSCKASGYTFTSYWMNWVRQAPGQRLEWMGMIHPSDSEIRLNQKFKDRVTITRDTSASTAYMELSSLRSEDTAVYYCARIDSYYGYLFYFDYWGQGTTVTVSSASTKGPSVFPLAPCSRST SESTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVTVPSSSLGTKTYTCNVDHKPSNTKVDKRVESKYGPPCPSCPAPEFLGGPSVFLFPPKPKDTLMISRTPEVTCVVVD VSQEDPEVQFNWY VDGVEVHNAKTKPREEQFNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKGLPSSIEKTISKAKGQPREPQVYTLPPSQEEMTKNQVSLTCLVEGFYPSDIAVEWESNGQPENNYKTTPPVLDSDGSFFLYSRLTVDKSRWQ EGNVFSCSVMHEALHNHYTQKSLSLSLG	130
hSC27.22 IgG4 S228P K370E	Heavy Chain	QVQLVQSGAEVKKPGASVKVSCKASGYTFTSYWMNWVRQAPGQRLEWMGMIHPSDSEIRLNQKFKDRVTITRDTSASTAYMELSSLRSEDTAVYYCARIDSYYGYLFYFDYWGQGTTVTVSSASTKGPSVFPLAPCSRST SESTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVTVPSSSLGTKTYTCNVDHKPSNTKVDKRVESKYGPPCPPCPAPEFLGGPSVFLFPPKPKDTLMISRTPEVTCVVVD VSQEDPEVQFNWY VDGVEVHNAKTKPREEQFNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKGLPSSIEKTISKAKGQPREPQVYTLPPSQEEMTKNQVSLTCLVEGFYPSDIAVEWESNGQPENNYKTTPPVLDSDGSFFLYSRLTVDKSRWQ EGNVFSCSVMHEALHNHYTQKSLSLSLG	131
hSC27.22 IgG4 C127S S228P	Heavy Chain	QVQLVQSGAEVKKPGASVKVSCKASGYTFTSYWMNWVRQAPGQRLEWMGMIHPSDSEIRLNQKFKDRVTITRDTSASTAYMELSSLRSEDTAVYYCARIDSYYGYLFYFDYWGQGTTVTVSSASTKGPSVFPLAPSSRST SESTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVTVPSSSLGTKTYTCNVDHKPSNTKVDKRVESKYGPPCPPCPAPEFLGGPSVFLFPPKPKDTLMISRTPEVTCVVVD VSQEDPEVQFNWY VDGVEVHNAKTKPREEQFNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKGLPSSIEKTISKAKGQPREPQVYTLPPSQEEMTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTPPVLDSDGSFFLYSRLTVDKSRWQ EGNVFSCSVMHEALHNHYTQKSLSLSLG	132

FIG. 5D Cont.

Anti-CLDN Humanized Antibody Full Length Amino Acid Sequences

Name	Chain	Full Sequence	SEQ ID NO
hSC27.22 IgG4 C127S K370E	Heavy Chain	QVQLVQSGAEVKKPGASVKVSCKASGYTFTSYWMNWVRQAPGQRLEWMGMIHPSDSEIRLNQKFKDRVTITRDTSASTAYMELSSLRSEDTAVYYCARIDSYYGYLFYFDYWGQGTTVTVSSASTKGPSVFPLAPSSRST SESTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVTVPSSSLGTKTYTCNVDHKPSNTKVDKRVESKYGPPCPSCPAPEFLGGPSVFLFPPKPKDTLMISRTPEVTCVVVDVSQEDPEVQFNWY VDGVEVHNAKTKPREEQFNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKGLPSSIEKTISKAKGQPREPQVYTLPPSQEEMTKNQVSLTCLVEGFYPSDIAVEWESNGQPENNYKTTPPVLDSDGSFFLYSRLTVDKSRWQ EGNVFSCSVMHEALHNHYTQKSLSLSLG	133
hSC27.22 IgG4 C127S S228P K370E	Heavy Chain	QVQLVQSGAEVKKPGASVKVSCKASGYTFTSYWMNWVRQAPGQRLEWMGMIHPSDSEIRLNQKFKDRVTITRDTSASTAYMELSSLRSEDTAVYYCARIDSYYGYLFYFDYWGQGTTVTVSSASTKGPSVFPLAPSSRST SESTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVTVPSSSLGTKTYTCNVDHKPSNTKVDKRVESKYGPPCPPCPAPEFLGGPSVFLFPPKPKDTLMISRTPEVTCVVVDVSQEDPEVQFNWY VDGVEVHNAKTKPREEQFNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKGLPSSIEKTISKAKGQPREPQVYTLPPSQEEMTKNQVSLTCLVEGFYPSDIAVEWESNGQPENNYKTTPPVLDSDGSFFLYSRLTVDKSRWQ EGNVFSCSVMHEALHNHYTQKSLSLSLG	134
hSC27.108v1	Light Chain	EIVLTQSPDFQSVTPKEKVTITCSVSSSISSSNLHWYQQKPDQSPKLWIYGTSNLASGVPSRFSGSGSGTDFTLTINSLEAEDAATYYCQQWSSYPHTFGGGTKVEIKRTVAAPSVFIFPPSDEQLKSGTASVVCLLNNF YPREAKVQWKVDNALQSGNSQESVTEQDSKDSTYSLSSTLTLSKADYEKHKVYACEVTHQGLSSPVTKSFNRGEC	135
hSC27.204v1	Heavy Chain	EVQLLESGGGLVQPGGSLRLSCAASGFTFSRYWMSWVRQAPGKGLEWVSEINPDSSTIKYTPSLKARFTISRDNSKNTLYLQMNSLRAEDTAVYYCTGPAYWGQGTLVTVSSASTKGPSVFPLAPSSKSTSGGTAALGCL VKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVTVPSSSLGTQTYICNVNHKPSNTKVDKKVEPKSCDKTHTCPPCPAPELLGGPSVFLFPPKPKDTLMISRTPEVTCVVVDVSHEDPEVKFNWYVDGVEVH NAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSRDELTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTPPVLDSDGSFFLYSKLTVDKSRWQQGNVFSC SVMHEALHNHYTQKSLSLSPG	136
hSC27.204v2	Heavy Chain	EVQLLESGGGLVQPGGSLRLSCAASGFTFSRYWMSWVRQAPGKGLEWVSEINPDSSTIQYTPSLKARFTISRDNSKNTLYLQMNSLRAEDTAVYYCTGPAYWGQGTLVTVSSASTKGPSVFPLAPSSKSTSGGTAALGCL VKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVTVPSSSLGTQTYICNVNHKPSNTKVDKKVEPKSCDKTHTCPPCPAPELLGGPSVFLFPPKPKDTLMISRTPEVTCVVVDVSHEDPEVKFNWYVDGVEVH NAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSRDELTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTPPVLDSDGSFFLYSKLTVDKSRWQQGNVFSC SVMHEALHNHYTQKSLSLSPG	137
hSC27.204v3	Heavy Chain	EVQLLESGGGLVQPGGSLRLSCAASGFTFSRYWMSWVRQAPGKGLEWVSEINPDSSTINYNPSLKARFTISRDNSKNTLYLQMNSLRAEDTAVYYCTGPAYWGQGTLVTVSSASTKGPSVFPLAPSSKSTSGGTAALGCL VKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVTVPSSSLGTQTYICNVNHKPSNTKVDKKVEPKSCDKTHTCPPCPAPELLGGPSVFLFPPKPKDTLMISRTPEVTCVVVDVSHEDPEVKFNWYVDGVEVH NAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSRDELTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTPPVLDSDGSFFLYSKLTVDKSRWQQGNVFSC SVMHEALHNHYTQKSLSLSPG	138

FIG. 5D Cont.

SUBSTITUTE SHEET (RULE 26)

Anti-CLDN Humanized Antibody Full Length Amino Acid Sequences

Name	Chain	Full Sequence	SEQ ID NO
hSC27.204v4	Heavy Chain	EVQLLESGGGLVQPGGSLRLSCAASGFDFSRYWMSWVRQAPGKGLEWVSEINPDSSTINYTPSLKARFTISRDNSKNTLYLQMNSLRAEDTAVYYCTGPAYWGQGTLVTVSSASTKGPSVFPLAPSSKSTSGGTAALGCL VKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVTVPSSSLGTQTYICNVNHKPSNTKVDKKVEPKSCDKTHTCPPCPAPELLGGPSVFLFPPKPKDTLMISRTPEVTCVVVDVSHEDPEVKFNWYVDGVEVH NAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSRDELTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTPPVLDSDGSFFLYSKLTVDKSRWQQGNVFSC SVMHEALHNHYTQKSLSLSPG	139
hSC27.204v5	Heavy Chain	EVQLLESGGGLVQPGGSLRLSCAASGFDFSRYWMSWVRQAPGKGLEWVSEINPDSSTIKYTPSLKARFTISRDNSKNTLYLQMNSLRAEDTAVYYCTGPAYWGQGTLVTVSSASTKGPSVFPLAPSSKSTSGGTAALGCL VKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVTVPSSSLGTQTYICNVNHKPSNTKVDKKVEPKSCDKTHTCPPCPAPELLGGPSVFLFPPKPKDTLMISRTPEVTCVVVDVSHEDPEVKFNWYVDGVEVH NAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSRDELTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTPPVLDSDGSFFLYSKLTVDKSRWQQGNVFSC SVMHEALHNHYTQKSLSLSPG	140
hSC27.204v6	Heavy Chain	EVQLLESGGGLVQPGGSLRLSCAASGFDFSRYWMSWVRQAPGKGLEWVSEINPDSSTIQYTPSLKARFTISRDNSKNTLYLQMNSLRAEDTAVYYCTGPAYWGQGTLVTVSSASTKGPSVFPLAPSSKSTSGGTAALGCL VKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVTVPSSSLGTQTYICNVNHKPSNTKVDKKVEPKSCDKTHTCPPCPAPELLGGPSVFLFPPKPKDTLMISRTPEVTCVVVDVSHEDPEVKFNWYVDGVEVH NAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSRDELTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTPPVLDSDGSFFLYSKLTVDKSRWQQGNVFSC SVMHEALHNHYTQKSLSLSPG	141
hSC27.204v7	Heavy Chain	EVQLLESGGGLVQPGGSLRLSCAASGFDFSRYWMSWVRQAPGKGLEWVSEINPDSSTINYNPSLKARFTISRDNSKNTLYLQMNSLRAEDTAVYYCTGPAYWGQGTLVTVSSASTKGPSVFPLAPSSKSTSGGTAALGCL VKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVTVPSSSLGTQTYICNVNHKPSNTKVDKKVEPKSCDKTHTCPPCPAPELLGGPSVFLFPPKPKDTLMISRTPEVTCVVVDVSHEDPEVKFNWYVDGVEVH NAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSRDELTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTPPVLDSDGSFFLYSKLTVDKSRWQQGNVFSC SVMHEALHNHYTQKSLSLSPG	142
hSC27.204v8	Heavy Chain	EVQLLESGGGLVQPGGSLRLSCAASGFTFSRYWMSWVRQAPGKGLEWVSEINPDSSTINYTPSLKARFTISRDNSKNTLYLQMNSLRAEDTAVYYCAGPAYWGQGTLVTVSSASTKGPSVFPLAPSSKSTSGGTAALGCL VKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVTVPSSSLGTQTYICNVNHKPSNTKVDKKVEPKSCDKTHTCPPCPAPELLGGPSVFLFPPKPKDTLMISRTPEVTCVVVDVSHEDPEVKFNWYVDGVEVH NAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSRDELTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTPPVLDSDGSFFLYSKLTVDKSRWQQGNVFSC SVMHEALHNHYTQKSLSLSPG	143
hSC27.204 v9	Heavy Chain	EVQLLESGGGLVQPGGSLRLSCAASGFTFSRYWMSWVRQAPGKGLEWVSEINPDSSTIKYTPSLKARFTISRDNSKNTLYLQMNSLRAEDTAVYYCAGPAYWGQGTLVTVSSASTKGPSVFPLAPSSKSTSGGTAALGCL VKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVTVPSSSLGTQTYICNVNHKPSNTKVDKKVEPKSCDKTHTCPPCPAPELLGGPSVFLFPPKPKDTLMISRTPEVTCVVVDVSHEDPEVKFNWYVDGVEVH NAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSRDELTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTPPVLDSDGSFFLYSKLTVDKSRWQQGNVFSC SVMHEALHNHYTQKSLSLSPG	144

FIG. 5D Cont.

Anti-CLDN Humanized Antibody Full Length Amino Acid Sequences

Name	Chain	Full Sequence	SEQ ID NO
hSC27.204v10	Heavy Chain	EVQLLESGGGLVQPGGSLRLSCAASGFTFSRYWMSWVRQAPGKGLEWVSEINPDSSTIQYTPSLKARFTISRDNSKNTLYLQMNSLRAEDTAVYYCAGPAYWGQGTLVTVSSASTKGPSVFPLAPSSKSTSGGTAALGCL VKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVTVPSSSLGTQTYICNVNHKPSNTKVDKKVEPKSCDKTHTCPPCPAPELLGGPSVFLFPPKPKDTLMISRTPEVTCVVVDVSHEDPEVKFNWYVDGVEVH NAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSRDELTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTPPVLDSDGSFFLYSKLTVDKSRWQQGNVFSC SVMHEALHNHYTQKSLSLSPG	145
hSC27.204v11	Heavy Chain	EVQLLESGGGLVQPGGSLRLSCAASGFTFSRYWMSWVRQAPGKGLEWVSEINPDSSTINYNPSLKARFTISRDNSKNTLYLQMNSLRAEDTAVYYCAGPAYWGQGTLVTVSSASTKGPSVFPLAPSSKSTSGGTAALGCL VKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVTVPSSSLGTQTYICNVNHKPSNTKVDKKVEPKSCDKTHTCPPCPAPELLGGPSVFLFPPKPKDTLMISRTPEVTCVVVDVSHEDPEVKFNWYVDGVEVH NAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSRDELTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTPPVLDSDGSFFLYSKLTVDKSRWQQGNVFSC SVMHEALHNHYTQKSLSLSPG	146
hSC27.204v12	Heavy Chain	EVQLLESGGGLVQPGGSLRLSCAASGFDFSRYWMSWVRQAPGKGLEWVSEINPDSSTINYTPSLKARFTISRDNSKNTLYLQMNSLRAEDTAVYYCAGPAYWGQGTLVTVSSASTKGPSVFPLAPSSKSTSGGTAALGCL VKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVTVPSSSLGTQTYICNVNHKPSNTKVDKKVEPKSCDKTHTCPPCPAPELLGGPSVFLFPPKPKDTLMISRTPEVTCVVVDVSHEDPEVKFNWYVDGVEVH NAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSRDELTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTPPVLDSDGSFFLYSKLTVDKSRWQQGNVFSC SVMHEALHNHYTQKSLSLSPG	147
hSC27.204v13	Heavy Chain	EVQLLESGGGLVQPGGSLRLSCAASGFDFSRYWMSWVRQAPGKGLEWVSEINPDSSTIKYTPSLKARFTISRDNSKNTLYLQMNSLRAEDTAVYYCAGPAYWGQGTLVTVSSASTKGPSVFPLAPSSKSTSGGTAALGCL VKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVTVPSSSLGTQTYICNVNHKPSNTKVDKKVEPKSCDKTHTCPPCPAPELLGGPSVFLFPPKPKDTLMISRTPEVTCVVVDVSHEDPEVKFNWYVDGVEVH NAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSRDELTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTPPVLDSDGSFFLYSKLTVDKSRWQQGNVFSC SVMHEALHNHYTQKSLSLSPG	148
hSC27.204v14	Heavy Chain	EVQLLESGGGLVQPGGSLRLSCAASGFDFSRYWMSWVRQAPGKGLEWVSEINPDSSTIQYTPSLKARFTISRDNSKNTLYLQMNSLRAEDTAVYYCAGPAYWGQGTLVTVSSASTKGPSVFPLAPSSKSTSGGTAALGCL VKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVTVPSSSLGTQTYICNVNHKPSNTKVDKKVEPKSCDKTHTCPPCPAPELLGGPSVFLFPPKPKDTLMISRTPEVTCVVVDVSHEDPEVKFNWYVDGVEVH NAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSRDELTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTPPVLDSDGSFFLYSKLTVDKSRWQQGNVFSC SVMHEALHNHYTQKSLSLSPG	149
hSC27.204v15	Heavy Chain	EVQLLESGGGLVQPGGSLRLSCAASGFDFSRYWMSWVRQAPGKGLEWVSEINPDSSTINYNPSLKARFTISRDNSKNTLYLQMNSLRAEDTAVYYCAGPAYWGQGTLVTVSSASTKGPSVFPLAPSSKSTSGGTAALGCL VKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVTVPSSSLGTQTYICNVNHKPSNTKVDKKVEPKSCDKTHTCPPCPAPELLGGPSVFLFPPKPKDTLMISRTPEVTCVVVDVSHEDPEVKFNWYVDGVEVH NAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSRDELTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTPPVLDSDGSFFLYSKLTVDKSRWQQGNVFSC SVMHEALHNHYTQKSLSLSPG	150

FIG. 5D Cont.

SUBSTITUTE SHEET (RULE 26)

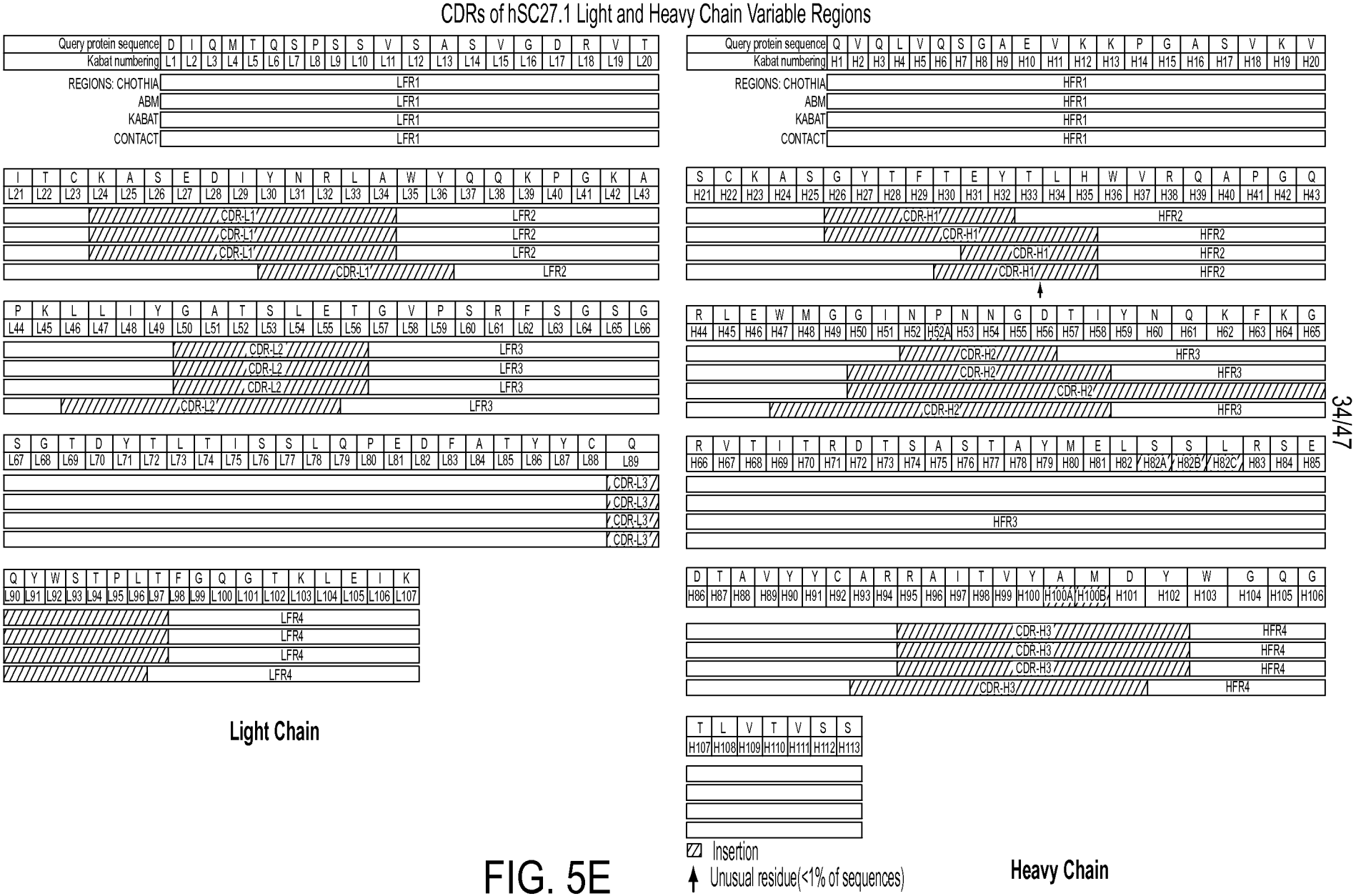


FIG. 5E

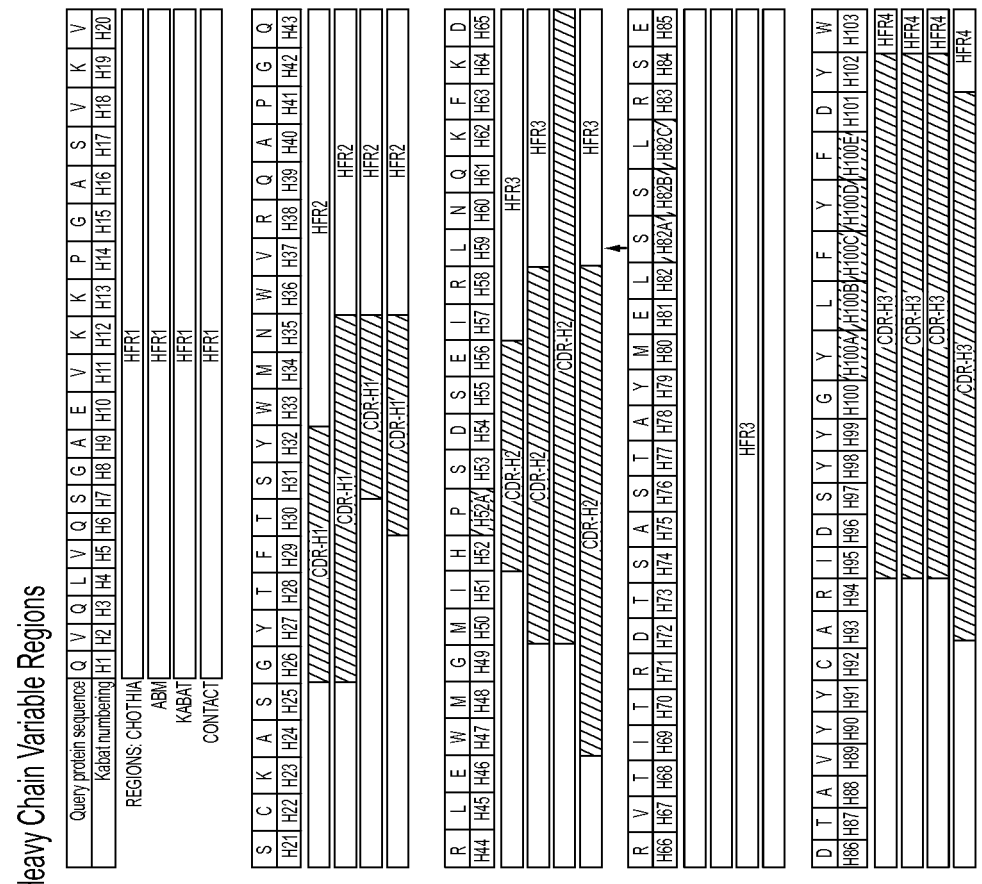

CDRs of hSC27.22 Light and Heavy Chain Variable Regions
Query protein sequence
Kabat numbering
REGIONS: CHOTHIA
ABM
KABAT
CONTACT
LFR1
CDR-L1'
LFR2
CDR-L2'
LFR3
CDR-L3'
LFR4
HFR1
CDR-H1'
HFR2
CDR-H2'
HFR3
CDR-H3'
HFR4
Insertion
Unusual residue(<1% of sequences)
Light Chain
Heavy Chain

FIG. 5F

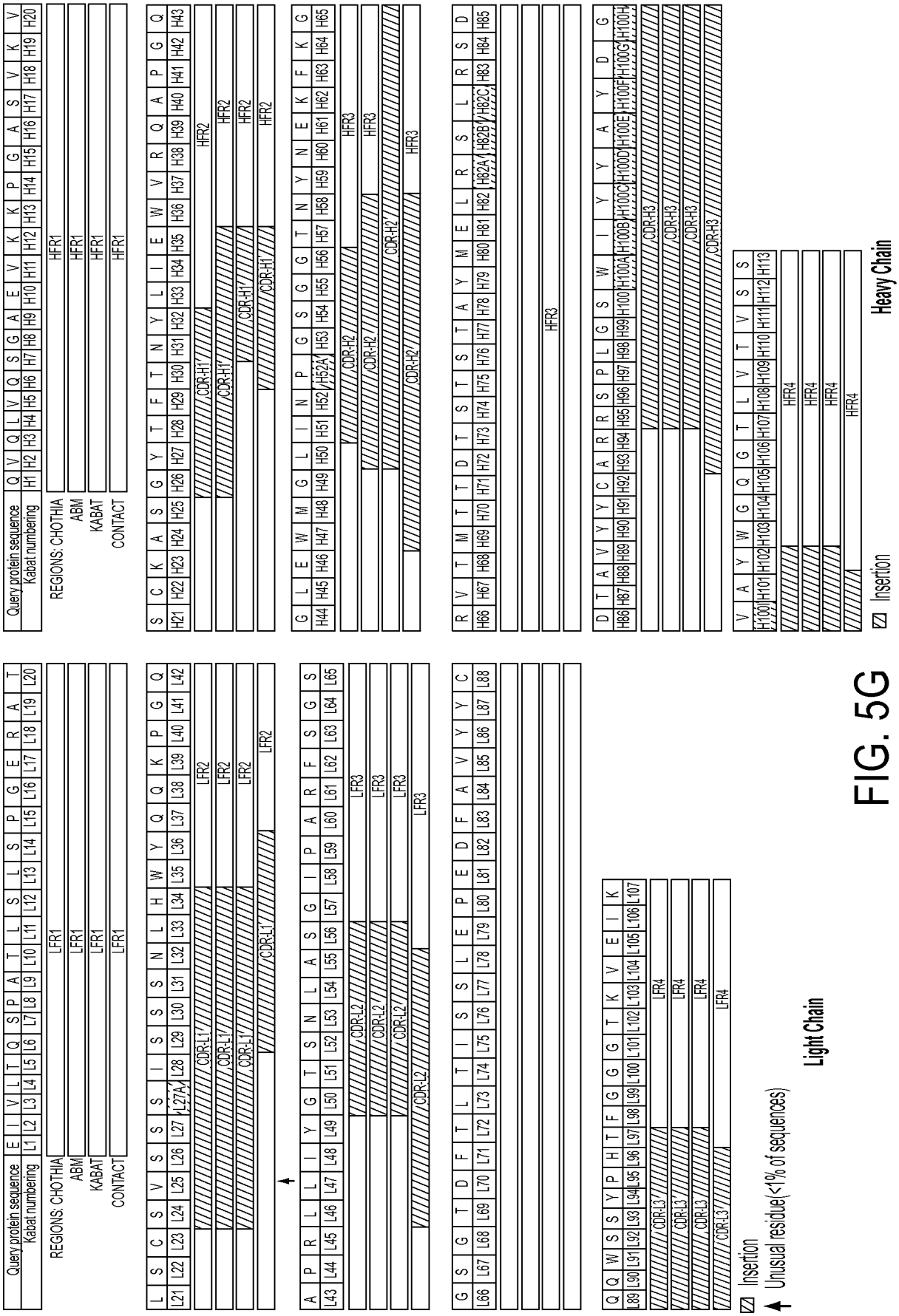

CDRs of hSC27.108 Light and Heavy Chain Variable Regions
Light Chain
Heavy Chain
Insertion
Unusual residue(<1% of sequences)
Insertion

FIG. 5G

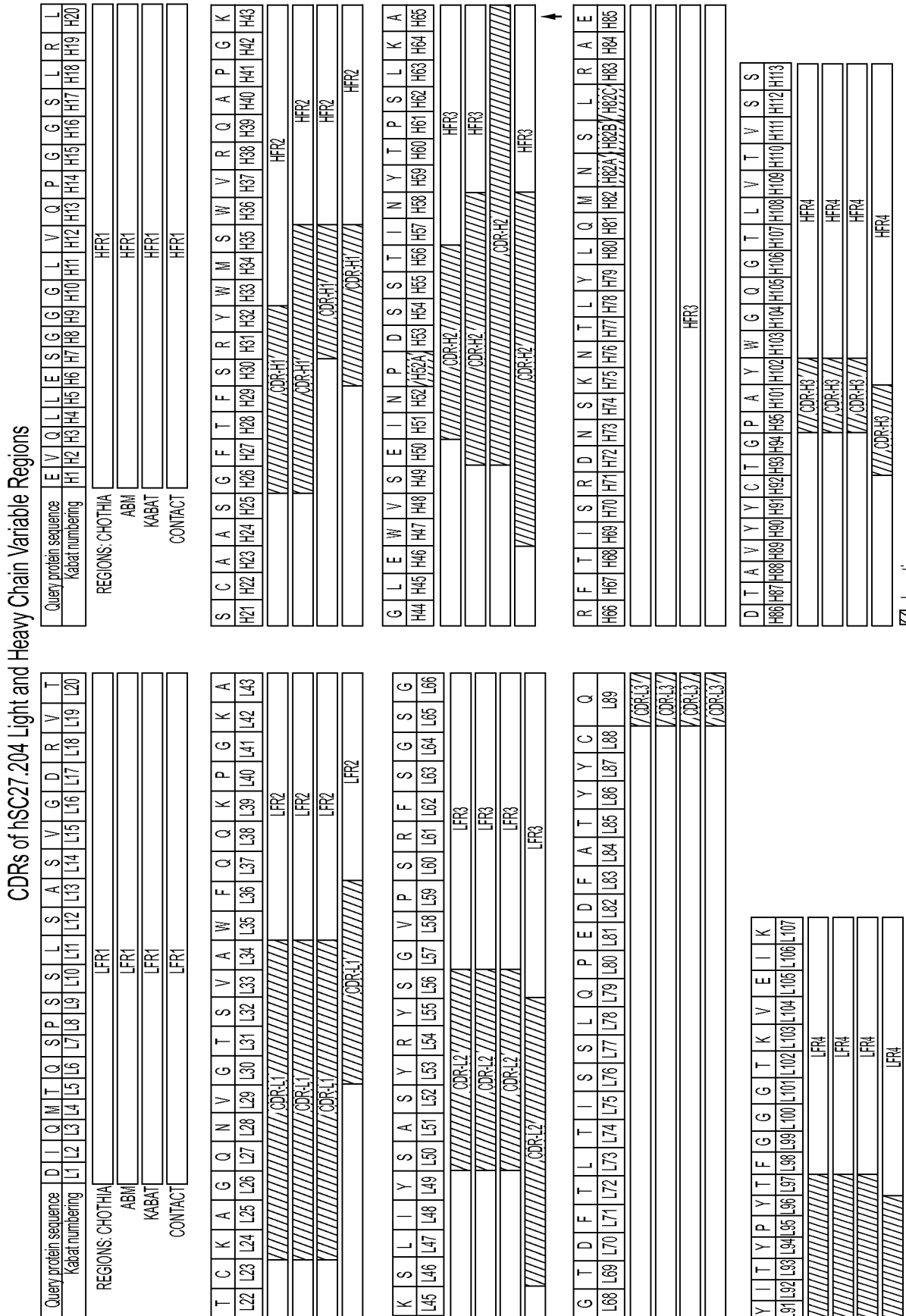

CDRs of hSC27.204 Light and Heavy Chain Variable Regions
Query protein sequence
Kabat numbering
REGIONS: CHOTHIA
ABM
KABAT
CONTACT
LFR1
CDR-L1
LFR2
CDR-L2
LFR3
CDR-L3
LFR4
HFR1
CDR-H1
HFR2
CDR-H2
HFR3
CDR-H3
HFR4
Light Chain
Heavy Chain
Insertion
Unusual residue(<1% of sequences)

FIG. 5H

Multireactive Anti-CLDN Antibody Characteristics

	ΔMFI	
	SC27.1	**SC27.22**
hCLDN6	60349	68358
hCLDN9	27276	35051
hCLDN4	59786	10914

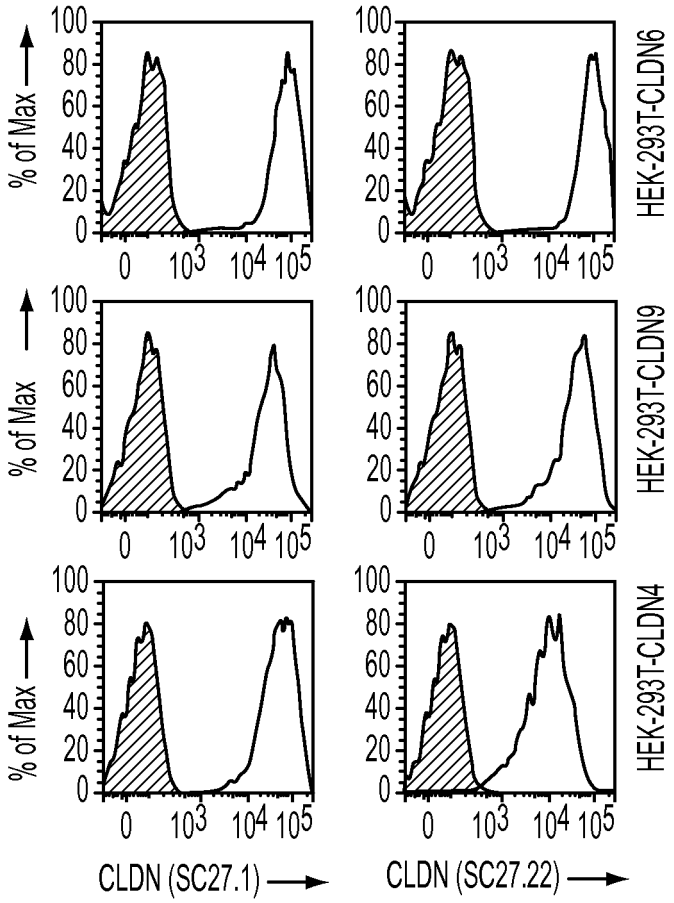


FIG. 6A

Anti-CLDN Antibodies Bind HEK-293T Cells Over-expressing hCLDN6, CLDN4 and CLDN9

Antibody	CLDN6 (MFI)	CLDN4 (MFI)	CLDN9 (MFI)
SC27.102	38709	818	265
SC27.103	99568	75	12118
SC27.104	39175	22618	7227
SC27.105	82961	69	80
SC27.106	55760	1987	595
SC27.108	99745	88	86
SC27.201	29895	23145	7101
SC27.203	47431	2977	587
SC27.204	106271	79	23048
mIgG2b control	84	73	81

FIG. 6B

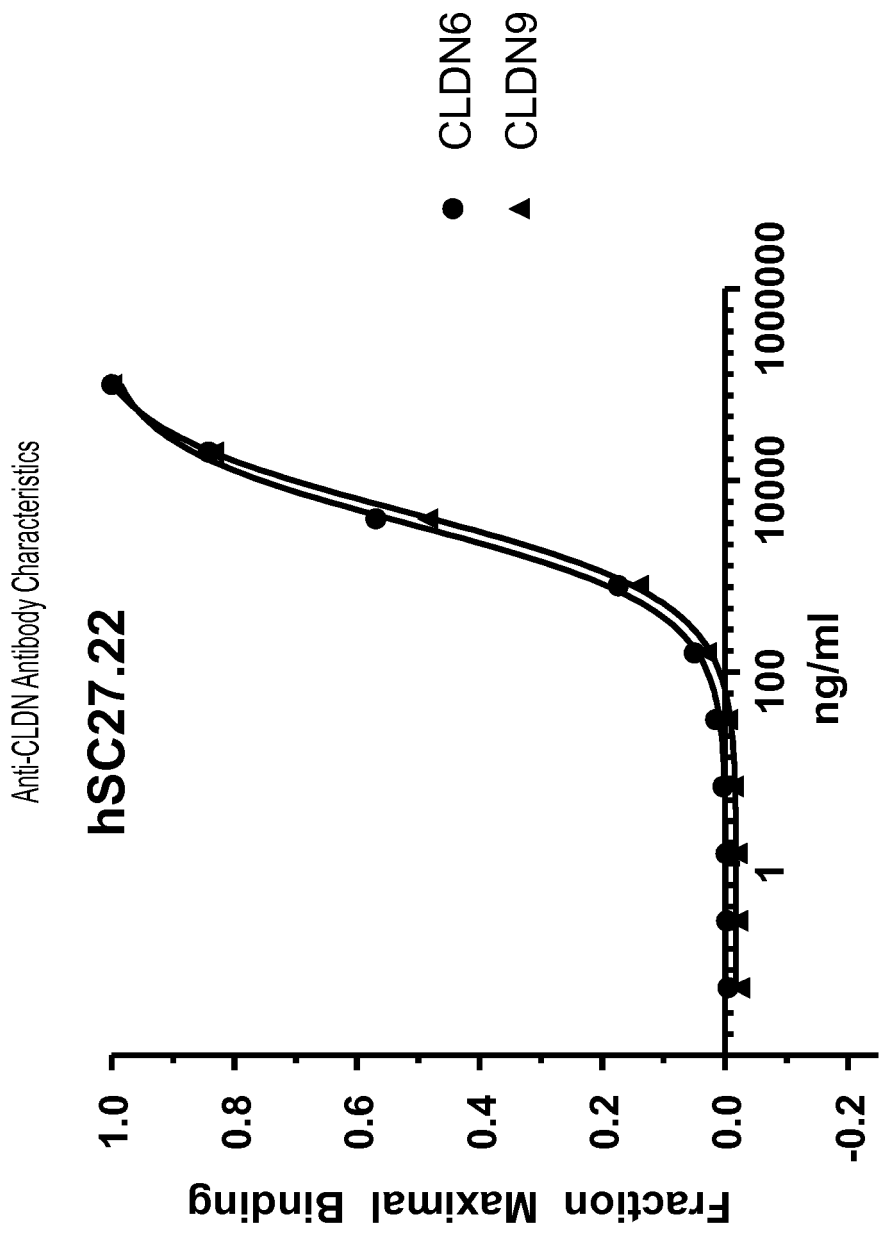

Anti-CLDN Antibody Characteristics
hSC27.22
CLDN6
CLDN9
Fraction Maximal Binding
1.0
0.8
0.6
0.4
0.2
0.0
-0.2
1
100
10000
1000000
ng/ml

FIG. 6C

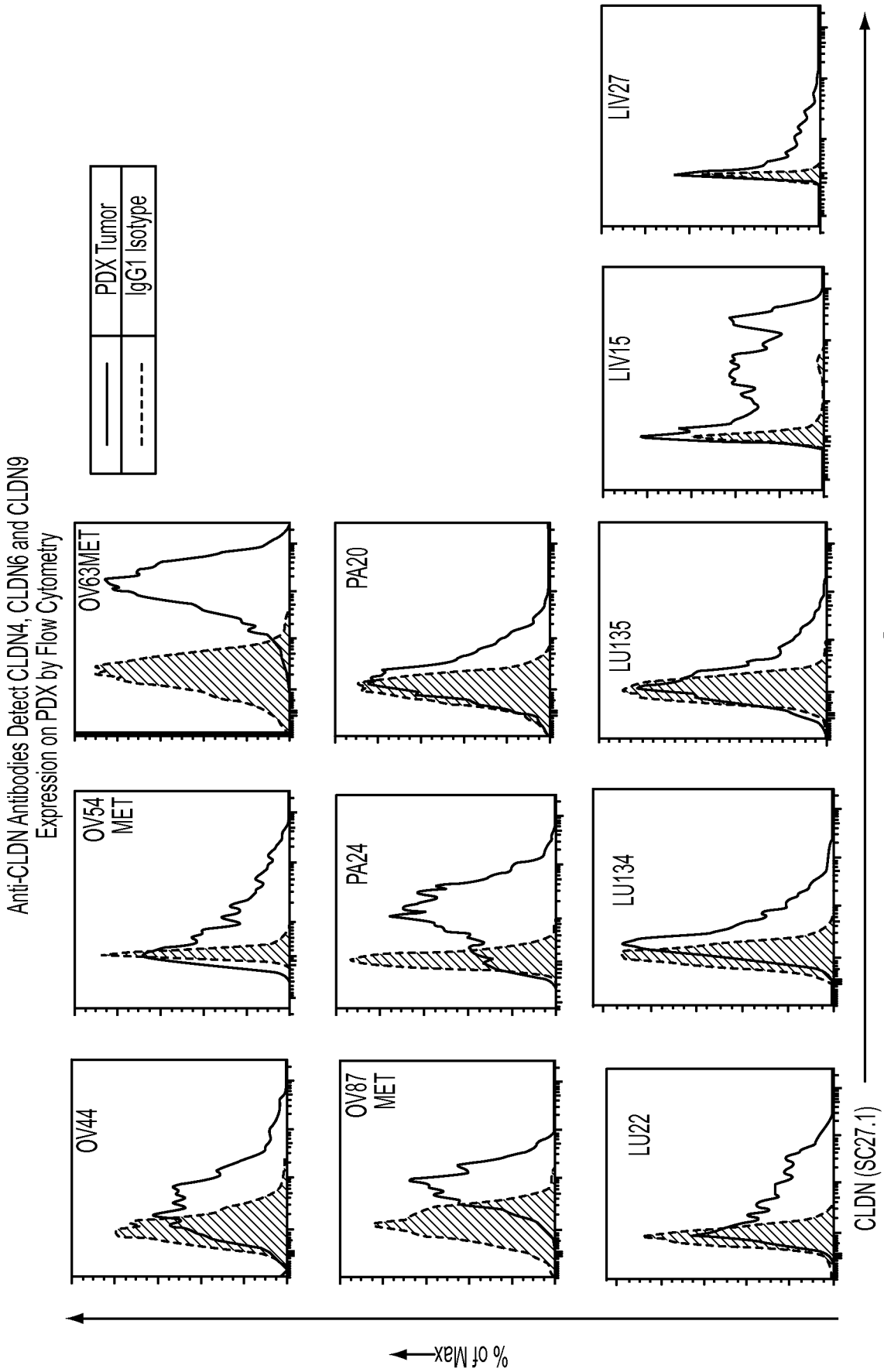
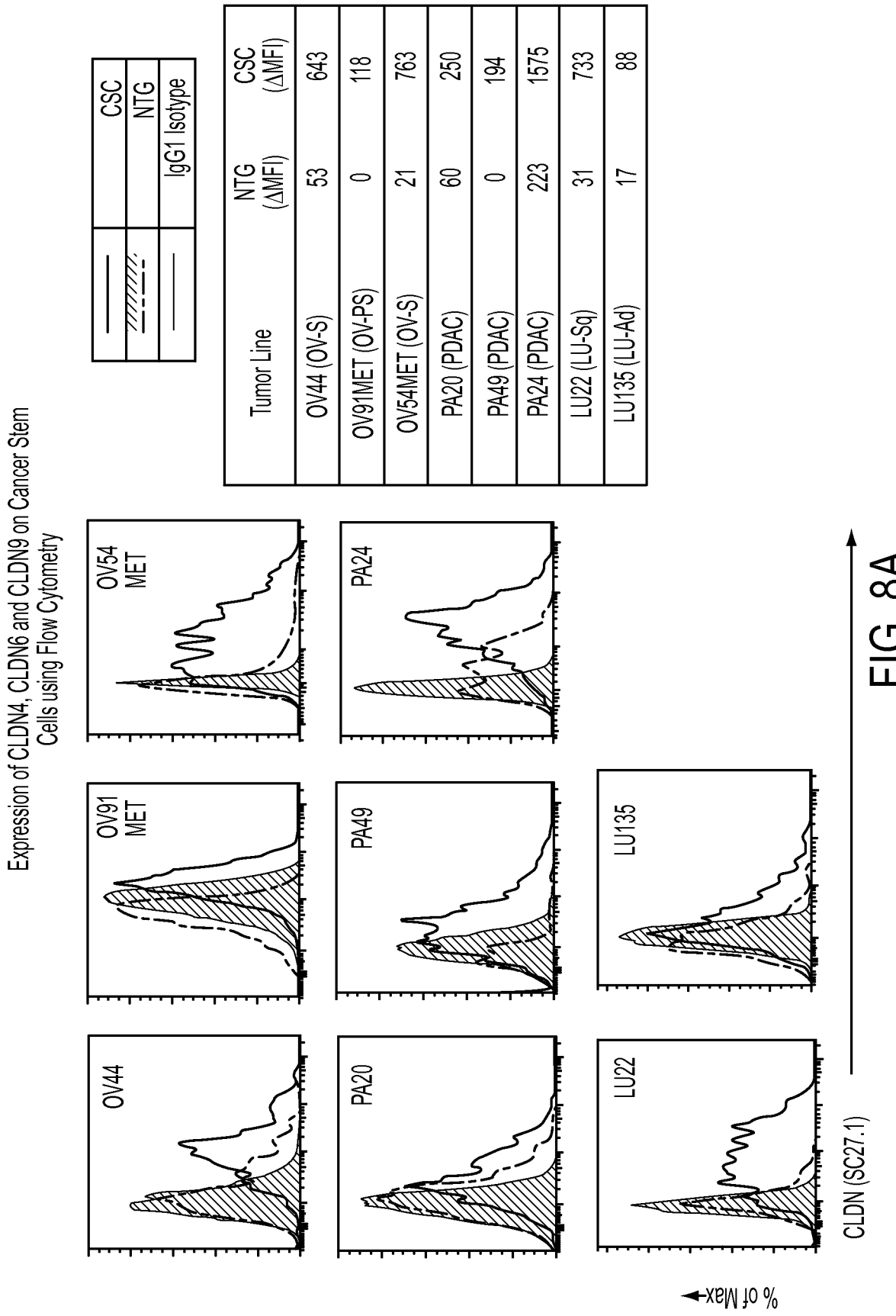

Anti-CLDN Antibodies Detect CLDN4, CLDN6 and CLDN9 Expression on PDX by Flow Cytometry
PDX Tumor
IgG1 Isotype
OV44
OV54 MET
OV63MET
OV87 MET
PA24
PA20
LU22
LU134
LU135
LIV15
LIV27
% of Max
CLDN (SC27.1)

FIG. 7



Tumor Line	NTG (ΔMFI)	CSC (ΔMFI)
OV44 (OV-S)	53	643
OV91MET (OV-PS)	0	118
OV54MET (OV-S)	21	763
PA20 (PDAC)	60	250
PA49 (PDAC)	0	194
PA24 (PDAC)	223	1575
LU22 (LU-Sq)	31	733
LU135 (LU-Ad)	17	88

FIG. 8A

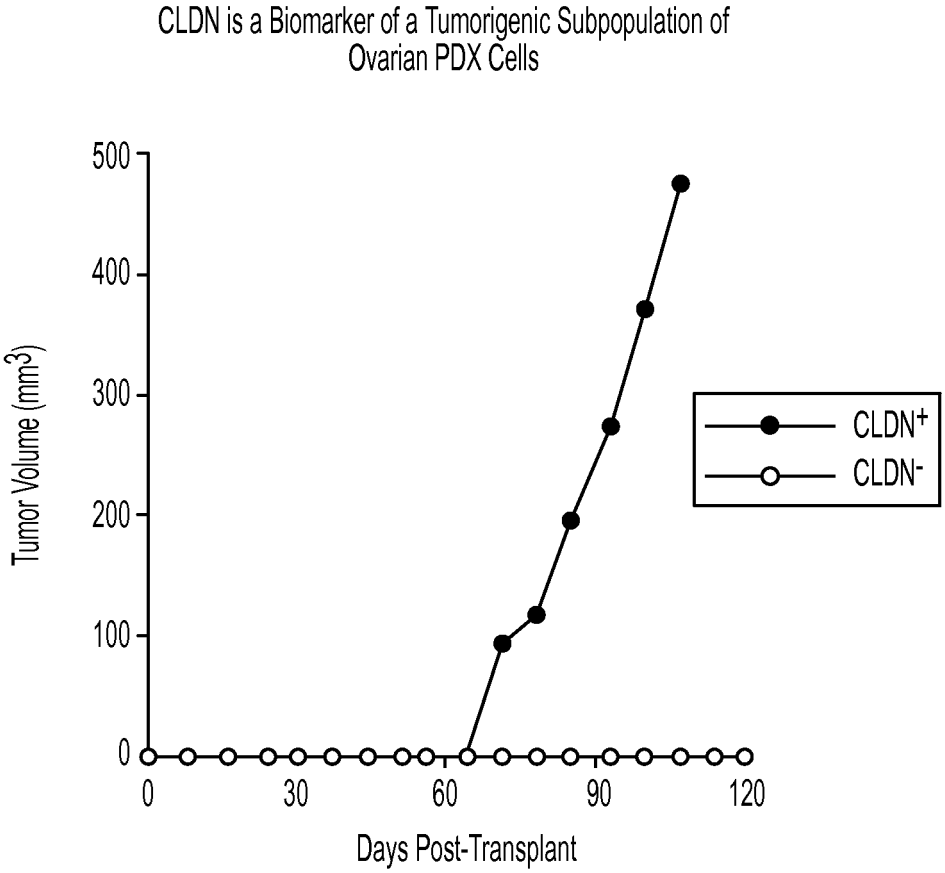

CLDN is a Biomarker of a Tumorigenic Subpopulation of Ovarian PDX Cells
Tumor Volume (mm3)
500
400
300
200
100
0
0
30
60
90
120
Days Post-Transplant
CLDN+
CLDN-

FIG. 8B

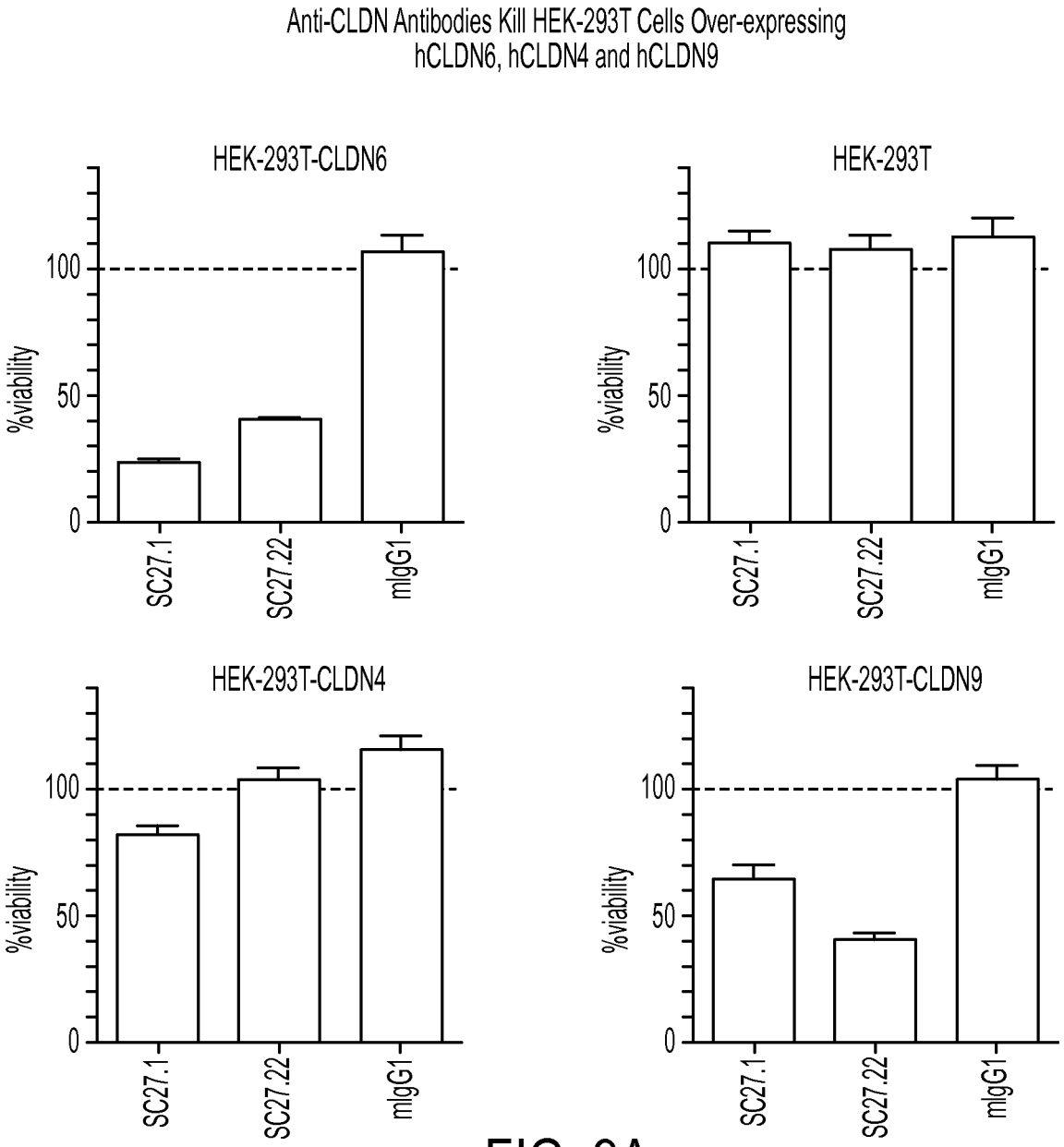

Anti-CLDN Antibodies Kill HEK-293T Cells Over-expressing hCLDN6, hCLDN4 and hCLDN9
HEK-293T-CLDN6
HEK-293T
HEK-293T-CLDN4
HEK-293T-CLDN9
%viability
0
50
100
SC27.1
SC27.22
mIgG1

FIG. 9A

Anti-CLDN Antibodies Kill HEK-293T Cells Over-expressing hCLDN6, hCLDN4 and hCLDN9

Antibody	CLDN6 (IC_{50})	CLDN4 (IC_{50})	CLDN9 (IC_{50})	HEK-T293T-naïve (IC_{50})
SC27.103	57.7	NK	465.9	NK
SC27.104	284.2	969.2	NK	NK
SC27.105	234.9	NK	NK	NK
SC27.108	101.9	NK	NK	NK
SC27.201	48.2	69.7	155.1	NK
SC27.204	25.2	NK	16.9	NK
mIgG1 control	NK	NK	NK	NK

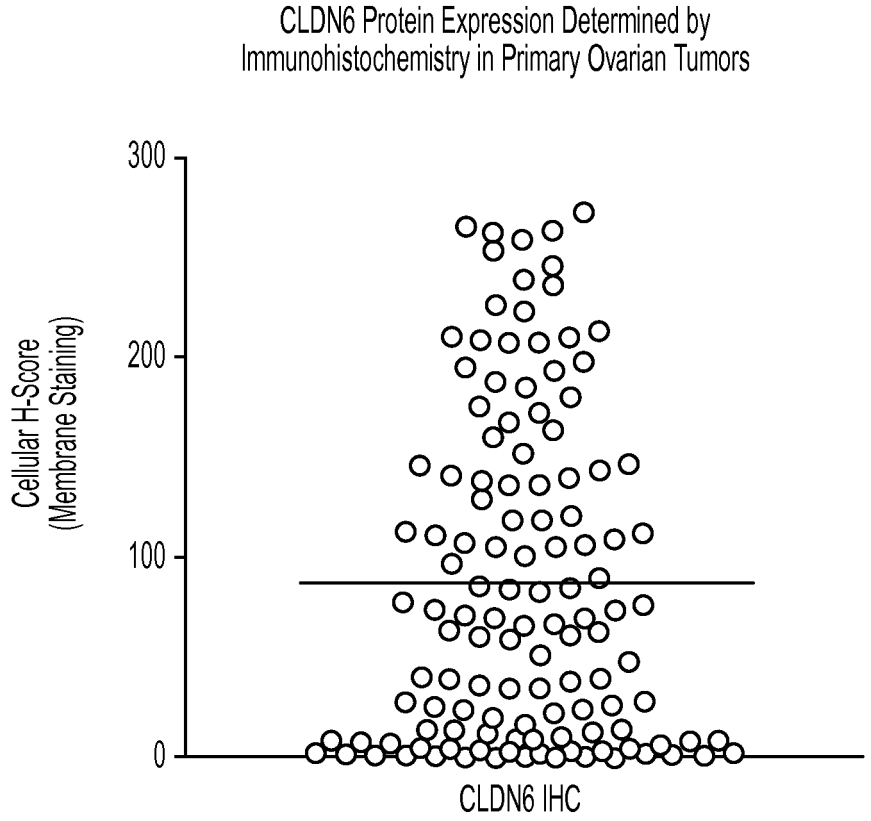
IC_{50} units – nM
NK = no killing

FIG. 9B

CLDN6 Protein Expression Determined by Immunohistochemistry in PDX Tumor Cell Lines

PDX Line	CLDN6
LU123p1	-
LU134p4	++, 90%
LU134p1	+/++, 80%
LU135p3	++, 90%
LU123p2	-
LU141p2	-
BR36p3	++, 90%
BR36p4	++, 90%
OV25p3	++, 70%
OV25p4	++, 70%
OV39p2	++, 70%
OV39p6	++, 80%
OV46p3	++, 90%
OV46p4	++, 90%
OV79p1	++, 20%
OV79p3	++, 30%
OV27p2	+/++, 10%
OV27p3MET	++, 60%
OV27p6MET	++, 30%
OV44p1	+/++, 90%
OV54p1	+, 1%
OV72p3MET	++, 60%
OV78p3	++, 90%
OV87p2MET	++/+++, 90%
OV89p3	++/+++, 20%

FIG. 10A



	H-Score				
	0-15 Negative	16-100 Low	101-200 Medium	201-300 High	Percent Positive
CLDN6 Expression	37	39	32	17	88/125 = 70%

FIG. 10B