

Fig. 1

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Amino acid sequence of wildtype human CD81 LEL

SEQ ID NO:7

FVNKDQIAKDVVKQFYDQALQQAVVDDANNAKAVVKTFHETLDCCGSSTLTALTTSVLKNNLCP
SGSNIISNLFKEDCHQKIDDLFSGK

Nucleotide sequence of wildtype human CD81 LEL

SEQ ID NO:8

TTTGTCAACAAGGACCAGATCGCCAAGGATGTGAAGCAGTTCTATGACCAGGCCCTACAGC
AGGCCGTGGTGGATGATGACGCCAACAACGCCAAGGCTGTGGTGAAGACCTCCACGAGACGCTT
GACTGCTGTGGCTCCAGCACACTGACTGCTTTGACCACCTCAGTGCTCAAGAACAATTTGTGTCCCT
CGGGCAGCAACATCATCAGCAACCTCTTCAAGGAGGACTGCCACCAGAAGATCGATGACCTCTTCT
CCGGAAG

Amino acid sequence of human CD81

SEQ ID NO:87

MGVEGCTCKIKYLLFVFNFWLGGVILGVALWLRHDPQTTNLLYLELGDKAPNTFYVGIYILIAV
GAVMMFVGLGCGYGAIQESQCLLGTTFTCLVILFACEVAAGIWGFVNKDQIAKDVVKQFYDQALQQAVVDD
DANNAKAVVKTFHETLDCCGSSTLTALTTSVLKNNLCPSGSNIISNLFKEDCHQKIDDLFSGKLYLIGIAIV
VAVIMIFEMILSMVLCCGIRNSSVY

Nucleotide sequence of human CD81

SEQ ID NO:88

ATGGGAGTGAGGGCTGCACCAAGTGCATCAAGTACCTGCTCTTCGCTCTTCAATTTCTGTC
TTCTGGCTGGCTGGAGGCGTGATCCTGGGTGTGGCCCTGTGGCTCCGCCATGACCCGAG
ACCACCAACCTCCTGTATCTGGAGCTGGGAGACAAGCCGCGCCCAACACCTTCTATGTAGGCATC
TACATCCTCATCGCTGTGGGCGCTGTCATGATGTTCTGTTGGCTTCTGGGCTGCTACGGGGCCATC
CAGGAATCCAGTGCCTGCTGGGGACGTTCTTACCTGCCTGGTCATCCTGTTTGCCTGTGAGGTG
GCCGCCGCGCATCTGGGGCTTTGTCAACAAGGACCAGATCGCCAAGGATGTGAAGCAGTTCTATGAC
CAGGCCCTACAGCAGGCCGTGGTGGATGATGACGCCAACAACGCCAAGGCTGTGGTGAAGACCTT
CCACGAGACGCTTGACTGCTGTGGCTCCAGCACACTGACTGCTTTGACCACCTCAGTGCTCAAGAA
CAATTTGTGTCCCTCGGGCAGCAACATCATCAGCAACCTCTTCAAGGAGGACTGCCACCAGAAGATC
GATGACCTCTTCTCCGGAAGCTGTACCTCATCGGCATTGCTGCCATCGTGGTCGCTGTGATCATGA
TCTTCGAGATGATCCTGAGCATGGTGTGCTGTGGCATCCGGAACAGCTCCGTGTACTGA

Amino acid sequence of human CD9

SEQ ID NO:89

1 mpvkggtkci kyllfgfnfi fwlagiavl i glwlrfdsq tksifeqetn nnnssfytg
61 yiligagalm mlvgflgccc avqesqcm lg lffgfl lvif aieiaaa iwg yshkdevike
121 vqefykdtyn klktkdepqr etlkaihyal nccglaggve qfisdicpkk dvletftvks
181 cpdaikevfd nkfhii gavg igiavvmifg mifsmilcca irrnremv

Amino acid sequence of human CD53

SEQ ID NO:90

```
1  mgmsslkllk yvlfffnllf wicgccilgf giyllihnnf gvlfhnlpst tlgntfvivg
61 siimvvafld cmgsikenkc llmsffilll iillaevtla illfvyeqkl neyvakgltd
121 sihryhsdns tkaawdsiqs flqccgingt sdwtsgppas cpsdrkvegk yakarlwfhs
181 nflyigiti cvcvievlgm sfaltlncqi dktsqtigl
```

Amino acid sequence of human TSPAN32

SEQ ID NO:91

```
1  mgpwsrvrva kcqmlvtcfff illlglsvat mvtltyfgah favirrasle knpyqavhqw
61 afsaglsldv lltlgavlga aatvreaqgl maggflcfsf afcaqvqvff wrllhsptqve
121 damldtdydv yeqamkgtsd vrrqelaaiq dvflccgkks pfsrlgstea dlccqgeaar
181 edclqgirsf lrthqqvass ltsigalaltv sallfssflw faircgcsld rkgkyltltpr
241 acgrqpqeps llrcsqggpt hclhseavai gprgcsgrlr wlqesdaapl plschlaahr
301 alqgrsrggl sgcperglsd
```

Amino acid sequence of human CD82

SEQ ID NO:92

```
1  mgsacikvth yflflfnlif filgavilgf gvwiladkss fisvlqtsss slrmgayvfi
61 gvgavtldm gflgcigavne vrcclglyfa fllliliaqv tagalfyfnm gklkqemggi
121 vtelirdyds sredsldqaw dyvqaqvkcc gwvsfynwtd naelmnrpev typcscevkg
181 eednslsvrk gfceapgnrt qsgnhpedwp vyqegcmekv qawlqenlgi ilgvvgvvai
241 iellgmvlsl clcrhvhse yskvpky
```

Amino acid sequence of human CD63

SEQ ID NO:93

```
1  maveggmkcv kflllyvllla fcacavglia vgvgaqlvls qtiigqatpg slpvpviiav
61 gvflflvafv gccgackeny clmitfaifl slmlvevaa aiagyvfrdk vmsefnnnfr
121 qqmenypknn htasildrmq adfkccgaan ytdwekipsm sknrvpdscc invtvgcggi
181 fnekaihkeg cvekiggwlr knvlvaaaaa lgiafvevlq ivfacclvks irsgyevm
```

Amino acid sequence of human CD151

SEQ ID NO:94

```
1  mgefnekktt cgtvclkyll ftyncfwla glavmavgiw tlalksdyis llasgtylat
61 ayilvvagtv vmvtgvlgcc atfkerrnll rlyfilllll flleiiagil ayayyqqnlnt
121 elkenlkdtm tkryhqpghc avtsavdqlq qefhccgsnn sqdwrdsawi rsqeaagrvv
181 pdsckctvva lcgqrhasn iykveggcit kletfiqehl rvigavgigi acqvfgmif
241 tcclyrslkl ehy
```

Amino acid sequence of human CD37**SEQ ID NO:95**

```

1 msagesclsl ikyflfvfnl fffvlgs lif cfigiwilidk tsfvsfvgl a fvplqiwskv
61 laisgiftmg iallgcvgal kelrollgly fgmllllfat qitlgilist qraqlerslr
121 dvvektiqky gtnpeetaae eswdyvqfql rccgwhypqd wfqvlilr gn gseahr vpcs
181 cynlsatnds tildkvilpq lsrlghlars rhsadicavp aeshiyregc aqglqkwlnh
241 nlisivgicl gvglllelgfm tllsiflcrnl dhvynrlary r

```

Amino acid sequence of human LAMP2**SEQ ID NO:96**

```

1 mvcfrlfpvp gsglvlvclv lgavrsyale lnlt dsenat clyakwqmnf tvryett nkt
61 yktvtisdhg tvtyngsicg ddqngpkia v qfgpgfswia nftkaastys idsvsfsynt
121 gdnttfpdae dkgiltvdel lairiplndl frcnslstle kndvvqhywd vlvqafvqng
181 tvstneflcd kdkstst vap tih ttpspptt tptpk ekpea gtysvnngnd tc llatmglq
241 l n itqdkvas vinin pntth stgscrsh ta llrlnsstik yldfvfavkn enr fylkevn
301 ismylvngsv fsian nnlsy wda plgssym cnkeqtvsvs gafqintfdl rvqpfnvtqg
361 kystaqecsl dddtilipii vgagls glii vivia yvigr rksyagyqtl

```

Extravascular domains of CD81, CD9, CD53, TSPAN32, CD82, CD63, CD151, CD37, LAMP2**CD81:**

EC1, SEQ ID NO:130: HDPQTNNLLYLELGDKAPNTFY

EC2, SEQ ID NO:131:

```

FVNKDQIAKDV KQFYDQALQQAVVDD DANN AKAVKTFHETLDCCGSSTLTALTTSVLKNNLCPSGSNIISNLFKE D
CHQKIDDLFSGK

```

CD9:

EC1, SEQ ID NO:132: FDSQTKSIFEQETNNNNSSFYT

EC1, SEQ ID NO:182: LRFDSQTKSIFEQETNNNNSSFYTG

EC2, SEQ ID NO:133:

```

HKDEVIKEVQEFYKDTYNK LKTKDEPQRETLKAIHYALNCCGLAGGVEQFISDICPKKDVLETF TVKSCPD AIKEVF
DNK

```

CD53:

EC1, SEQ ID NO:134: LLIHNNFGVLFHNLPSLTGN

EC2, SEQ ID NO:135:

```

FVYEQKLNEYVAKGLTDSI HRYHSDNSTKAAWDSIQSFLQCCGINGTSDWTS GPPASCPSDRKVEGCYAKARLWFHS
N

```

TSPAN32:

EC1, SEQ ID NO:136: TYFGAHFAVIRRASLEKNPYQAVHQ

EC2, SEQ ID NO:137:

```

FWRLHSPTQVEDAMLD TYDLVYEQAMKGTSHVRRQELAAIQDVFLCCGKKS PFSRLGSTEADLCQGEEAAREDC LQG
IRSFLRTHQQVASSLTS

```

CD82:

EC1, SEQ ID NO:138: GVVILADKSS FISVLQTSSS SLRM

EC2, SEQ ID NO:139:

```

FNMGLKQEMGGIVTELIR DYNSSREDSLQDAWDYVQAQVKCCGWVSFY NWTDNAELMNRPEVTYPC SCEVKGEEDN
SLSVRKGFCEAPGNRTQSGNHPEDWPVYQEGCMEKVQAWLQEN

```

Fig. 1 (continued)

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CD63:

EC1, SEQ ID NO:140: AQLVLSQTIIQGATPGSLLP

EC2, SEQ ID NO:141:

FRDKVMSEFNNFRQQMENYPKNNHTASILDRMQADFKCCGAANYTDWEKIPSMKSNRVPDSCCINVTVGCGINFNE
KAIHKEGCVEKIGGWLKRN**CD151:**

EC1, SEQ ID NO:142: TLALKSDYISLLASGYLATA

EC2, SEQ ID NO:143:

YAYYQQLNTELKENLKDNTMKRYHQPGEAVTSAVDQLQQEFHCCGSNNSQDWRDSEWIRSQEAGGRVVPDSCCKTV
VALCGQRDHASNIYKVEGGCITKLETFIQEHLR**CD37:**

EC1, SEQ ID NO:144: GIWILIDKTSFVSFVGLAFVPLQIWSK

EC2, SEQ ID NO:145:

STQRAQLERSLRDVVEKTIQKYGTNPEETAAEESWDYVQFQLRCCGWHYPQDWFQVLILRGNGSEAHVRPCSCYNLS
ATNDSTILDKVILPQLSRLGHLARSRHSADICAVPAESHIYREGCAQGLQKWLHNN**LAMP2:**

ED (EC): SEQ ID NO:146:

MVCFRLFPVPGSGLVLVCLVLGAVRSYALELNLTDSENATCLYAKWQMFTVRYETTNKTYKTVTISDHGTVTYNGS
ICGDDQNGPKIAVQFGPGFSWIANFTKAASTYSIDSVSFSYNTGDNTTFPDAEDKGILTVDPELLAIRIPLNDFRCN
SLSTLEKNDVVQHYWDVLVQAFVQNGTVSTNEFLCDKDKTSTVAPTIIHTTVPSPTTPTPKEKPEAGTYSVNNGNDT
CLLATMGLQLNITQDKVASVININPNTHTSTGSCRSHALLRLNSSTIKYLDVFVAVKNENRFYLKEVNIISMYLVNG
SVFSIANNLNLSYWDAPLGSSYMCNKEQTVSVSGAFQINTFDLRVQPFNVTQGKYSTAQECSLDDDTILIP**Transmembrane domains: of CD81, CD9, CD53, TSPAN32, CD82, CD63, CD151, CD37, LAMP2****CD81:**

TM1, SEQ ID NO:147: FVFNFVFWLAGGVILGVALWL,

TM2, SEQ ID NO:148: VGIYILIAVGAVMMFVGFL,

TM3, SEQ ID NO:149: FTCLVILFACEVAAGIWGFVN,

TM4, SEQ ID NO:150: LYLIGIAAIVVAVIMIFEMILSMVL

CD9:

TM1, SEQ ID NO:151: FNFIFWLAGIAVLAIGLWL,

TM2, SEQ ID NO:152: VYILIGAGALMMLVGFLGG,

TM3, SEQ ID NO:153: LFFGFLLVIFAIEIAAAI,

TM4, SEQ ID NO:154: IIGAVGIGIAVVMIFGMIFSMILCCAI

CD53:

TM1, SEQ ID NO:155: LFFFNLLFWICGCCILGFGIY,

TM2, SEQ ID NO:156: NVFVIVGSIIMVVAFLG,

TM3, SEQ ID NO:157: CLLMSFFILLIILLAEVTLAILLFVY,

TM4, SEQ ID NO:158: FLYIGIITICVVCVIEVLGMSF

TSPAN32:

TM1, SEQ ID NO:159: CQMLVTCFFILLLGLSVATMVTL,

TM2, SEQ ID NO:160: WAFSAGLSLVGLLTLGAVLSA,

TM3, SEQ ID NO:161: GLMAGGFLCFSLAFCAQVQVVF,

TM4, SEQ ID NO:162: IGLALTVSALLFSSFLWFAI

Fig. 1 (continued)

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CD82:

TM1, SEQ ID NO:163: LFLFNLIFFILGAVILGF,
 TM2, SEQ ID NO:164: MGAYVFIGVGAVTMLMGFL,
 TM3, SEQ ID NO:165: CLLGLYFAFLLLLILIAQVTAGALFYF,
 TM4, SEQ ID NO:166: EKVQAWLQENLGIILGVGVGVAII

CD63:

TM1, SEQ ID NO:167: FLLYVLLLAFCACAVGLIAGV,
 TM2, SEQ ID NO:168: VIIAVGVFLFLVAFVGC,
 TM3, SEQ ID NO:169: MITFAIFLSLIMLVEVAAAIAGYVF,
 TM4, SEQ ID NO:170: VLVVAAAALGIAFVEVLGIVFACCLV

CD151:

TM1, SEQ ID NO:171: FTYNCCFWLAGLAVMAVGIW,
 TM2, SEQ ID NO:172: YILVVAGTVVMVTGVLGCCA,
 TM3, SEQ ID NO:173: LYFILLLIIFLLEIIAGILA,
 TM4, SEQ ID NO:174: VIGAVGIGIACVQVFGMIFT

CD37:

TM1, SEQ ID NO:175: LFVFNLFFFVLGSLIFCF,
 TM2, SEQ ID NO:176: LAISGIFTMGIALLGCVGAL,
 TM3, SEQ ID NO:177: LLGLYFGMLLLLFATQITLGILI,
 TM4, SEQ ID NO:178: LISIVGICLGVGLLELGFMTLSIF

LAMP2:

TM, SEQ ID NO:179: IVGAGLSGLIIVIVIAVIG

EV surface proteins:**Further exemplary tetraspanins:****TSPAN8, NP_001356689, SEQ ID NO:184**

magvsaciky smftfnflfw lcgililala iwrvrsndsqaifgsedvgs ssyvavdili
 61 avgaiimilg flgccgaike srcmlllffi glllillllqv atgilgavfk sksdrivnet
 121 lyentklisa tgesekqfge aiivfqeefk ccglvnagaad wgnnfqhype lcacldkgrp
 181 cqsyngkqvy ketcisfikd flaknliivi gisfglavie ilglvfsmvl ycqignk

TSPAN14, NP_001121781, SEQ ID NO:185

mhyryrsmak vscwykyllf syniifwnqc cgaygpedwd lnyvfncsga sysrekcgvp
 61 fsccvpdpag kvvntqcgvd vriqlkskwd esiftkgciq aleswlpni yivagvfiai
 121 sllqifgifl artlisdiea vkaghhf

CD231 (TSPAN7), NP_004606, SEQ ID NO:186

masrrmetkp vitclktlli iysfvfwitg villavgvwg kltlgtyisl iaenstnapy
 61 vlightgttiv vfglfgcfat crgspwmlkl yamflslvfl aelvagisgf vfrheikdtf
 121 lrttydamqt yngndersra vdhvqrslsc cgvnqytnws tspyfleghi ppsccmnetd
 181 cnpqdlhnl vaatkvnqkg cydlvtsfme tnmgiagva fgiafsqlig mllacclsrfr
 241 itanqyemv

Fig. 1 (continued)

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Integrin family of proteins

CD49d, NP_000876, SEQ ID NO:187

```

mawearrepg prraavretv mlllclgvpt grpynvdtes allyqgphnt lfgysvvlhs
  61 hganrwillvg aptanwlana svinpgaiyr crigknpqgt ceqlqlgspn gepcgktcle
 121 erdnqwlgyt lsrqpgengs ivtcghrwkn ifyiknenkl ptggcygvpp dlrteiskri
 181 apcyqdyvkk fgenfascqa gissfytkdl ivmgapgssy wtgslfvyni ttnkykafld
 241 kqnqvkfgsy lgysvgaghf rsqhttevvg gapqheqigk ayifsideke lnihemkgk
 301 klgsyfgasv cavdlnadgf sdllvgapmq stireegrvf vyinsgsgav mnametnlvg
 361 sdkeyaarfe sivnlgidn dgfedvaiga pqeddlqgai yiynggradgi sstfsqrieg
 421 lqiskslsmf gqsisgqida dnngyvdvav gafrsdsavl lrtrpvvi d aslshpesvn
 481 rtkfcdcveng wpsvcidltl cfsykgkevp gyivlfynms ldvnrkaesp prfyfssngt
 541 sdvitgsiqv ssreancrth qafmrkdvrd iltpiqieaa yhlghphvisk rsteefpplq
 601 pilqqkkekd imkktinfa fcahencsad lqvsakigfl kphenktyla vgsmtklmln
 661 vslnagdda yettlhvklp vglyfikile leekqincev tdnsgvvqld csigiyiyvdh
 721 lsridisfl dvsslsraee dlsitvhatc eneeemdnlk hsrvtvaip kyeveklthvg
 781 fvnptsfvyg sndenepetc mvekmnlthf vintgnsmap nvsveimvpn sfspqtdklf
 841 nildvqtttg echfenyqrvc aleqqksam qtlkgivrfl sktdkrllcy ikadphclnf
 901 lcnfgkmesg keasvhiql grpsilemde tsalkfeira tgfpepnprv ielnkdenva
 961 hvllleglhhq rpkryftivi issllllgli villisyvmw kagffkrqyk silqeenrrd
1021 swsyinsksn dd

```

ITGB5, NP_001341694.1, SEQ ID NO:188

```

1 mtpqeiavnl rpgdkttfql qvrqvedypv dlyylmdlsl smkddldnir slgtklaeem
  61 rkltsnfrlg fgsfvdckdis pfsytapryq tnpicgyklf pncvpsfgfr hllpltdrvd
 121 sfneevrkqr vsrnrdapeg gfdavlqaav ckekigwrkd alhlvfttd dvphialdgc
 181 lgglvqphdg qchlineaney tsnqmdyps lallgeklae nninlifavt knhymlyknf
 241 talipgttve ildgdsknii qliinaynsi rskvelsvwd qpeditlfft atcqdgvsyp
 301 gqrkceglki gdtasfevsl earscpsrht ehvfalrpvg frdslevgt yntcgcsvg
 361 lepnsarcng sgtyvcglce cspgylgtrc ecqdgengsv yqnlcreaeg kplcsgrgdc
 421 scnqcscfes efgkiygpfc ecdnfscarn kgvlcsghge chcgckcha gyigdnncs
 481 tdistcrgrd gqicserghc lcgqcqctep gafgemcekc ptcpdacstk rdcveclllh
 541 sgkpdnqtch slcrdevitw vdtivkddqe avlcfyktak dcvmmftyve lpsgksnlv
 601 lrepecgntp namtillavv gsillvglal laiwkllvti hdrrefakfq sersraryem
 661 asnplyrkpi sthtvdfthf kfnksyngtv d

```

ITGB6, NP_000879.2, SEQ ID NO:189

```

1 mgiellcliff lflgrndhvq ggcalggaet cedclligpq cawcaqenft hpsgvgercd
  61 tpanllakgc qlnfienpvs qveilknkpl svgrqknssd ivqiapqsl iklrpggaqt
 121 lqvhrvrted ypvdllylmd lsasmdldn tikelgsrls kemskltsnf rlgfgsfvek
 181 pvspfvkttp eeianpcssi pyfclptfgf khilpltna erfneivknq kisanidtp
 241 ggfdaimqaa vcckegwgn dslhlvfvv dadshfgmds klagivipnd glchldskne
 301 ysmstvlleyp tigqlidklv qnnvllifav tqeqvhlyen yaklipgatv gllqkdsgni
 361 lqliisayee lrsevelevl gdteglslsf taicnngtlf qhqqkcschk vgdtafsvt
 421 vniphccers rhiiikpvg l gdalellvsp ecncdcqkev evnsskchhg ngsfqcgvca
 481 chpghmgprc ecgedmlstd sckeadhps csgrgdcycg qcichlspyg niygyqcqd
 541 nfscvrhkg lcgngdcdc gecvcrsgwt geycncttst dscvsedgvl csgrgdcvsg
 601 kvcctnpgas gptcercptc gdpncskrsc iechlsaagq areecvdkck lagatiseee
 661 dfskdgsvsc slqgenecli tflittdneg ktiihsinek dcpkppnimp imlgvslail
 721 ligvllciw kllvsfhdrk evakfeers kakwqtgtnp lyrgststfk nvykhrekq
 781 kvdlstdc

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Fig. 1 (continued)

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ITGB7, NP_000880.1, SEQ ID NO:190

```

1 mvalpmvlvl llvlsrgese ldakipstgd atewrnphls mlgscqpaps cqkcilshps
  61 cawckqlnft asgeaearrc arreeellarg cpleeleepr gqgevlqddp lsqgargega
 121 tqlapqrvrv tlrpgepqql qvrflraegy pvdlyylmdl sysmkddler vrqlghallv
 181 rlqevthsvr igfgsfvdkt vlpfvstvpv klrhpcptrl ercqspfsfh hvlsltgdaq
 241 aferevgrqs vsgnldspeg gfdailqaal cqeigigwrnv srllvftsdd tfhtagdgkl
 301 ggifmpsdgh chldsnnglys rstefdydpsv gqvaqalsaa niqpifavts aalpvvyqels
 361 klipksavge lsdssnvvq limdaynsls stvtlehssl ppgvhisyes qcegpekreg
 421 kaedrgqcnh vringvtvfw vslgathclp ephllrlral gfseelivel htldcncsd
 481 tqpqaphcsd ggghlqcgvsc scapgrlgrl cecsvaelss pdlesgcrap ngtgplcsgk
 541 ghcqcgrcsc sgqssghlce cddascerhe gilcggfgrc qcgvchchan rtgracecsg
 601 dmdscispeg glcsggrck cnrcqclgdy ygalcdqcpq cktperhrd caecgafrtg
 661 platncstac ahtnvtlala pildgwkce rtdnqlfff lveddargtv vlrvrpqekg
 721 adhtqaivlg cvggivavgl glvlayrlsv eiyrreysr fekeqqqlnw kqdsnpkyks
 781 aitttinprf qeadsptl

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CD71, NP_003225, SEQ ID NO:191

```

1 mmdqarsafs nlfggeplsy trfslarqvd gdnshvemkl avdeeenadn ntkanvtpk
  61 rcsgrsicygt iavivfflig fmigylgyck gvepktecer lagtespvre eppedfpaar
 121 rlywddlkrk lsekldstdd tgtkllnen syvpreagsq kdenlalyve nqfrefklsk
 181 vwrqhfvi qvkdsagnsv iivdkngrlv ylvenpggyv ayskaatvtg klvhanfgtk
 241 kdfedlytpv ngsivivrag kitfaekvan aeslnaigvl iymdqtkfpi vnaelsffgh
 301 ahlgtgdpvt pgfpsfnhtq fppsrsnglp nipvqtisra aaeklfgnme gdcpsdwktd
 361 stcrmvtses knvklvtvsnv lkeikilnif gvikgfvepd hyvvvgaqrd awgpgaaksg
 421 vgtalllkl qmfdsdmvld gfqpsrsiif aswsagdfgs vgatewlegv lsslhlkaft
 481 yinldkavlg tsnfkvsasp llytlietkm qnvkhpvtgq flyqdsnwas kvekltdna
 541 afpflaysgi pavsfcced tdypylgttm dtykelieri pelnkvaraa aevagqfvik
 601 lthdvelnld yerynsqlls fvrldnqyra dikemglslq wlysargdff ratsrlttdf
 661 gnaektldrfv mkklnrdvmr veyhflspyv spkespfrhv fwgsgshtlp allenklkrk
 721 qnngafnetl frnqlalatw tiqgaanals gdvwidnef

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Proteoglycans

CD138 (syndecan-1), NP_001006947, SEQ ID NO:192

```

mrraalwlv calalslqpa lpqivatnlp pedqdgsgdd sdnfsgsgag alqditlsqq
  61 tpstwkdtql ltaiptslep tgleataast stlpagegpk egeavvlpev epgltareqe
 121 atrprrettq lptthqastt tattaqepat shphrdmqpg hhetstpagp sqadlhtpht
 181 edggpsater aaedgassql paaegsgeqd ftfetsgent avvavepdr nqspvdggat
 241 gasqglldrk evlggiagg lvglifavcl vgfmllyrmkk kdegssylee pkqanggayq
 301 kptkqeefya

```

syndecan-2, NP_002989, SEQ ID NO:193

```

mrrawilltl glvacvsaes raeltsdkdm yldnssieea sgvyppiddd yasaasgsad
  61 edvespelst srplkillt saapkvett lniqnkipaq tkspeetdke kvhlsdserk
 121 mdpaeedtnv ytekhsdself krtevlaavi aggvigflfa iflilllvyr mrkkdegssy
 181 lgerkpssaa yqkaptkefy a

```

syndecan-3, NP_055469, SEQ ID NO:194

```

mkpgpphrag aahgagagag aaagpgargl llppllllll agraagaqrw rsenferpvd
  61 legsgdddsf pddelddlys gsgsgyfeqe sgietafrs pdvalavstt pavlpttniq
 121 pvgtptfeelp serptlepat splvvtevpe epsqrattvs ttmattaats tgdptvatvp
 181 atvatatpst paappftatt avirttgvr llplplttva tarattpeap sppttaavld
 241 teaptprlvs tatsrpralp rpattqepdi perstlplgt tapgpteva tptpetfltt
 301 irdepevpvs ggpsgdfelp eeettqpdta nevvavggaa akassppgtl pkgarpgpgl
 361 ldnaidsqss aaqlpqksil erkevlvavi vggvvgalfa aflvtlliy mkkkdegssy
 421 leepkqasvt yqkpkqeef ya

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Fig. 1 (continued)

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syndecan-4, NP_002990, SEQ ID NO:195

maparlfall lffvvgvvaes iretevidpq dllegryfsg alpddedvvg pgqesddfel
61 sgsdlddle dsmigpevvh plvpldnhip eragsgsqvp tepkkleene vipkrispve
121 esedvsnkvs msstvggsni fertevlaal ivggivgilf avflillllmy rmkkkdegysy
181 dlgkkipiykk aptnefya

HSPG2, NP_001278789.1, SEQ ID NO:196

1 mgwraagall lalllhgrll avthglrayd glslpediet vtasqmrwth sylsddedml
61 adsisgddlg sgdldsgdfq mvyfralvnf trsieyspql edagsrefre vseavvdtle
121 seylkipgdq vsvvfikel dgwvfveldv gsegnadgaq iqemllrvis sgsvasyvt
181 pqgffqfrrlg tvpqfpract eaefachsyn ecvaleyrcd rrpdcdrmsd elnceepvl
241 isptfslive ttslpprpet timrqppvth apqpllpqsv rplpcgpgqa acrnghcipr
301 dylcdgqedc edgsdeldcg ppppcepnef pcgnghcalk lwrcdgdfdc edrtdeancp
361 tkrpeevcgp tqfrcvstnm cipasfhcde esdcpdrsde fgcmppqvvt ppresiqasr
421 ggtvtftcva igvptpiinw rlnwghipsh prvtvtsegg rgtliirdvk esdqqaytce
481 amnargmvfg ipdgvlelpv qragpcpdgh fylehsaacl pcfcfgitsv cqstrrrfdq
541 irlrfdqdd fkgvntmpa qpqtpplsst qlqidpslhe fqlvdlrrf lvhdsfwalp
601 eqflgnkvds yggslyrnvr yelargmlep vqrpdvvlmg agyrllsrgh tptqpgalnq
661 rqvqfseehw vhesgrpvqr aellqvlqsl eavliqtvynt tkmasvglsd iamdtvttha
721 tshgrahsve ecrpcigysg lscescdahf trvpggpylg tcsqcnngnh asscdpyvgh
781 clncqhnteg pqcnkckagf fgdamkatat scrpcpcpyi dasrrfsdtc fldtdgqatc
841 dacapgytgr rcescapgye gnpiqpggk rpvnqeivrc dergsmgtsg eacrcnnvv
901 grlcneadcg sfhlstrnpd gclkcfcmgv srhctsssws raqlhgasee pghfsltnaa
961 sththnegif sptpgelgfs sfhrllsgpy fwsllpsrflg dkvtstygge rftvtqrsqp
1021 gstplhgqpl vvlqgnniil ehhvagepsp gqpstfivpf reqawqrpdg qpatrehllm
1081 alagidtili rasyaqgpa srvgisdmv avpeetgqdp aleveqscsp pgyrgpscdq
1141 cdtgytrtps glylgtcerc schghseace petgacqgcq hhtegprceq cqpgyygdq
1201 rgtptcdqcl pcygdpagq aahtcfltdt ghptcdacsp ghsgrhcerc apgyygnpsq
1261 gqpcqrdsqv ppgigcncdp qgsvsqcd aqgcqckaqv egltcshcrp hfhlsasnp
1321 dgclpcfcmg itqgcassay trhlsthfa pgdfqgfalv npqrnsrltg eftvepvpeg
1381 aqlsfgnfaq lghesfywql petyqgdkva aygklrytl sytagpqqsp lsdpdvqitg
1441 nnimlvasqp alqgperrsy eimfreefwr rpdgqpatre hllmaladd elliratfss
1501 vplaasisav slevaqpgps nrpralevee crcpqgyigl scqdcapgyt rtgsglylgh
1561 celcecnghs dlchpetgac sqcqhnaage fcelcapgyy gdatagtped cqpccapltn
1621 penmfsrtce slgaggyrct acepgygtgy ceqcgpyyvg npsvqggqcl petnqaplvv
1681 evhparsivp qggshslrcq vsgspphyfy wsredgrpvp sgtqqrhqs elhfpvsvps
1741 dagvyictcr nlhqsntsra ellvteapsk pitvtveeqr sqsvrpgadv tfictaksk
1801 paytlvwtrl hngklptram dfngiltirn vqlsdagtyv ctgsnmfamd ggtatlhvqa
1861 sgtlsapvvs ihppqltvqp gqlaefrcsa tgsptptlew tggpggqlpa kaqihggilr
1921 lpaveqtdqa qylcrahssa gqvaravlh vhgggprvq vspertqvha gtrvlycra
1981 agvpsatitw rkeggslppq arsertdiat llipaitad agfylcvats pagtaqariq
2041 vvvlsasdas pppvkiess psvttegtld lncvvagsah aqvtwyrrgg slpphtqvgh
2101 srlrlpqvsp adsgcyvcrv engsgpkeas itvsvlhqth sgpsytpvp strpirieps
2161 sshvaegqtl dlncvvpqqa haqvtwhkrq gslparhqth gslrlrhqvt padsgcyvch
2221 vvgtsqplea svlvtieasv ipgpipvri esssstvaeg qtdldscvva gqahaqvtwy
2281 krggslparh qvrgsrlyif qaspdaggy vcrasngmea sitvtvtgtq ganlaypags
2341 tqpirieps sqvaegqtdl lncvvpqgsh aqvtwhkrq slpvrhqthg slrllyqasp
2401 adsgcyvcrv lgssvpleas vltiepagv vpalgvtpv riessssqva egqtdlnc
2461 vagqahaqvt whkrqgslpa rhqvhsrlr llqvtpadsg eyvcrvvgss gtqasvltv
2521 iqqlsgshs qgvaypvrie sssaslangh tldlncivas qaphtitwyk rggsllpsrhq
2581 ivgsrlripq vtpadsgcyv chvsngagrs etslivtiqg sgsshvpsvs ppiriessp
2641 tvvegqtdl ncvvarqpqa iitwykrqgs lpsrhqthgs hlrlhqmsva dsgeyvcran
2701 nnidaleasi visvpsags psapgssmpi riesssshva egetldlncv vpgqahaqvt
2761 whkrqgslps hhqtrgsrlr lhhvspadsg eyvcrvmgss gpleasvlt ieasgssavh
2821 vpapggappi riepsssrva egqtdldkcv vpgqahaqvt whkrqgnlpa rhqvghp11r
2881 lnqvspadsg eyscqvtgss gtleasvlt iepsspgpip apglaqpiyi eassshvteg
2941 qtdldlncvvp gqahaqvtv krggslparh qthgsqrlrh lvpadsgcy vcrasgpgp
3001 eqeasftvtv ppssegssyrl rsvvisidpp sstvqggqda sfkclihdga apislewktr
3061 nqelednvhi spngsiitiv gtrpsnhgty rcvasnaygv aqsvvnlsvh gpptvsvlpe

Fig. 1 (continued)

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3121 gpvwwkvvka vtlecvsage prssarwtri sstpakleqr tyglmdshav lqissakpsd
3181 agtyvclaqn algtaqkqve vivdtgamap gapqvqaeea eltveaghta tlrcsatgsp
3241 aptihwsklr splpwqhrle gdtliiprva qqdsqgyicn atspaghaea tiilhvespp
3301 yattvpehas vqagetvqlq clahgtpplt fqwsrvgssl pgratarnel lhferaaped
3361 sgryrcrvtn kvgsaeafaq llvqgppgsl patsipagst ptvqvtpqle tksigasvef
3421 hcavpsdrqt qlrwfkeggq lppghsvqdg vlriqnlqds cqgtyicqah gpwgkaqasa
3481 qlviqalpsv linirtsvqt vvvghavefe clalgdppkq vtwskvvgghl rpgivqsggv
3541 vriahvelad agqyrctatn aagttqshvl llvqalpqis mpqevrvpag saavfpcias
3601 gyptpdisws kldgslpdds rlenmlmlp svrpqdagty vctatnrqgk vkafahlqvp
3661 ervvpyftqt pysflplpti kdayrkfeik itfrpdsadg mll yngqkrv pgsptnlannr
3721 qpdfisfqlv ggrpefrfda gsgmatirhp tplalghfht vtllrsiltqg slivgdldapv
3781 ngtsqgkfqq ldlneelylg gypdygaipk aglssgfigc vrelriggee ivfhdlnlta
3841 hgishoptcr drpcqnggqc hdsesssyvc vcpagftgsr cehsqalch peacgpdatc
3901 vnrdpgrgyt crchlgrsgl rceegvtvtt psllsgagsyl alpaltntthh elrldvefkp
3961 lapdgvllfs gkgsgpvedf vslamvgghl efryelgsgl avlrsea pla lgrwhrvsae
4021 rlnkdgsrlv nggrpvlrss pgksqqlnlh tllylggvpe svplspatnm sahrfgcvge
4081 vsvngkrlld tysflgsqgi gqcydsspc rqpccqhgatc mpageyefqc lcrdgfkqgd
4141 ceheenpcql repclhggtc qgtrclclpg fsqprcqqgs ghgiaesdwh legsggndap
4201 gqygayfhdd gflafpghvf srslepvp et ielevertsta sglllwqgve vgeagqgkdf
4261 islgldqghl vfryqlgsge arlvse dpin dgewhrtal regrrgsiqv dgeelvsgrs
4321 ppgnvavnak gsvyiggapd vatltggrfs sgitgcvkn l vhsarpgap ppgpldlqhr
4381 aqagantrpc ps

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5 transmembrane domains protein family

CD133, XP_011512195, SEQ ID NO:262

```

malvlgsl l lglcgnsfsg gqpsstdapk awnyelpatn yetqdshkag pigilfelvh
61 iflyvvqprd fpedtlrkfl qkayeskidy dkpetvilgl kivyyeagii lccvlgllfi
121 ilmplvgyff cmrcocnkcq gemhqrcqken gpflrkcfai sllviciis igifygfvan
181 hqvrtrikrs rkladsnfkd lrtllnetpe qikyilaqyn ttkdkaftdl nsinsvlggg
241 ildrlrpnii pvldeiksma taiketkeal enmnstlksl hqqstqlsss ltsvktslrs
301 slndplclvh pssetcnsir lsllsqlnsn elrqlppvda eldnvnnvlr tldldglvqqg
361 yqslndipdr vqrqtttvva gikrvlnsig sdidnvtqrl piqdilsafs vyvnntesyi
421 hrnlptleey dsywwlgglv icslltlivi fyylgllcg cgydrhatpt trgcvsntgg
481 vflmvgvqls flfcwilmi vvlftvfgan veklicept skelfrvldt pyllnedwey
541 ylsqklfnks kmkltfeqvy sdckknrgty gtlhlqnsfn isehlnineh tgsisseles
601 lkvnlnifll gaagrknldq faacgidrmn ydsylaqtgk spagvnllsf aydleakans
661 lppgnlrns lkrdaqtikti hqqrvlpieq slstlyqsvk ilqrtgngll ervtrilasl
721 dfaqnfittn tssviieetk kygrtiigyf ehylqwiefs isekvasckp vataldtdavd
781 vflcsyiidp lnlfwfgigk atvfllpali favklakyyr rmdsedvydd vetipmknme
841 ngngnyhkdh vygihnpmvt spsqh

```

Type I transmembrane proteins

CD50, NP_001307534, SEQ ID NO:263

```

matmvpvslw pracwtllvc cltptgvqgq eflrvepqn pvlsggslf vncstddcpss
61 ekialets ls kelvasgmw aafnlsvntg nsrilcsvy ngsqitgssn itvyrlperv
121 elaplppwqp vqgnftlrcq vedgsprtsl tvvllrweee lsrqpaveep aevtatvlas
181 rddhgafpsc rteldmqpgq lglfvntsap rqlrtfgflg pivnlsepta hegstvvtsc
241 magariqvvtl dgvpaaapgg paqlqlnate sddgrsffcs atlevdgef l hrnssvqlrv
301 lygpkidrat cpqhlkwkdk trhvlqcqar gnpypelrcl kegssrevpv gipffvntvth
361 ngtyqcqass srqkytlvv mdieagsshf vpvfvavllt lgvvtivlal myvfrehqrs
421 gsyhvrees ypltsmqpt eamgeepsra e

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CD102, NP_001093259, SEQ ID NO:197

mssfgyrtilt valftliccp gsdekvfevh vrpkklavep kgslevncst tcnqpevggl
 61 etsldkilld eqaqwkhylv snishdtvlq chftcsgkqe smnsnvsvyq pprqviltlq
 121 ptlvavgksf tiecrvptve pldsiltlflf rgnetlhyet fgkaapapqe atatfnstad
 181 redghrnfsc lavldlmsrg gnifhkhsap kmleiyepvs dsqmviiivtv vsvllsilftv
 241 svllcfifgq hlrqqrmgty gvraawrrlp qafrrp

Notch family

NOTCH1, NP_060087, SEQ ID NO:198

1 mppllapllc lallpalaar gprcsqpgt clnggkceaa ngteacvcgg afvgprcqpdp
 61 npclstpcn agtchvddr gvadyacsa lgfsgplclt pldnacitnp crnggtcdll
 121 tlteykcrcp pgwsgkscq adpcasnpca nggqclpfea syichcppsf hgptcrqdv
 181 ecgqkpglcr hggctchnevg syrcvcrath tgpncerpvy pcspspcng gtrcptgdtv
 241 hecacpgft gqnceenidd cpnncnkng acvdgvntyn crcpewtgq yctedvdecq
 301 lmpnacqngg tchnthggyn cvcvngwtge dcseniddca saacfhgatc hdrvasfyce
 361 cphgrtgllc hlndacisnp cnegsnctdn pvngkaictc psgytgpcas qdvdecslga
 421 npcehagkci ntlgsfecqc lqgytgprce idvnevcvsn cqndatcldq igefqciemp
 481 gyegvhcevn tdecasspcl hngrcldkin efqcecptgf tghlcqydv dcastpcnkg
 541 akcldgpnty tcvctegygt thcevdidec dpdpchygsc kdgvatftcl crpgygtghc
 601 etnecessq pcrhggtcqd rdnaylcfcl kgttgpncei nlldcasspc dsctcldkid
 661 gynecacepgy tgsmcninid ecagnpchn gtcgedgingf tcrcepyhd ptclsevnec
 721 nsnpcvhgac rdslnkykcd cdpwsgtnc dinncnesn pcvnggtckd mtsgyvctcr
 781 egfsgpncqt ninecasnp lnqgtciddv agykcncllp ytgatcevv apcaspncrn
 841 ggecrqsedy esfscvcptg wgggtcevd necvlspcrh gascqnthgg yrchcqagys
 901 grncetdidd crpnpcnngg sctdgintaf cdclpgfrgt fceedineca sdpcrnganc
 961 tdcvdytct cpagfsgihc enntpdctes scfnggtcvd ginsftclcp pgftgysyqh
 1021 dvnecdsqpc lhgggtcqdgc gsyrcctcpqg ytgpnqcnlv hwdssspckn ggkcwqthtq
 1081 yrcecpsgwt glycdvpsvs cevaaqrqgv dvarlcqhgg lcvdagntthh crcqagyts
 1141 ycedlvdec spscqngatc tdylggysck cvagyhgvcn seeideclsh pcqnggtold
 1201 lpntykcscp rgtqgvhcei nvddcnppvd pvsrspkcf ngtcvdqvgg ysctcpvgfv
 1261 gercegdvne clsnpcdarg tqncvqrnd fhcecraght grrcesving ckgkpcnkng
 1321 tcavasntar gfickcpagf egatcendar tcgslrclng gtcisgprsp tclclgpfthg
 1381 pecqfpassp clggncpcynq gtceptsesp fyrcclcpakf ngllchldy sfgggagrdr
 1441 ppplieeace lpecqedagn kvcslqcnh acgwdggdcs lnfn dpwknc tqslqcwkyf
 1501 sdghcdsqcn sagclfdgfd cqaegqcnp lydqyckdhf sdghcdqgcn saecewdgld
 1561 caehvperla agtlvvvvlm ppeqlrnssf hflrelsrvl htnvfkrd a hggqmifpvy
 1621 greeelrkhp ikraaegwaa pdallgqvka slpaggseg rrrrel dpmd vrgsivylei
 1681 dnrqcvqass qcfqsatdva aflgalaslg slnipykiea vqsetveppp paqlhfmvva
 1741 aaafvllffv gcgvllsrkr rrqhgqlwfp egfkvseask kkrreplged svglkplkna
 1801 sdgalmdndq newgdledt kkfrfeepvv lpdlddqtth rwtqghlda adlrmsamap
 1861 tppqgevdad cmdvnrvgpd gftplmiasc sgggletgns eedapavi sdfiyqgasl
 1921 hnqtdrtget alhlaarysr sdaakrlla sadaniqdnm grtplhaavs adaqgvfql
 1981 irnratldda rmhdgttpli laarlavegm ledlinshad vnavddlgks alhwaavnn
 2041 vdaavvllkn gankdmqnnr eetplflaar egsetakvl ldhfanrdit dhmdrlprdi
 2101 aqermhdiv rlldeynlvr spqlhgapl gtpplspplc spngylgslk pgvqgkvrk
 2161 psskglacgs keakdlkarr kksqdgkgcl ldssgmlspv dslesphgyl sdvasppllp
 2221 spfqqspsvp lnhlpmpdt hlgighlnva akpemaalg ggrlafetgp prlshlpvas
 2281 gtstvlgses ggalnftvgg stslngqcew lsrlqsgmvp nqynplrgsv apgplstqap
 2341 slqhgvmvpl hsslaasals qmmsyqglps trlatqphlv qtqgvqpqn qmqqqnlqpa
 2401 niqqqqslqp pppppqphlg vssaasghlg rsflsgepsq advqplgpss lavhtilpge
 2461 spalptslps slvppvtaaq fltppsqsy sspvntpsh qlqvpehpfl tpspspdq
 2521 ssspsnsvs dwsegvsspp tsmqsqiari peafk

Fig. 1 (continued)

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NOTCH2, NP_001186930, SEQ ID NO:199

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1 mpalrpallw allalwlcca apahalqcrd gyepcvnegm cvtyhngtgy ckcepgflge
 61 ycqhrrdpcek nrcqnggtcv aqamlgkac rcasgftged cqystshpcf vsrplnnggt
121 chmlsrdtype ctcqvgtgk ecqwtclacs hpcangstct tvanqfscck ltgftgqkce
181 tdnecndipg hcqhgggtcln lpgsyqcqcp qgftgqyeds lyvpcapspc vnggtcrqtg
241 dftfecncldp gfegstcern iddcphnrcq nggvcdvgnv tyncrcppqw tgqfctedvd
301 ecllqpnaq nggtcanrng gygcvcvngw sgddcsenid dcacasctpg stcidrvassf
361 scmcepgkag llchlddaci snpchkgalc dtnplngqyi ctcpggykga dctedvdeca
421 mansnpceha gkcvntdgaf hceclkgayg prcemdinec hsdpcqndat cldkiggftc
481 lcmpgfkgyh celeinecqs npcvnngqcv dkvnrfqclc ppgftgpcvq ididdcsstp
541 clngakcidh pnyecqcat gftgvlceen idncdpdpch hgqcqdgids ytcicnpgym
601 gaicsdqide cysspcldng rcidlvngyq cncqpgtsgv nceinfddca snpciHgicm
661 dglnryscvc spgftgqrcn ididecasnp crkgatcing vngfricicpe gphhpscysq
721 vneclsnpci hgnctgglsq ykclcdagwv gincevdkne clsnpcqngg tcdnlvngyr
781 ctkkkgfkg yncqvnideca snpcldnggtc fddisgytch cvlpytgknc qtvlapcspn
841 pcenaavcke spnfesytcl capgwqggrc tididecisk pcmnhglchn tqgsymcecp
901 pgfsgmdcee diddclanpc qnggscmdgv ntfscldclpg ftgdkcqtmd neclsepckn
961 ggtcsdyvns ytckcagfd gvhcennine ctesscfngg tcvdginfsf clcpvgftgs
1021 fclheinecs shpcldnegtc vdglgtyrcs cplgytgknc qtlvnlcsrs pcknkgctcvq
1081 kkaesqclcp sgwagaycdv pnvscdiaas rrgvlvehlc qhsgvcinag nthycqcpig
1141 ytgsyceeql decasnpqch gatcsdfigg yrcecvpgyq gvnceyevde cqnqpcqngg
1201 tcidlvnhfk cscppgtrgm ksslsifhpg hcikl
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NOTCH3, NP_000426, SEQ ID NO:200

```
1 mgpgargrrr rrrpmspppp pppvralpll lllagpgaaa ppclldgspca nggrctqlps
 61 reaaclcpvg wvgercqlcd pchsgpcagr gvcqssvavg tarfscrcpr gfrgpdcsldp
121 dpcldsspcah garcsvgpdg rflcscppgy qgrscrsdvd ecrvgepcrh ggtclntpgs
181 frcqcpagyt gplcenpavp capspcrngg tcrqsgdltv dcacldpgfeg qncevnddc
241 pghrcldngt cvdgvntync qcpcwgtgqf ctedvdecql qpnachnggt cfnltlgghsc
301 vcvngwtges csqniddcat avcfhgatch drvasfycac pmgktgllch lddacvsnpnc
361 hedaicdtnp vngraictcp pgftggacdq dvdecsigan pcehlgrcvn tqgsfllcqq
421 rgytgprcet dvneclsgpc rnqatclldri qgftcicmag ftgtyceydi decqsspcvn
481 ggvcckdrvng fsctcpsgfs gscqldvde castpcrnge kcvdqpdyge crcaegfegf
541 lcdrnvdcds pdpchgrov dgiasfscac apgytgtrce sqvdecrcsq crhgkclldl
601 vdkylcrpps gttgvncevn iddcasnpct fgvcrdginr ydcvcqpgft gplcnveine
661 casspcgegg scvdgengfr clcppgslpp lclppshpca hepeshgicy dapggfrcvc
721 epgwsgprcs qslardaces qpccraggtcs sdgmghctc ppgvqgrqce llspctpnpc
781 ehggrcesap gqplvcscpp gwqgprcqqd vdecagpapc gphgicnla gsfsctchgg
841 ytgpscdqdi ndcdpnpcld ggscqdgvgf fscscldpgfa gprcardvde clsnpcpggt
901 ctdhvasftc tcppgyggfh ceqldpdcsp sscfnggtcv dgvnfsfclc rpgytgahcq
961 headpclsrp clhggvcsaa hpgfrctcle sftgpcqctl vdwcscrqpc nggrcvqtga
1021 yclcppgwsq rldcrlslpc reaaaqigvr leqlcqaggq cvdedsshyc vcpegtrgsh
1081 ceqevdpcla qpcqhggtcr gymggymcec lpgyngdnce ddvdecasqp cqhggsclld
1141 varylscspp gtlglvcein eddcgpgppl dsgrprclhng tcvdlvggfr ctcppgytgl
1201 rceadinecr sgachaaht dclqdpggg rclchagfsg prcqtvlspc esqpcqhgqg
1261 crpspgpggg ltftchcaqp fwgprcerva rscrelqcpv gvpcqqtprg prcacppgls
1321 gpcscrsfpgs ppgasnasca aapclhggsc rpaplapffr cacaqgwtgp rceapaaape
1381 vseeprcpa acqakrgdqr cdrecnspgc gwdggdcsls vgdprwqcea lqcwrlfnns
1441 rcdpacsspa clydnfdcha ggrertcnpv yekycadhfa dgrcdqgcnt eecgwdglde
1501 asevpallar gvlvltvllp peellrssad flqrlsailr tsllrfrldah gqamvfpyhr
1561 pspgseprar relapevigs vvmleidnrl clqspendhc fpaqsaady lgalsaverl
1621 dfpyplrdvr gepleppeps vpillpllvag avlllvilvl gvmvarkre hstlwfpegf
1681 slhkdvassgh kgrrepvgqd algmknmakg eslmgevatd wmdtecpeak rlkveepgm
1741 aeeavdcrqw tqhhlvaadi rvapamaltp pggdadadgm dvnvrgpdgf tplmlasfcg
1801 galepmptee deaddtsasi isdlcqqag lgartdrtge talhlaarya radaakrllld
1861 agadtnaqdh sgtrplhtav tadaqgvfqi llnrstdld armadgstal ilaarlaveg
1921 mveeliasha dvnnavdelgk salhwaavvn nveatlallk ngankdmqds keetplflaa
1981 regsyaaakl lldhfanrei tdhlldrlprd vaqerlhqdi vrllldqsgp rspgphglg
2041 pllcppgaf lpglkaaqsqs kksrrppgka glgpggprgr gkkltlacpg pladssvtls
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Fig. 1 (continued)

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2101 pvdslldsprp fggppaspgg fplegpyaaa tatavslaql gpggraglgrr qppggcvls1
2161 gllnpvavpl dwarlpppap pgpsfllpla ppgqllnpgt pvspqerppp ylavpghggee
2221 ypaagahssp pkarflrvps ehpyltpsps spehwaspsp psldswsest pspatatgam
2281 atttgalpaq plplsvpsl aqaqtqlgpq pevtpkrqvl a

NOTCH4, NP_004548, SEQ ID NO:201

1 mqppsl1111 111111cvsv vrprgllcgs fpepcanggt clslslgggt cqcagpflge
61 tcqfpdpqcn aqlcqnggsc qallpaplg1 psspspltps flctclpgft gercqakled
121 pcppsfcskr grchigasgr pqcscmpgwt geqcqlrldfc sanpcvnggv clatypqiqr
181 hcpggfegha cerdvnecfq dpgpcpkgt5 chntlgsfqc lcpvgqegpr celragpcpp
241 rgcsnggtcq lmpekdstfh lclcppgfig pdcevpndnc vshqcqnggt cqdgltdytc
301 lcpetwtgwd csedvdecet qgpphcrngg tcqnsagsfh cvcvsgwgggt sceenlddci
361 aatcapgstc idrvgsfsc1 cppgrtgllc hledmclsqp chgdaqcstn pltgstlclc
421 qpgysgptch qdldeclmaq qgppcehggt sclntpgsf1 clcppgytgs rceadhnecl
481 sqpchpgstc ldllatfhcl cppgleqqlc evetnecasa pclnhadchd llnqfqcicl
541 pgfsgtrcee didecrsspc anggcqddq ga fhckclpg fegprcqtdev declsdpcpv
601 gascldlpga ffcclcpsgft gqclcevp1ca pnlcqp1qic kdqkdkanc1 cpdgspgcap
661 pednctchhg hcqrsscvcd vgwtpcecea elggcisapc ahggctcypqp sgynctcptg
721 ytgptcseem tachsgp1cn ggscnpspgg yyctcppsht gpqctst1dy cvsapcfnng
781 tcvnrpgtfs clcamgfqgp rceqklrpsc adspcrnrat cqdspqgprc lcp1tytggs
841 cqtlmdlcaq kpcprnshcl qtgpsfhclc lqgwtgplcn lplssc1kaa lsqgidvss1
901 chngg1cvds gpsyfchcpp gfqgslcqd1h vnpcesrpcq ngatcmaqp1 gylcqcagpy
961 dgqncskeld acsqgpcnh1 gtctpkpggf hcacppgfv1g lrcegdvdec ldqpc1ptgt
1021 aachslanaf yqcclpghtg qwceveidpc hsqpcfhgg1t ceatagsplg fichcpkgfe
1081 gptcshrap1s cgfhchhgg1 lclpspkpgf pprcac1sgy ggpdc1tpa pkgcgp1spc
1141 lyngscsett glggpgfrcs cphssp1gprc qkpgakgce1g rsgdgacdag csgpggnwdg
1201 gdcslgvdp1d wkgcpshsrc wllfrdgqch pqcdseec1f dgydcetppa ctpaydqych
1261 dhfhngchek gcntaecgwd ggdc1pedgd p1wgp1slal v1lsp1aldq qlfalarv1s
1321 ltlrvglwvr kdrdgrdmvy pypgaraeek lggtrdpt1y eraapqtq1pl gketd1slag
1381 fvvvmgvd1s rcgpdhpa1r cpwdpg1llr flaamaavga lep1lpgp1l avhphagtap
1441 panqlpwpv1l cspvagv1ll algallv1ql irrrrrehga lwlppgft1r prtqsaphrr
1501 rpplgedsig lkalkpk1aev dedgvvmcsg peeg1evgga eetgppstc1q lws1sgcgga
1561 lpqaamltp1p qesemeapdl dtrgpdgvtp lmsavccge1v qsgtfqgaw1 gcpepwepl1
1621 dggacpqaht vgtgetpl1l aarfsrptaa rrl1eaganp nqpdragrt1p lhaavaadar
1681 evcql1llrsr qtavdarted gt1plmlaar lavedlveel iaaqadv1gar dkwgktalhw
1741 aaavn1naraa rs1llqagadk daqdnreqtp lflaaregav evaql1llg1g aare1rdqag
1801 lapadvahqr nhwd1llt1le gagppearhk atpgreagp1f prartvsvsv pphgggalpr
1861 crt1sagagp rgggac1qar twsvdlaarg ggayshcrs1l sgvgagg1gpt prgr1rfsagm
1921 rgprnpa1im rgrygvaagr ggrvstddw1p cdwvalgacg sasnip1ppp cltp1spergs
1981 pql1dcgppal qempingge gkk

DLL 1, NP_005609, SEQ ID NO:202

1 mgsrca1ala vlsallcqvw ssgvfelklq efvnnkg1lg n1nccrggag pppcacr1tff
61 rvclkh1yqas vspeppctyg savtpvlgv1d sfs1lpdggga dsafsn1pirf pfgftwpgt1f
121 sliiealht1d spddlatenp erlisrlatq rhltvgeews qdlhssgrtd lkysyrfvcd
181 ehyygegcsv fcrprddafg hftcgergek vcnpgwk1gpy ctepic1pgc deqhgfc1dkp
241 geckcrvgw1q grycdeciry pgclhgtc1q pwqcn1c1qegw gg1lcnq1dl ycthhkpc1kn
301 gatctntg1q sytcscrpgy tgatcelgid ecdpspc1kng gsctdlensy sctcppg1fyg
361 kicelsamtc adgpcfn1ggr csdspdggys crcpvgysg1f ncek1kidys sspcsngakc
421 vdlgdaylcr cqagfsg1rhc ddnvddcass pcanggtcrd gvndfsc1tcp pgytgrncsa
481 pvsrcehapc hngatcherg hryvcecar1g yggpncq1fl pelppgpavv dlteklegqg
541 gpfpwvavca gv1lvml1l gcaavvvcvr lrlqkhrppa dpcrgetetm nnlanc1qrek
601 disvsiigat qikntnkkad fhgdhsadkn gfkarypavd ynlvqdlkgd dtavrdahsk
661 rdtkcqpqgs sgeekgtptt lrggeaserk rpdsgcstsk dtkyqsvyvi seekdecvia
721 tev

DLL4, NP_061947.1, SEQ ID NO:203

```
1 maaasrsasg walllllvalw qqraagsgvf qlqlqefine rgvlasgrpc epgcrtffrv
  61 clkhfgavvs ppgctfgtvs tptvlgtnsfa vrddssgggr nplqlpfnft wpgtfsliie
 121 awhapgddlr pealppdali skiaiqgsa vqgnwlldeq tstltrlrys yrvicsdnyy
 181 gdnscrlckk rndhfgghyvc qpdgnlsclp gwtgeycqgp iclsgcheqn gycskpaec1
 241 crpgwqgrlc neciphngcr hgtcstpwqc tcdegwgglf cdqdlnycth hspckngatc
 301 snsgqrsytc tcrpgytgvd celelsecds npcrnngsck dqedgyhclc ppgyyglhce
 361 hstlscadsp cfnggscrer nqganyacec ppnftgsnce kkvdrcatsnp cangggc1nr
 421 gpsrmcrerp gftgtycelh vsdcarnpca hggcthdlen glmctcpagf sgrrccevrts
 481 idacasspcf nratcytdls tdtfvcncpy gfvgsrcfep vglppsfpwv avslgvglav
 541 llvllgmav avrqrlrrp ddgsreamnn lsdfqkdnli paaqlkntnq kkelevdcgl
 601 dksncgkqqn htldynlapg plgrgtmpgk fphsdxslge kaplrlhsek pecrisaics
 661 prdsmyqsvc liseernevcv iatev
```

JAG1, NP_000205.1, SEQ ID NO:204

```
1 mrsprtrgrs grplslallal lcalrakvcg asgqfeleil smqnvngelq ngncggarn
  61 pgdrkctrde cdyfkyvcl k eyqsrvtagg pcsfgsgstp viggntfnlk asrgndrnri
 121 vlpfswfawpr sytl1veawd ssndtvqpds iiekashsgm inpsrqwqtl kqntgvahfe
 181 yqirvtcddy yygfgcnkfc rprddffghy acdqngnktc megwmgpecn raicrqgcs1p
 241 khgscklpgd crcqygwqgl ycdkcihpq cvhgicnepw qclcetnwgq qlcdkdl1nc
 301 gthqpc1ngg tcsntgpdky qcscpegysg pnceiaehac lsdpcnhrs cketslgfec
 361 ecspgwtgpt cstniddcsp nncshggctc dlvngfkvc ppqwtgkctq ldaneceakp
 421 cvnakscnkl iasyycdclp gwmqgncdin indclgqcqn dascrdlvng yrcicppgya
 481 gdhcerdide casnplngg hcqneinrfq clcptgfgsn lcqlldidyce pnpqcnga1qc
 541 ynrasdyfck cpedyegknc shlkdhcrtt pcevidsctv amasndtpeg vryissnvcg
 601 phgkcksqsg gkftcdcnkg ftgtycheni ndcesnpcrn ggctcidgvns ykcicsdgwe
 661 gaycetnind csqnpchngg tcrdlvndfy cdckngwkqg tchsrdsqcd eatcnnggtc
 721 ydegdafkcm cpggwegttc niarnssclp npchnggtcv vngesftcvc kegwegpica
 781 qntndcsphp cynsgtcvdg dnwyrcecap gfagpdcrin inecqsspca fgatcvdein
 841 gyrcvcppgh sgakcqvsg rpcitmgsvi pdgakwdddc ntcqclngri acskvwcgpr
 901 pcllkhghse cpsggscipi lddqcfvhp tgvgecrssi lqpvktkcts dsyyqdc1an
 961 itftfnkemmm spglttehic selrnlnilk nvsaeysiyi acepspsann eihvaisaed
1021 irddgnpike itdkiidlvs krdgnsslia avaevrqrr plknrtdf1lv pl1ssvltva
1081 wicclvtafy wclrkrrkpg shthsasedn ttannvreqln qiknpiekhg antvpikdye
1141 nknskmskir thnseveedd mdkhqqkarf akqpaytlvd reekppngtp tkhpnwt1nkq
1201 dnrdlesaqg lnrmeiyiv
```

JAG2, NP_002217.3, SEQ ID NO:205

```
1 mraqgrgrlp rrl1lll1alw vqaarpmgyf elqlsalrnv ngellsgacc dgdgrttrag
  61 gcghdecoty vrvclkeyqa kvtpgtgpcsy ghgatzpvlgg nsfylvppaga agdrararar
 121 aggdqdp1glv vipfqfawpr sftliveawd wdn1t1pnee lliervshag minpedr1wks
 181 lhfsgvhahl elqirvrde nyysatcnkf crprndffgh ytc1dqyg1nka cmdgwm1gk1ec
 241 keavckqgc1n llhggctvp1g ecrsygwqg rfcdecvpyp gcvhgscv1ep wqcn1cet1nw1g
 301 gllcdkdl1ny cgshhpctng gtcinaepdq yrctcpdgys grncekaeha ctsn1pcang1g
 361 schevpsgfe chcp1sgwsgp tcaldideca snpcaaggtc vdqvdgfeci cpeq1wvgatc
 421 qldanece1gk pclnafsc1kn liggyycdci pgwkginchi nvndcrgq1cq hgg1tckdl1vn
 481 gyqcvcpr1gf ggrhcelerd ecassp1chsg glcedladgf hchcpq1gfs1g plcev1dvl1c
 541 epspcr1ngar cynlegdyyc acpddfggkn csvprepcpg gacrvidgcg sdagp1gmpgt
 601 aasgv1cgphg rcvsqpggnf scicdsgftg tycheniddc lgqpcr1nggt cidev1dafrc
 661 fcp1sgwegel cdtnpndclp dpchsrgrcy dlvndfy1cac ddgwkgktch srefqcd1ayt
 721 csnggtcyds gdtfrcacpp gwkgstcava knssclpnpc vnggtcv1sg asfscic1rdg
 781 wegrtct1hnt ndcnplpcyn ggicvdgvnw frcecapgfa gpdcrinide cqssp1cayga
 841 tcvdeingyr cscppgragp rcqevigfgr scwsrgtpfp hgsswvedcn scrcl1dgr1rd
 901 cskvw1cgwkp cllagqpeal saqcplgqrc lekapggclr ppceawgecg aeep1stpc1l
 961 prsghldnnc arl1tlhfnrd hvpqgttvga icsgirs1pa travardr1l vllcd1rassg
1021 asavevav1sf spardlpdss liqgaahaiv aaitqrgnss lllavtevk1v etvvt1ggsst
1081 gllvpv1lca fsvlwlacv1v lcvw1wtrkr kerersrlpr eesannqwap lnpir1npier
1141 pgghkd1vlyq cknftpppr adealp1pgag haavredeed edlgrgeeds leaek1flshk
1201 ftkdpgr1spg rpahwasgpk vdnravrsin earyagke
```

CD11a, XP_011544151.1, SEQ ID NO:206

```

1 mtlatdptdg silacdpgls rtcdqntyls glcylfrqnl qgpmlqgrpg fqecikgnvd
61 lvflfdgsm lqpdefqkil dfmkdvmmkl sntsyqfaav qfstsyktef dfsdyvkrkd
121 pdallkhvkh mllltntfga inyvatvfr eelgarpdad kvliiitdge atdsgnidaa
181 kdiiryiigi gkhfqtkesq etlkhfaskp asefvkildt feklkdifte lqkkiyvieg
241 tskqdltsfn melsssgisa dlsrghavvg avgakdwagg fldldkdlqd dtfigneplt
301 pevrageylgy tvtwlpqrqk tsllasgapr yqhmgrvllf qepqggghws qvqtihtqi
361 gsyfaggelcg vdvqdqgete llligaplly geqrggrvfi yqrrqlgfee vselqgdpgy
421 plgrfgeait altdingdgl vdvavgaple eqgavyifng rhgglspqps griegtqvlv
481 giqwfgrsih gvkdllegdgl advavgaesq mivlssrpv dmvtlmsfsp aeipvhevec
541 systsnkmke gvniticfqi kslipqfqr lvanltytlq ldghrtrrrg lfpqgrhelr
601 rniavttsms ctdfsfhfpv cvqdlispin vslnfslwee egtprdqraq gkdippilrp
661 slhsetweip fekncgedkk ceanlrsvfs parsralrlt afaslsvels lsnleedayw
721 vqldlhfpqg lsfrkvemlk phsqipvsce elpeesrlls ralscnvssp ifkaghsva
781 qmmfntlvns swgdsvelha nvtcnnedsd llednsatti ipilypinil iqddedstly
841 vsftpkpki hqvkmyqvr iqpsihdhni ptleavvgvp qppseppith qwsvqmeppv
901 pchyedlerl pdaaepclpg alfrcpvvfr qeilvqvigt lelvgieas smfslcsls
961 isfnsskhfh lygsnaslaq vvmkvdvvy kqmllylvls giggl11111 ifivlykvgf
1021 fkrnlkekme agrgvpngip aedseqlasg qeagdpqcl plhekdsesg ggkd

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CD11b, NP_001139280.1, SEQ ID NO:207

```

1 malrvlllta ltlchgfnld tenamtfqen argfgqsvvq lqgsrvvga pgeivaanqr
61 gslyqcdyst gscepirqlv pveavnmslg lsiaattsp qllacgptvh qtcsestyvk
121 glcflfgsnl rqpqkfpea lrgcpqedsd iaflidgsgs iiphdfrmk efvstvmekl
181 kkskltfslm qyseefrihf tfkefqnnpn prslvkpitq llgrthtatg irkvvrelfn
241 itngarknaf kilvvtidg kfgdplgyed vipeadregv iryvigvga frseksrqel
301 ntiaskpprd hvfqvnnfea lktiqlre kifaiegtqt gsssfefhem sqegfsaait
361 sngpllstvg sydwagvfl ytskekstfi nmtrvdsdmn daylgyaaa ilnrnvqslv
421 lgapryqhg lvamfrqntg mwesnanvkg tqigayfgas lcsvdvdsng stdlvligap
481 hyyeqtrggq vsvcplprgq rarwqcdavl ygeggqpwgr fgaaltvlgd vngdkltdva
541 igapgeednr gavylfhgts gsgispshsq riagsklsp lqyfgqslsg gqdltdmglv
601 dltvgaqghv lllrsqpvlr vkaimefnpr evarnvfecn dqvvkgeag evrvclhvqk
661 strdrilregq iqsvtydla ldsgrphsra vfnetknstr rqtqvlgtq tcetlklqlp
721 nciedpvspi vlrlnflsvg tplsafgnl pvlaedaql ftalpfekn cgnndicqdd
781 lsitfsfmsl dclvvggpre fnvtvtvrnd gedsyrtqvt fffpldlsyr kvstlqnqrs
841 qrswrlaces asstevsgal kstscsinhp ifpensevtf nitfdvdska slgnklilkka
901 nvtssenmpr tnktefql elpvkyavymv tshgvstkyl nftasentsr vmqhgyqvs
961 lgqrsllpisl vflvpvrlnq tviwdrpqvt fsenlsstch tkerlpshsd flaelrkapv
1021 vncsiavcqr iqcdipffgi qeefnatlkg nlsfdwyikt shnhllivst aeilfndsvf
1081 tllpgqgafv rsqtetkvep fevpnpplli vgssvgglll lalitaalyk lgffkrqyk
1141 mmsegppga epq

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CD11c, NP_001139280.1, SEQ ID NO:208

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1 malrvlllta ltlchgfnld tenamtfqen argfgqsvvq lqgsrvvga pgeivaanqr
61 gslyqcdyst gscepirqlv pveavnmslg lsiaattsp qllacgptvh qtcsestyvk
121 glcflfgsnl rqpqkfpea lrgcpqedsd iaflidgsgs iiphdfrmk efvstvmekl
181 kkskltfslm qyseefrihf tfkefqnnpn prslvkpitq llgrthtatg irkvvrelfn
241 itngarknaf kilvvtidg kfgdplgyed vipeadregv iryvigvga frseksrqel
301 ntiaskpprd hvfqvnnfea lktiqlre kifaiegtqt gsssfefhem sqegfsaait
361 sngpllstvg sydwagvfl ytskekstfi nmtrvdsdmn daylgyaaa ilnrnvqslv
421 lgapryqhg lvamfrqntg mwesnanvkg tqigayfgas lcsvdvdsng stdlvligap
481 hyyeqtrggq vsvcplprgq rarwqcdavl ygeggqpwgr fgaaltvlgd vngdkltdva
541 igapgeednr gavylfhgts gsgispshsq riagsklsp lqyfgqslsg gqdltdmglv
601 dltvgaqghv lllrsqpvlr vkaimefnpr evarnvfecn dqvvkgeag evrvclhvqk
661 strdrilregq iqsvtydla ldsgrphsra vfnetknstr rqtqvlgtq tcetlklqlp
721 nciedpvspi vlrlnflsvg tplsafgnl pvlaedaql ftalpfekn cgnndicqdd
781 lsitfsfmsl dclvvggpre fnvtvtvrnd gedsyrtqvt fffpldlsyr kvstlqnqrs
841 qrswrlaces asstevsgal kstscsinhp ifpensevtf nitfdvdska slgnklilkka
901 nvtssenmpr tnktefql elpvkyavymv tshgvstkyl nftasentsr vmqhgyqvs

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Fig. 1 (continued)

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961 lgqrsllpisl vflvpvrlng tviwdrpqvt fsenlsstch tkerlpshsd flaelrkapv
 1021 vnscsiavcqr iqcdipffgi qeefnatlkg nlsfdwyikt shnhllivst aeilfndsvf
 1081 tllpgggafv rsqtetkvep fevpnpplli vgssvvglll lalitaalyk lgffkrqykd
 1141 mmseggppga epq

CD18/ITGB2, NP_001120963.2, SEQ ID NO:209

1 mlgrlrpplla lvgllslgcv lsqectkfkv sscreciesg pgctwcqkln ftgpgdpdsi
 61 rcdtrpqlm rgcaaddimd ptslaetqed hnggqkqlsp qkvtlylrpg qaaafnvtfr
 121 rakgypidly ylmldsysml ddlnrvkklg gdllralnei tesgrigfgs fvdktvlpfv
 181 nthpdklrnp cpnkekecqp pfafhrvkl tnnsnqfqt vkgqlisgnl dapeggldam
 241 mqvaacpeei gwrnvtrllv fatddgfhfa gdgklgailt pndgrchled nlykrsnefd
 301 ypsvqqlahk laenniqpif avtsrmvkt yeklteiipks avgelsedss nvvhliknay
 361 nklssrvfld hnalpdtlk tydsfcsngv thrnqprgdc dgqvinqpit fqvkvttatec
 421 iqeqsfvira lgftdivtvq vlpqcecr crdgsdrslch gkgflecglc rcdtgyigkn
 481 cecqtqgrss qelegscrkd nnsiicsglg dcvcgqclch tsdvpkglii gqycecdtin
 541 ceryngqvq gpgrglcfcg kcrchpgfeg sacqcertte gclnprrevc sgrgrcncv
 601 cchsgyqlp lcqecpgcps pcgkyiscae clkfekgpf gkncsaacpgl qlsnnpvkgr
 661 tckerdsegc wwaytleqqd gmdryliyvd esrecvagpn iaaivggtva givligilll
 721 viwkalihls dlreyrrfek eklksqwnnd nplfksattt vmnpkfaes

CD41, NP_000410.2, SEQ ID NO:210

1 maralcplqa lwllewvlll lgpcaappaw alnldpvqlt fyagpnsgsqf gfsldfhkds
 61 hgrvaivvga prtlgpsqee tggvflcpwr aeggqcpsll fdldrdeitrv gsqtltqtfka
 121 rqqlgasvvs wsdvivicap wqhnvlekt eeaektpvgs cflaqpesgr raeyspcrgn
 181 tlrsviyvend fswdkrycea gfssvvtqag elvlgapgy yflgllaqap vadifssyrp
 241 gillwhvssq slsfdssnpe yfdgywgysv avgefddgdn tteyvvgapt wswtlgavei
 301 ldsyyqrlhr lrgeqmasyf ghsavavtdvn gdgrhdllvg aplymesrad rklaevgrvy
 361 lflqprgpha lgapsllltg tqlygrfgsa iaplgdldrd gyndiaavaap yggpsgrgqv
 421 lvflgqsegl rsrpsqvlds pfptgsafgf slrgavdidd ngypdliuga yganqvavyr
 481 aqpvvkvsv llvqdslnpa vkscvlpqtk tpvscfniqm cvgatghnip qklslnaelq
 541 ldrqkprqgr rvlllgsqga gttlnldlgg khspichhtm aflrdeadr dklspivlsl
 601 nvslppteag mapavvlhgd thvqegetriv ldcgeddv cvpqlqltasvt gspllvgadn
 661 vlclqmdaan egegayeael avhlpggahy mralsnveg erlicnqkke netrvvlcel
 721 gnpmkknai giamlvsvgn leeagesvsf qlqirsknsq npnskiivld vpvraeaqve
 781 lrgnsfpasl vvaeeegere qnsldswgpk vehtyelhnn gpgtvnglhl sihlpggsqp
 841 sdlllyildiq pggglqcfpq ppvnplkvdw glpipspspi hpahhkrdr qiflpepeqp
 901 srlqdpvlvs cdsapctvvq cdlqemargq ramvtvlf wlpsslyqrpl dqfvlqshaw
 961 fnvsslpayv pplsprgea qvwtqllral eeraipiwv lvglvgglll ltilvlamwk
 1021 vgffkrnrpp leeddeee

CD51, NP_001138472.1, SEQ ID NO:211

1 mafpprrrrl lqprglplll sglllplcra fnldvdspae ysgpegsyfg favdffvpsa
 61 ssrmfllvga pkanttpgi veggqvlkcd wsttrrcpi efdatgnrdy akddplefks
 121 hqwfegasvrs kqdkilacap lyhwrtemkq erepvgtcfl qdgtktveya pcrrsrqlisd
 181 qvaeivskyd pnvysikynn qlatrtaqai fddsylgysv avgdfngdgi ddfvsgvpra
 241 artlmgvyiy dgknmsllyn ftgeqmaayf gfsvaatdin gddyadvfig aplfmdrgsd
 301 gklqevgqvs vslqrasgdf qttklngfev farfgsaiap lgdlldqdgfn diaiaapygg
 361 edkkgivyif ngrstglnav psqilegqwa arsmppsfgy smkgatdidk ngypdliuga
 421 fgvdrailyr arpvitvnag levypsilnq dnktcslpgt alkvsfcnv fclkadgkv
 481 lprklngfve llldklkqkg airralflys rpsphsknmt isrgglmqce eliaylrdes
 541 efrdkltipit ifmeyrldyr taadtgtlqp ilnqftpani srqahilldc gednvckpkl
 601 evsvdsdqkk iyigddnplt livkaqnqge gayeaelivs iplqadfigv vrnealarl
 661 scafktenqt rqvvcldgnp mkagtqllag lrfsvhqgse mdtsvkfdlq iqssnlfdkv
 721 spvvshkvdl avlaaveirg vsspdhiflp ipnwehkenp eteedvgpvv qhiyelrnng
 781 pssfskamlh lqwpkyynn tlllyilhydi dgpmnctsdm einplrikis slqtteknnd
 841 vagqgerdhl itkrdlalse gdihtlgcgv aqclkivcqv grldrgksai lyvksllwte
 901 tfmknknqn syslkssasf nviefpyknl pieditnstl vttntwtgiq papmpvpvww
 961 iilavlagll llavlvmvmy rmgffkrvrp pgeeqereql qphenegns et

Fig. 1 (continued)

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CD61, NP_000203.2, SEQ ID NO:212

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1 mrarprprpl watvlalgal agvgvggpn i cttrgvssc qclavspmca wcsdealplg
  61 sprcdlkenl lkdncapesi efpvsearvl edrplsdks gdssqvtqvs pqrialrlrp
 121 ddsknfsiqv rqvdyypvdi yylmdlsysm kddlwsignl gtklatqmrk ltsnlrigfg
 181 afvdkpvs py myisppaeale npcymkttc lpmfgykhvl tltdqvtrfn eevkkqsvsr
 241 nrdapeggfd aimqatvcde kigwrndash llvfttdakt hialdgrlag ivqpn dgqch
 301 vgsdnhyas ttmdypslgl mteklsqkni nlifavtENV vnlyqnySEL ipgttvGVLS
 361 mdssnvlqli vdaygkirsk velevrldpe elslsfnatc lnnevipglk scmglkigdt
 421 vsfsieakvr gcpqekeksf tikpvgfkdS livqvtfDcd cacqaqaepn shrcnnngt
 481 fecgvrcgP gwlgsqcecs eedyrpsqqd ecspregqpv csqrgeclcg qcvchssdfg
 541 kitgkycecd dfscvrykge mcsghgqcsc gdclcdsdwt gyyncnttrt dtcmssngll
 601 csgrgkcecg scvciqpgsy gdtcekcptc pdactfkkec veckkfdrGa lhdentcnry
 661 crdeiesvke lkdtgkdavn ctykneddCv vrfqyyedss gksilyvvee pecpkgpdiL
 721 vvlsvmGai lliglaalli wkllitihdr kefakfeeer arakwdtann plykeatstf
 781 tnityrgt
```

CD104, NP_001308052.1, SEQ ID NO:213

```
1 magpprppwa rlllaalisv slsgtlanrc kkapvkscte cvrvdkdcay ctdemfrdr
  61 cntqaellaa gcqresivvm essfqiteet qidttlrrsq mspqglrvrl rpgeerhfel
 121 evfeplespv dlyilmdfsn smsddldnlk kmqgnlarvl sqltsdytig fgkfvdkvsv
 181 pqtDMRpekl kepwpnsdpp fsfknvislt edvdefrnkl qgerisgnld apeggfdaIl
 241 qtavctrdig wrpdsthllv fstesafhye adganvlagi msrnderchl dttgtytqyr
 301 tqdypsvptl vrllakhnii pifavtnysy syyeklhtyf pvsslgvlqe dssnivelle
 361 eafnrirsnl diraldsprg lrtevtskmf qktrtgsfhi rrgevgiyqv qlralehvDg
 421 thvcqlpedq kgnihlkpsf sdglkmdagi icdvctcelq kevrSarcsf ngdfvcgqcv
 481 csegwsgqtC ncstgslsdi qpclregedk pcsgrgecqc ghcvcygegr yegqfcEYdn
 541 fqcprrtsGfl cndrgrcsmg qcvcepgwtg pscdcplSna tcidsnggic ngrghceCgr
 601 chchqpslyt dticeinySa ihpglcedlr scvqcqawgt gekkgrtcEE cnfkvmvde
 661 lkraeevvvr csfrdedddc tysytmegdg apgpnstvlv hkkkdcppgs fwWliPllll
 721 llPllllll lCwkycacck aClallpccn rghmvGfKed hYmlrenlma sdhldtpmlr
 781 sgnlkgrdvV rWkvtnnmqr pgfathaasi nptelvpYgl slrlarlcTE nllkpdtrec
 841 aqlrQeveen lnevyrqisg vHklqqtKfr qQpnagkkQd htivdtvlma prsakpallk
 901 ltekQveqra fhdlkvapgy ytlTadqdar gmvefQegve lvdvrvPlfi rpedddekqL
 961 lveaidvpag tatlgrrlvn itiikegard vvsfeqpefs vsrgdqvari pvirrVldgg
1021 ksQvsyrtQd gtaqgnrdyi pvegellfqp geawkelqvk llelQevdsI lrgqrVrrfh
1081 vqlsnPkfga hlgqphstti iirdpeldr sftsqmlssq ppphgdlgap qnpnakaags
1141 rkihfnwlpP sgkpmgyrvk ywiqgdseSe ahllDskvps veltnlypyC dyemkvcaYg
1201 aqgegpyssI vsCrthqevp sepgrlafnv vsstvtqlsw aePaetngei tayeVcyglv
1261 nddnrpigpm kkvldvnpkn rmllienlre sqpyrytvka rngagwGper eaiinlatqP
1321 krpmSipiip dipivdaqsg edydsflmys ddvlrSpsgs qrpsvSddte hlvngrmdfa
1381 fpgstnslhr mtttsaaayg thlsphvphr vlstsstltr dynsltrseh shsttlprdy
1441 stltsvsshD srltagvpdt ptrlvfsalg ptslrvswqe prcerplqgy sveyqlngg
1501 elhrlnipnp aqtsvvvedl lpnhsyvfrv raqsqegwgr eregvitieS qvhpqSPlcp
1561 lpgsaftlSt psapglvft alspdsIqls werprRpNgd ivgylvtcem aqgggpaTaf
1621 rvdgdspesr ltvpglsenv pykfkvqart tegfgpereg iitiesqdgg pfpqlgsrag
1681 lfqhplqsey ssittthtsa tepflvdglT lgaqhleagg sltrhvtqef vsrtlttsgt
1741 lsthmdqQff qt
```

Membrane proteins with enzymatic activity, misc.

CD13, NP_001141.2, SEQ ID NO:214

```

1 makgfyisks lgilgillgv aavctiials vvysqeknkn ansspvastt psasattnpa
  61 sattldqska wnryrlpntl kpdsyrvtlr pyltpndrgl yvfkgssstvr ftckeattdvi
 121 iihskklnyt lsqghrvvlr gvvggqppdi dktelvetpe ylvvhlkgsi vkdsqyemds
 181 efegelladdl agfyrseyme gnvrkvvatt qmqaadarks fpcfdepamk aefnitlihp
 241 kdltalsnml pkgpstplpe dpnwnvtefh ttpkmstyli afivsefdyv ekqasngvli
 301 riwarpsaia aghgdyaalnv tgpilnffag hydtpyplpk sdqiglpdfn agamenwglv
 361 tyrenslldf plsssssnke rvtviahel ahqwfgnlvt iewwndlwn egfasyveyl
 421 gadyaepetwn lkdlmvindv yrvmavdala sshplstpas eintpaqise lfdaisyskg
 481 asvlrmlssf lsedvfkqgl asylhtfayq ntiylnlwdh lqeavnnrsi qlpttvdirm
 541 nrwtlqmgfp vitvdtstgt lsqehflldp dsnvtrpsef nyvwivpits irdgrqqqdy
 601 wlidvraqnd lfstsgnewv llnlntvggy rvnydeenwr kiqtqlqrdr saipvinraq
 661 iindafnlas ahkvpvtlal nntflflier gypwaeaals slsyfklmfd rsevygpmkn
 721 ylkqkvtpplf ihfrntnnw reipenlmdq ysevnaiata csngvpecee mvsglfkqwm
 781 enpnnpihp nlrstvyena iaqgggeewd faweqfrnat lvneadklra alacskelwi
 841 lnrylsytlp pdlirkqdat stiisitnnv igqglvwdfv qsnwkkldnd ygggsfsfsn
 901 liqavtrrfs teyelqqleq fkdneetgf gsgtraleqa lektkanikw vkenkevvlq
 961 wftensk

```

Immune regulatory surface proteins including Fc receptors, T-cell receptor, complement receptors, interleukin receptors, immunoglobulins, MHC-I or MHC-II components

CD2, NP_001758.2, SEQ ID NO:215

```

1 msfpckfvas flilifnvssk gavskeitna letwgalgqd inldipsfqm sddiddikwe
  61 ktsdkkkiaq frkeketfke kdtlyklfng tlkikhkldt dqdiykvsy dtkgknvlek
 121 ifdlkiqerv skpkiswtci ntltcevmn gtdpelnlyq dgkhlklsqr vithkwtsl
 181 sakfkctagn kvskeessvep vscpekglid yliigicggg slmvfvall vfyitkrkkq
 241 rsrrndeele trahrvaate rgrkphqipa stpqnpatsq hpppppghrs qapshrpppp
 301 ghrvqhqpqk rppapsgtqv hqkgpplpr prvpkpphg aaenslpsn n

```

CD3 epsilon, NP_000724.1, SEQ ID NO:216

```

1 mqsghwrvl glclsvgvw qgdgneemgg itqtpykvsj sgttviltcp qypgseilwq
  61 hndknigde ddknigsded hlskelfsel eqsgyyvcyp rgskpedanf ylylrarvce
 121 ncmemdvmsv ativivdici tggllllvyy wsknrkakak pvtrgagagg rrgqgnkerp
 181 ppvpnpdyep irkgqrdlys glnqrri

```

CD3 zeta, NP_932170.1, SEQ ID NO:217

```

1 mkwkalftaa ilqaqlpita aqsfgllldpk lcyllldgilf iygviltalf lrvkfsrsad
  61 apayqqggnq lynelnlgr eeydvldkrr grdpemggkp qrrknpqegl ynelqdkkma
 121 eayseigmkg errrgkghdg lyqglstatk dtydalhmqa lppr

```

CD18, NP_001120963.2, SEQ ID NO:218

```

1 mlgrlrpplla lvgllslgcv lsqectkfkv sscreciesg pgctwcqkln ftgpgdpdsi
  61 rcdtrpqlm rgcaaddimd ptslaetqed hnggqkqlsp qkvtylrlpg qaaafnvtfr
 121 rakgypidly ylmdlsysml ddlnrvkklg gdllralnei tesgrigfgs fvdktvlpfv
 181 nthpdklrnp cpnkekecqp pfafhrvklk tnnsnqfqt vqkqlisgnl dapeggldam
 241 mqvaacpee gwrnvtrllv fatddgfha gdgklgailt pndgrchled nlykrsnefd
 301 ypsvgqlahk laenniqpif avtsrmvktv eklteipks avgelsedss nvvhliknay
 361 nklssrvfld hnalpdtlkv tydsfcsngv thrnqprgdc dgqvinqpit fqkvvtatec
 421 iqeqsfvira lgftdivtvq vlpqcecr crdqrdrslch gkgflecgc rcdtgyigkn
 481 cecqtqgrss qelegscrkd nnsiicsglg dcvcgqclch tsdvpqkliy gqycedctin
 541 ceryngqvcg gpgrglcfcg kcrchpgfeg sacqcertte gclnprvec sgrgrcrncv
 601 cechsgyqlp lcqecpgcps pcgkyiscae clkfekgpfk kncsaacpgl qlsnnpvkgr
 661 tckerdsegc wvaytleqqd gmdryliyvd esrecvagnp iaavvggtva givligilll
 721 viwkalihls dlreyrrfek eklksqwnnd nplfksattt vmnpkfaes

```

CD19, NP_001761.3, SEQ ID NO:219

```
1 mppprllffl lfltpmevrp eeplvvkvee gdnavlqclq gtsdgtptqq twsresplkp
  61 flklslglpg lgihrplai wlfifnvsqg mggfylcpgg ppsekawqpg wtvnvegsge
 121 lfrwnvsdlg glgcglknrs segpsspsgk lmspklyvwa kdrpeiwege ppclpprdsf
 181 nqslsqdltm apgstlwlsc gvppdsvsrg plswthvhp kpsllslsl kddrpardmw
 241 vmetglllpr ataqdagkyy chrgnltsmf hleitarpvl whwllrtggw kvsavtlayl
 301 ifclcslvgi lhlqralvrl rkrkrmtcpt rrrffkvtpgp gsgpqnyqgn vlsiptptsg
 361 lgraqrwaag lggatapsygn pssdvqadga lgsrspggvg peeeegegye epdseedsef
 421 yendsnlqgd qlsqdgsqye npedeplgpe dedsfnsaes yenedeeltq pvarmdfls
 481 phgsawdpsr eatlsgsqsy edmrqilyaa pqlrsirgqp gpnheedads yendmdhpgp
 541 dpawgggggm gtwstr
```

CD30, NP_001268359.2, SEQ ID NO:220

```
1 mfcstsavns carcffhsvc pagmivkfpg taqkntvcep aspgvspaca spenckepss
  61 gtippakptp vspatssast mpvrggtrla qeaaskltra pdspsvgrp ssdpglsptq
 121 pcepgsgdcr kqcepdyld eagrcacvs csrddlvekt pcawnsrtc ecrpgmicat
 181 satnscarcv pypicaaetv tkpqdmaekd ttfepplgt qpdcnptpen geapastspt
 241 qslldvsqas ktliptsap valsstgkpv ldagpvlfvw ilvlvvvvgv safllchrra
 301 crkrirqlh lcypvqtsqp klelvdsrpr rsstlrsgas vtepvaeerg lmsqplmetc
 361 hsvgaayles lplqdaspag gpssprdlpe prvstehtnn kiekiiymka dtvivgtvka
 421 elpegrglag paapeleeeel eadhtphype qetepplgsc sdvmlsveee gkedplptaa
 481 sgk
```

CD34, NP_001764.1, SEQ ID NO:221

```
1 mlvrrgarag prmprgwtal cllsllpsgf msldnngtat pelptqgtfs nvstnvsyqe
  61 tttptstlgt slhpsvqhgn eattnitett vkftstsvit svygnntssv qsqtstvistv
 121 fttpanvstp ettlkpslsp gnvsdlstts tslatsptkp ytssspilsd ikaeikcsqi
 181 revklrtgic leqntssca efkkdrgegl arvlcgeeqa dadagaqvcs lllaqsevrp
 241 qcillvlaln teissklqlm kkhqsdllkl gildfteqdv ashqsysqkt lialvtsgal
 301 lavlgitgyf lmnrrwspt gerlelep
```

CD36, NP_001120915.1, SEQ ID NO:222

```
1 mgcdnrcgli agavigavla vfggilmpvg dlliqtikk qvvleegtia fknwvktgte
  61 vyrqfwifdv qnpqevmmns sniqvkrqrg ytyrvrflak envtqdaedn tvsflqpnga
 121 ifepslsvgt eadnftvlnl avaaashiyq nqfvqmilns linkskssmf qvrtllrellw
 181 gyrdpfllslv pypvttvtgl fypynntadg vykfvngkdn iskvaidty kgkrnlisywe
 241 shcdmingtd aasfppfvek sqvlqffssd icrsiyavfe sdvnlkgipv yrfvlpskaf
 301 aspvenpdny cfctekiisk nctsygvldi skckeprpy islphflyas pdvsepiddgl
 361 npneehrty ldiepitgft lqfakrlqvn llvkvpskqi vlknlnrnyi vpilwlnetg
 421 tigdekanmf rsqvtgkinl lgliemills vgvvmfvafm isycacrskt ik
```

CD40, NP_001289682.1, SEQ ID NO:223

```
1 mvrlplqcvl wgclltavhp epptacrekq ylinsqccsl cpggqklvsd cteftetecf
  61 pcgesefldt wnrethchqh kydpnlglr vqkggtsetd tictceegwh ctseacescv
 121 lhrscspgfg vkqiatgvsd ticepcpvf fsnvssafek chpwtscetk dlvvqqagtn
 181 ktdvvcgesw tmgpgeslgr spgsaespgg dphhlrdpvc hplgaglyqk ggqeanq
```

CD40L, NP_000065.1, SEQ ID NO:224

```
1 mietynqtsp rsatglpis mkifmylltv flitqmigsa lfavylhrrl dkiedernlh
  61 edfvmfktiq rcntgersls llnceeiksq fegfvkdml nkeetkkens femqkgdgnp
 121 qiaahvisea sskttsvlqw aekgytmsn nlvtlengkq ltvkrqglyy iyaqvtfcns
 181 reassqafi aslclksprg ferillraan thssakpcgq qsihlggvfe lqpgasvfvn
 241 vtdpsqvshg tgftsfgllk l
```

CD44, NP_001001391.1, SEQ ID NO:225

```
1 mdkfwwhaaw glclvplsia qidlnitcrf agvfhevknq rysisrteaa dlckafnstl
61 ptmaqmekal sigfetcryg fieghvvipr ihpnsicaan ntgvviltsn tsqydytycfn
121 asappeedct svtdlpnafg gpititivnr dgtryvqkge yrtnpediyp snptdddvss
181 gsserssts ggyifytfst vhpipeddsp witdstdrip atrdqdtfhp sggshthtgs
241 esdghshgsq egganttsgp irtqpipewl iilasllala lilavciavn srrrcgqkkk
301 lvinsngav edrkpsglng easksqemvh lvnkessetp dqfmtadetr nlqnvdmkig
361 v
```

CD45, NP_001254727.1, SEQ ID NO:226

```
1 mtmylwlkll afgfafldte vfvtgqsptp sptghlqae qgsqskspnl ksreadssaf
61 swwpkarepl tnhwsksksp kaeelgv
```

CD47, NP_001768.1, SEQ ID NO:227

```
1 mwplvaalll gsaccgsaql lfnktsvef tfcndtvvip cfvtmneaqn ttevyvkwkf
61 kgrdiytdg alnkstvptd fssakievsv llkgdaslkm dksdavshtg nytcevtelt
121 regetiiek yrvvswfspn enilivifpi faillfwgqf giktlkyrsq gmdektiall
181 vaglvitviv ivgailfvpg eyslknatgl glivtstgil illhyvfvst aigltsfvia
241 ilviqviayi lavvglsici aacipmhgpl lisglisilal aqllglvymk fvasnqkti
301 pprkaveep1 nafkeskgmm nde
```

CD86, NP_787058, SEQ ID NO:228

```
1 mdpqctmgls nilfvmafl1 sgaaplkiqa yfnetadlpc qfansqnqsl selvvfwqdg
61 enlvlnevyl gkekfdsvhs kymgrtsfds dswtlrlhnl qikdkglyqc iihhkkptgm
121 irihqmnsel svlanfsqpe ivpisniten vyinltcssi hgypepkms vllrtknsti
181 eydgvmqksq dnvteydvsv islsvsfpdv tsnmtifcil etdktrllss pfsieledpq
241 pppdhipwit avlptviicv mvfcililkwk kkkkrprnsy kcgntntmere eseqtkkrek
301 ihipersdea qrvfksskts scdksdtcf
```

CD110, NP_005364.1, SEQ ID NO:229

```
1 mpswalfmvt sclllapqnl aqvssqdvsl lasdseplkc fsrtfedltc fwdeeeaaaps
61 gtyqllyayp rekpracpls sqsmphfgtr yvcqfpdqe vrlffplhlw vknvflnqtr
121 tqrvlfdsv glpappsiik amggsqpgel qisweepape isdflryelr ygprdpknst
181 gptviqliat etccpalqrp hsasaldqsp caqptmpwqd gpkqtspre asaltaeggs
241 clisglqpqn sywlqlrsep dgislggswg swslpvtvdl pgdavalglq cftldlknvt
301 cqwqqqghas sqgffyhsra rccprdrypi wenceeeekt npglqtppqfs rchfksrnds
361 iihilvevtt apgtvhsylg spfwihqavr lptpnlhwre issghlelew qhpsswaaqe
421 tcyqlrytge ghqdwkvlep plgarggtle lrprsrlyrlq lrarlngpty qgpwsswsdp
481 trvetateta wislvtalhl vlglsavlg1 lllrwqfpah yrirlhalwp slpdlhrvlg
541 qylrdtaals ppkatvsdtc eevepsllel lpkssertpl plcssqaqmd yrllqpsclg
601 tmplsvcppm aegscctth ianhsylpls ywqqp
```

CD111, NP_976031.1, SEQ ID NO:230

```
1 marmglagaa grwwglalgl tafflpgvhs qvvqvndsmg gfigtdvvlh csfanplpsv
61 kitqvtwqks tngskqnvai ynpsmgvsvl apyrervefl rpsftdgtir lsrleledeg
121 vyicefatfp tgnresqlnl tvmakptnwi egtqavlra kqgddkvlva tctsangkkp
181 svvswetrlk geaeyqeirn pngtvtvisr yrlvpsreah qqslacivny hmdrfkeslt
241 lnvqyepevt iegfdgnwyl qrmvklctck adanppatey hwttlngslp kgveaqnr1l
301 ffkgpiny1l agtyiceatn pigtrsgqve vnita1fcqli ypgkgrtrar mf
```

CD115, NP_001336665.1, SEQ ID NO:231

```
1 mgpgvlllll vatawhgqgi pviepsvpel vvkpgatvtl rcvngsgvew dgppspshwtl
  61 ysdgsssiils tnnatfqntg tyrctepgdp lggsaaiahly vkdparpwnv laqevvvfed
 121 qdallpcllt dpvleagvsl vrvrgrplmr htnysfspwh gftihrakfi qsqdyqcsal
 181 mggrkvmsis irlkvqkvip gppaltlvpa elvrirgeaa qivcsassvd vnfdvflqhn
 241 ntklaipqqs dfhnnryqkv ltlndqvdv qhagnyscva snvqgkhsts mffrvvesay
 301 lnlssseqnli qevtvgegl n lkmveaypg lqgfnwtlyg pfsdhqpepk lanattkdy
 361 rhtftlslpr lkpseagrys flarnpggwr altfeltlry ppevsviwtf ingsgtllca
 421 asgypqpntv wlqcsghtr cdeaqlqv w ddpypevlsq epfhkvtvqs lltvetlehn
 481 qtyecrahns vsgswafip isagahtpp deflftpvv acmsimalll llllllyky
 541 kqkpkqvrv kiiesyegns ytfidptqlp ynekweifprn nlqfgktlga gafgkvveat
 601 afglgkedav lkvavkmlks tahadekeal mselkimshl gqhenivnll gacthggpvl
 661 viteyccygd llNFLRRAE amlgpslspg qdpeggvdyk nihlekkyvr rdsgfssqgv
 721 dtyvempvsv tssndsfsq dldkedgrpl elrdllhfss qvaqgmafla skncihrdva
 781 arnvlltngh vakigdfgla rdimndsnyi vkgnarlpvk wmapesifdc vytvqsdvws
 841 ygillweifs lglnpypgil vnskfyklvk dgyqmaqapf apkniysimq acwalepthr
 901 ptfqqicsfl qeqaqedrre rdytnlpsss rsgsgsssss eleeessseh ltcceqgdia
 961 qpllqpnnnyq fc
```

CD117, XP_016863667.1, SEQ ID NO:232

```
1 mrgargawdf lcvlllllrvt qtgssqpsvs pgepsppsih pgksdlivrv gdeirllctd
  61 pgfvkwtfel ldetnenkqn ewitekaeat ntgkytctnk hglnsiyvf vrdpaklflv
 121 drslygkedn dtlvrcpltd pevtynslkg cggkplpkdl rfipdpkagi miksvkrayh
 181 rlclhcsvdq egksvlsekf ilkvrpafka vpvsvskas yllregeeft vtctikdvss
 241 svystwkren sqtklqekyn swhhgdfnye rqatltissa rvndsgvmc yanntfgsan
 301 vtttlelvdk gfinifpmin ttvfndgen vdliveyeaf pkpehqqwi y mnrtftdkwe
 361 dypksenese uryvselhlt rlkgteggty tflvsnsdvn aaiafnvyv tkpeiltydr
 421 lvngmlqcva agfpeptidw yfcpgteqrc sasvlpvdvq tlnssgppfg klvvqsids
 481 safkhngtve ckayndvgkt sayfnfafkg nnkeqihpht lftplligfv ivagmmciiv
 541 miltkyklqk pmyevqwkvv eeingnnyvy idptqlpydh kwefprnrls fgktlgagaf
 601 gkvveatayg lksdaamt v avkmlkpsah lterealmse lkvlsylgnh mnivnllgac
 661 tiggptlvit eyccygdlln flrrkrdsfi cskqedhaea alyknlhshk esscdstney
 721 mdkpvgvsyv vptkadkrrs vrigsyierd vtpaimedde laldledlls fsyqvakgma
 781 flaskncihr dlaarnillt hgritkicdf glardiknds nyvvkgnarl pvkwmapesi
 841 fncvytfesd vwsygiflwe lfslgsspyp gmpvdsckfyk mikegfrmls pehapaemyd
 901 imktcwwadp lkrptfkqiv qliekqises tnhiysnlan cspnrqkpvv dhsvrinsvg
 961 stasssqpll vhddv
```

CD125, XP_011531979.1, SEQ ID NO:233

```
1 miivahvlli llgateilqa dllpdekisl lppvnftikv tglaqvllqw kpnpdqeqrn
  61 vnleyqvkin apkeddyetr iteskcvtl hkgfsasvrt ilqndhsla sswasaelha
 121 ppgspgtsiv nltctntte dnysrlrsyq vslhctwlv tdapedtqyf lyyrygswte
 181 ecqeyskdtl grniacwfr tfilskgrdw lavlvngssk hsairpfdql falhaidqin
 241 pplnvtiaeie gtrlsiqwek pvsafpihcf dyevkihnt ngylqiekln tnaafisiidd
 301 lskydvqvra avssmcreag lwsewsqpiy vgndehkplr ewfvivimat icfillilsl
 361 ickichlwik lfppipapks nikdlfvtt n yevlcifiyi ldsadnflqk kkgassetei
 421 evicyiekpg vetledsvf
```

CD135, XP_011533319.1, SEQ ID NO:234

```
1 menqdalvci sesvpepive wvlcdsqges ckeespavvk keekvlhelf gtmdirccarn
  61 elgrectrflf tidlnqtpqt tlpqlflkvq eplwirckav hvnhgfgltw elenkaleeg
 121 nyfemstyst nrtmirilfa fvssvarndt gyytcssskh psqsalvtiv ekgfinatns
 181 sedyeidgye efcfsvrfka ypqirctwtf srksfpceqk gldngysisk fcnhkhqpgge
 241 yifhaendda qftkmftlni rrpqvlaea sasqascfsd gypbpswtwk kcsdkspnct
 301 eeitegvwnr kanrkvfqgw vssstlnmse aikgflvkcc aynslgtsce tillnspgpf
 361 pfiqdnisfy atigvcllfi vvtllichk ykkqfryesq lqmvqvtgss dneifyvdfr
 421 eyeydlkwef prenlefgkv lgsgafgkvm nataygiskt gvsiqvavkm lkekadsser
 481 ealmseklmm tqlgsheniv nllgactlsg piylifeycc ygdllnlrs krekhrtwt
 541 eifkehnsfs yptfqshpns smpgsrevqi hpdsdqisgl hgnsfhsede ieyenqrle
 601 eeedlnvltf edllcfayqv akgmeflef kscvhrdlaar nvlvthgkvv kicdfglard
 661 imsdnsnyvvr gnarlrvkwm apeslfegiy tiksdvwsyg illweifslg vnpygpipvd
 721 anfykliqng fkmdqpfyat eeiymiqsc wafdsrkrps fpnltsfllg qladaeeamy
 781 qnvldgrvsec phtyqnrrpf sremdlglls pqaqveds
```

CD184, NP_001334985.1, SEQ ID NO:235

```
1 megisenapl pnvpnapsdk hedgkrpthr rsarlgeevp fvhfltlppn ipqapkglrf
  61 ktasflpts clkprmiyts dnyteemsg dydsmkepcf reenfnfki flptiysiif
 121 ltgivnglv ilvmgyqkkl rsmtdkyrlh lsvadllfvi tlpfwavdav anwyfgnflc
 181 kavhviytn lyssvlilaf isldrylaiv hatnsqrprk llaekvvvg vwipallti
 241 pdfifanvse addryicdrf ypnldwvvvf qfqhimvgli lpgivilscy ciiisklshs
 301 kghqkrkalk ttvililaff acwlpypygi sidsfillei ikqgcefent vhwisitea
 361 laffhcclnp ilyaflgakf ktsaqhalts vsrgsslkil skgkrghhss vstesesssf
 421 hss
```

CD200, NP_001352780.1, SEQ ID NO:236

```
1 merlvirmpf shlstyslvw vmaavvlcta qvqvvtqder eqlytpaslk cslqnaqeal
  61 iwtwqkkkav spenmvtfse nhgvviqpay kdkinitqlg lqnstitfwn itledegcym
 121 clfntfgfgk isgtacitvy vqpivslhyk fsedhlntc satarpamv fwkvprsgie
 181 nstvtlshpn gttsvtsilh ikdpknqvgk evicqvlhlg tvtdfkqtnv kgywfsvp11
 241 lsivslvill vlisillywk rhrnqdrge1 sqgvqkmt
```

CD279, NP_005009.2, SEQ ID NO:237

```
1 mqipqapwpv vwavlqlgwr pgwfldspdr pwnpptfspa llvvtgedna tftcsfsnts
  61 esfvlwnyrm spsnqtdkla afpedrsqpg qdcfrvrtql pnggrdfhmsv vrrrndsgt
 121 ylcgaislap kaqikeslra elrvterrae vptahpspsp rpagqfqlv vgvvggllgs
 181 lvllvwvlav icsraargti garrtgqplk edpsavpvfs vdygeldfqw rektpeppvp
 241 cvpeqtayat ivfpgmgts sparrgsadg prsaqplrpe dghcswpl
```

CD273, NP_079515.2, SEQ ID NO:238

```
1 miflllmlsl elqlhgiaal ftvtvpkely iiehgsnvtl ecnfdtgshv nlgaitaslq
  61 kvendtsphr eratllleeql plgkasfhip qvqvrdegqy qciiygvaw dykyltlkvk
 121 asyrkinthi lkvpemdeve ltcqatgypl aevswpnvsv pantshtsrtp eglyqvtsvl
 181 rlkpppggrnf scvfwnthvr eltlasidlq sqmeptrthpt wllhifipfc iiafifiatv
 241 ialrkqlcqq lysskdttkr pvtttkrevn sai
```

CD274, NP_054862.1, SEQ ID NO:239

```
1 mrifavfifm tywhllnaft vtvpkdlyvv eygsnmtiec kfpvekqlld aalivyweme
  61 dkniiqfvhg eedlkvhgss yrqrarllkd qlslgnaalq itdvklqdag vyrcmisygg
 121 adykritvkv napynkinqr ilvvdvptse heltcqaegy pkaeviwts dhqvlsgktt
 181 ttnskreekl fnvtstlrin tttneifyct frldpeenh taelvipelp lahppnerth
 241 lvilgaillo lgvaltfifr lrkgrmmdvk kcgidtnsk kqsdthleet
```

CD362 = syndecan-2 (see SEQ ID NO:193)

EGFR, NP_958441.1, SEQ ID NO:240

```
1 mrpsgtagaa llallaalcp asraleekkv cqgtsnklitq lgtfedhfls lqrmfnncev
  61 vlgneleityv qrnyslsflk tiqevagyvl ialntverip lenlqiirgn myyensyala
 121 vlsnydankt glkelpmrnl geilhgavrf snnpalcnve siqwrdivss dflsnmsmdf
 181 qnhlgscqkc dpsscngscw gageencqkl tkiicaqqcs grcrgkpspd cchnqcaagc
 241 tgpresdclv crkfrdeatc kdtcpplmly npttyqmdvn pegkysfgat cvkkcprnyv
 301 vtdhgscvra cgadsyemee dgvrkckkce gpcrkvcngi gigeftkdsis inatnikhfk
 361 nctsisgdh ilpvafrgds fthtppldpq eldilkvtke itgflliqaw penrtdlhaf
 421 enleiirgrt kqhggfslav vslnitslgl rslkeisdgd viisgnknlc yantinwkkk
 481 fgtsgqtkki isnrgensck atggvchalc spegcwgppep rdcvscrnvs rgrecvdken
 541 llegeprefv enseciqchp eclpqamnit ctgrgpdnci qcahyidgph cvktcpagvm
 601 genntlvwky adaghvchlc hpnctygpqn eslamlfcl fklsscngsn dgsvshqsgs
 661 paaqescigw ipsllpsefq lgwggcshlh awpsasviit assch
```

L1CAM, NP_001137435.1, SEQ ID NO:241

```
1 mvvalryvwp llcspclli qipeelmepp viteqsprll vvfptddisl kceasgkpev
  61 qfwrtrdgvh fkpkeelgvt vyqspgsgsf titgnnsnfa qrfqgiyrcf asnklgtams
 121 heirlmaega pkwpketvkv veveegesvv lpcnpppsae plriywmnsk ilhikqderv
 181 tmgqngnlyf anvltsdnhs dyichahfpg trtiqkepi dlrkatnsm idrkprllfp
 241 tnssshlval qgqplvleci aegfptptik wlrgsgmpa drvtyqnhnk tlqlllkgee
 301 ddgeyrclae nslgsarhay yvtveaapyw lhkpqshlyg pgetarldcq vqgrpqpevt
 361 wringipvee lakdqkyriq rgallilsnvq psdtmvtqce annrhgllla nayiyvvqlp
 421 akiltadnqt ymavqgstay llckaagapv psvqwldeedg ttvlqderff pyangtlgir
 481 dlqandtgry fcclaandqnn vtimanlkkv datqitqgpr stiekkgsrv tftcqsafdp
 541 slqpsitwrg dgrdlqelgd sdyfiedgr lvihsldysd qgnyscvast eldvvesraq
 601 llvvgspgpv prlvlsdlhl ltqsgvrsvw spaedhnapi ekydiefedk emapekwysl
 661 gkvpgnqtst tlklspyvhy tfrvtainky gpgepspvse tvvtpeaape knpvdvkgge
 721 nettnmivit kplrwmawna pqvqyrvgwr pqgtrgpwqe qivsdpllvv sntstfvppe
 781 ikvqavnsqg kgpepqvtig ysgedypqai pelegieiln ssavlvkwrp vdlavqkghl
 841 rgyvntywre gsqrkhskrh ihkdhvvpva nttsvilsgl rpyssyhlev qafnrgsgsp
 901 aseftfstpe gvpghpealh lecqsntsll lrwqpplshn gvltgyvlsy hpldegqkqg
 961 lsfnlrdpel rthnldtlsp hlryrfqlqa ttkegpgaei vreggtmals gisdfignisa
1021 tagenysvvs wvpkegqcnf rfhlflkalg eekggaslsq qyvsynqssy tqwdlqpdt
1081 yeihlfkerm frhqmavktn gtgrvrlppa gfategwfig fvsaiillll vllilcfikr
1141 skggkysvkd kedtqvdeea rmpkdetfge ysdneekafg ssqpslngdi kplgsddsla
1201 dyggsvdvqf nedgsfigqy sgkkekeaag gndssgatp inpavale
```

LFA-1, NP_001120963.2, SEQ ID NO:242

```
1 mglrlrplla lvgllslgcv lsqectkfkv sscreciesg pgctwcqkln ftgpgdpdsi
  61 rodtrpqlm rgcaaddimd ptslaetqed hnggqkqlsp qkvtylrlpg qaaafnvtfr
 121 rakgypidly ylmldsysml ddlnrvkklg gdllralnei tesgrigfgs fvdktvlpfv
 181 nthpdklrnp cpnkekecqp pfafhrvklk tnnsnqfqt vqkqlisgnl dapeggldam
 241 mqvaacpeei gwrnvtrllv fatddgfhfa gdgklgailt pndgrchled nlykrsnefd
 301 ypsvgqlahk laenniqpif avtsrmvkt y eklteipks avgelsedss nvvhliknay
 361 nklssrvfld hnalpdtlkv tydsfcsngv thrnqprgdc dgvinvpit fqvkvatec
 421 iqeqsfvira lgftdivtvq vlpqcecr cr dqsdrslch gkgflecgc rcdtgyigkn
 481 cecqtqgrss qelegscrkd nnsiicsglg dcvcgqclch tsdvpqkli y gqycecdtin
 541 ceryngqvcg gpgrglcfcg kcrchpgfeg sacqcertte gclnprvec sgrgrcrncv
 601 cechsgyqlp lcqecpgcps pcgkyiscae clkfekgpfg kncsaacpgl qlsnnpvkgr
 661 tckerdsegc wwaytleqqd gmdryliyvd esrecvagnp iaavvggtva givligilll
 721 viwkalihls dlreyrrfek eklksqwnnd nplfksattt vmnpkfaes
```

LGALS3BP, NP_005558.1, SEQ ID NO:243

```
1 mtpprlfrwvw llvagtgqgvn dgdmlradgg atnqgrveif yrgqwgvtvcd nlwdltdasv
  61 vcralgfena tqalgraaafg qsggpihlde vqctgteasl adckslgwlk snrherdag
 121 vvcnetrst htldlsrels ealgqifdsq rgcdlsisvn vqgedalgfc ghtviltanl
 181 eaqalwkepg snvtmsvdae cvpmvrldlr yfysrridit lssvkcfhkl asaygarqlq
 241 gycaslfail lpqdpstfmp ldlayavat gdalleklcl qflawnfeal tqaeawpsvp
 301 tdllqlllpr sdlavpsela llkavdtsw gerasheev glvekirfpm mlpeelfelq
 361 fnlslywshe alfqkktlqa lefhtvpfql larykglnt edtykpriyt sptwsafvtd
 421 sswsarksqly vyqsrrgplv kyssdyfqap sdyryypyqs fqtphqpsfl fqdkrvswsl
 481 vylptiqscw nygfscssde lpvlgltksq gsdrtiayen kalmleclgf vadvtdefegw
 541 kaaipsaltd nsskstssfp cpaghngfgr tvirpfyltn ssgvd
```

MFGE8, NP_001297248.1, SEQ ID NO:244

```
1 mprprllaal ccallcapsl lvalecvepl glengnians qiaassvrvt flglqhwvpe
  61 larlnragmv nawnpsndd npwiqvnllr rmwvtgvvtq gasrlashey lkafkvaysl
 121 nghefdfihd vnkkhkefvg nwnknabhvn lfetpveaqy vrlyptscht actlrfellg
 181 celngcanpl glknnsipdk qitasssykt wglhlfswnp syarldkqgn fnawvagsyg
 241 ndqwlqvdlg sskevtgiit qgarnfgsvq fvasykways ndsanwteyq dprtgsskif
 301 pgnwdnhshk knlfetpila ryvrilpvaw hnrialrlel lgc
```

SLIT2, NP_001276064.1, SEQ ID NO:245

```
1 mrgvgwqmls lslglvlail nkvaqqacpa qcscsgstvd chglalrsvp rniprnterl
  61 dlngnnitri tktdfaglrh lrvqlmenk istiergafq dlkelerlrl nrnhlqlfpe
 121 llflgtakly rldlsenqiq aiprkafrga vdiknlqldy nqisciedga fralrdlevl
 181 tlennnitrl svasfnhmpk lrtfrlshnn lycdchlawl sdwlrqrprv glytqcmgps
 241 hlrgnhvaev qkrefvcsde eeghqsffmap scsvlhcpaa ctcsnnivdc rgkglteipt
 301 nlpetiteir leqntikvip pgafspykkl rridlsnnqi selapdafqg lrslnslvly
 361 gnkitepkps lfeglfslql lllnankinc lrvdafqdlh nlnllslydn lqtiakgtf
 421 splraiqtmh laqnpficdc hlkwldlylh tnpietsgar ctsprrlank rigqikskkf
 481 rcsgetedys klsgdcfadl acpekrcceg ttvdcsnqkl nkipehipqy taelrlnnne
 541 ftvleatgif kklpqlrkin fsnnkitdie egafegasgv neilltsnrl envqhkfmkg
 601 leskltmlr snritcvgn sfiglssvrl lslydnqitt vapgafdtlh slstlnllan
 661 pfncncylaw lgewlrkkri vtgnprcqkp yflkeipiqd vaiqdfctdd gnddnscspl
 721 srcptectcl dtvvrscnkg lkvlpkgipr dtelyldgn qftlvpkels nykhltlidl
 781 snnristsn qsfsnmtql tlilsynrlr cipprtfddl kslrllslhg ndisvpega
 841 fndlsalshl aiganplycd cnmqwlsdwv kseykepgia rcagpgemad klllhtpskk
 901 ftcqgpvdvn ilakcnpcls npckndgtcn sdpvdfyrct cpygfgkqdc dvpiahacisn
 961 pckhggctchl kegeedgfwc icadgfegeen cevnvdced ndcennstcv dginnytclc
1021 ppeytgelce ekldfcaqdl npcqhdscki ltpkgfkcdc tpgyvgehd idfdccqdnk
1081 cknaghtda vngytcicpe gysglfcefes ppmvlprtsp cndfcdqnga qcivrinepi
1141 cqclpgyqge kceklsvvnf inkesylqip sakvrpqttni tlqiatdeds gillykgdkd
1201 hiavelyrgr vrasdytgsh pasaiysvet indgnfhive llaldqslsl svdggnpkii
1261 tnlskqstln fdsplyvggm pgksnvaslr qapqngtsf hgcirnllyin selqdfqkvp
1321 mqtgilpgce pchkkvcahg tcqpssqagf tcecgqegwm plcdqrtnp clgnkcvhgt
1381 clpinafsys ckcleghggv lcdeedlfn pcqaikckhg kcrslglgqp ycecssgytg
1441 dscdreiscr gerirdyyqk qqgyaacqtt kkvsrlecrg gcaggqccgp lrskrkysf
1501 ectdgssfvd evekvkqgc trcv
```

STX3, NP_004168.1, SEQ ID NO:246

```
1 mkdrleqlka kqltqddtd aveiaidnta fmdeffseie etrlnidkis ehveeakkly
  61 siilsapipe ptkkddleql tteikkrann vrnklsmek hieedevrss adlirksqh
 121 svlsrkfvev mtkyneaqvd frerskgriq rgleitgkkt tdeeleemle sgnpaiftsg
 181 iidsqiskqa lseiegrhkd ivrlessike lhdmfmdiam lvenqgemld nielnvmhtv
 241 dhvekardet kkavkyqsqa rkkliiiivl vvvllgilal iiglsvglh
```

Surface markers of mesenchymal stem cells

CD44, CD45, CD71 (as above)

CD73 (also included in the group of enzymatic TM proteins), NP_001191742.1, SEQ ID NO:247

```

1 mcpraarapa tlllalgalvl wpaagawelt ilhtndvhsr leqtsedssk cvnasrcmkg
  61 varlftkvqg irraepnvll ldagdqyqgt iwftvykga vahfmnalry damalgnhef
 121 dngvegliep llkeakfpil sanikakgpl asqisglylp ykvlpvqdev vgivgytske
 181 tpflsnpgtn lvfedetal qpevdklktl nvnkialgh sgfemdklia qkvrgvdvvv
 241 gghsntflyt gnppskevpa gkypfivtsd dgrkvpvva yafgkylgyl kiefdergnv
 301 isshgnpill nssipedpsi kadinkwrik ldnystqelg ktivyldgss qscrfrncm
 361 gnlicdamin nnlrhtdemf wnhvsmciln gggirspide rnngihvvyd lsrkpgdrvv
 421 kldvlctkcr vpsydpkmd evykvilpnf langgdgfm ikdellrhds gdqdinvvst
 481 yiskmkviyp avegrikfst gshchgsfsl iflslwavif vlyq

```

CD90, NP_001298091.1, SEQ ID NO:248

```

1 mnlaisiall ltlqvsvrg kvtsltacvl dqsrlldcrh entssspi qy efsltretkk
  61 hvlfgtvgvp ehtyrstnf tsynkmvly lsafstskdeg tytcalhhs hspissqnv
 121 tvlrldklvc egisllaqnt swllllllsl silqatdfms l

```

CD29 (also included in the group of the integrin family), NP_596867.1, SEQ ID NO:249

```

1 mnlqipifwig lissvccvfa qtdenrclka nakscgeciq agpncgwctn stflqegmpt
  61 sarccddleal kkkgcppddi enprgskdik knknvtnrsk gtaeklkped itqi qpqqlv
 121 lrlrsgepqt ftlkfkraed ypidlylmd lsysmkddle nvkslgtldm nemrritsdf
 181 rigfgsfvek tvmpyisttp aklnpctse qnctspfsyk nvlslnkge vfnelvgkqr
 241 isgnldspeg gfdaimqvav csgligwrnv trllvfstda gfhfagdgkl ggivlpndgg
 301 chlennmytm shyydypsia hlvqklsenn iqtifavtee fqpvylkeln lipksavgtl
 361 sanssnviql iidaynsls evilengkl egvtisyksy cknvgvntge ngrkcsnisi
 421 gdevqfeisi tsnkcpkkds dsfki rplgf teevevilqy icececqseg ipespkcheg
 481 ngtfecgacr cnegrvg rhc ecstdevnse dmdaycrken sseicsnng cvcgqcvcrk
 541 rdntneiysg kfcednfnf drsnglicgg ngvckcrvce cnpnytg sac dcsldtstce
 601 asngqicnrg gicecgvckc tdpkfqqgtc emcqtclgvc aehkecvqr afnkgekkdt
 661 ctqecsyfni tkvesrdklp qpvqpdpvsh ckekdvdcdw fyftysvngn nevmvhvven
 721 pecptgpdi pivagvvagi vliglallli wkllmiihnr refakfekek mnakwdtgen
 781 piyksavttv vnpkyegk

```

CD105, NP_001265067.1, SEQ ID NO:250

```

1 mleasqdmgr tlewrprtpa lvrghlegv aghkeahilr vlpghsagpr tvtkvelsc
  61 apgdldavli lqgppyvswl idanhnmqiw ttgeysfkif pek nirgfk l pdtpqgllge
 121 armlnasiva sfvelplasi vslhasscgg rlqts papiq ttpkdtcsp ellmsliqtk
 181 caddamtvl kkelvahlkc titgltfwdp sceaedrgdk fvlrsayssc gmqvsasmis
 241 neavvnilss sspqrkkvhc lnmdslsfql glylsphflq asntiepgqq sfvqvrsvps
 301 vsefllqls chldlgpegg tveliqgraa kgncvsllsp spegdprfsf llhfytpip
 361 ktgtlsc tva lrpktgsdq evhrtvmrl niispdlsg tskglvlpav lgitfgafli
 421 galltaalwy iyshtsrpsk repvvavaap assessstnh sigstqstpc stssma

```

CD106 (also included in the group of the sialoglycoproteins), NP_001069.1, SEQ ID NO:251

```
1 mpgkmvvilg asnilwimfa asqafkiett pesrylaqig dsvsltcstt gcespfswr
  61 tqidsplngk vtnegttstl tmnpvsfgne hsylctatce srklekgiqv eiysfpkdpe
 121 ihlsgpleag kpitvkcsva dvypfdrlei dlkghlkmk sqefledadr ksletkslev
 181 tftpviedig kvlvcraclh idemdsvptv rgavkelqvy ispknvtvisv npstklqegg
 241 svtmtcsseg lpapeifwsk kldngnlqhl sgnatltlia mrmedsgiyv cegvnligkn
 301 rkevelivqe kpftveispg priaaqigds vmltcsvmgc espsfswrtq idsplsgkvr
 361 segtnstltl spvsfenehs ylctvtcghk klekgiqvel ysfprdpelie msgglvngss
 421 vtvscvkpsv ypldrleiel lkgetileni efledtdmks lenkslemtf iptiedtgka
 481 lvcqaklhid dmefepkqrq stqtlvvnva prdttvlvsp ssileegssv nmtclsqgfp
 541 apkilwsrql pngelqplse natltlistk medsgvylce ginqagrsk eveliiqvtp
 601 kdikltafpe esvkegdtvi isctcgnvpe twiilkkae tgdtvlksid gaytirkagl
 661 kdagvyeces knkvgsqlrs ltldvqgren nkdyfspell vlyfasslii paigmiyfa
 721 rkanmkgsys lveaqsksv
```

CD146, NP_006491.2, SEQ ID NO:252

```
1 mglprlvcaf llaacccpr vagvpgeaeq papelvevev gstallkcgl sqsqgnlshv
  61 dwfsvhkekr tlifrvrqqg qgsepgeyeq rlsldqrgat laltqvtpqd eriflcqgkr
 121 prsqeyriql rvykapeepn iqvnplgipv nskepeevat cvgrngypip qviwykngrp
 181 lkeeknrvihi qssqtveessg lytlqsilka qlvkedkdaq fycelnyrlp sgnhmkesre
 241 vtvpvfypte kwlelepvg mlkegdrvei rcladgnppp hfsiskqnps treaeetttn
 301 dngvlvlepa rkehsgryec qgldldtmis llsepqellv nyvsdvrsvp aaperqegss
 361 ltlcteaess qdlefqlwre etggvlergp vlqlhdlkre aggyrcvas vpsipglrnt
 421 qlvnvaifgp pwmaferkv wvkenmvlnl sceasghprp tiswnvngta seqdqdpqrv
 481 lstlnvlvtp elletgvect asndlgknts ilflelvnlt tltpdsnttt glststasph
 541 transtster klpepesrgv vivavivcil vlavlgavly flykkgklpc rrsqkgeitl
 601 ppsrkselvv evksdklpee mglldqssgd krapgdqgek yidlrh
```

CD164, NP_001135874.1, SEQ ID NO:253

```
1 msrlsrslw aatclgvlc lsdaknttqh pnvttlapis nvtsapvtsl plvttpapet
  61 cegrnscvsc fnsvvnttc fwieckdesy cshnstvsdc qvgnttdfcs vstatpvpta
 121 nstgtntntv tptsqpvrks tfdaasfigg ivlvlgvqav ifflykfcks kernyhtl
```

CD166, NP_001618.2, SEQ ID NO:254

```
1 meskgasscr llfcillisat vfrpqlgwyv vnsaygdtti ipcrldvpqn lmfgkwkyek
  61 pdgspvfiaf rsstkksvqy ddvpeykdr lnsenytlsl snarisdekr fvcmlvtedn
 121 vfeaptivkv fkqpskpeiv skalleteq lklldgcise dsypdgnitw yrngkvhlpl
 181 egavviifkk emdpvtqlyt mtstleyktt kadiqmpftc svtyygpsgq ktihsqavf
 241 diyypteqvt iqvlppknai kegdnitlkc lngnpppee flfylpggpe girssntytlt
 301 tdvrrnatgd ykcsldkks miastaitvh yldslnpsg evtrqigdal pvsctisasr
 361 natvvwmkdn irlrsspsfs slhyqdagny vcetalqeve glkkresltl ivegkpgikm
 421 tkktdpsgls ktiichveg f pkpaiqwtit gsgsvinqte espyingryy skiiispeen
 481 vtlcttaeng lertvnslnv saisipehde adeisdenre kvndqakliv givvglllaa
 541 lvagvvywly mkksktaskh vnkldlgnmee nkkleennhk tea
```

STRO-1, NP_004958.2, SEQ ID NO:255

```
1 mktalillsi lmacafsmk nlhrrvkied seengvfkyr pryylykhay fyphlkrfpv
  61 qgssdsseen gdsseeeee eeetsnegen neesnededs eaenttlat tlgygedatp
 121 gtgytglaai qlpkkagdit nkatkekesd eeeeeeeegn eneeseaevd eneqgingts
 181 tnsteaengn gssgdngee geeesvtgan aedttetgrq gkgtskttts pnggfepptp
 241 pqvyrttspp fgktttveye geyeytgane ydngyeiyes engeprgdny rayedeysyf
 301 kgqgydydg qnyyhhq
```

Glycoproteins

CD54, NP_000192.2, SEQ ID NO:256

```

mapssrpapallvllgal fpgpgnaqts vspskvilpr ggsvlvtcst scdqpkllgi
  61 etplpkke11 lpgnnrkvyel snvqedsqp mcysncpdgq staktfltvty wtpervelap
 121 lpswqpvgkn ltlrcqvegg apranltvvl lrgekelkre pavgepaevt ttvlvrrdhh
 181 ganfscrtel dlrrpglelf entsapyqlq tfvlpatppq lvsprvlevd tqgtvvcslid
 241 glfpvseaqv hlaigdqrln ptvtvgndsf sakasvsvta edegtqrlltc avilgnqsqe
 301 tlqvtvtisf papnviltkp evsegtevtv kceahprakv tlngvpaqpl gpraql1lka
 361 tpedngrsfs csatlevagq lihknqtrel rvlygprlde rdcpgnwtwp ensqqtpmcq
 421 awgnplpelk clkdgtfplp igesvtvtrd legtylcrar stqgevtkrv tvnvlsprie
 481 iviitvvaav vimgtaglst ylynqrkik kyrlqqaqkg tpmkpntqat pp

```

Sialoglycoprotein CD235a, NP_001295116, SEQ ID NO:257

```

mygkiifvll lseivsisal sttevamhts tsssvtkysi ssqndthkr dtiaatprah
  61 evseisvrtv yppeeeteit liifgvmagv igtillisyg irrlikksps dvkplpspdt
 121 dvplssveie npetsdq

```

Channelling proteins, including Ca-channel proteins

GLUR2, NP_000817.3, SEQ ID NO:258

```

1 mqkimhisvl lspvlwglif gvssnsiqig glfprgadqe ysafrvgmvq fstsefrltp
  61 hidnlevans favtnafcsq fsrgvyaifg fydkksvnti tsfcgthlvs fitpsfptdg
 121 thpfviqmrp dlkgallsli eyyqwdkfay lydsdrglst lqavldsaae kkwqvtainv
 181 gninnndkkde myrs1fgdle lkkerrvild cerdkvndiv dqvitigkhv kgyhyiianl
 241 gftdgdllki qfgganvsgf qivdyddslv skfierwstl eekeypgaht ttikytsalt
 301 ydavgvmta frnlrkqrie isrrgnagdc lanpavpwgq gveieralkq vqveglsgni
 361 kfdqngkrin ytinimelkt ngprkigyws evdkmvvtlt elpsgndtsg lenktvvvtt
 421 ilespyvmmk knhemlegne ryegycvdl aeiakhcgfk ykltivgdgk ygardadtiki
 481 wngmvgelvy gkadiaiapl titlvreevi dfskpfmslg isimikkpqq skpgvfsfld
 541 playeiwmc1 vfayigvsvv lflvsrfsfy ewhteefedg retqsssestn efgifnslwf
 601 slgafmqggc disprslsgr ivggvwwfff liiissytan laafltvrm vspiesaedl
 661 skqteiaagt ldsgstkeff rrskiavfdk mwtymrsaep svfvrtaeg varvrkskgk
 721 yayllestmn eyieqrkpcd tmkvvggnld kgygiatpkq sslrtvpnla vlklseggvl
 781 dklknkwyd kgecgakdsg skektsalsl snvagvfyl vggglglamlv aliefcyksr
 841 aeakrmkvak naqninpsss qnsqnfatyk egyptvgyies vki

```

GLUR3, NP_000819.3, SEQ ID NO:259

```

1 marqkkmqgs vlrvffl1vl gllghshggf pntisigglf mrntvqehsa frfavqlynt
  61 nqnttekp1h lnyhvdhlds snsfsvtnaf csqfsrgvya ifgfydqmsm ntltsfcgal
 121 htsfvtpsfp tdadvqfviq mrpalkgail slghykwk fvylydterg fsilqamea
 181 avqnnwqvta rsvgnikdvq efrriieemd rrqekrylid ceverintil eqvvilgkhs
 241 rgyhymlanl gftdillerv mhgganitgf qivnnenpmv qqfiqrwvrl derefpeakn
 301 aplkytsalt hdailviaea frylrrqrvd vsrrgsagdc lanpavpwsq gidieralkm
 361 vqvqgmtgni qfdtygrtn ytidvyemkv sgsrkagywn eyerfvpfsd qqisndsass
 421 enrtivvtti lespyvmkyk nheglegner yegycvdlay eiakhvriky klsivgdgky
 481 gardpetkiw ngmvgelvyg radiavaplt itlvreevid fskpfmslgi simikkpqqk
 541 kpgvfsfldp layeiwmciv fayigvsvvl flvsrfsfy whlednneep rdpqspdpdp
 601 nefgifnslw fslgafmqgg cdisprslsg rivggvwwff tliiissyta nlaafltvrm
 661 mvspiesaed lakteiaagt tldsgstkef frrskiavve kmwsymksae psvftkttd
 721 gvarvrksk1 kfaflllestn neyieqrkpc dtmkvvggnld skgygvatpk gsalgnavn1
 781 avlklnegg1 ldklknkwy dkgecgsggg dskdktsals lsnvagfyi lvggglglamm
 841 valiefcyks raeskrmklt kntqnfkpap atntqnyaty regynvygte svki

```

Fig. 1 (continued)

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HLA-DM, NP_006111.2, SEQ ID NO:260

```
1 mgheqnggaa llqmlpllwl lphswavpea ptpmwpddlq nhtflhtvyc qdgspsvgl  
61 eaydedqlff fdfsqntrvp rlpefadwaq eggdapailf dkefcewmiq qigpkldgki  
121 pvsrgfpiae vftlkplefg kpntlvcfvs nlfppmltvn wqhhsvpveg fgptfvsavd  
181 glsfqafsyf nftpepsdif scivtheidr ytaiaywvpr nalpsdllen vlcgvafglg  
241 vlgiivgivi iiyfrkpcsg d
```

Miscellaneous:

FLOT2, NP_004466, SEQ ID NO:261

```
mgnchtvgpn ealvvsggcc gsdykqyvfg gwawawwcis dtqrisleim tlqprcedve  
61 taegvalttv gvaqvkimte kellavaceq flgknvqdik nvvlqtlegl lrsilgtltv  
121 eqiyqdrdqf aklvrevaap dvgrmgieil sftikdvdyk vdylsslgt qtavvqrdad  
181 igvaeaerda gireaeckke mldvkfmadt kiadskrafe lqksafseev niktaeaqla  
241 yelggareqq kirgeeieie vvqrkkqiav eaqeilrtdk eliatvrrpa eaeahriqqi  
301 aegekvvqvl laqaeaeakir kigeaeaaavi eamgkaeaer mklkaeayqk ygdaakmalv  
361 lealpqiaak iaapltkvde ivvlsgdnsk vtsevnrla elpasvhalt gvdlskipli  
421 kkatgvqv
```

Fig. 2

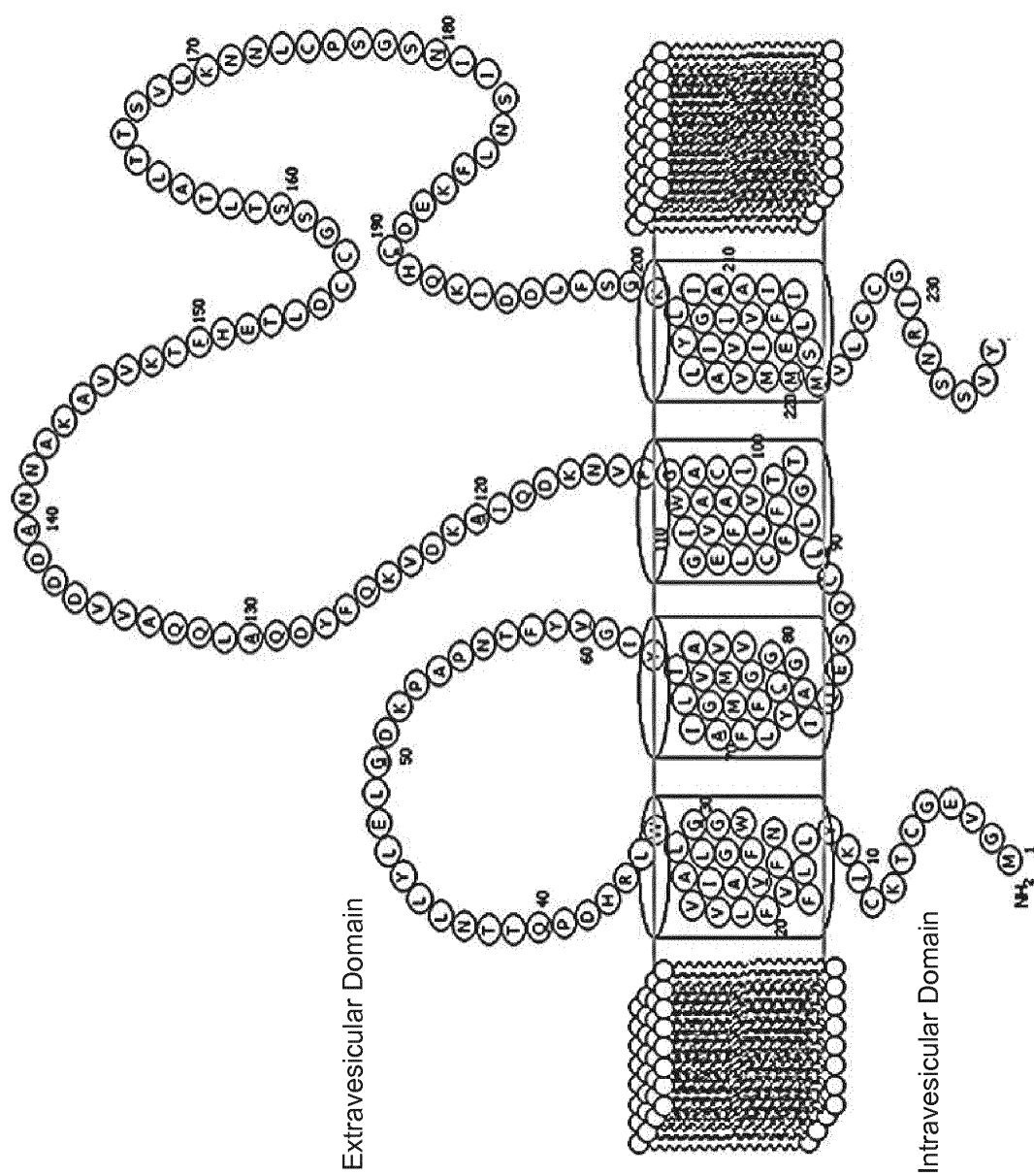


Fig. 3

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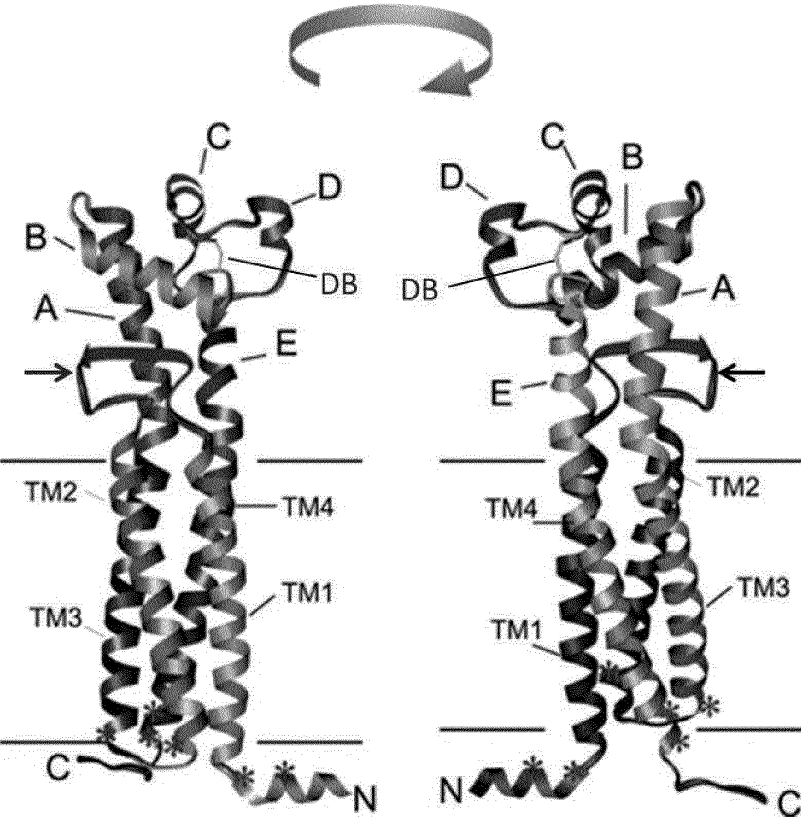


Fig. 4:

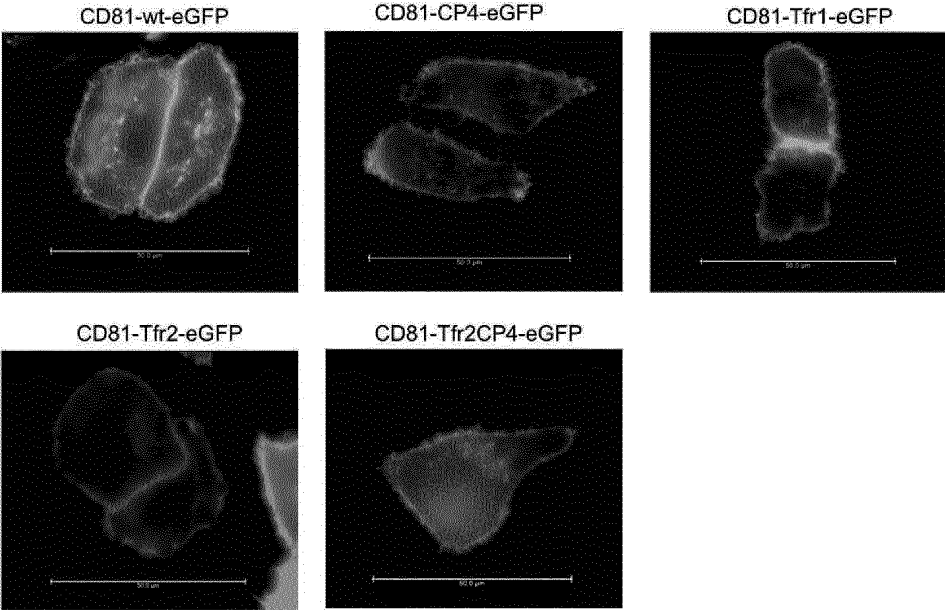


Fig. 5

A

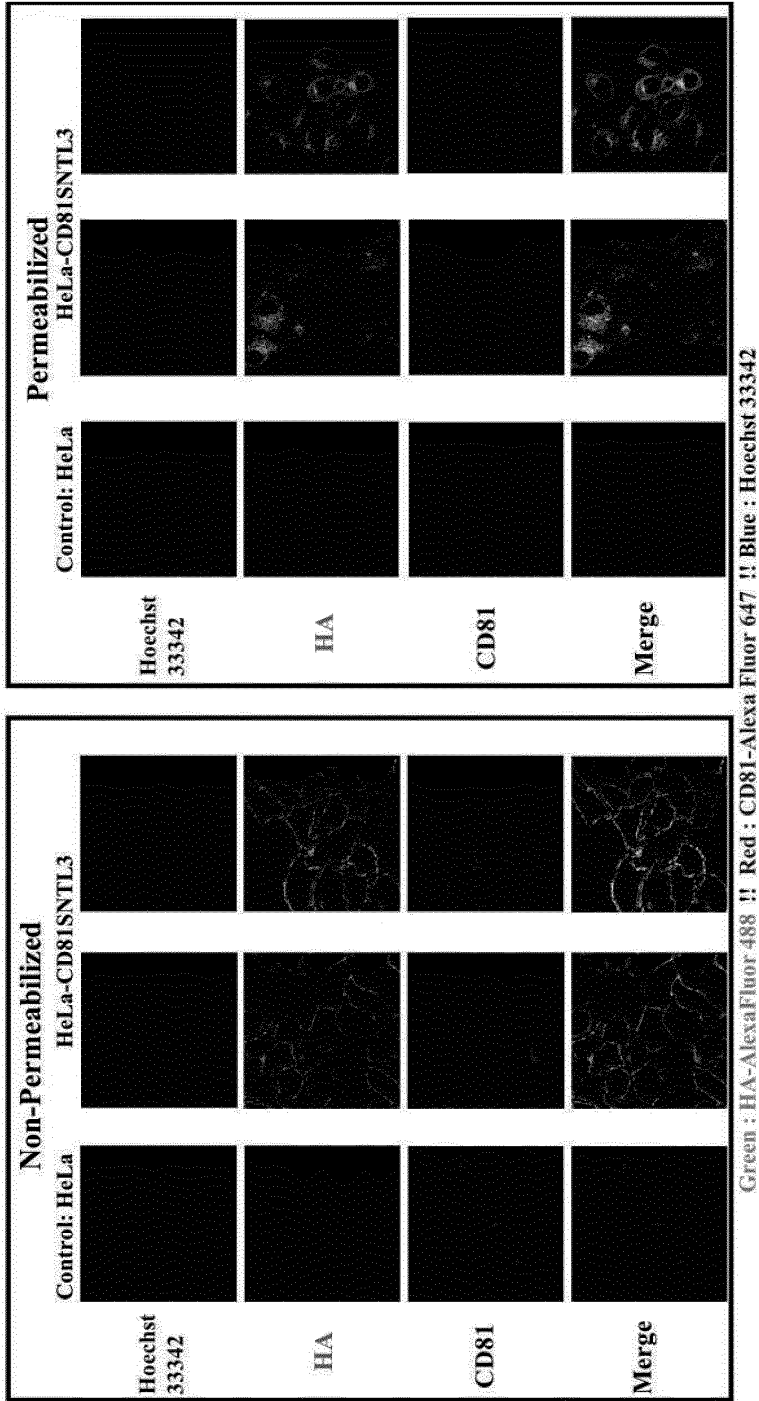
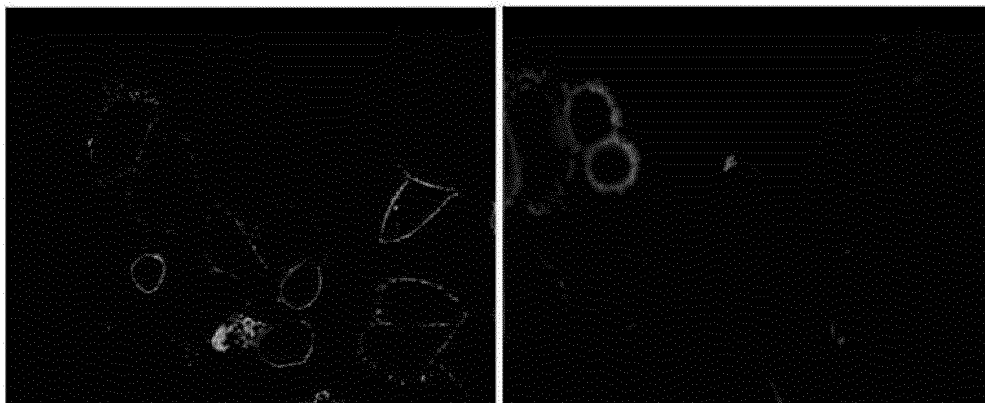


Fig. 5 (continued)

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B



C

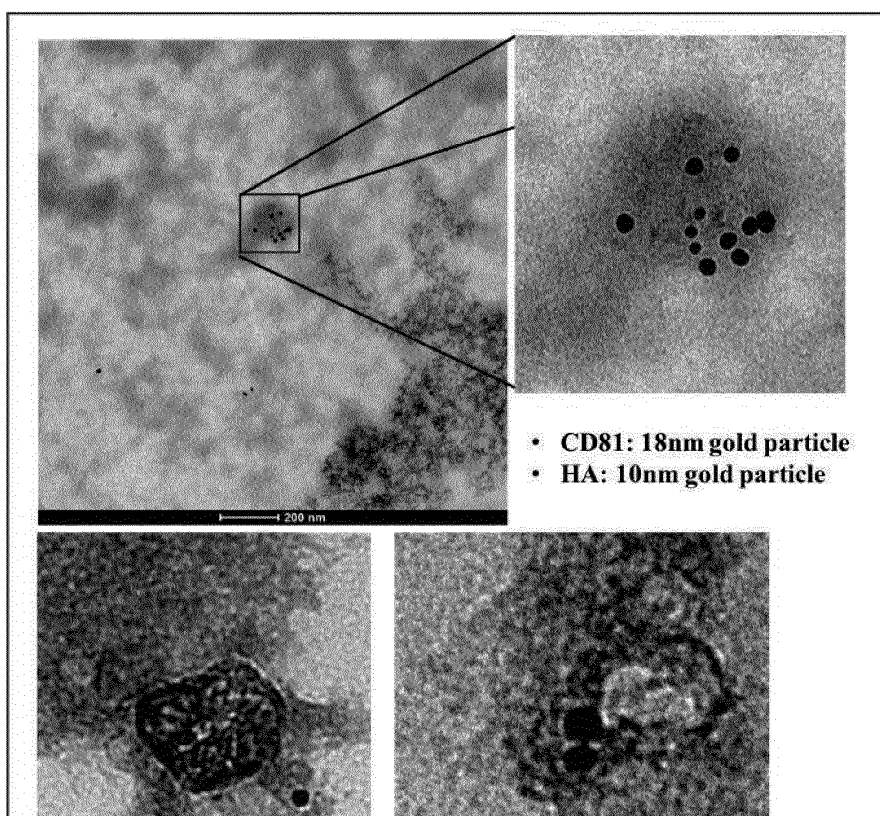
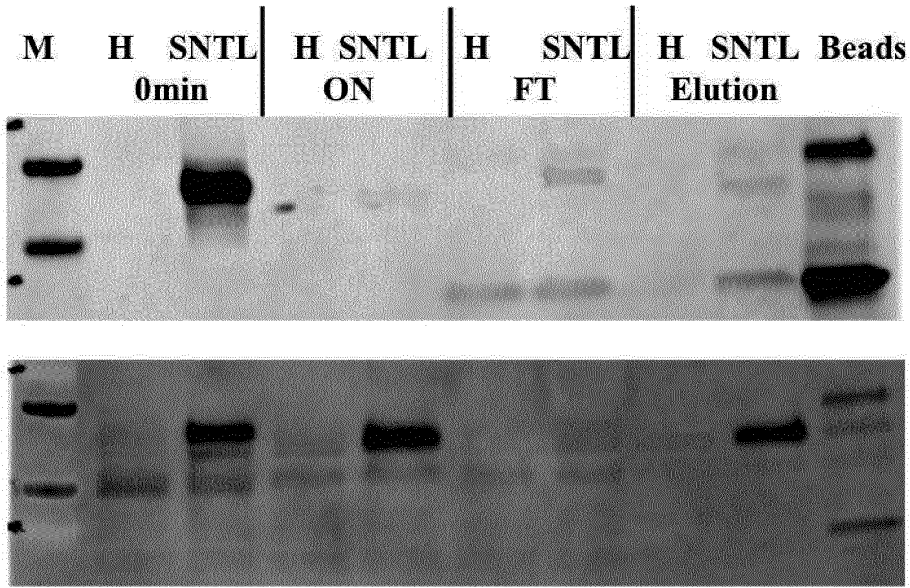


Fig. 6:



H: HeLa
SNTL: CD81 SNTL3
ON: overnight digestion
FT: Flow through

Fig. 7

EV isolation batch #1	Number of total particles ($\times 10^{11}$ per mL)	Number of fluorescent (recombinant) particles ($\times 10^{11}$ per mL)	Percentage of recombinant particles (in %)
EVs from CD81-wt-eGFP	8.3	2	24.1
EVs from CD81-CP4-eGFP	11.3	3.5	31.0
EVs from CD81-Tfr1-eGFP	9.9	4.7	47.5
EVs from CD81-Tfr2-eGFP	10.5	4.9	46.7
EVs from CD81-Tfr2CP4-eGFP	9.6	4.5	47.4

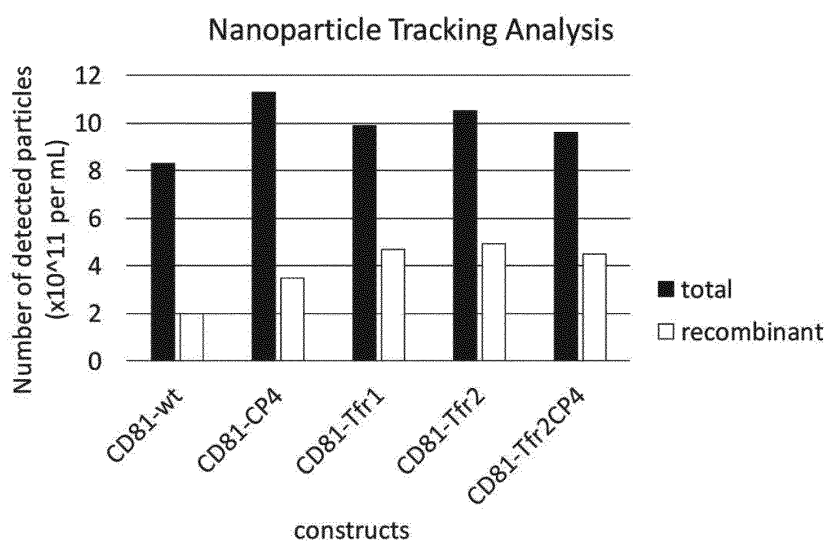


Fig. 7 continued

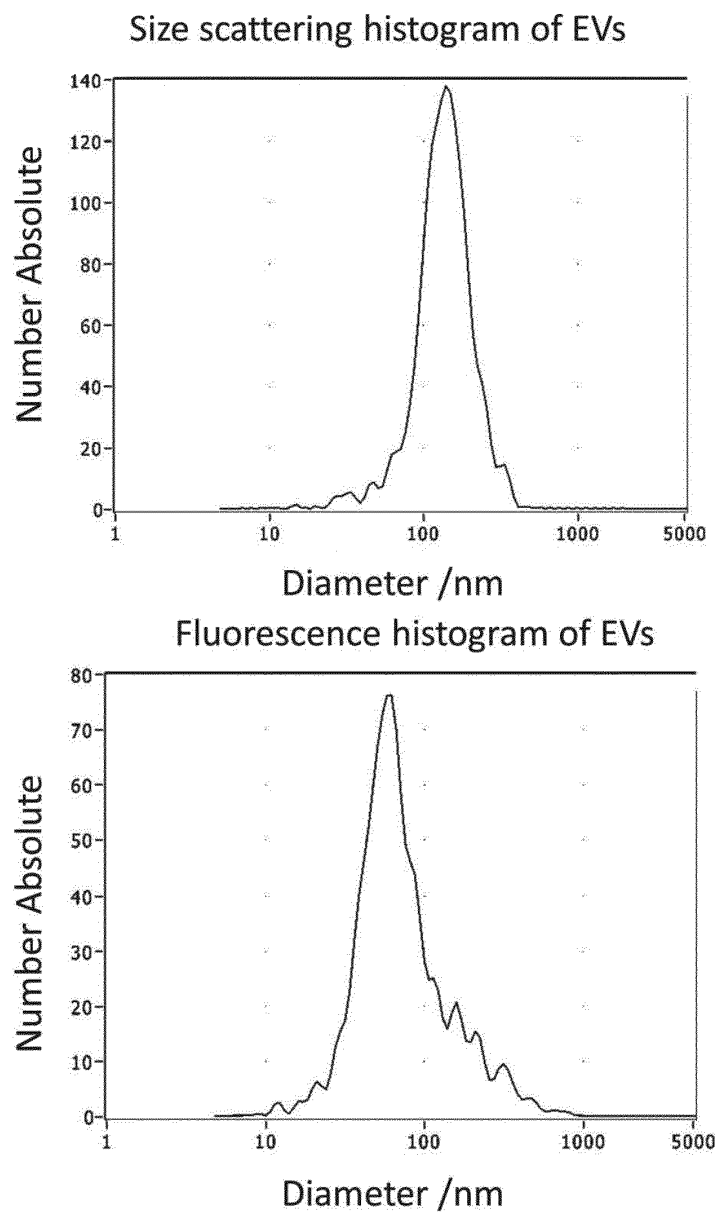


Fig. 8

A

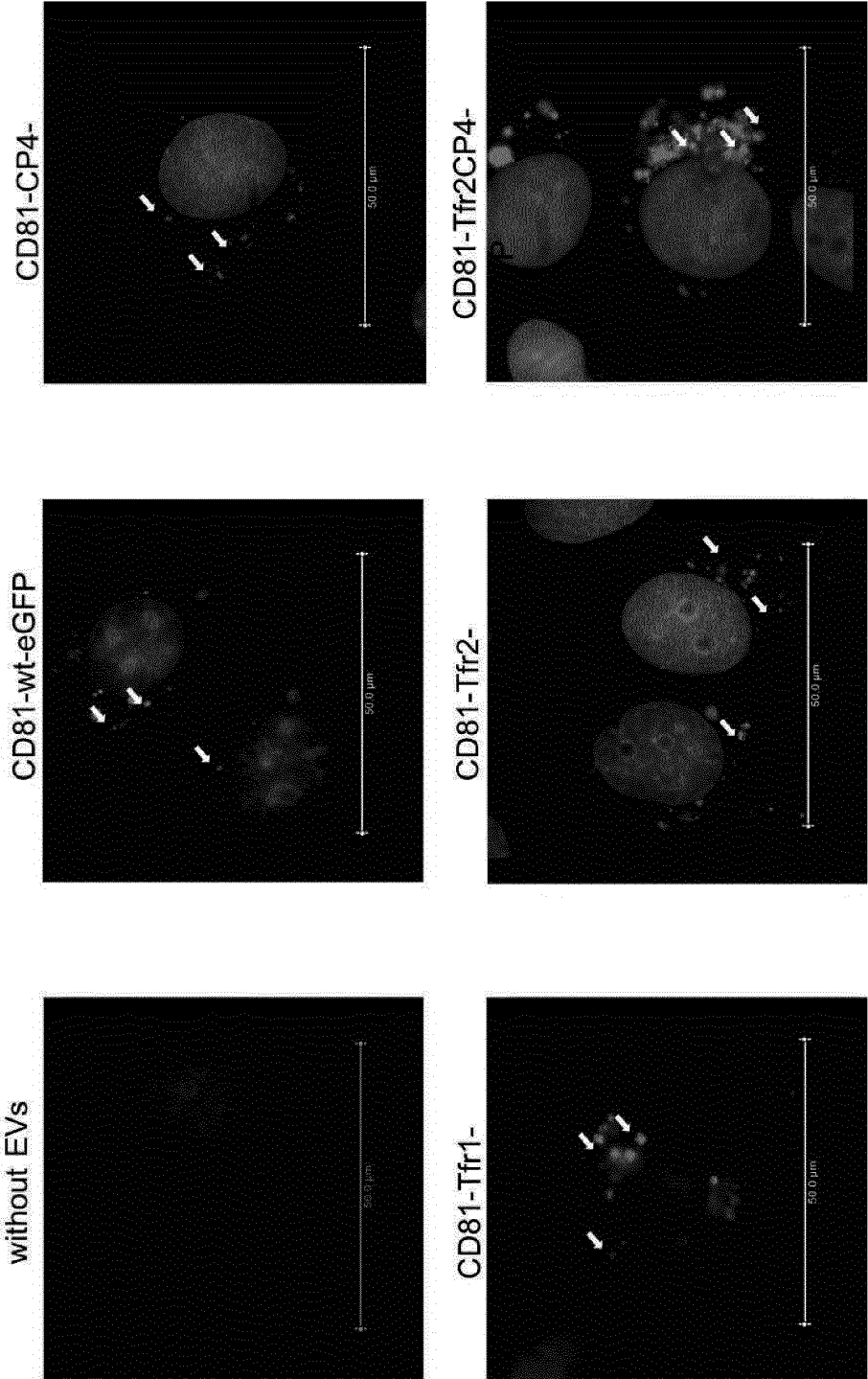


Fig. 8 (continued)

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B

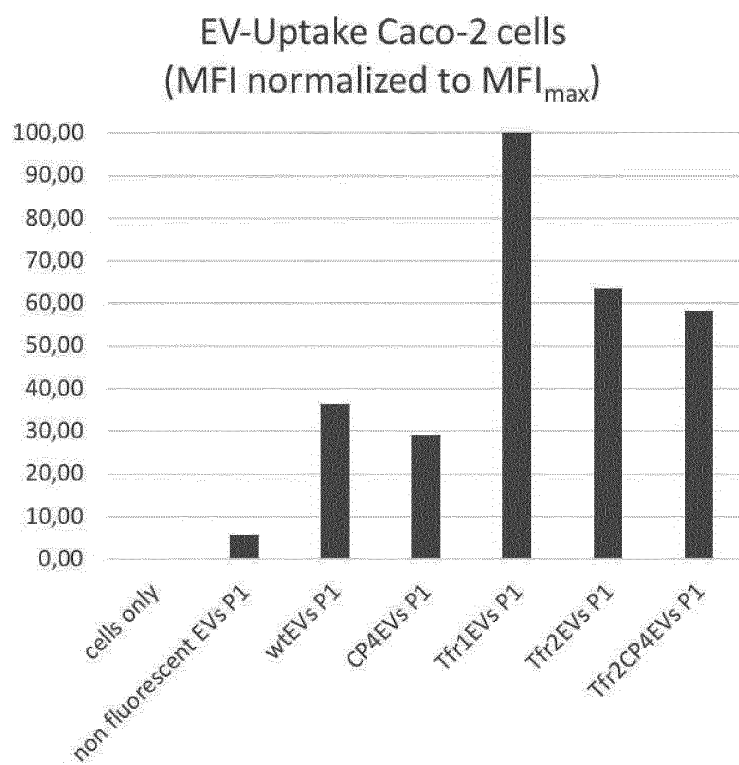


Fig. 9

Treatment with EVs containing toxic siRNA

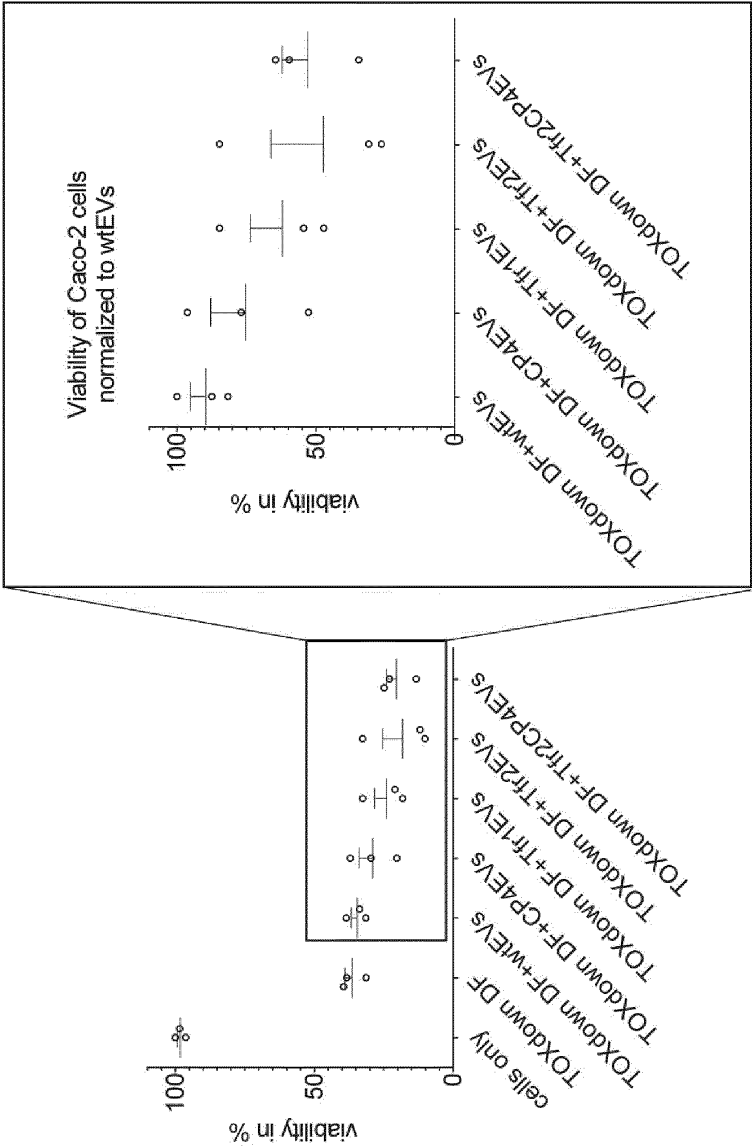


Fig. 9 continued

Treatment with EVs containing untargeted siRNA

