

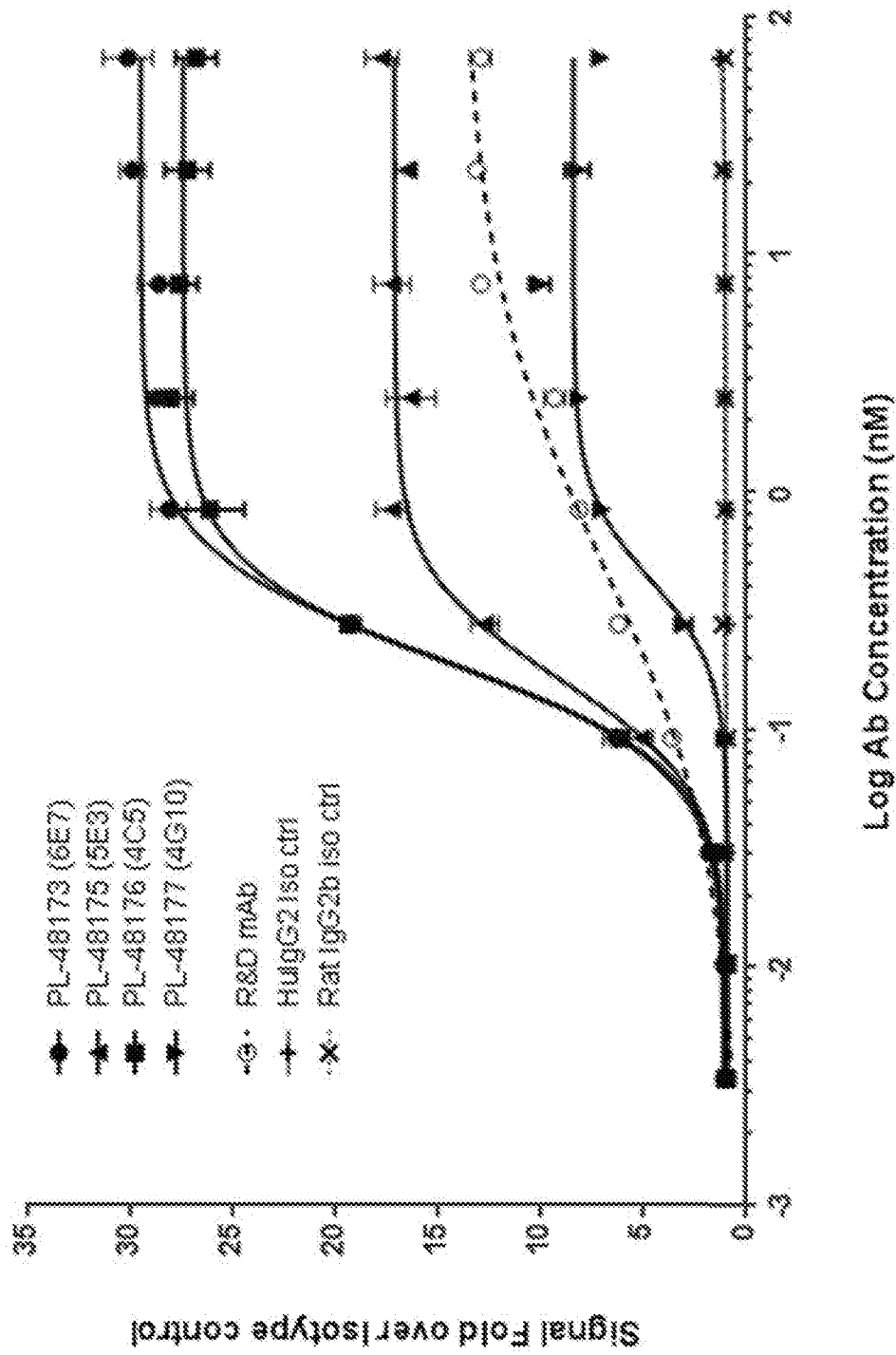


FIG. 1A

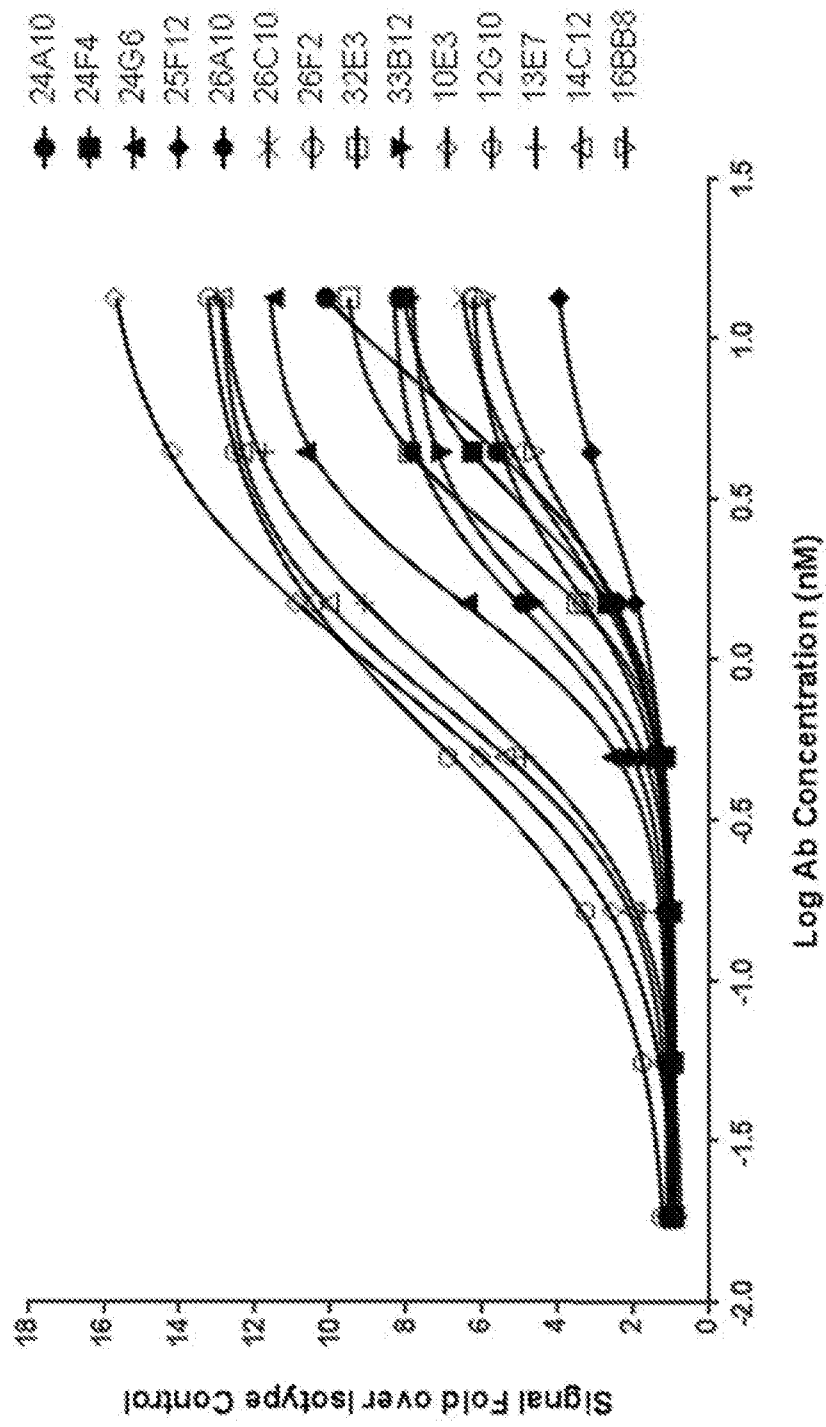


FIG. 1B

| Ab ID.        | Germline      | SEQ ID NO: | K_FR1                   | K_CDR1               | K_FR2           | K_CDR2       |
|---------------|---------------|------------|-------------------------|----------------------|-----------------|--------------|
|               | VK4   B3/JK5  | 64         | DIVMTQSPDLSAVSLGERATINC | KSS---QSVLYSSNNKNYLA | WYQQKPGQPPKLLIY | W-----ASTRES |
| 24C12         | VK4   B3/JK5  | 51         | G.....                  | .....R.....          | .....V...       | .....        |
|               | VK4   B3/JK4  | 65         | DIVMTQSPDLSAVSLGERATINC | KSS---QSVLYSSNNKNYLA | WYQQKPGQPPKLLIY | W-----ASTRES |
| 24G6          | VK4   B3/JK4  | 52         | .....                   | .....HF..            | .....           | .....        |
|               | VK4   B3/JK2  | 66         | DIVMTQSPDLSAVSLGERATINC | KSS---QSVLYSSNNKNYLA | WYQQKPGQPPKLLIY | W-----ASTRES |
| 24A10         | VK4   B3/JK2  | 53         | .....T.                 | .....HN.....         | .....           | .....        |
|               | VK3   L2/JK3  | 67         | EIVMTQSPATLSVSPGERATLSC | RAS---QSVS-----SNLA  | WYQQKPGQAPRLIY  | G-----ASTRAT |
| 10E3          | VK3   L2/JK3  | 54         | .....                   | .....                | .F.....         | .....        |
| 13E7<br>14C12 | VK3   L2/JK3  | 55         | .....                   | .....                | .F.....         | .....        |
|               | VK3   L2/JK1  | 68         | EIVMTQSPATLSVSPGERATLSC | RAS---QSVS-----SNLA  | WYQQKPGQAPRLIY  | G-----ASTRAT |
| 25F12         | VK3   L2/JK1  | 56         | .K.....                 | .....N.....N...      | .....           | .....        |
|               | VK3   A27/JK5 | 69         | EIVLTQSPGTLSLSPGERATLSC | RAS---QSVSS-----SYLA | WYQQKPGQAPRLIY  | G-----ASSPAT |
| 32E3          | VK3   A27/JK5 | 57         | .F.....                 | .....II.....N...     | .....           | S.....       |
|               | VK3   A27/JK3 | 70         | EIVLTQSPGTLSLSPGERATLSC | RAS---QSVSS-----SYLA | WYQQKPGQAPRLIY  | G-----ASSPAT |
| 24F4          | VK3   A27/JK3 | 58         | .....                   | .....                | .....           | .....        |
|               | VK1   L5/JK5  | 71         | DIQMTQSPSSVSASVGDRTITC  | RAS---QGIS-----SWLA  | WYQQKPGKAPKLLIY | A-----ASSLQS |
| 16B8          | VK1   L5/JK5  | 59         | .....V..                | .....D.N.....        | .....           | .....T       |
|               | VK1   L5/JK2  | 72         | DIQMTQSPSSVSASVGDRTITC  | RAS---QGIS-----SWLA  | WYQQKPGKAPKLLIY | A-----ASSLQS |
| 4C5           | VK1   L5/JK2  | 60         | .....                   | .....N...            | .....           | .....V       |
| 6E7           | VK1   L5/JK2  | 61         | .....                   | .....                | .....           | .....N       |
|               | VK1   L1/JK3  | 73         | DIQMTQSPSSLSASVGDRTITC  | RAS---QGIS-----NYLA  | WFQQKPGKAPKSLIY | A-----ASSLQS |
| 5E3           | VK1   L1/JK3  | 62         | .....                   | .....                | .....           | .....        |
|               | VK1   A30/JK1 | 74         | DIQMTQSPSSLSASVGDRTITC  | RAS---QGIR-----NDLG  | WYQQKPGKAPKRLIY | A-----ASSLQS |
| 4G10          | VK1   A30/JK1 | 63         | .....                   | .....                | .....N.....     | .....P.      |

FIG. 2A

| Ab ID.        | Germline    | SEQ ID NO: | K_FR3                              | K_CDR3            | K_FR4      |
|---------------|-------------|------------|------------------------------------|-------------------|------------|
|               | VK4 B3/JK5  | 64         | GVPDFRFGSGSG--TDFTLTISSLQAEDVAVYYC | QQYYS-----TPIT    | FGQGTKLEIK |
| 24C12         | VK4 B3/JK5  | 51         | .....N.                            | .....I.....       | .....      |
|               | VK4 B3/JK4  | 65         | GVPDFRFGSGSG--TDFTLTISSLQAEDVAVYYC | QQYYS-----TPLT    | FGQGTKVEIK |
| 24G6          | VK4 B3/JK4  | 52         | .....F....                         | .....             | .....      |
|               | VK4 B3/JK2  | 66         | GVPDFRFGSGSG--TDFTLTISSLQAEDVAVYYC | QQYYS-----TPYT    | FGQGTKLEIK |
| 24A10         | VK4 B3/JK2  | 53         | .....                              | H.....CS          | .....      |
|               | VK3 L2/JK3  | 67         | GIPARFSGSGSG--TEFTLTISLQSEDFAVYYC  | QQYNN-----WPFT    | FGPGTKVDIK |
| 10E3          | VK3 L2/JK3  | 54         | .....V.....F....                   | L.D.....P.        | .....      |
| 13E7<br>14C12 | VK3 L2/JK3  | 55         | .....V.....                        | L.D.....P.        | .....      |
|               | VK3 L2/JK1  | 68         | GIPARFSGSGSG--TEFTLTISLQSEDFAVYYC  | QQYNN-----WPWT    | FGQGTKVEIK |
| 25F12         | VK3 L2/JK1  | 56         | .....                              | .....R.           | .....      |
|               | VK3 A27/JK5 | 69         | GIPDRFSGSGSG--TDFTLTISRLEPEDFAVYYC | QQYGS-----SPIT    | FGQGTKLEIK |
| 32E3          | VK3 A27/JK5 | 57         | .....                              | ..FD.....R....D.. | .....      |
|               | VK3 A27/JK3 | 70         | GIPDRFSGSGSG--TDFTLTISRLEPEDFAVYYC | QQYGS-----SPFT    | FGPGTKVDIK |
| 24F4          | VK3 A27/JK3 | 58         | .....L....                         | ..DT.....         | .....      |
|               | VK1 L5/JK5  | 71         | GVPSRFGSGSG--TDFTLTISSLQPEDFATYYC  | QQANS-----FPIT    | FGQGTKLEIK |
| 16B8          | VK1 L5/JK5  | 59         | .....S.                            | ..S.....          | .....      |
|               | VK1 L5/JK2  | 72         | GVPSRFGSGSG--TDFTLTISSLQPEDFATYYC  | QQANS-----FPYT    | FGQGTKLEIK |
| 4C5           | VK1 L5/JK2  | 60         | ...L.....RN                        | ...D.....RN       | .....      |
| 6E7           | VK1 L5/JK2  | 61         | .....F.                            | ...D.....R.       | .....      |
|               | VK1 L1/JK3  | 73         | GVPSRFGSGSG--TDFTLTISSLQPEDFATYYC  | QQYNS-----YPFT    | FGPGTKVDIK |
| 5E3           | VK1 L1/JK3  | 62         | ...K.....                          | ...ST.....        | .....      |
|               | VK1 A30/JK1 | 74         | GVPSRFGSGSG--TEFTLTISLQPEDFATYYC   | LQHNS-----YPWT    | FGQGTKVEIK |
| 4G10          | VK1 A30/JK1 | 63         | .....P.....                        | .....             | .....T     |

FIG. 2B

| Ab ID. | Germline   | SEQ ID NO: | L_FR1                   | L_CDR1               | L_FR2            | L_CDR2           |
|--------|------------|------------|-------------------------|----------------------|------------------|------------------|
|        | VL5 5c/JL2 | 75         | QAVLTQP-ASLSASPGASASLTC | TLRS-GINVGT-----YRIY | WYQQKPGSPFPQYLLR | YKS-----DSDKQQGS |
| 12G10  | VL5 5c/JL2 | 46         | ...P.....S.....VL.....  | .....                | .....            | .....            |
|        | VL3 3r/JL2 | 76         | SYELTQP-PSVSVSPGQTASLTC | SGD---KLGD-----KYAC  | WYQQKPGQSPVLVIY  | Q-----DSKRPS     |
| 26A10  | VL3 3r/JL2 | 47         | .....                   | .....V.              | .....            | .....            |
| 26C10  | VL3 3r/JL2 | 48         | .F.....                 | .....V.              | .....M.....      | .....T.....      |
| 26F2   | VL3 3r/JL2 | 49         | .....                   | .....V.              | .....F           | .....            |
| 33B12  | VL3 3r/JL2 | 50         | .....                   | .....V.              | .....            | .....            |

FIG. 3A

| Ab ID. | Germline   | SEQ ID NO: | L_FR3                              | L_CDR3          | L_FR4      |
|--------|------------|------------|------------------------------------|-----------------|------------|
|        | VL5 5c/JL2 | 75         | GVESRFSGSKDASANAGILLISGLQSEDEADYYC | MIWHS-----SASVV | FGGGTKLTVL |
| 12G10  | VL5 5c/JL2 | 46         | .....                              | ...Y.....-SA..  | .....      |
|        | VL3 3r/JL2 | 76         | GIPERFSGNSG--NTATLTISGTQAMDEADYYC  | QAWDS-----STAVV | FGGGTKLTVL |
| 26A10  | VL3 3r/JL2 | 47         | .....                              | .....-NT..      | .....      |
| 26C10  | VL3 3r/JL2 | 48         | .....                              | .....-ST..      | .....      |
| 26F2   | VL3 3r/JL2 | 49         | .....                              | .....-ST..      | .....      |
| 33B12  | VL3 3r/JL2 | 50         | .....                              | .....-ST..      | .....      |

FIG. 3B

| Ab ID. | Germline                 | SEQ ID NO: | H_FR1                            | H_CDR1     | H_FR2          | H_CDR2                 |
|--------|--------------------------|------------|----------------------------------|------------|----------------|------------------------|
|        | VH3 3-23/D3 3-16 RF2/JH4 | 127        | EVQLLES-GGGLVQPGGSLRLSCAASG-FTFS | S-----YAMS | WVRQAPGKGLEWVS | AISGS----GGSTYYADSVKVG |
| 12G10  | VH3 3-23/D3 3-16 RF2/JH4 | 110        | .....                            | .....      | .....          | ..G.G....V...C.....    |
| 24C12  | VH3 3-23/D3 3-16 RF2/JH4 | 110        | .....                            | .....      | .....          | ..G.G....V...C.....    |
|        | VH3 3-48/D7 7-27 RF1/JH6 | 128        | EVQLVES-GGGLVQPGGSLRLSCAASG-FTFS | S-----YSMN | WVRQAPGKGLEWVS | YISSS----SSTIYYADSVKVG |
| 26A10  | VH3 3-48/D7 7-27 RF1/JH6 | 111        | .....A...R.....R....             | .....FG.S  | .....          | .....F.....            |
| 26C10  | VH3 3-48/D7 7-27 RF1/JH6 | 112        | .....A.....                      | .....FG.S  | .....          | .....F.....            |
| 26F2   | VH3 3-48/D7 7-27 RF1/JH6 | 113        | .....A.....                      | .....FG.S  | .....I.        | .....F.....            |
| 33B12  | VH3 3-48/D7 7-27 RF1/JH6 | 114        | .....A.....                      | .....FG.S  | .....          | ..K.....F.....         |
|        | VH3 3-23/D2 2-21 RF2/JH4 | 129        | EVQLLES-GGGLVQPGGSLRLSCAASG-FTFS | S-----YAMS | WVRQAPGKGLEWVS | AISGS----GGSTYYADSVKVG |
| 24G6   | VH3 3-23/D2 2-21 RF2/JH4 | 115        | .....                            | .....      | .....          | .....                  |
|        | VH3 3-23/D1 1-1 RF1/JH1  | 130        | EVQLLES-GGGLVQPGGSLRLSCAASG-FTFS | S-----YAMS | WVRQAPGKGLEWVS | AISGS----GGSTYYADSVKVG |
| 24A10  | VH3 3-23/D1 1-1 RF1/JH1  | 116        | ...V.....                        | N.....     | .....          | .....                  |
|        | VH5 5-51/D1 1-1 RF1/JH4  | 131        | EVQLVQS-GAEVKKPGESLKISCKSGG-YSFT | S-----YWG  | WVRQMPGKGLEWMG | IITYPG----DSDTRYSPSFQG |
| 10E3   | VH5 5-51/D1 1-1 RF1/JH4  | 117        | .....M.....                      | N.....     | .....          | .....                  |
| 13E7   | VH5 5-51/D1 1-1 RF1/JH4  | 118        | .....M.....                      | .....      | .....          | .....                  |
| 14C12  | VH4 4-34/D1 1-1 RF3/JH3  | 132        | QVQLQQW-GAGLLKPSSETLSLTCVVG-GSFS | G-----YVWS | WIRQPPGKGLEWIG | EINH-----SGSTNYNPSLKS  |
| 25F12  | VH4 4-34/D1 1-1 RF3/JH3  | 119        | .....                            | S.....     | .....          | .....N.....            |
|        | VH5 5-51/D5 5-12 RF1/JH3 | 133        | EVQLVQS-GAEVKKPGESLKISCKSGG-YSFT | S-----YWG  | WVRQMPGKGLEWMG | IITYPG--DSDTRYSPSFQG   |
| 32E3   | VH5 5-51/D5 5-12 RF1/JH3 | 120        | .....                            | .....      | .....          | .....                  |
|        | VH5 5-51/D5 5-12 RF1/JH5 | 134        | EVQLVQS-GAEVKKPGESLKISCKSGG-YSFT | S-----YWG  | WVRQMPGKGLEWMG | IITYPG--DSDTRYSPSFQG   |
| 24F4   | VH5 5-51/D5 5-12 RF1/JH5 | 121        | .....T..                         | .....      | .....          | .....                  |
|        | VH1 1-18/D1 1-26 RF3/JH4 | 135        | QVQLVQS-GAEVKKPGASVKVSKASG-YTFT  | S-----YGIS | WVRQAPGQGLEWMG | WISAY----NGNTNYAQKLQG  |
| 16B8   | VH1 1-18/D1 1-26 RF3/JH4 | 122        | .....                            | N.....     | .....          | .....                  |
|        | VH5 5-51/D1 1-26 RF3/JH4 | 136        | EVQLVQS-GAEVKKPGESLKISCKSGG-YSFT | S-----YWG  | WVRQMPGKGLEWMG | IITYPG--DSDTRYSPSFQG   |
| 4C5    | VH5 5-51/D1 1-26 RF3/JH4 | 123        | .....H...                        | N.....A    | .....          | .....                  |
| 6E7    | VH5 5-51/D1 1-26 RF3/JH4 | 124        | .....                            | .....A     | .....          | .....                  |
|        | VH1 1-02/D4 4-17 RF2/JH6 | 137        | QVQLVQS-GAEVKKPGASVKVSKASG-YTFT  | G-----YYMH | WVRQAPGQGLEWMG | WINPN----SGGTNYAQKFGG  |
| 5E3    | VH1 1-02/D4 4-17 RF2/JH6 | 125        | .....                            | .....I.    | .....L.....    | ...Y.....TS.....       |
|        | VH5 5-51/D5 5-12 RF1/JH6 | 138        | EVQLVQS-GAEVKKPGESLKISCKSGG-YSFT | S-----YWG  | WVRQMPGKGLEWMG | IITYPG--DSDTRYSPSFQG   |
| 4G10   | VH5 5-51/D5 5-12 RF1/JH6 | 126        | .....P                           | .....A     | .....          | .....                  |

FIG. 4A

| Ab ID. | Germline                 | SEQ ID NO: | H_FR3                             | H_CDR3                 | H_FR4        |
|--------|--------------------------|------------|-----------------------------------|------------------------|--------------|
|        | VH3 3-23/D3 3-16 RF2/JH4 | 127        | RFTISRDNKNTLYLQMNSLRAEDTAVYYCAK   | YYDYVWGS-----YRYTYFDY  | WGQGTLLVTVSS |
| 12G10  | VH3 3-23/D3 3-16 RF2/JH4 | 110        | .....                             | F.IA.A-----GSH...      | .....        |
| 24C12  | VH3 3-23/D3 3-16 RF2/JH4 | 110        | .....                             | F.IA.A-----GSH...      | .....        |
|        | VH3 3-48/D7 7-27 RF1/JH6 | 128        | RFTISRDNKNTLYLQMNSLRDEDTAVYYCAK   | LTGYYY-----YYGMDV      | WGQGTLLVTVSS |
| 26A10  | VH3 3-48/D7 7-27 RF1/JH6 | 111        | .....F.....                       | EG.LTMVRG.....VSS..L.. | .....        |
| 26C10  | VH3 3-48/D7 7-27 RF1/JH6 | 112        | .....F.....F.V.                   | EG.ITYVRG.....VSS..... | .....        |
| 26F2   | VH3 3-48/D7 7-27 RF1/JH6 | 113        | .....F.....F...                   | EG.ITYVRG.....VSS..... | .....        |
| 33B12  | VH3 3-48/D7 7-27 RF1/JH6 | 114        | .....F.....                       | EG.LTMVRG.....VSS..L.. | .....        |
|        | VH3 3-23/D2 2-21 RF2/JH4 | 129        | RFTISRDNKNTLYLQMNSLRAEDTAVYYCAK   | AYCGGDC-----YSYFDY     | WGQGTLLVTVSS |
| 24G6   | VH3 3-23/D2 2-21 RF2/JH4 | 115        | .....                             | ..TPM-----AF...        | .....        |
|        | VH3 3-23/D1 1-1 RF1/JH1  | 130        | RFTISRDNKNTLYLQMNSLRAEDTAVYYCAK   | GTTGTA-----EYFQH       | WGQGTLLVTVSS |
| 24A10  | VH3 3-23/D1 1-1 RF1/JH1  | 116        | .....                             | .GWE-----LFY           | .....        |
|        | VH5 5-51/D1 1-1 RF1/JH4  | 131        | QVTISADKSI STAYLQWSSLKASDTAVYYCAK | GTTGT-----YFDY         | WGQGTLLVTVSS |
| 10E3   | VH5 5-51/D1 1-1 RF1/JH4  | 117        | .....F...                         | RRQ.IW.....GDAL.I      | .....        |
| 13E7   | VH5 5-51/D1 1-1 RF1/JH4  | 118        | .....F...                         | RRQ.IW.....GDAL.F      | .....        |
| 14C12  |                          |            |                                   |                        |              |
|        | VH4 4-34/D1 1-1 RF3/JH3  | 132        | RVTISVDFSKNQFSLKSSVTAADTAVYYCAK   | YNWND-----DAFDI        | WGQGTLLVTVSS |
| 25F12  | VH4 4-34/D1 1-1 RF3/JH3  | 119        | .....                             | EGYY.ILT.....GYH....   | .D.....F.    |
|        | VH5 5-51/D5 5-12 RF1/JH3 | 133        | QVTISADKSI STAYLQWSSLKASDTAVYYCAK | VDIVAT-----IDAFDI      | WGQGTLLVTVSS |
| 32E3   | VH5 5-51/D5 5-12 RF1/JH3 | 120        | .....T.....I.....                 | H..IPAA.....PG.....    | .....        |
|        | VH5 5-51/D5 5-12 RF1/JH5 | 134        | QVTISADKSI STAYLQWSSLKASDTAVYYCAK | VDIVAT-----INWEDP      | WGQGTLLVTVSS |
| 24F4   | VH5 5-51/D5 5-12 RF1/JH5 | 121        | .....V...S.....I...T.             | QA.AV.G.....LGG....    | .....        |
|        | VH1 1-18/D1 1-26 RF3/JH4 | 135        | RVTMTTDTSTAYMELSLRSDDTAVYYCAK     | YSGSY-----YYFDY        | WGQGTLLVTVSS |
| 16B8   | VH1 1-18/D1 1-26 RF3/JH4 | 122        | .....V.....                       | RGY.....GS....         | .....        |
|        | VH5 5-51/D1 1-26 RF3/JH4 | 136        | QVTISADKSI STAYLQWSSLKASDTAVYYCAK | YSGSY-----YYFDY        | WGQGTLLVTVSS |
| 4C5    | VH5 5-51/D1 1-26 RF3/JH4 | 123        | .....V.F...                       | QRTF.YD.....SSG....    | .....        |
| 6E7    | VH5 5-51/D1 1-26 RF3/JH4 | 124        | .....F...                         | QRTF.YD.....SSD....    | .....        |
|        | VH1 1-02/D4 4-17 RF2/JH6 | 137        | RVTMTTDTSTAYMELSLRSDDTAVYYCAK     | DYGDYYY-----YYGMDV     | WGQGTLLVTVSS |
| 5E3    | VH1 1-02/D4 4-17 RF2/JH6 | 125        | .....S.....                       | .G.YLA-----L..T..      | .....        |
|        | VH5 5-51/D5 5-12 RF1/JH6 | 138        | QVTISADKSI STAYLQWSSLKASDTAVYYCAK | VDIVATY-----YYGMDV     | WGQGTLLVTVSS |
| 4G10   | VH5 5-51/D5 5-12 RF1/JH6 | 126        | .....F.K.....F...                 | QG.EV.G-----TG.L..     | .....        |

FIG. 4B

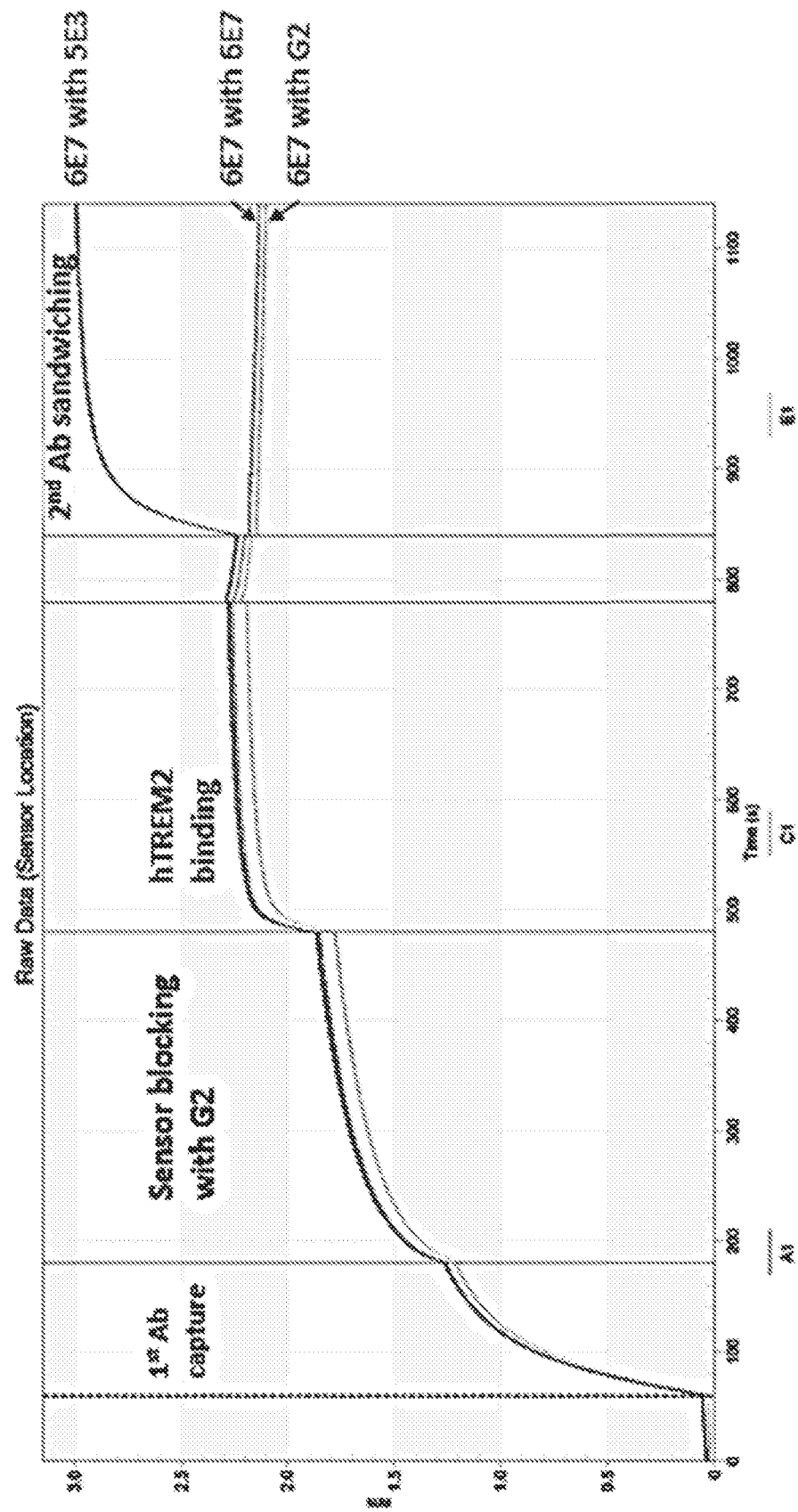


FIG. 5

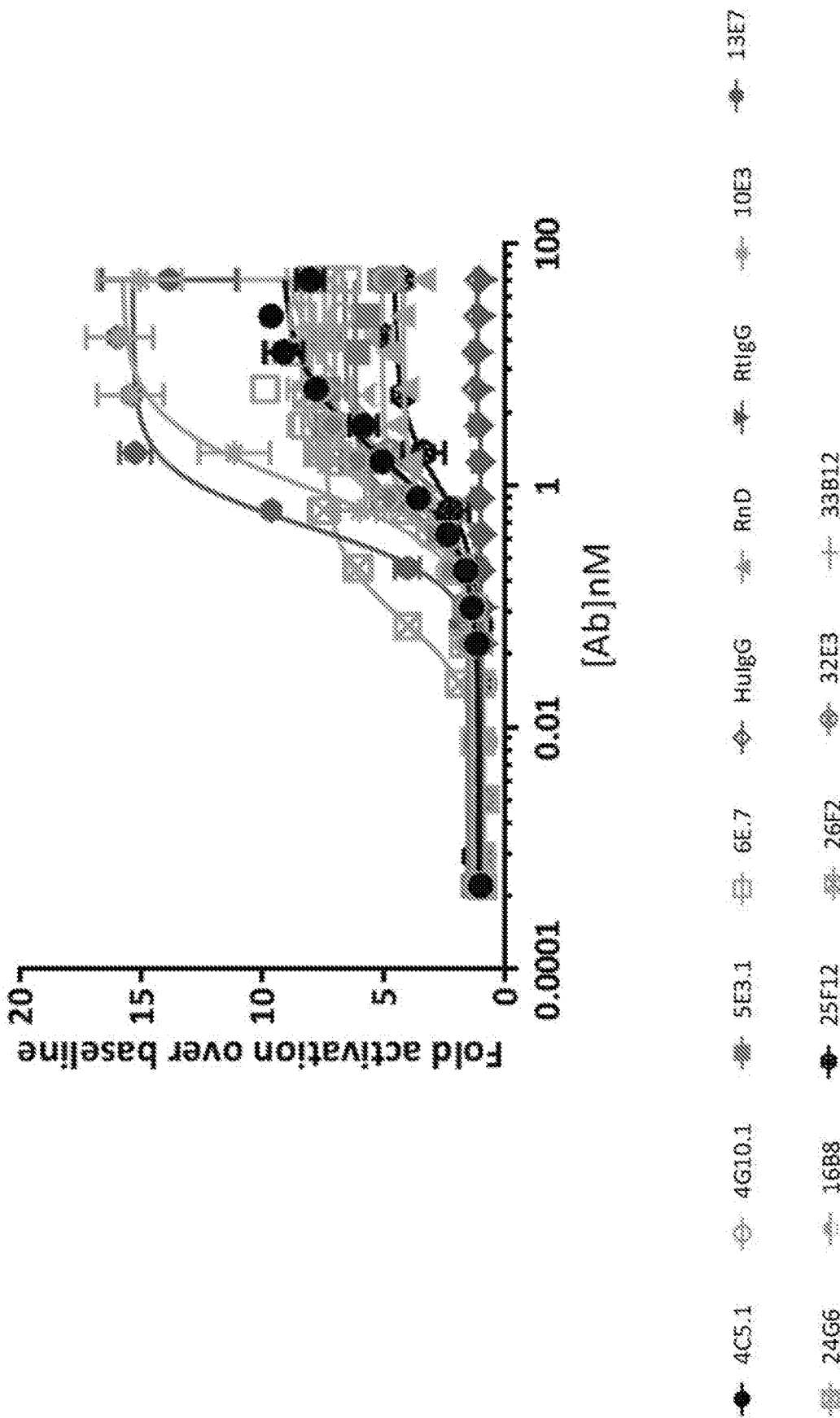


FIG. 6

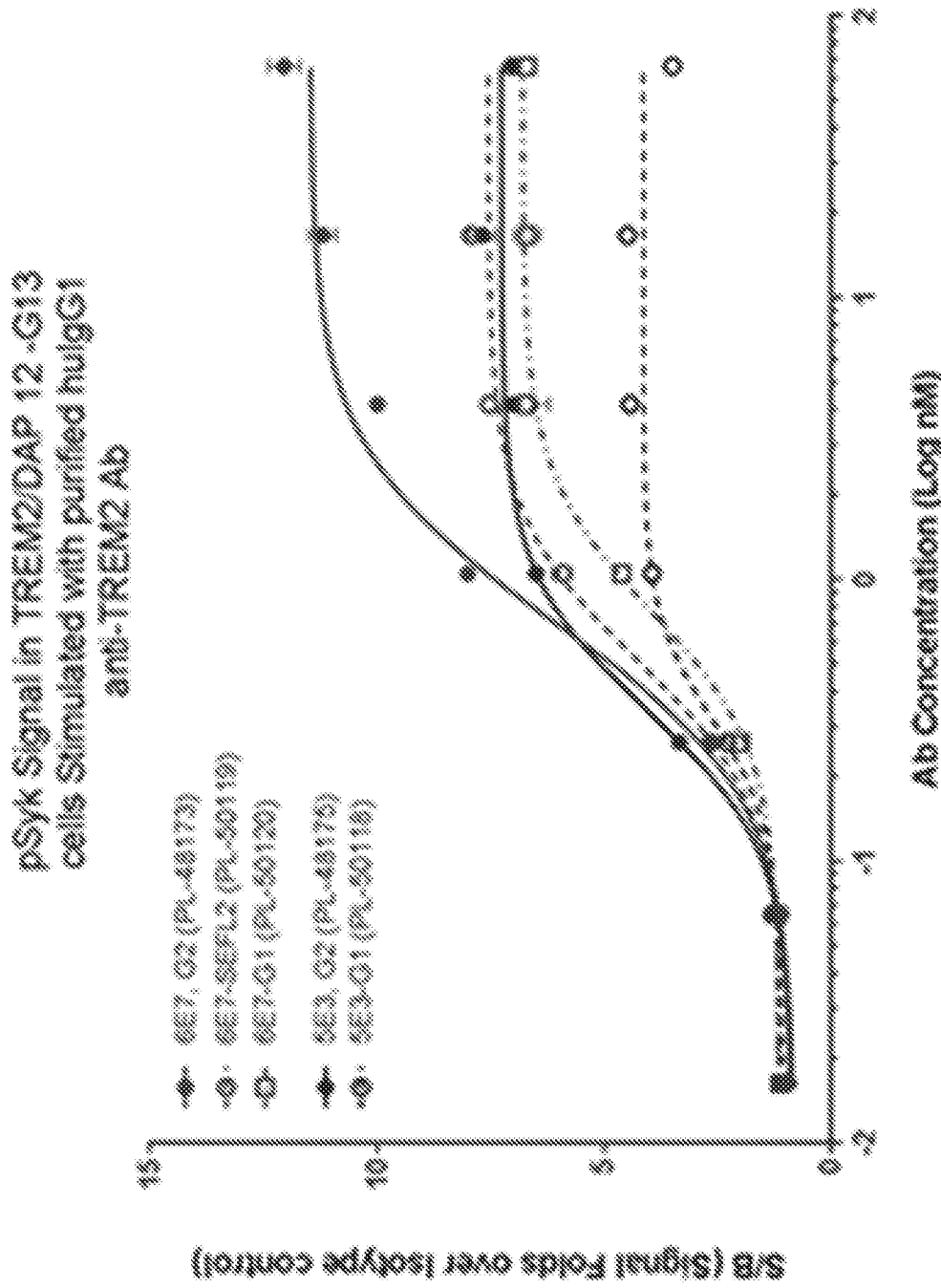


FIG. 7

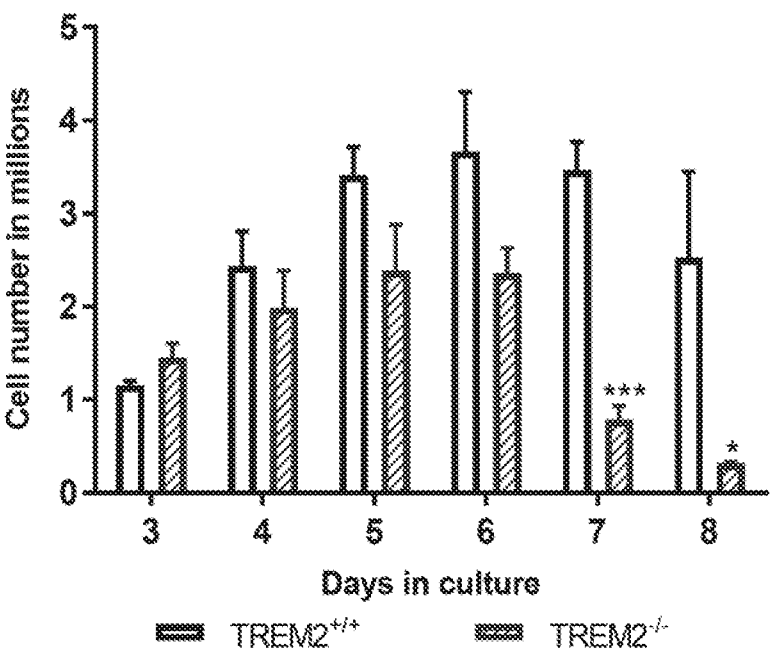


FIG. 8A

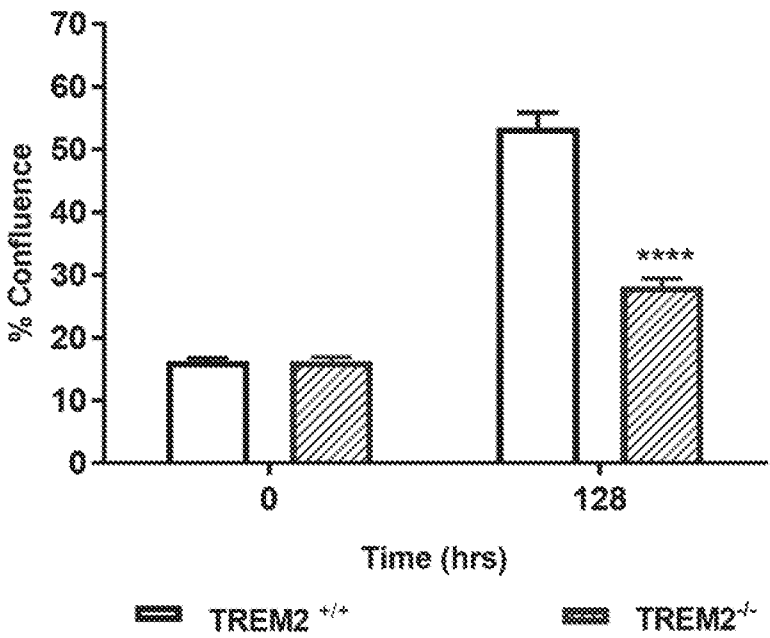


FIG. 8B

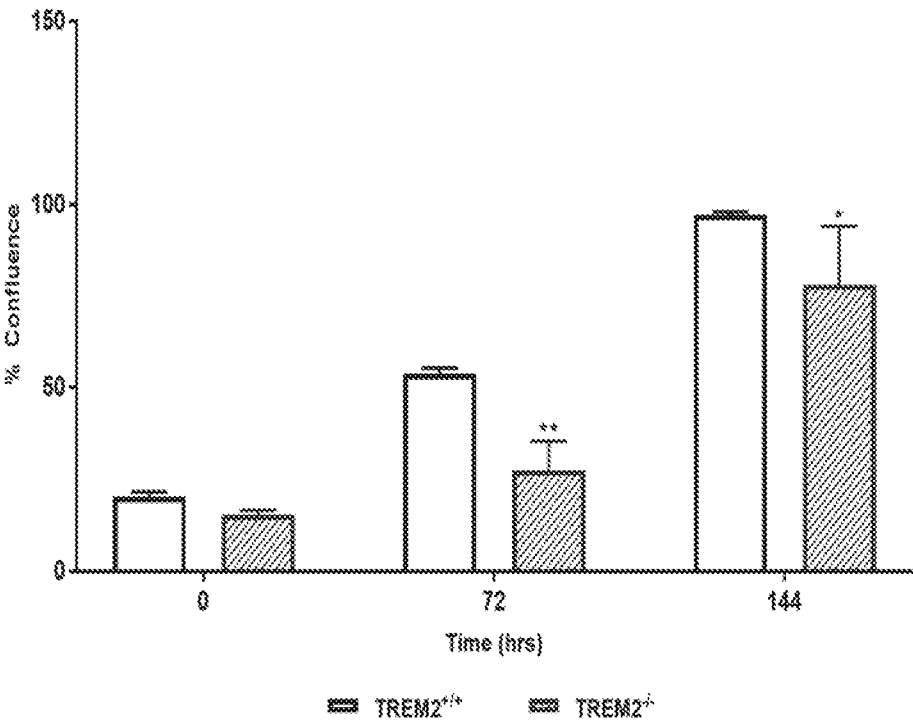


FIG. 8C

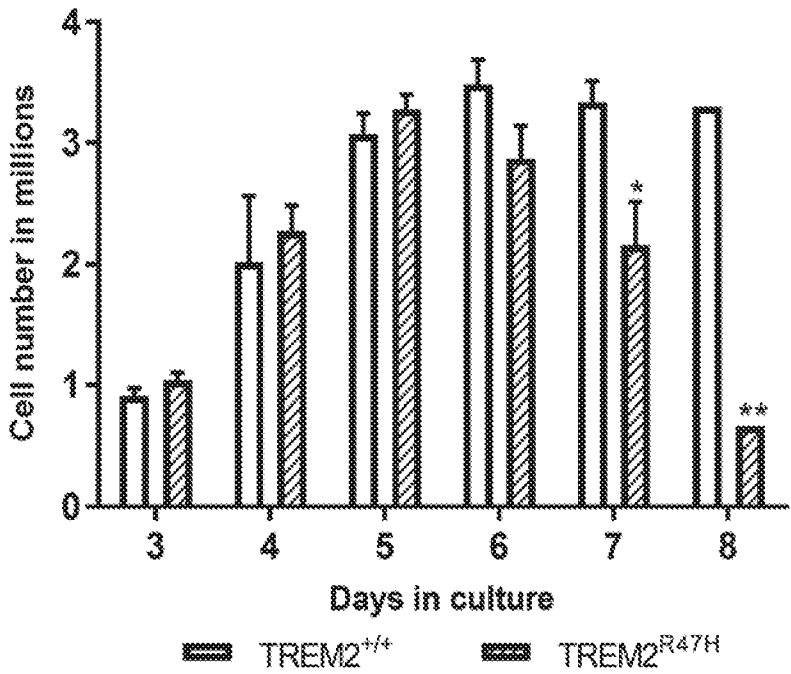


FIG. 8D

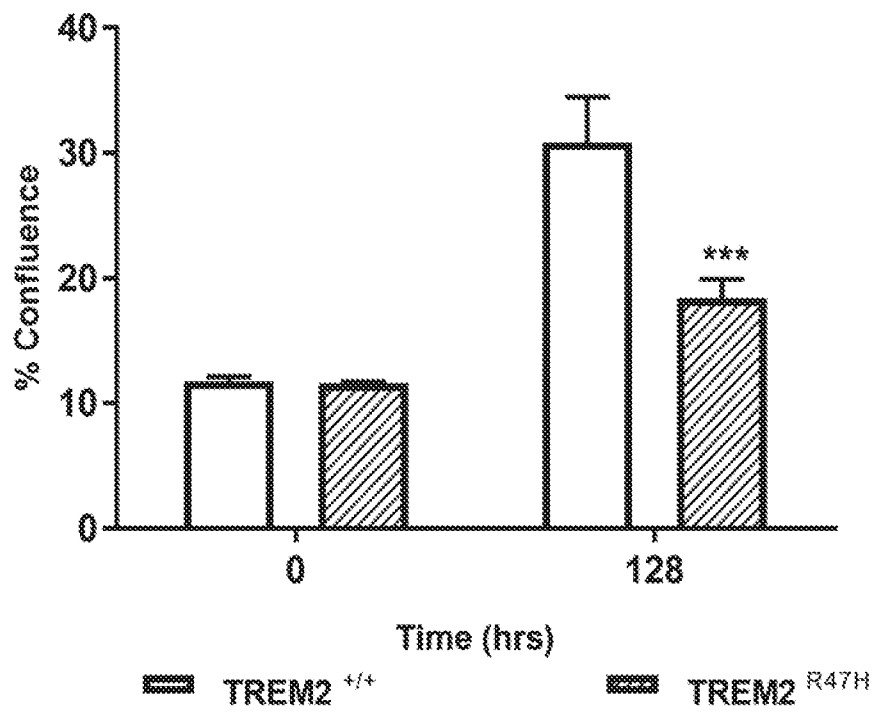


FIG. 8E

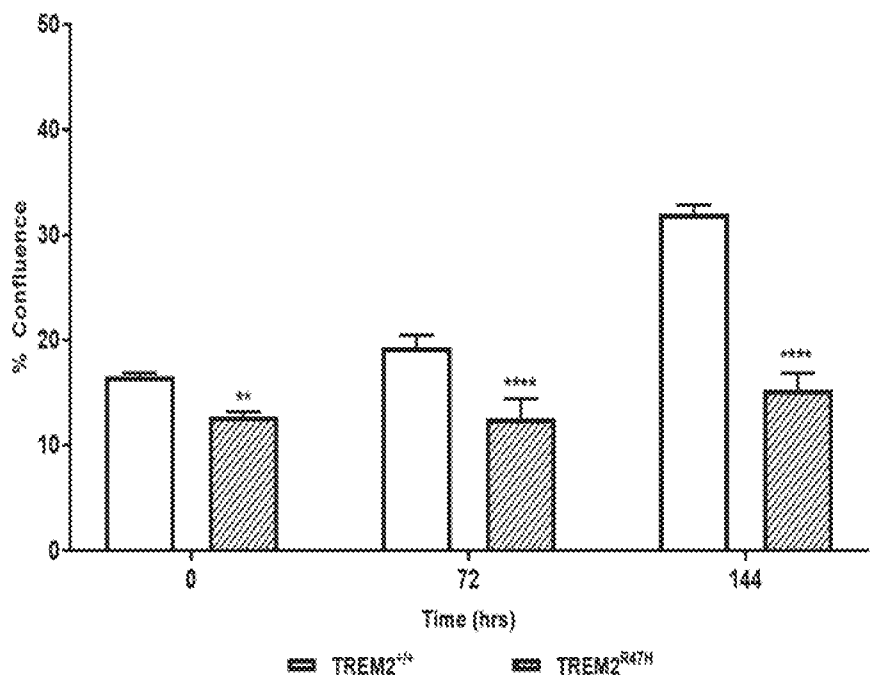
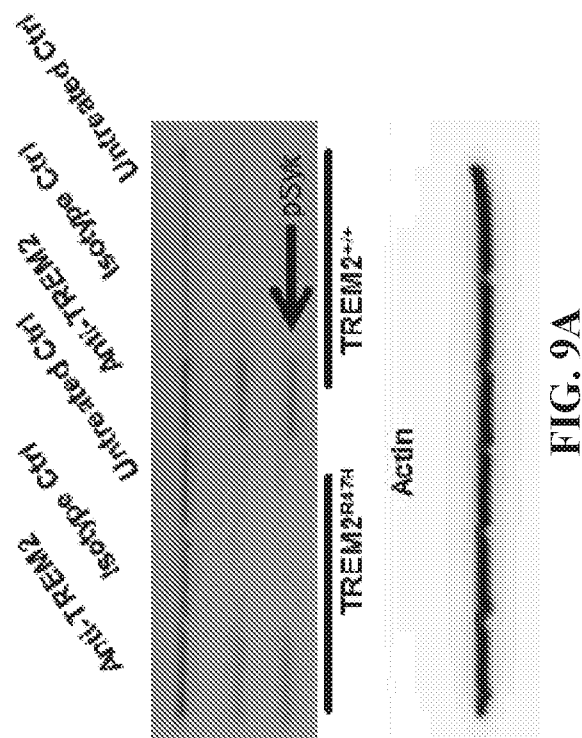


FIG. 8F



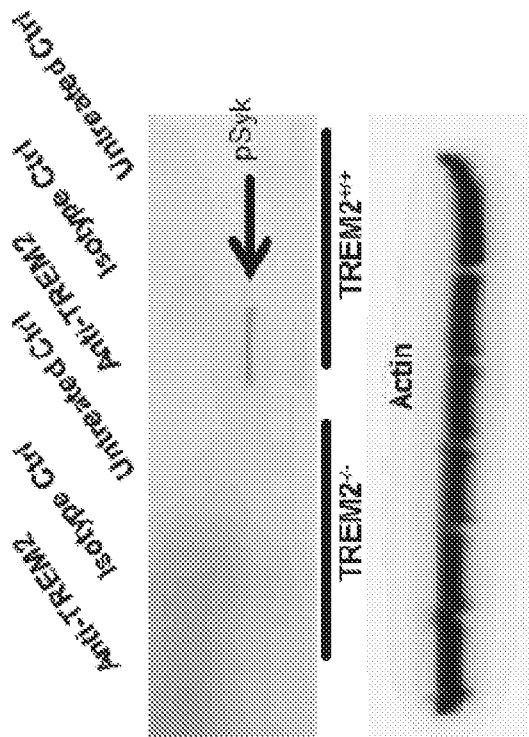


FIG. 9B

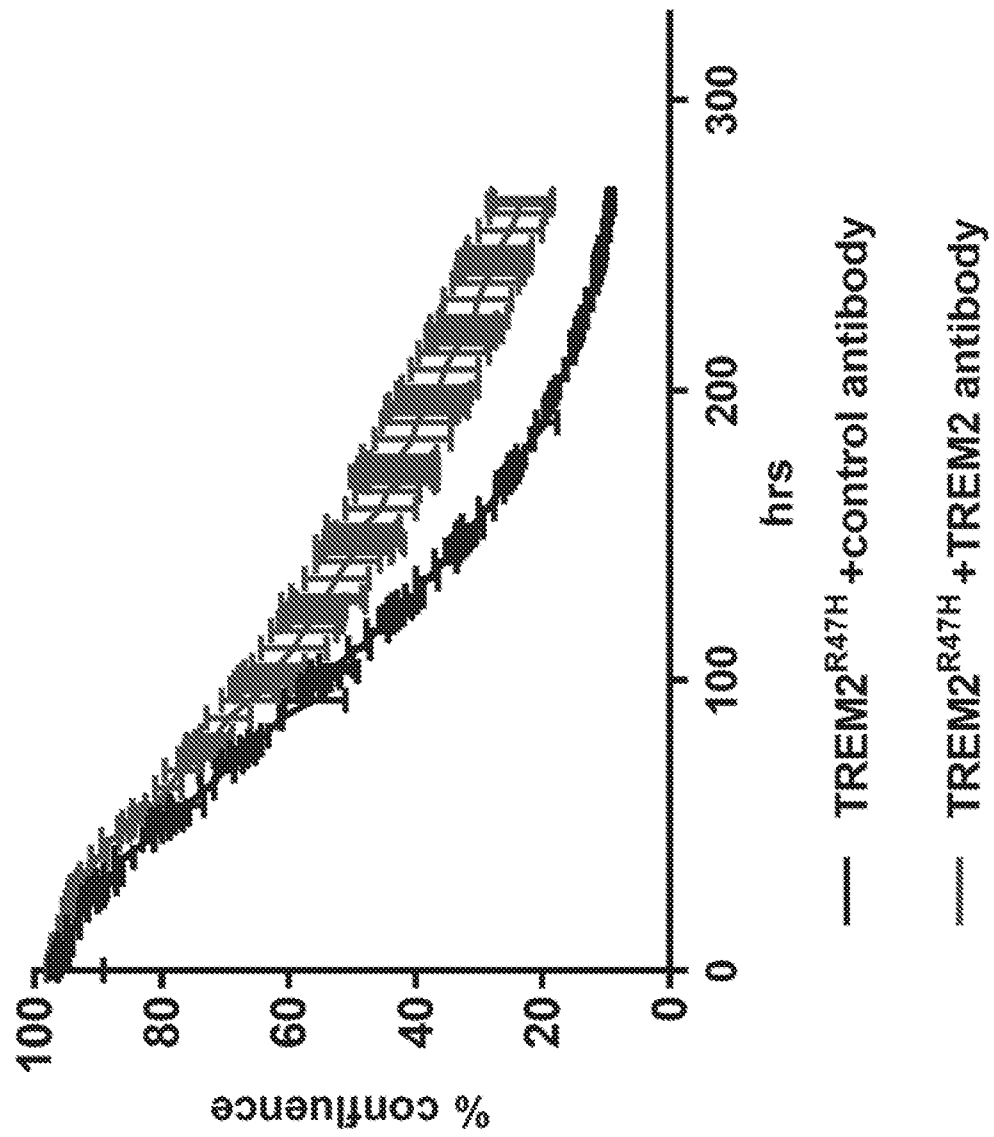


FIG. 10A

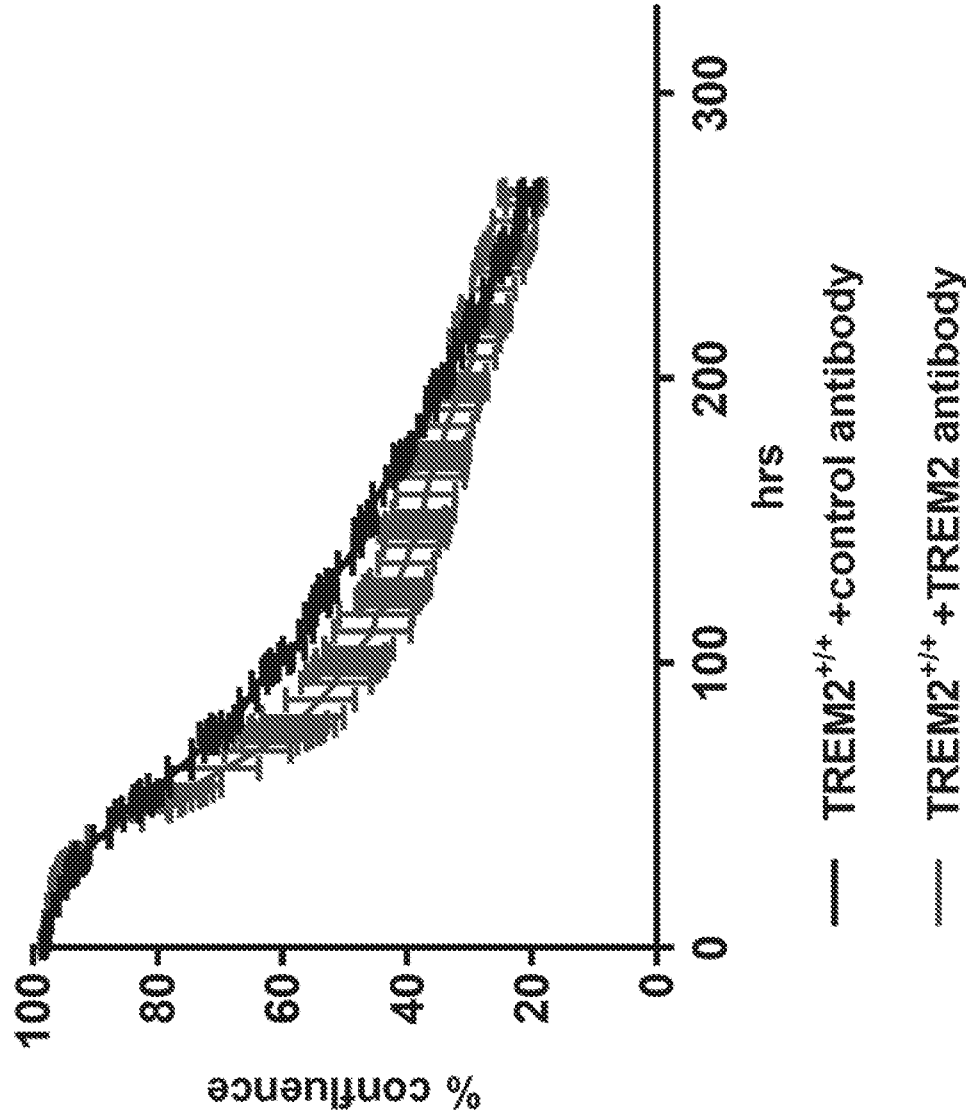
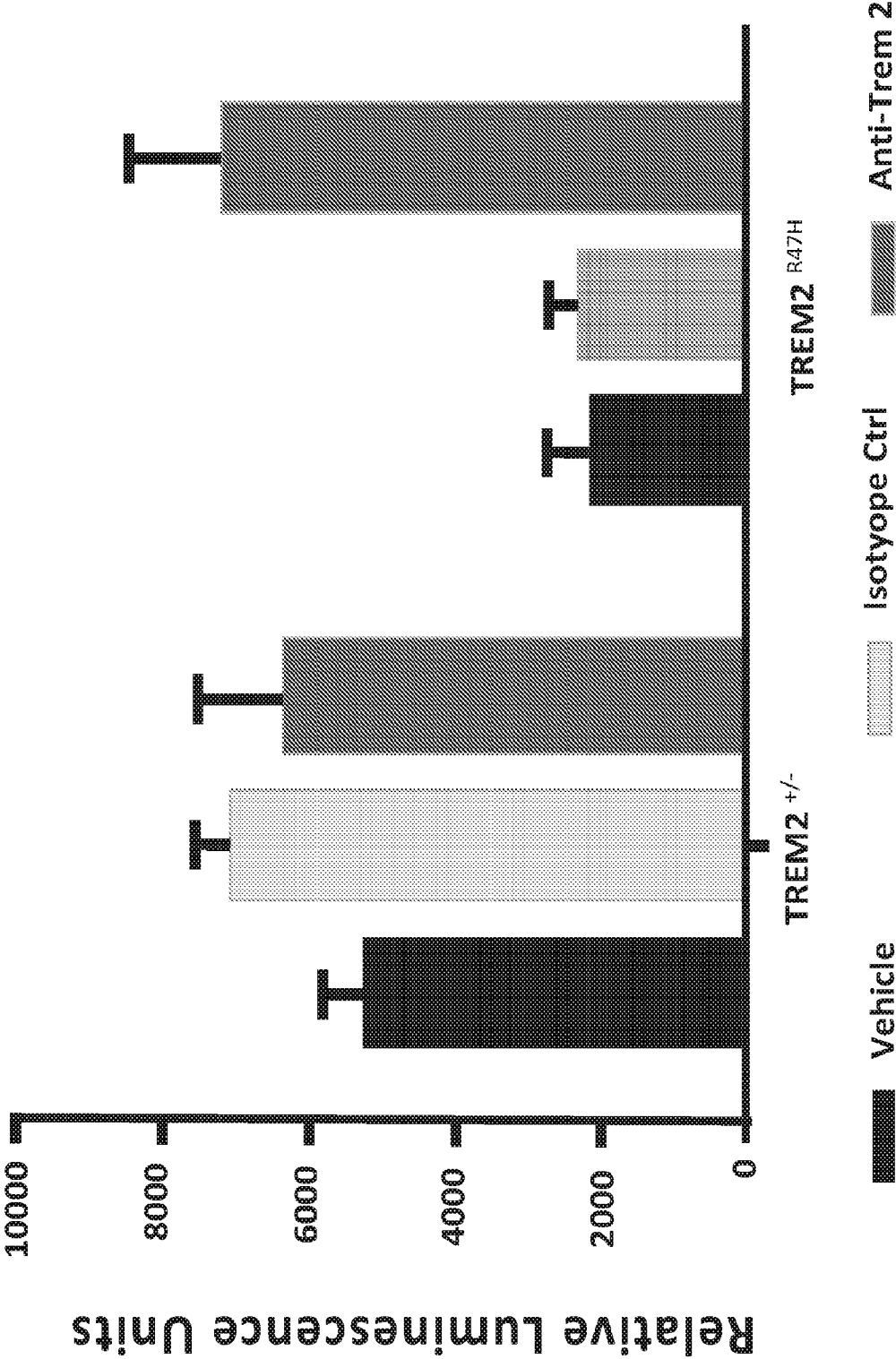


FIG. 10B

FIG. 10C



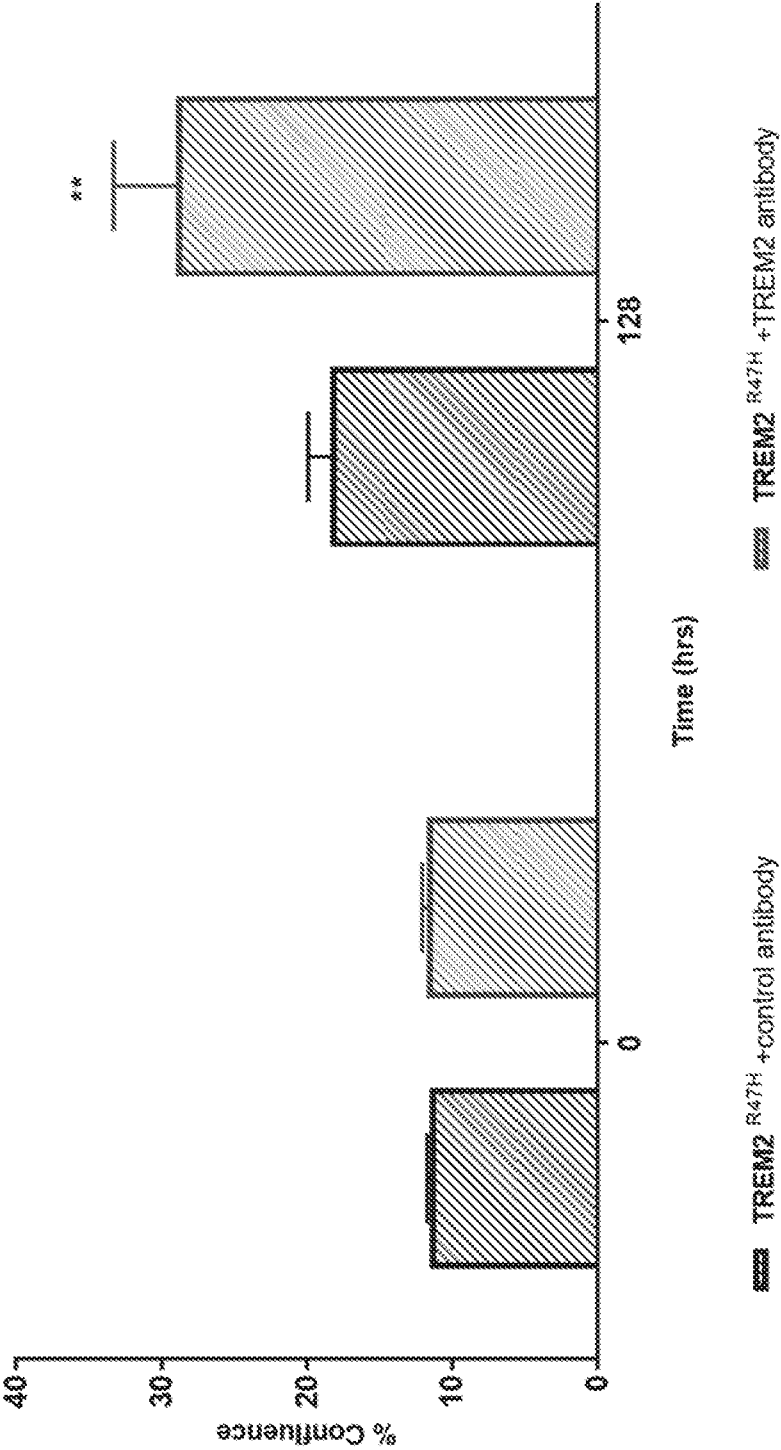


FIG. 10D

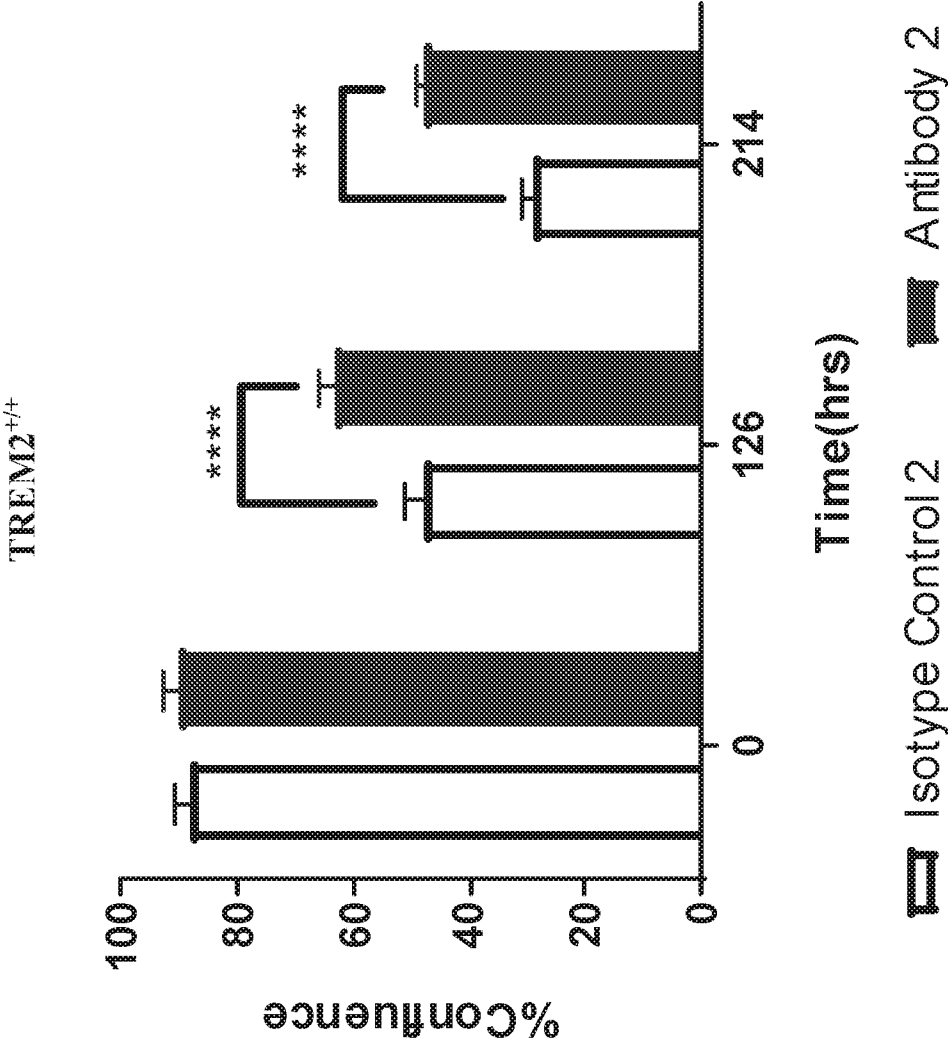


FIG. 10E

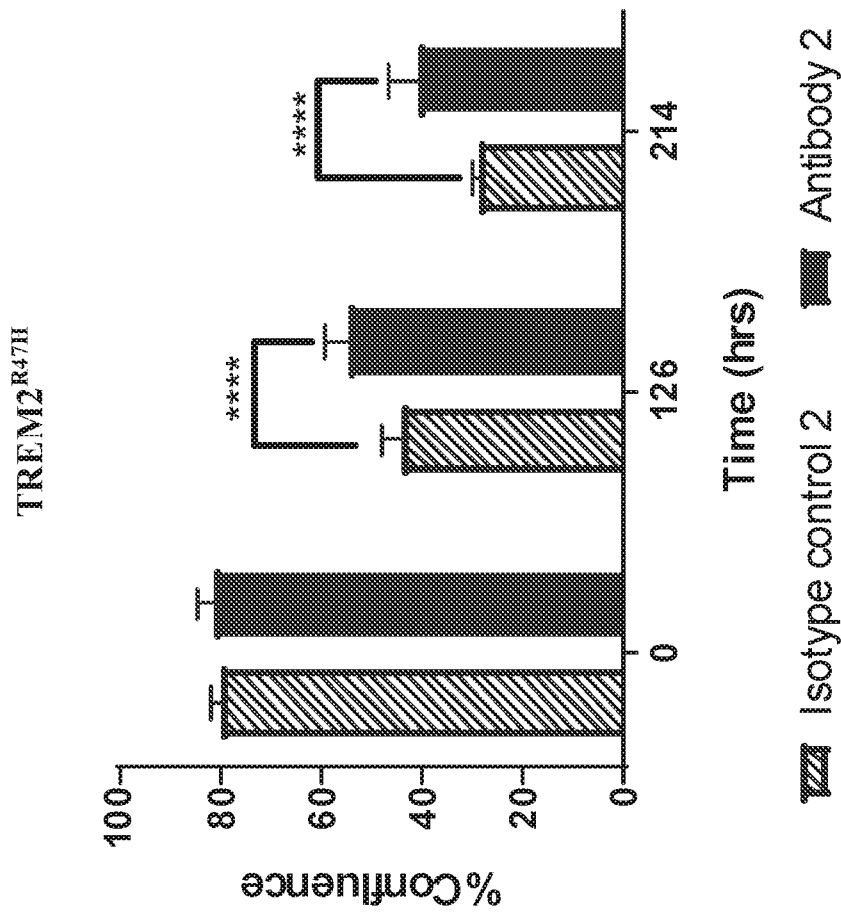


FIG. 10F

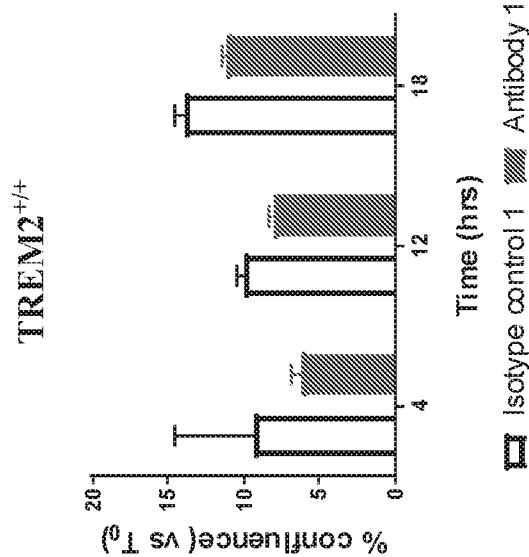


FIG. 11A

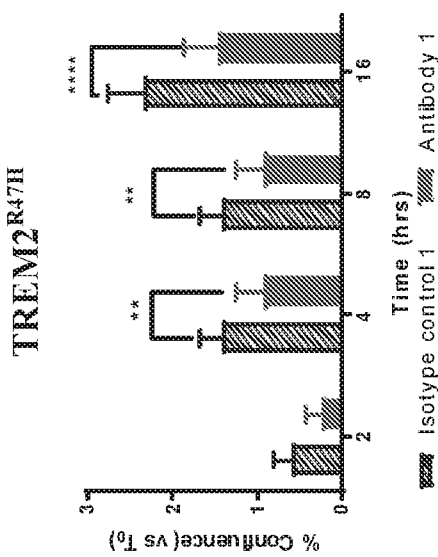


FIG. 11B

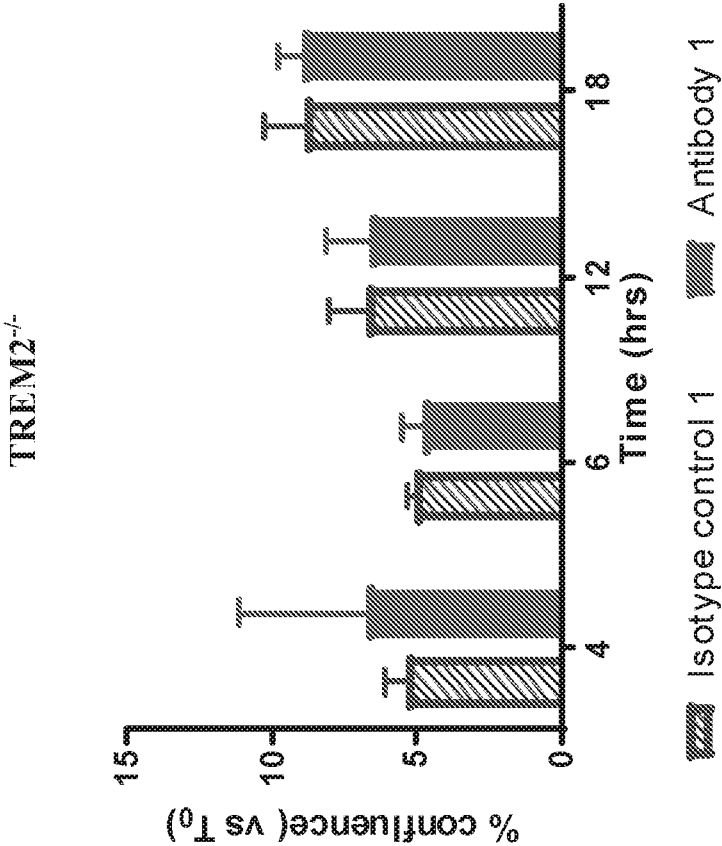
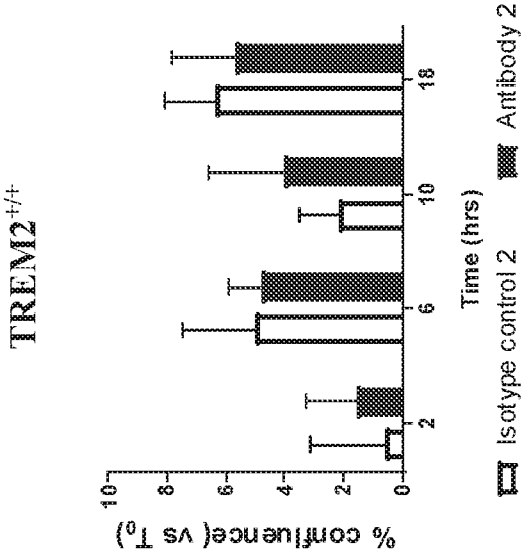
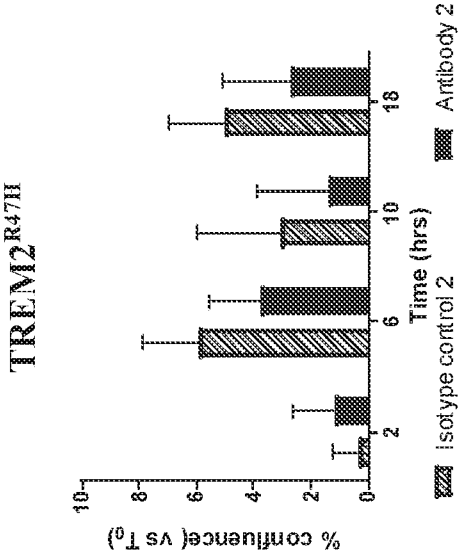


FIG. 11C



**FIG. 11D**



**FIG. 11E**

FIG. 12A

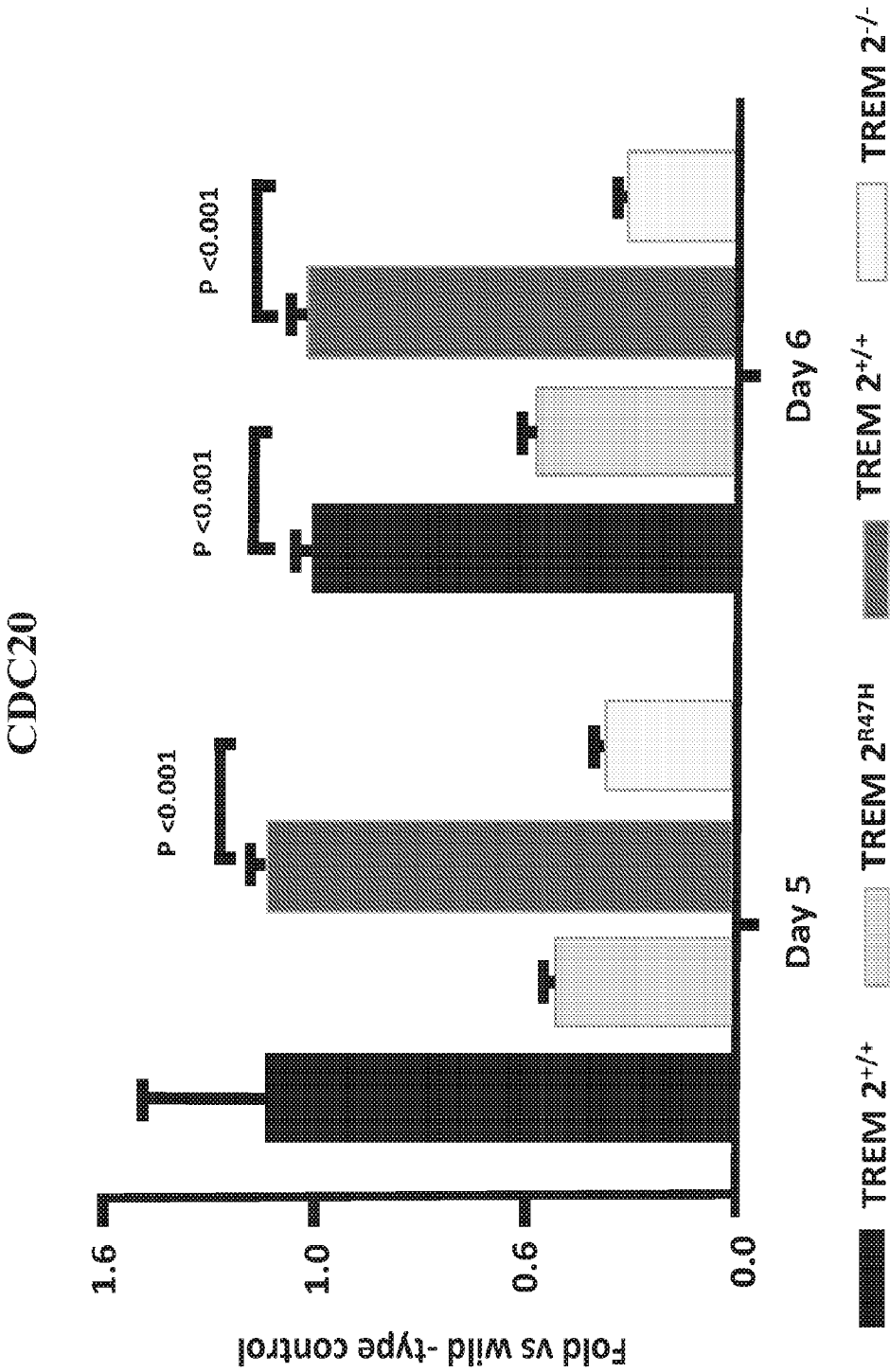


FIG. 12B

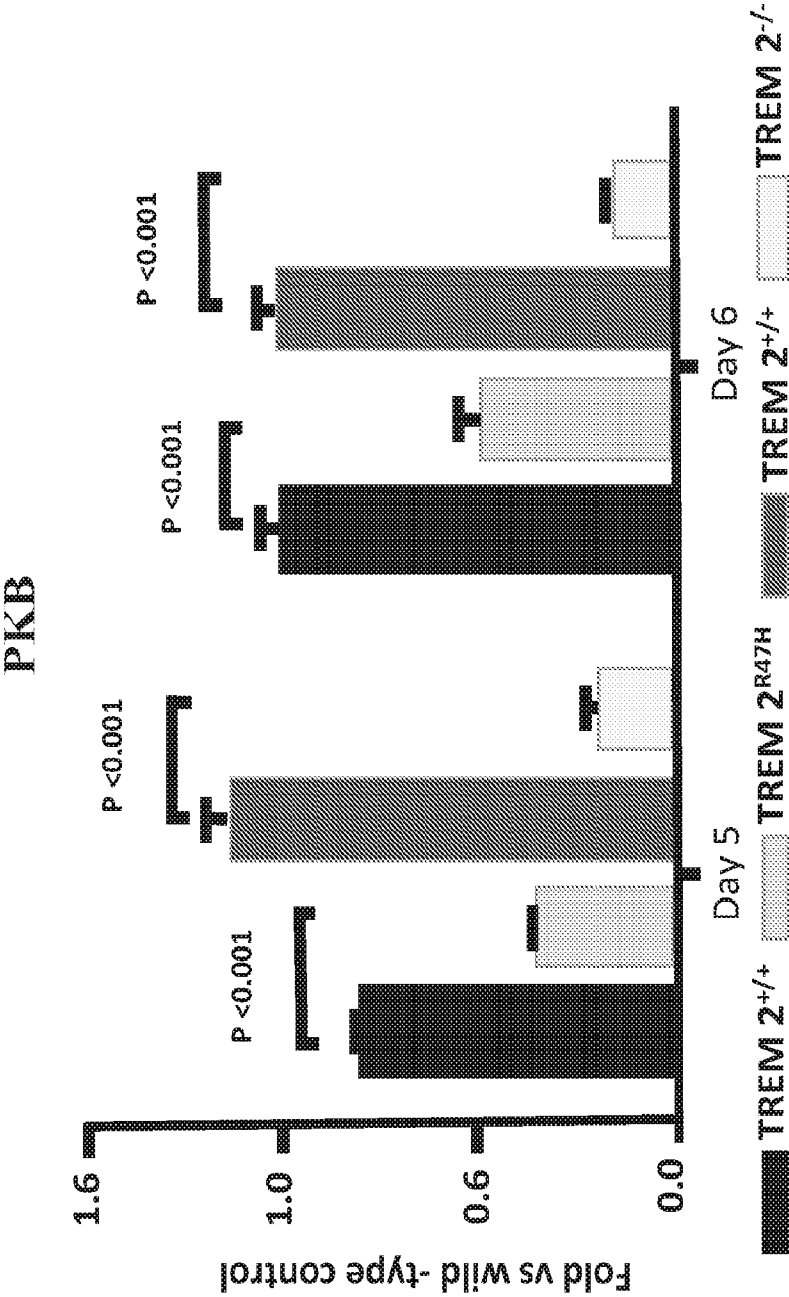


FIG. 12C

NDC80

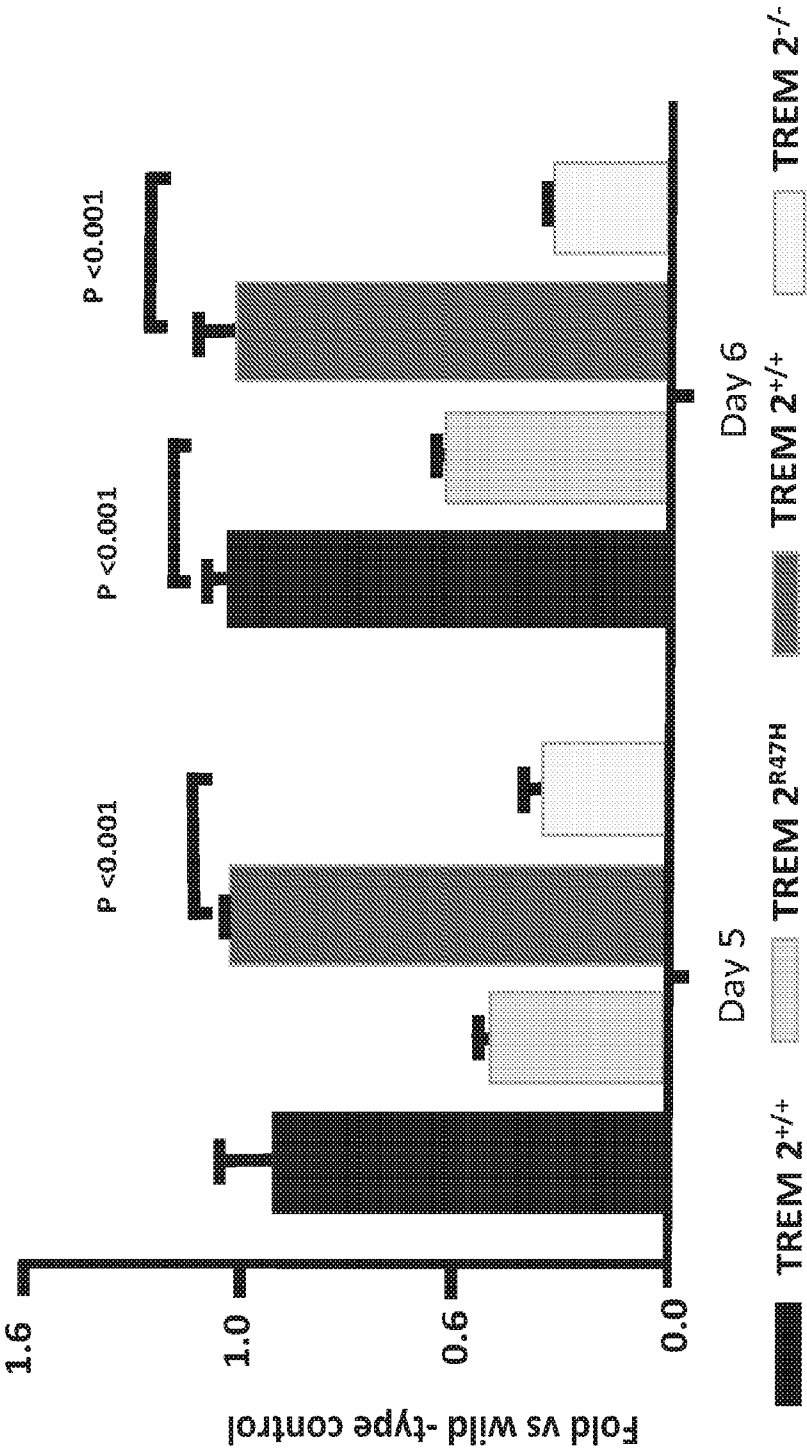
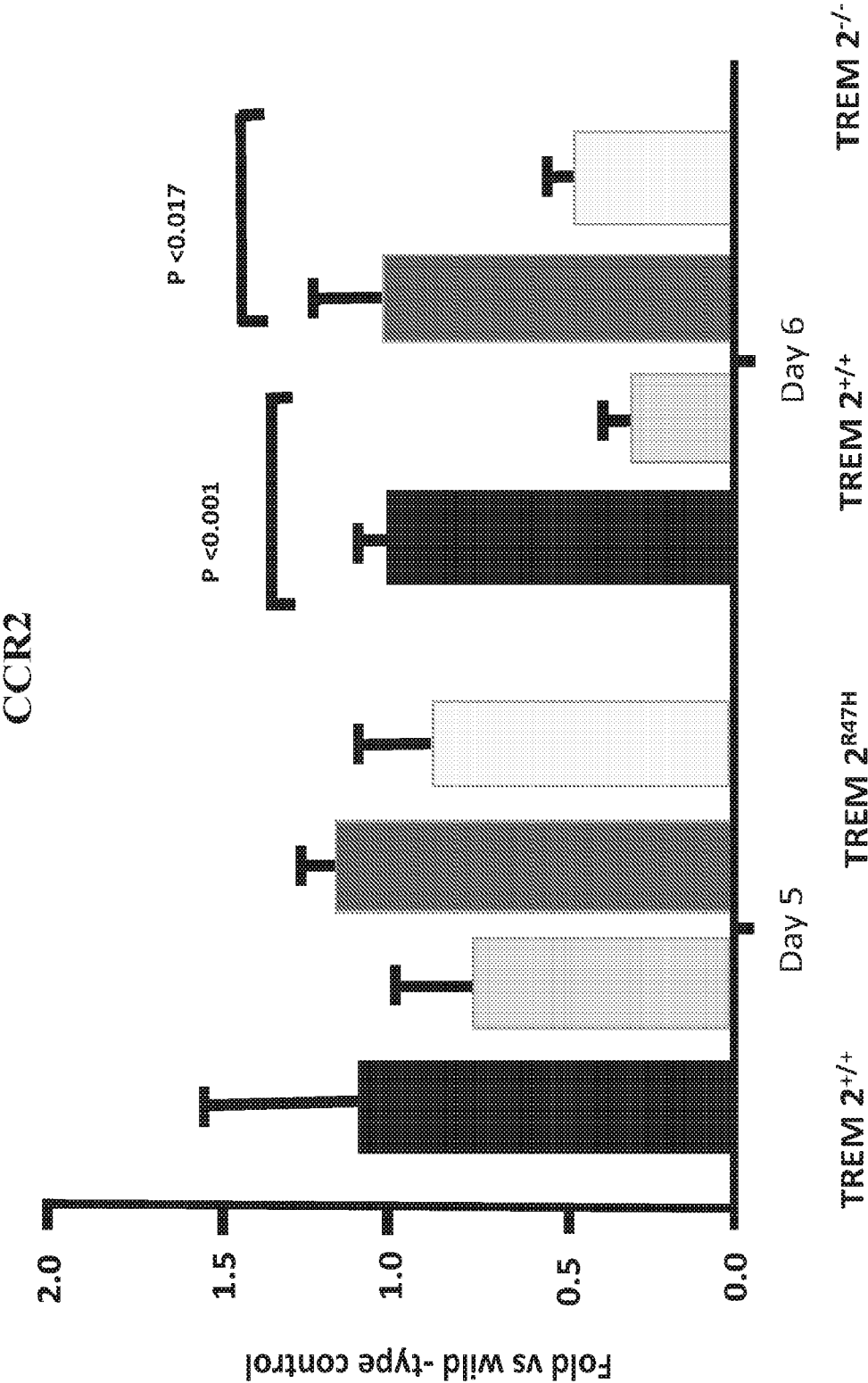


FIG. 12D



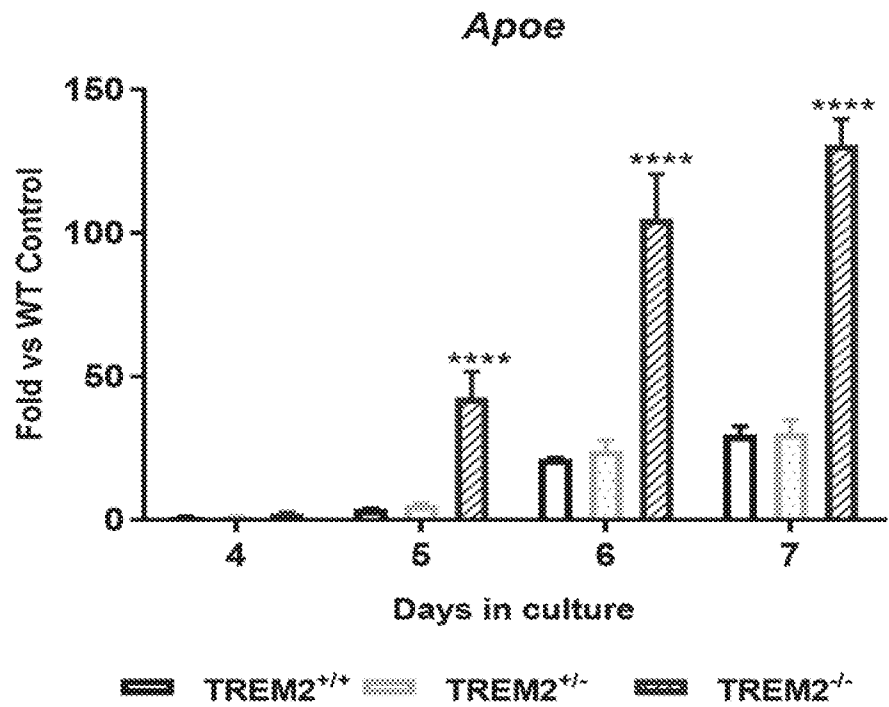


FIG. 13A

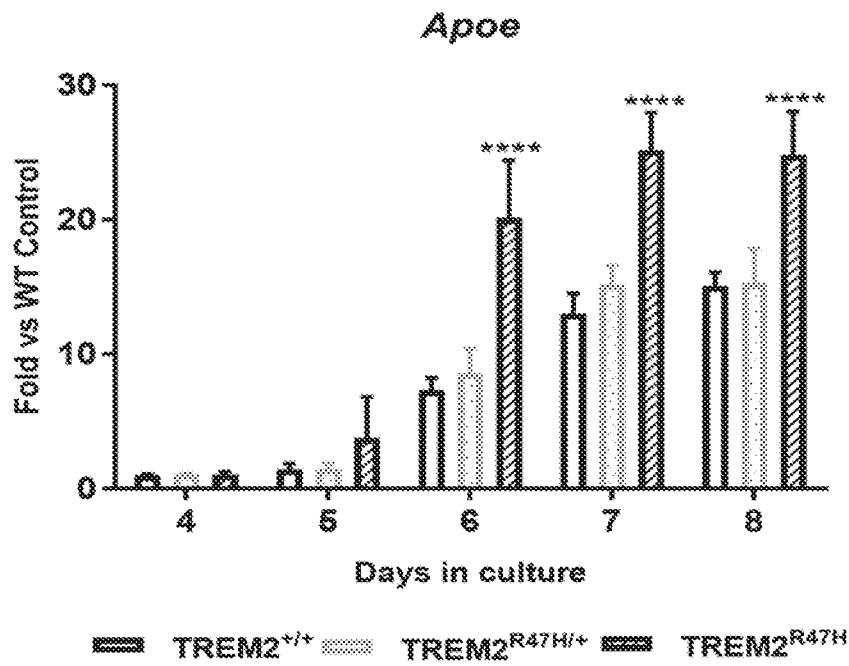


FIG. 13B

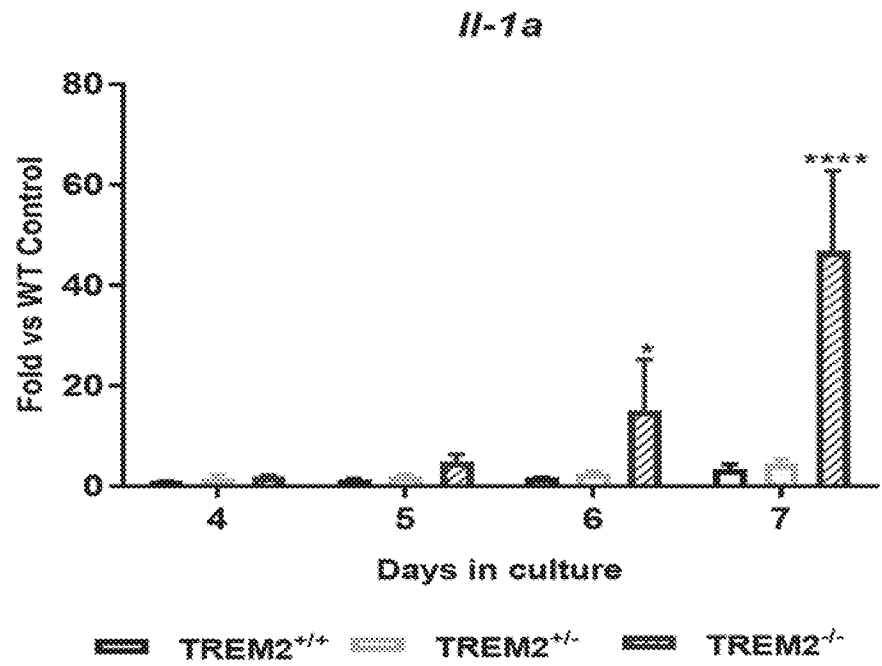


FIG. 13C

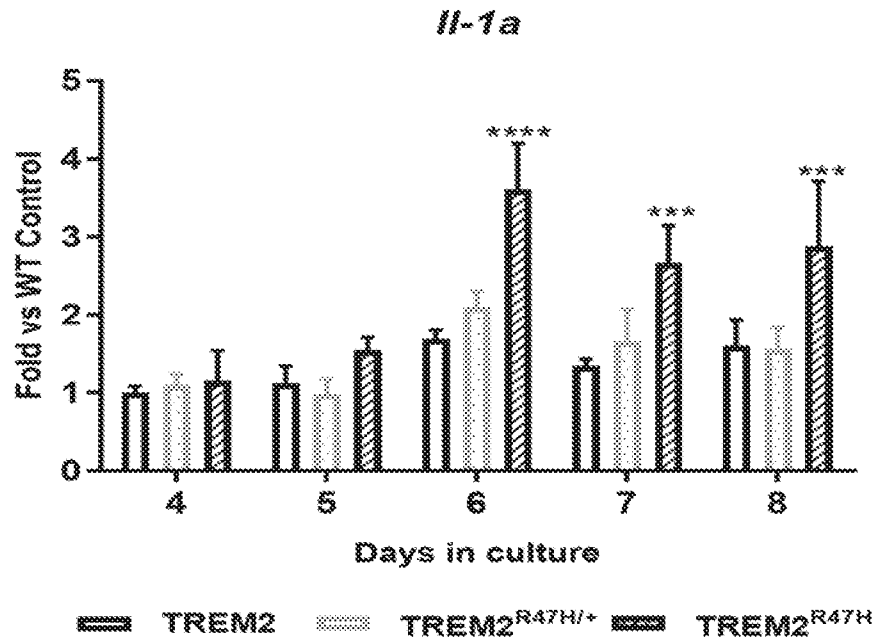


FIG. 13D

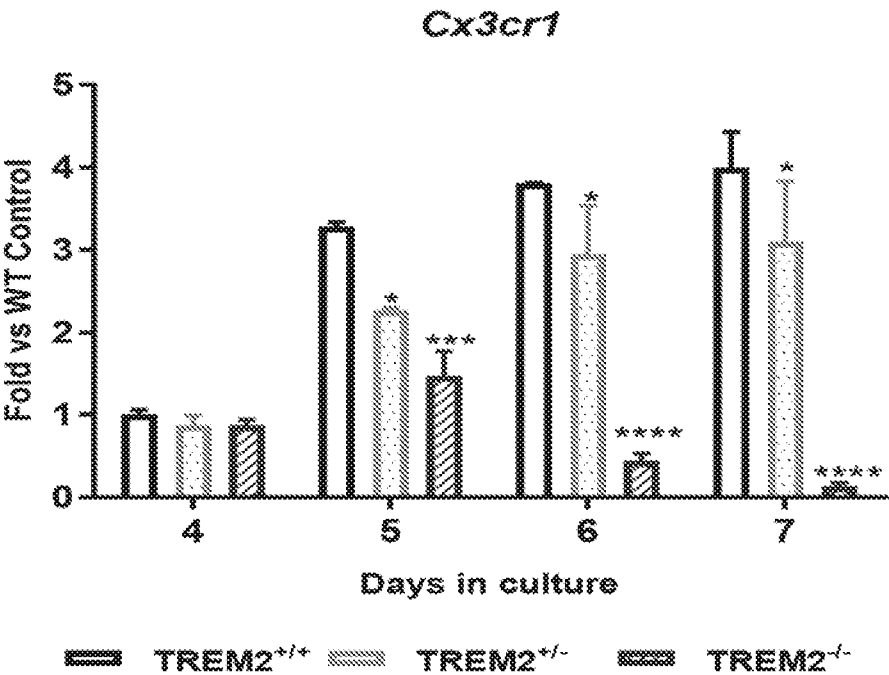


FIG. 13E

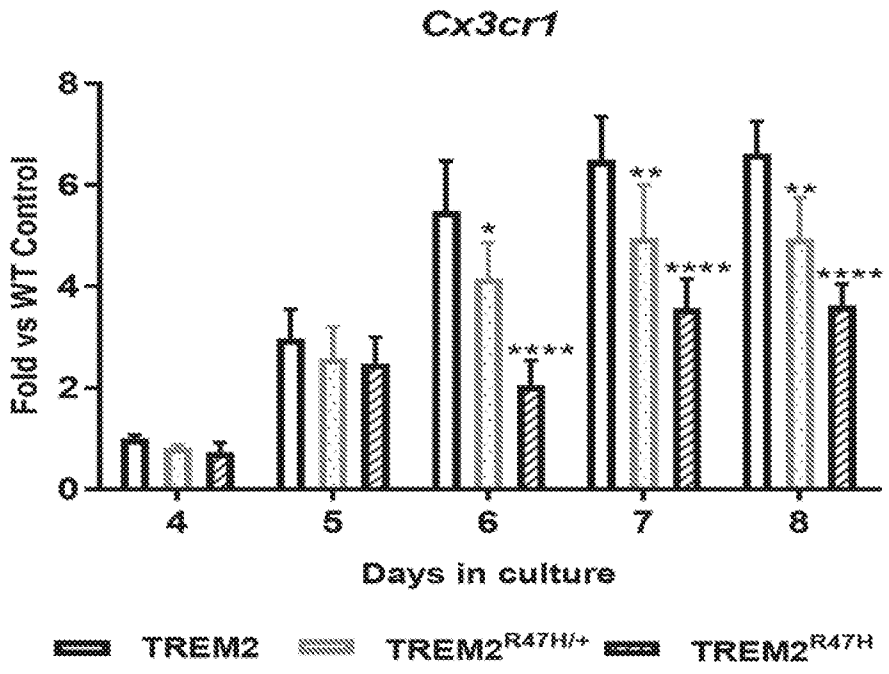


FIG. 13F

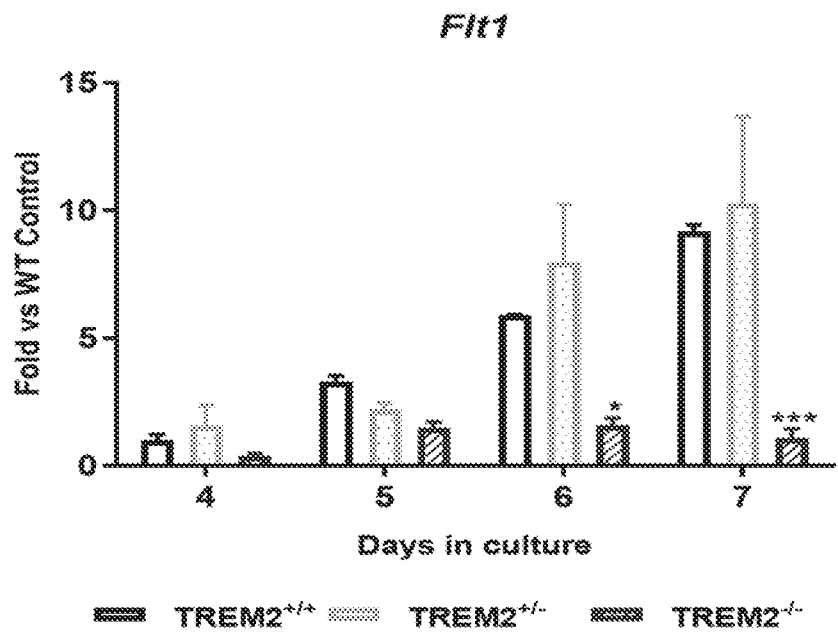


FIG. 13G

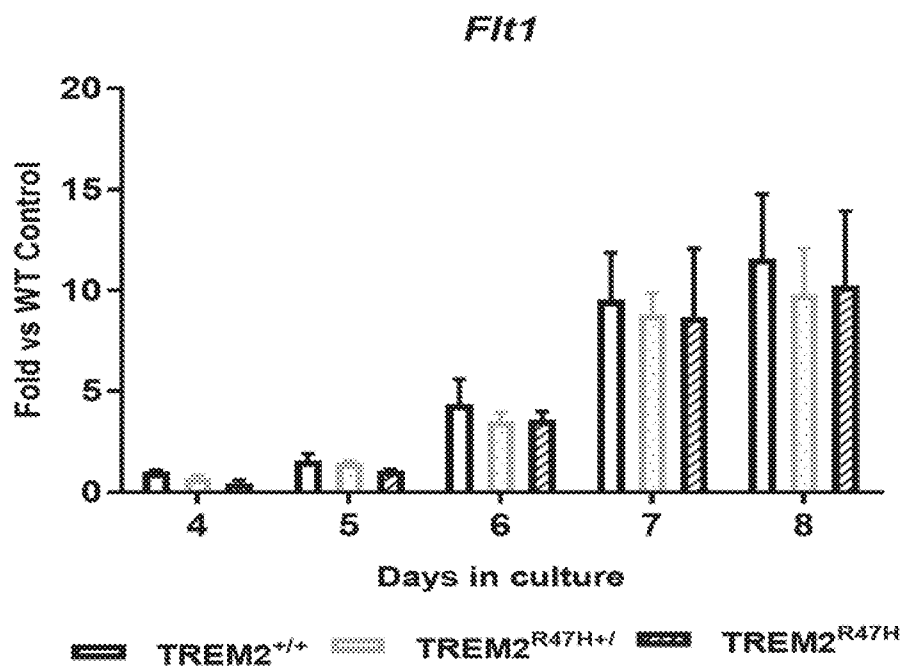


FIG. 13H

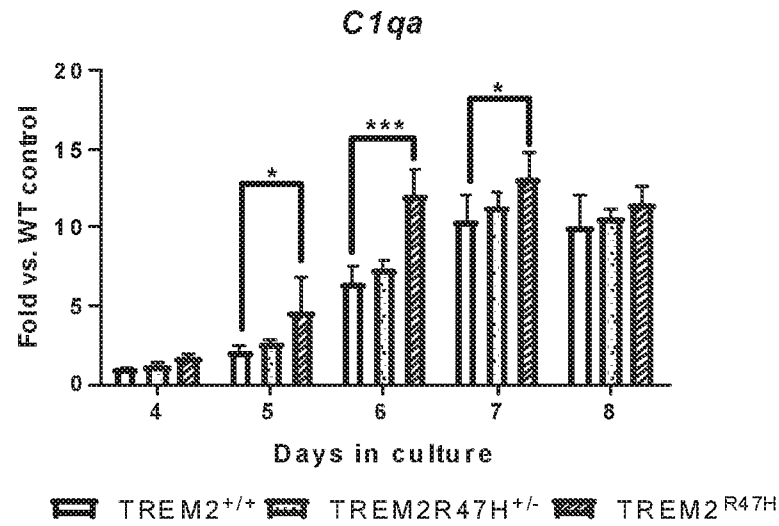


FIG. 13I

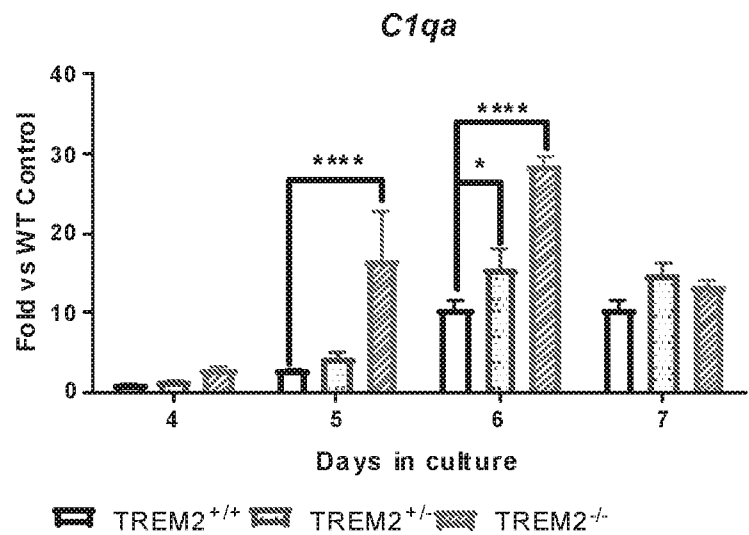


FIG. 13J

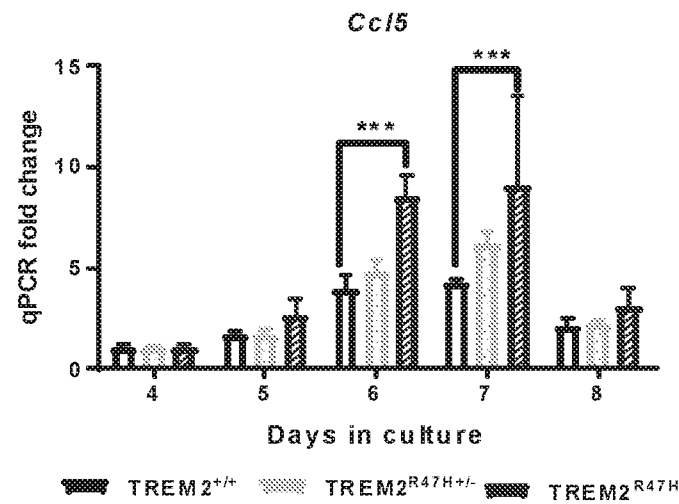


FIG. 13K

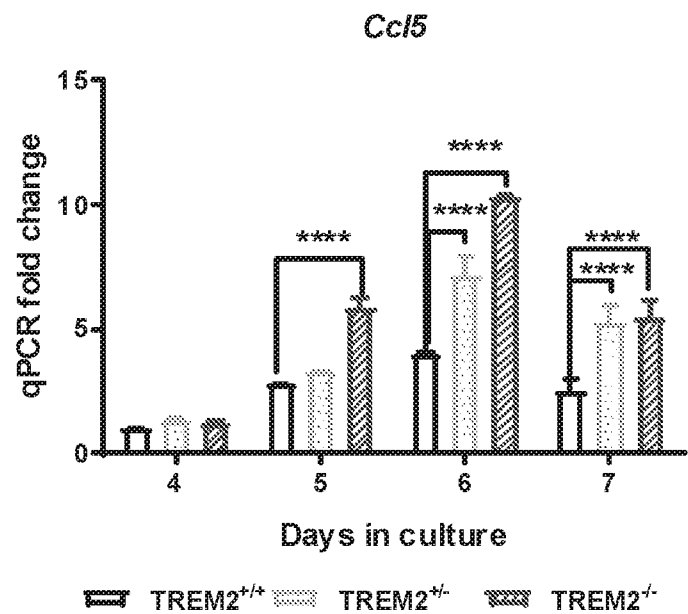


FIG. 13L

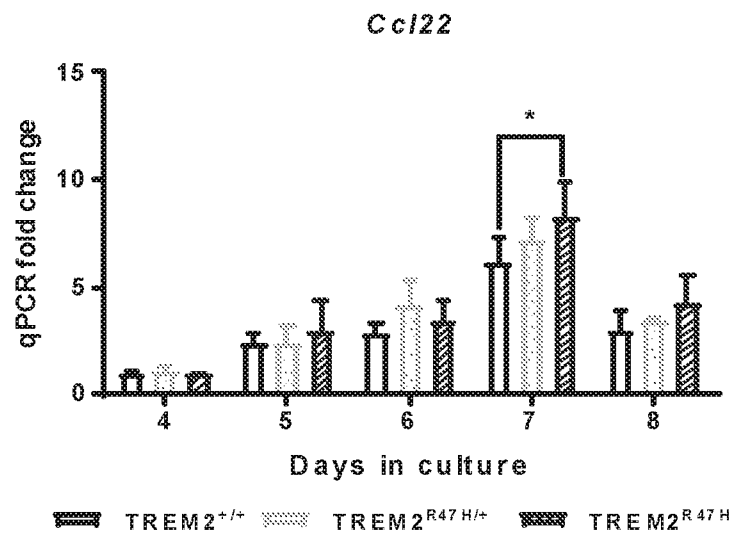


FIG. 13M

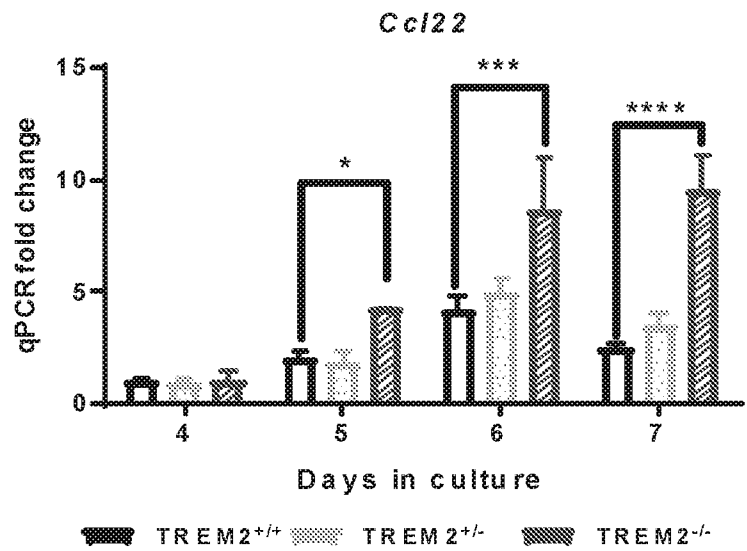
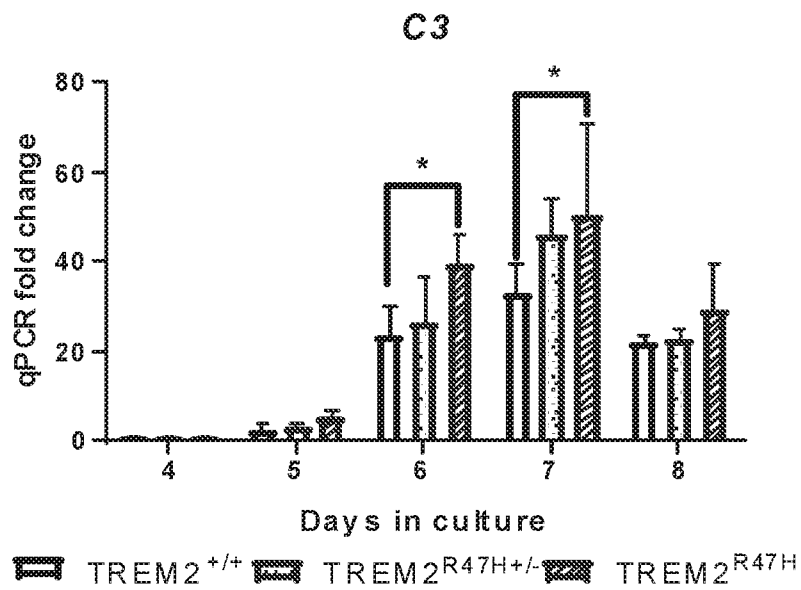
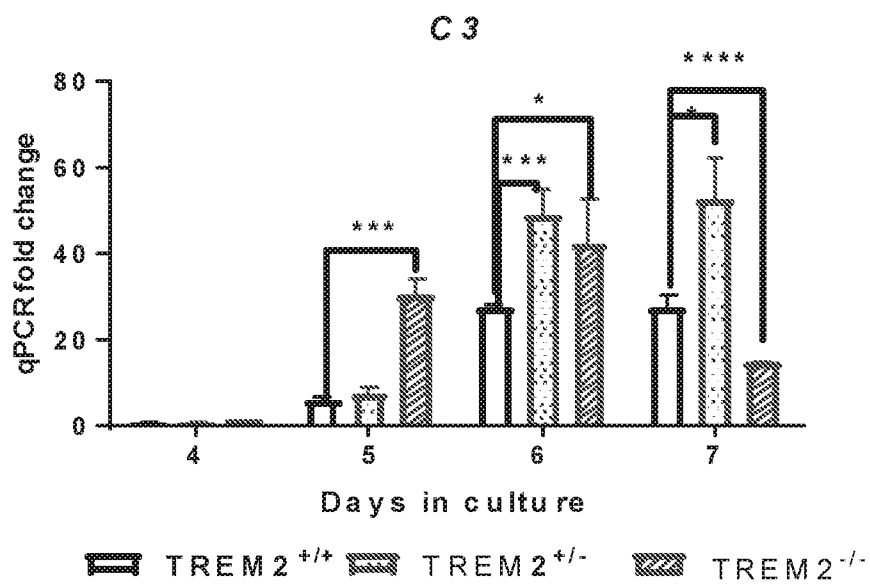


FIG. 13N

**FIG. 13O****FIG. 13P**

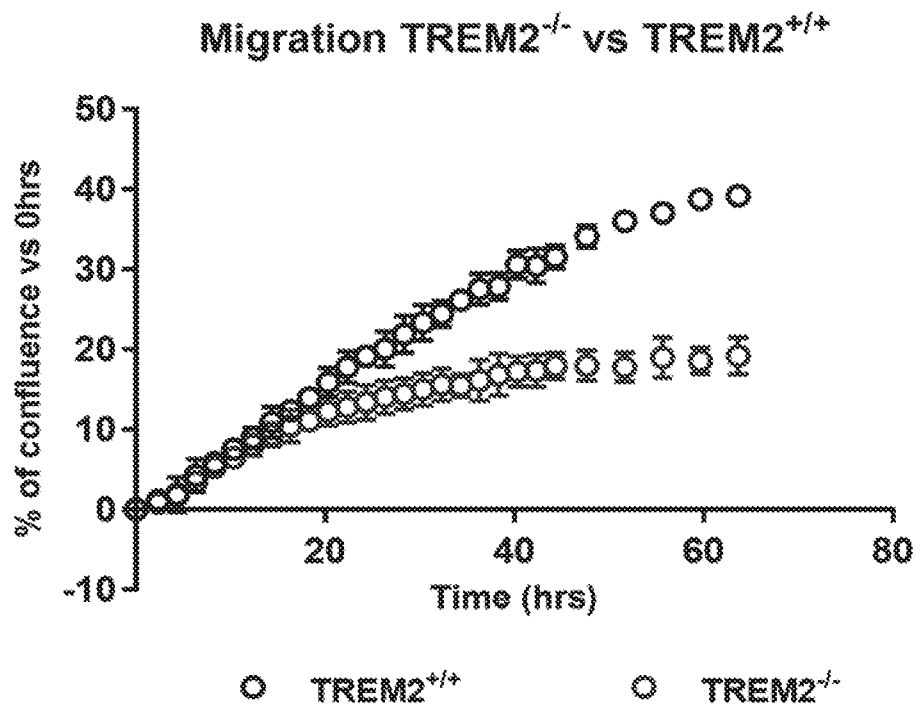


FIG. 14A

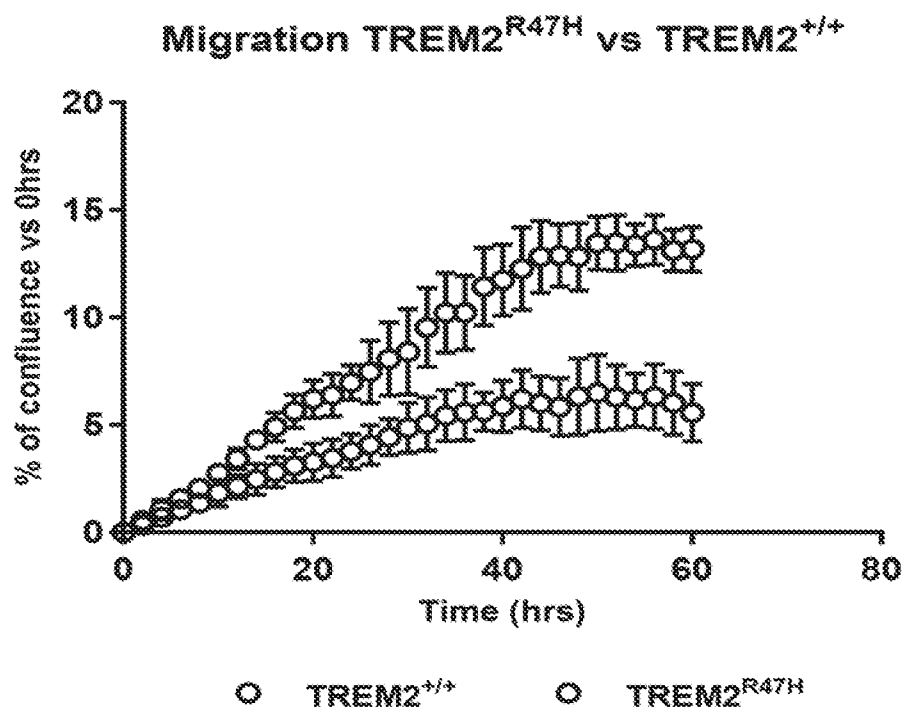


FIG. 14B

FIG. 15A

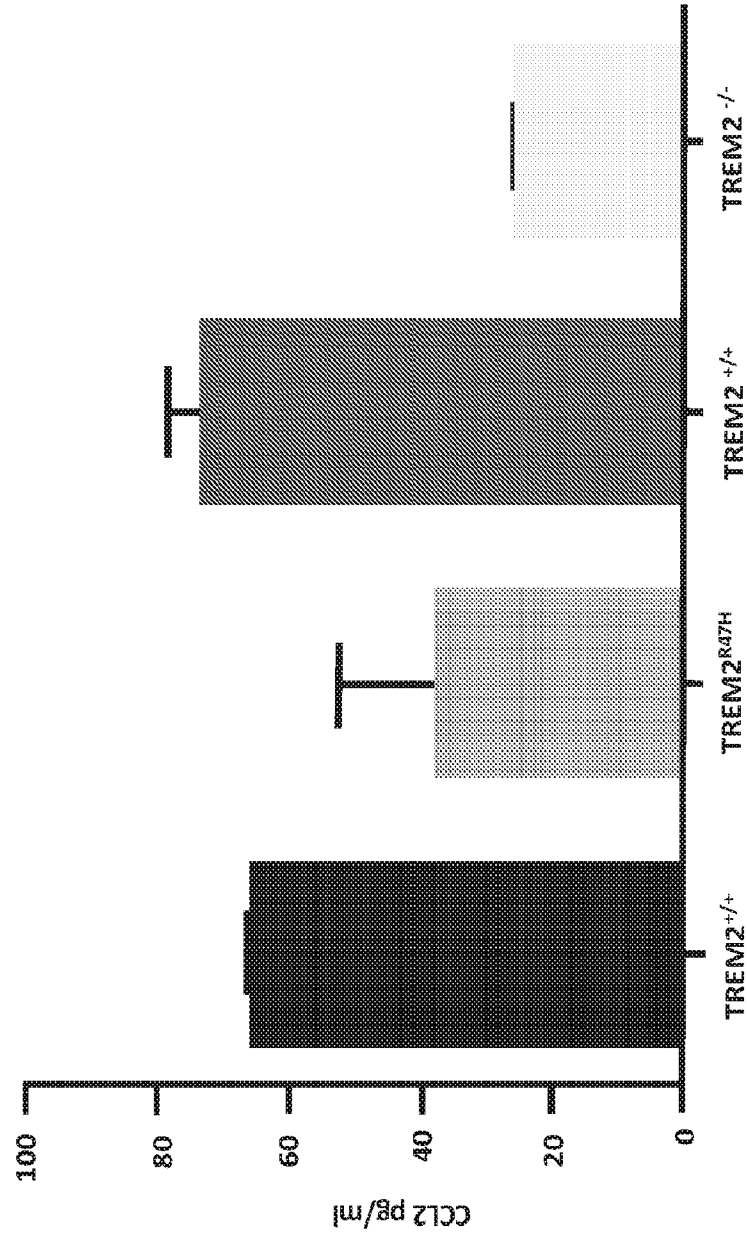
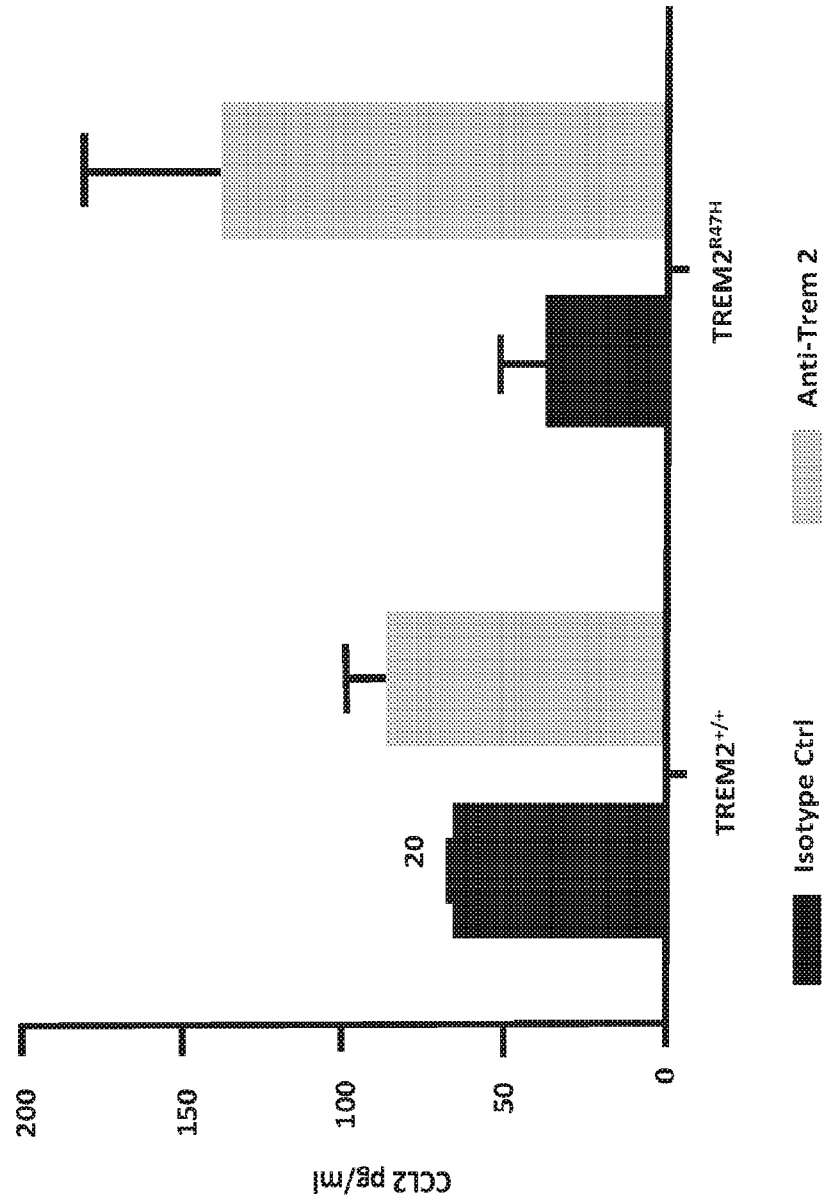
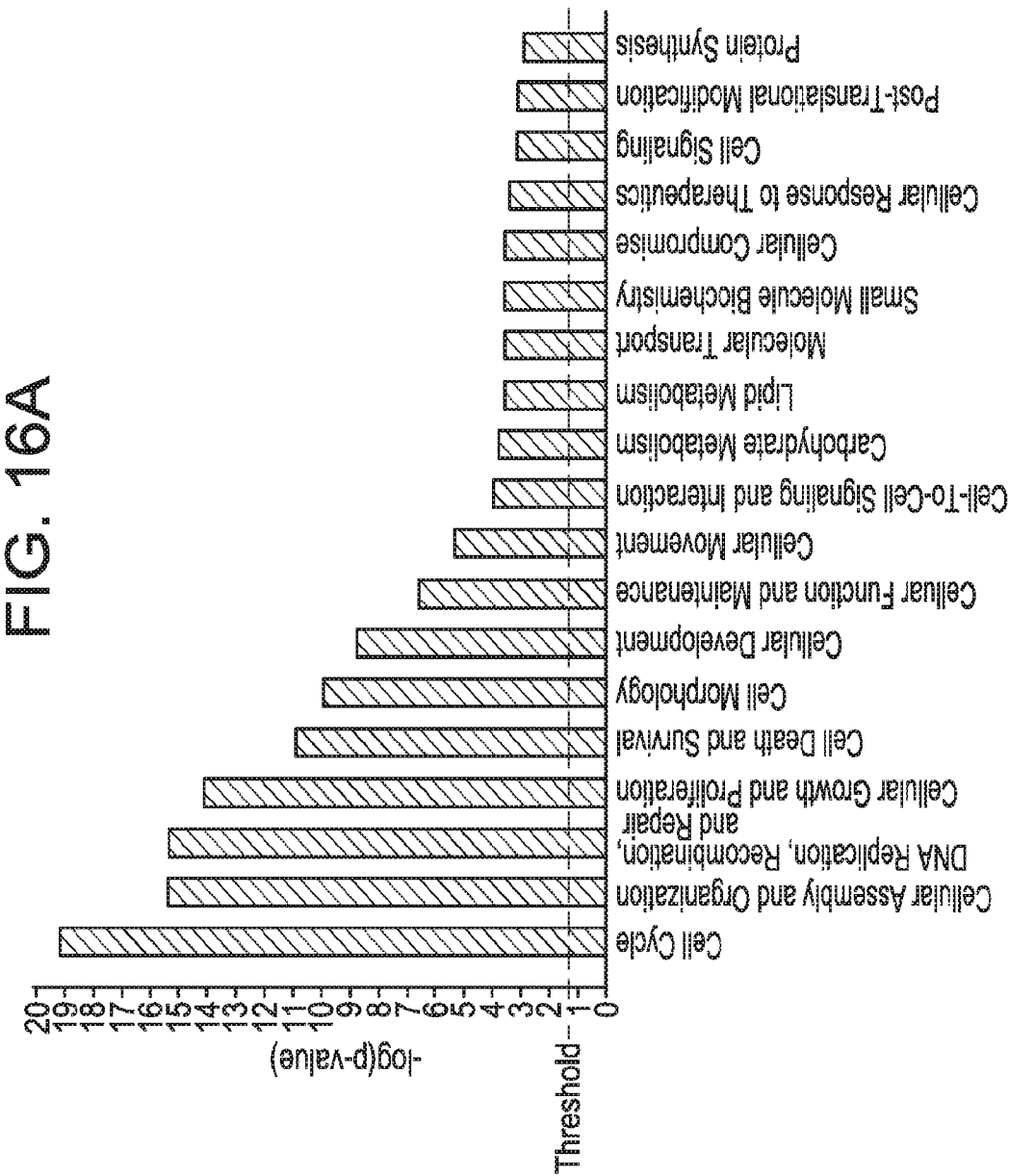


FIG. 15B





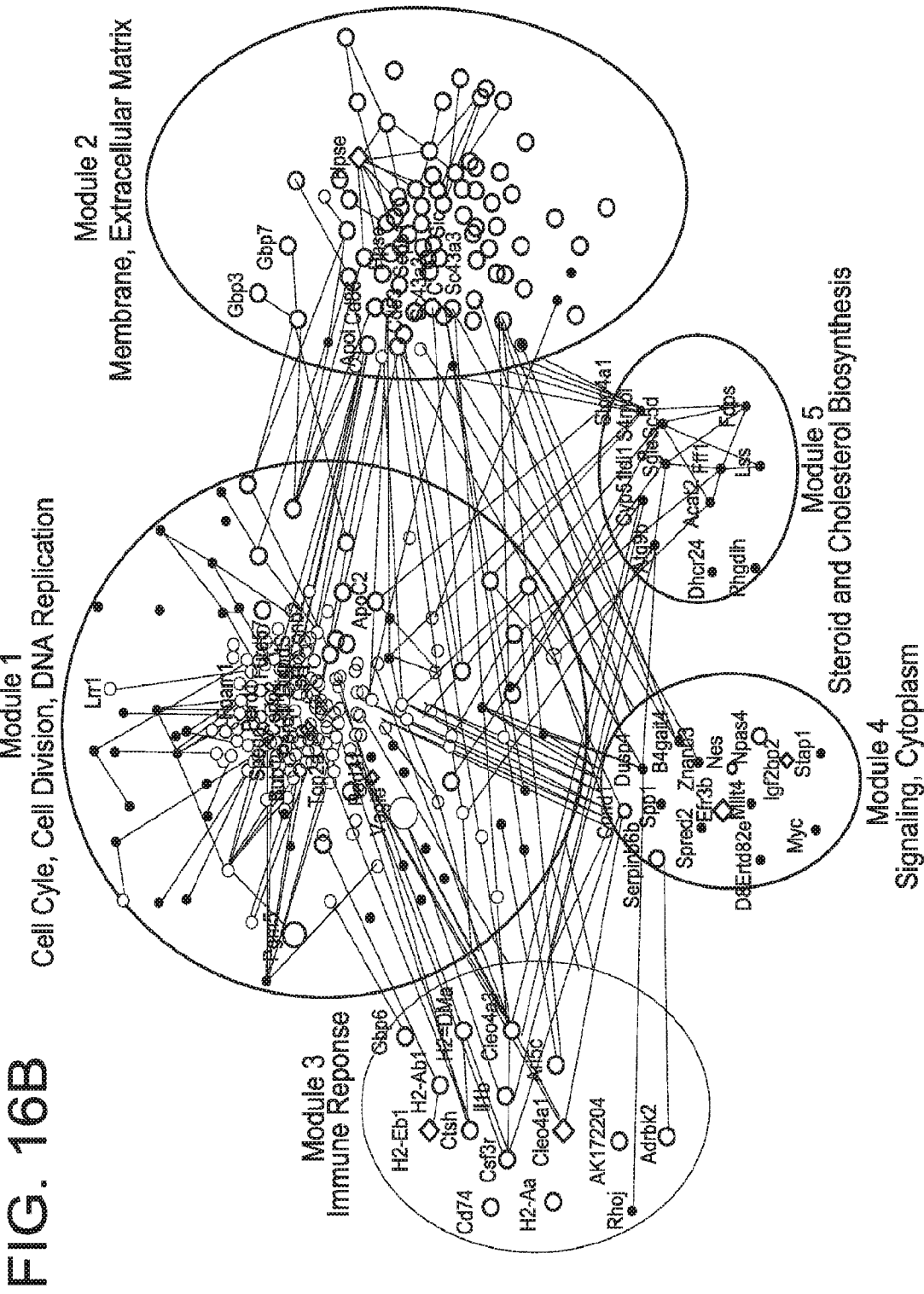


FIG. 16C

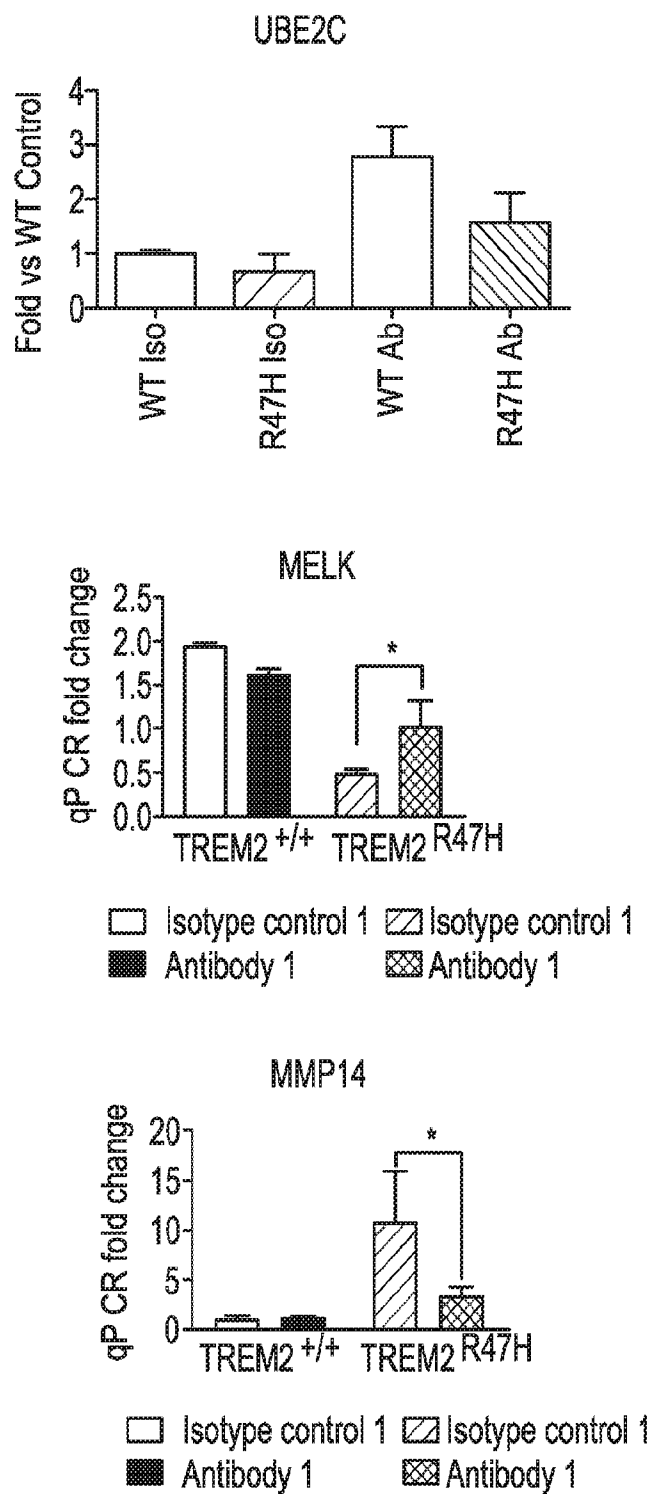


FIG. 17

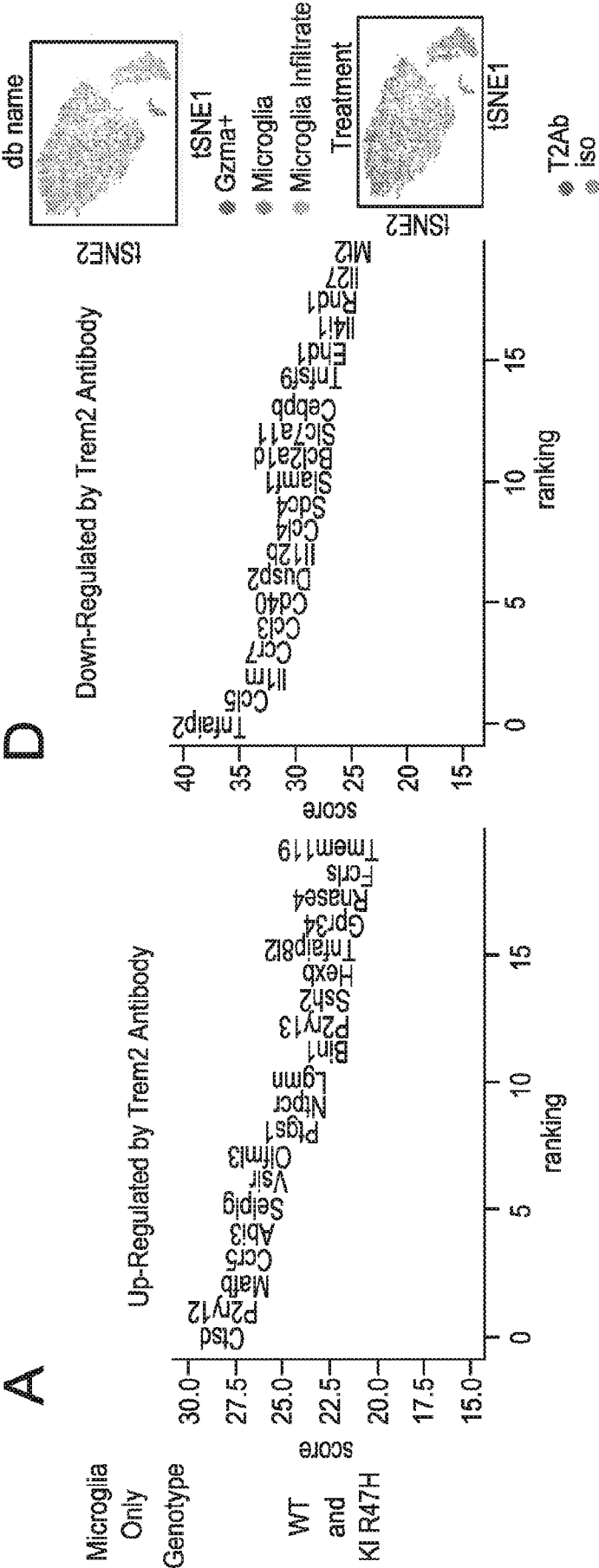


FIG. 17 Cont'd.

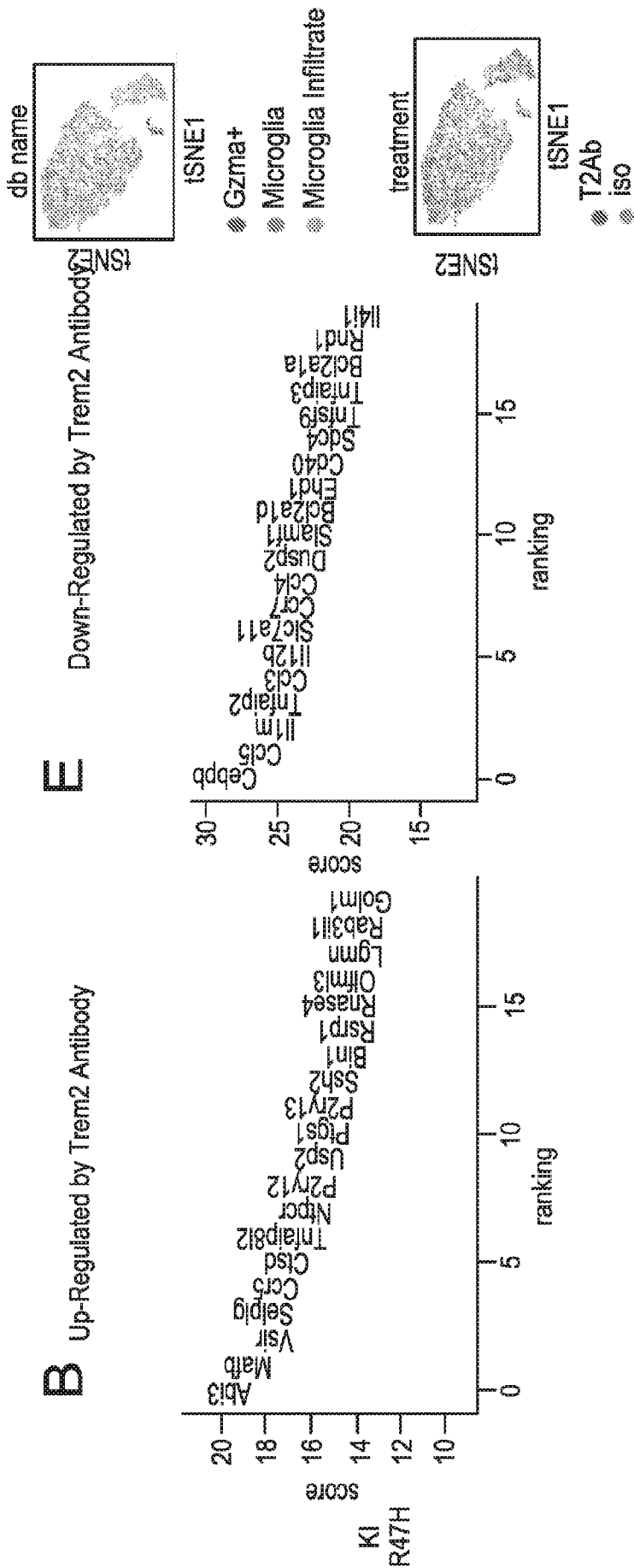


FIG. 17 Cont'd.

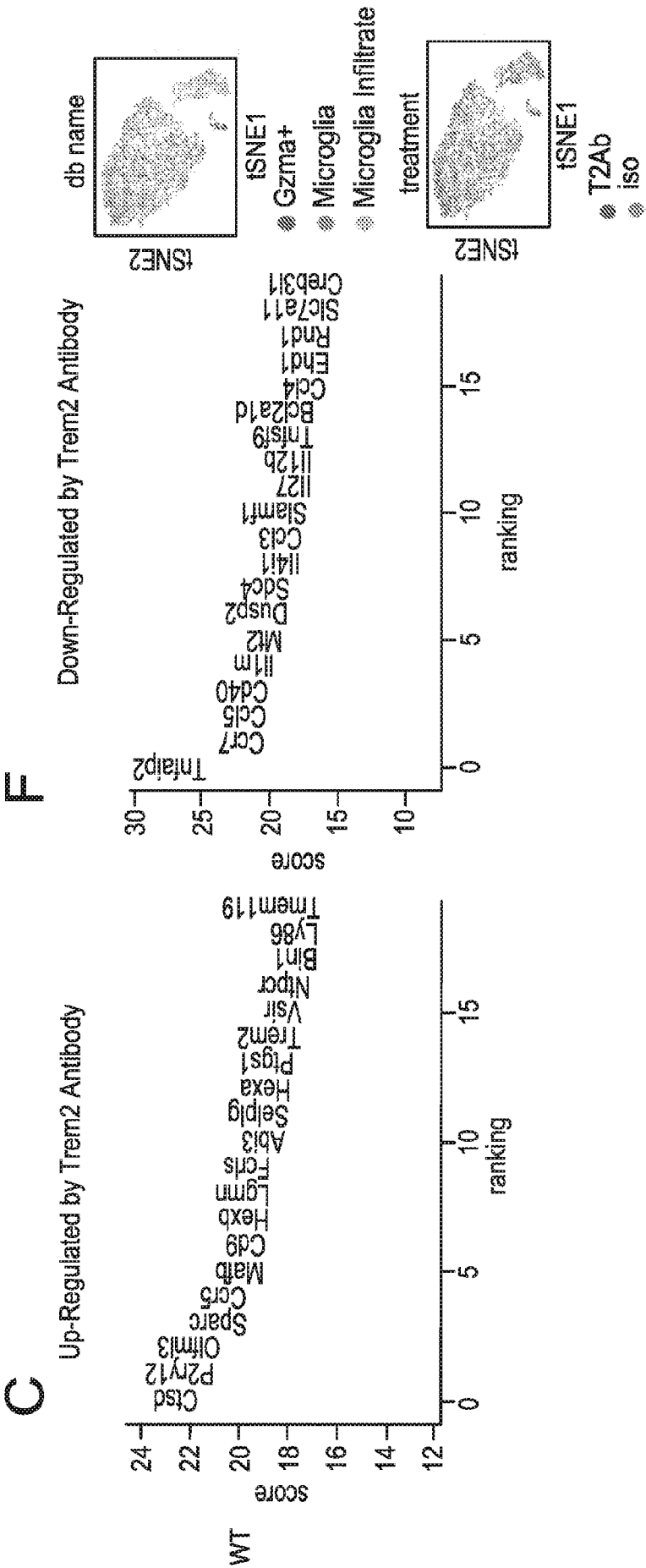


FIG. 18

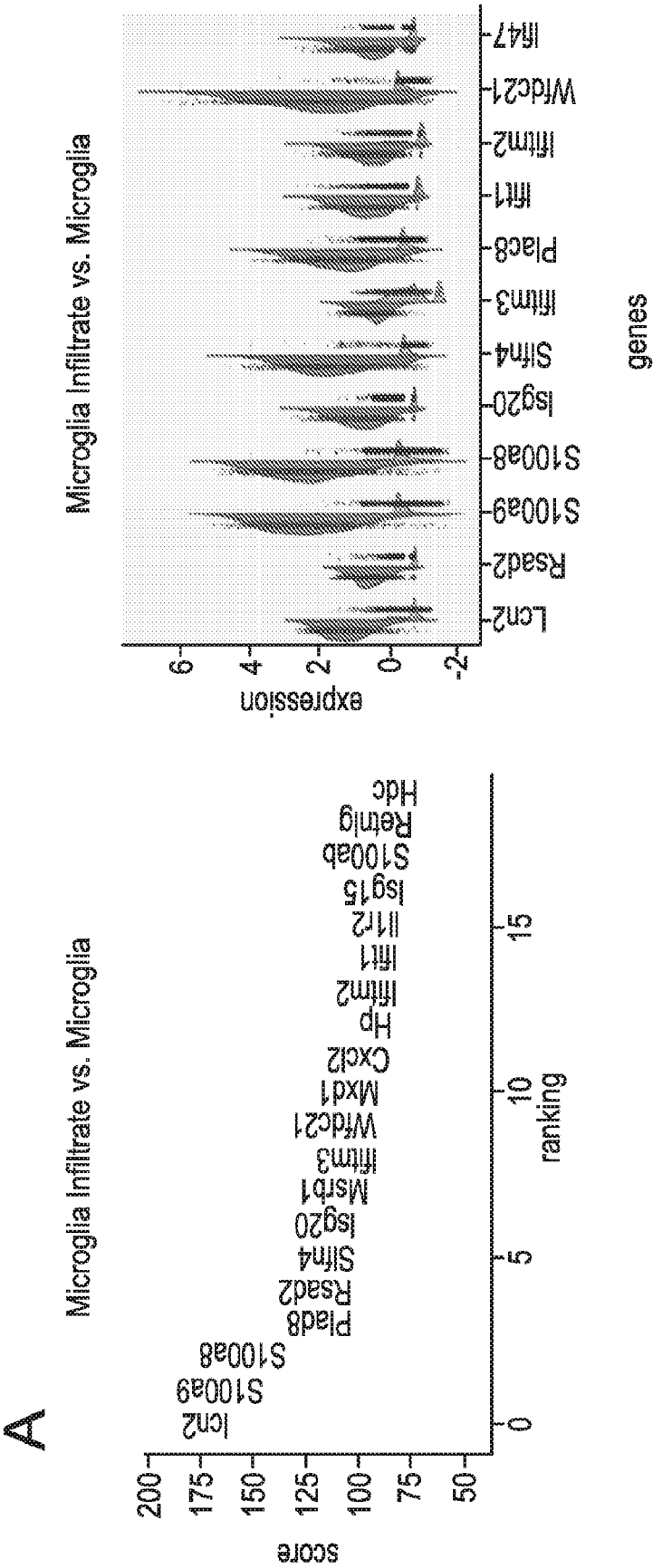


FIG. 18 Cont'd.

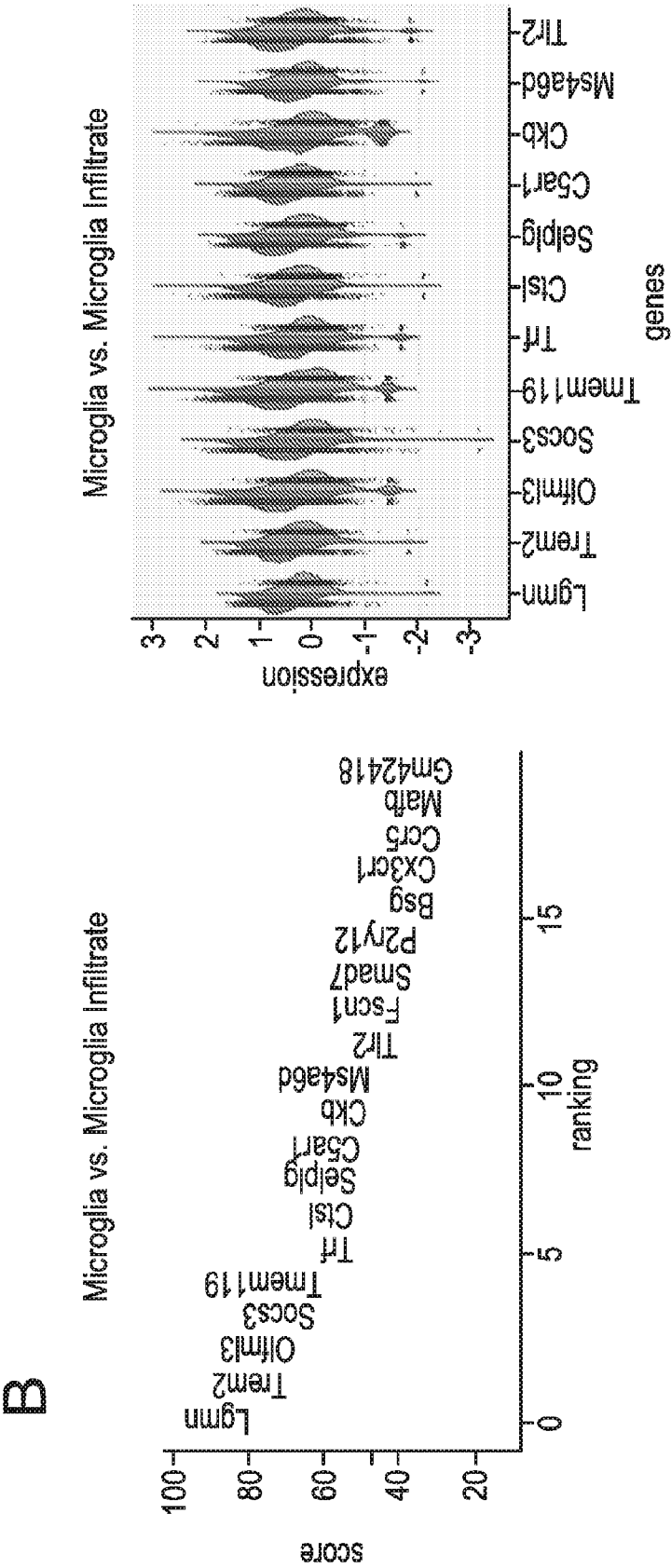


FIG. 18 Cont'd.

Infiltrate Population Only- WT & KI

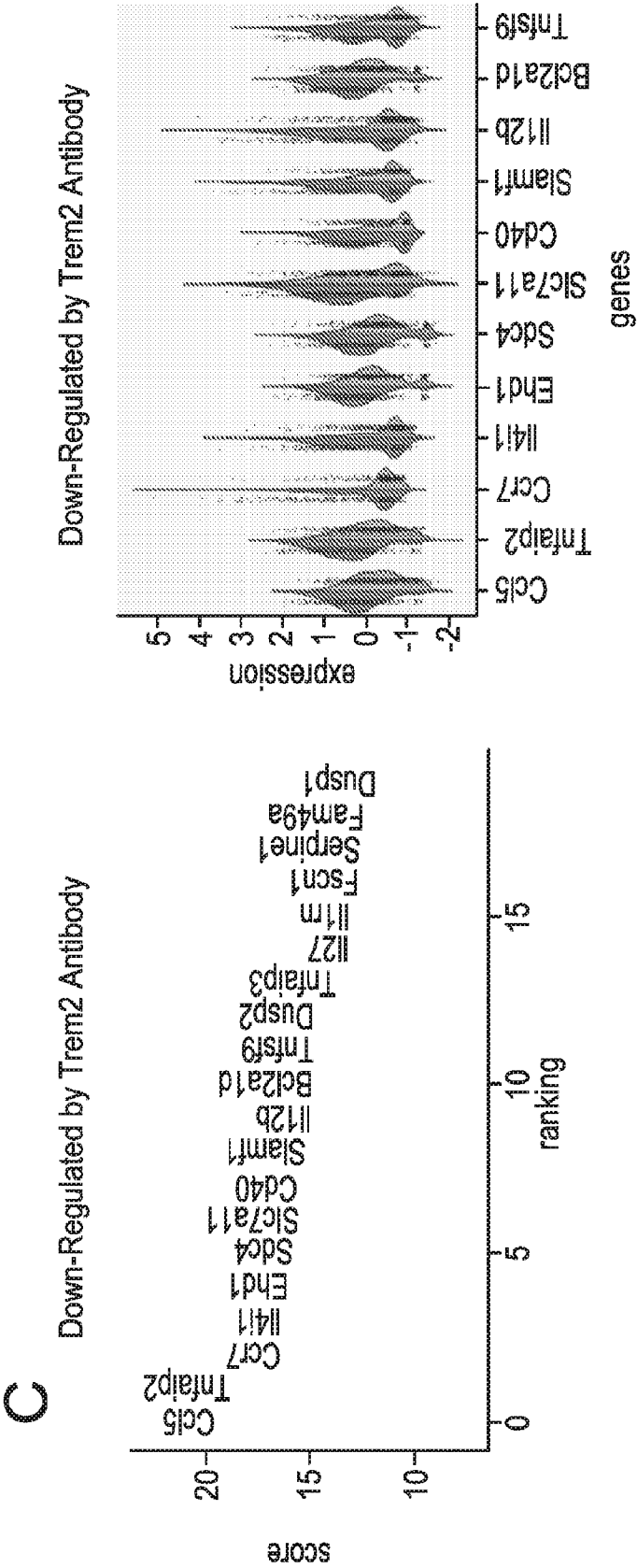


FIG. 18 Cont'd.  
Infiltrate Population-WT Only

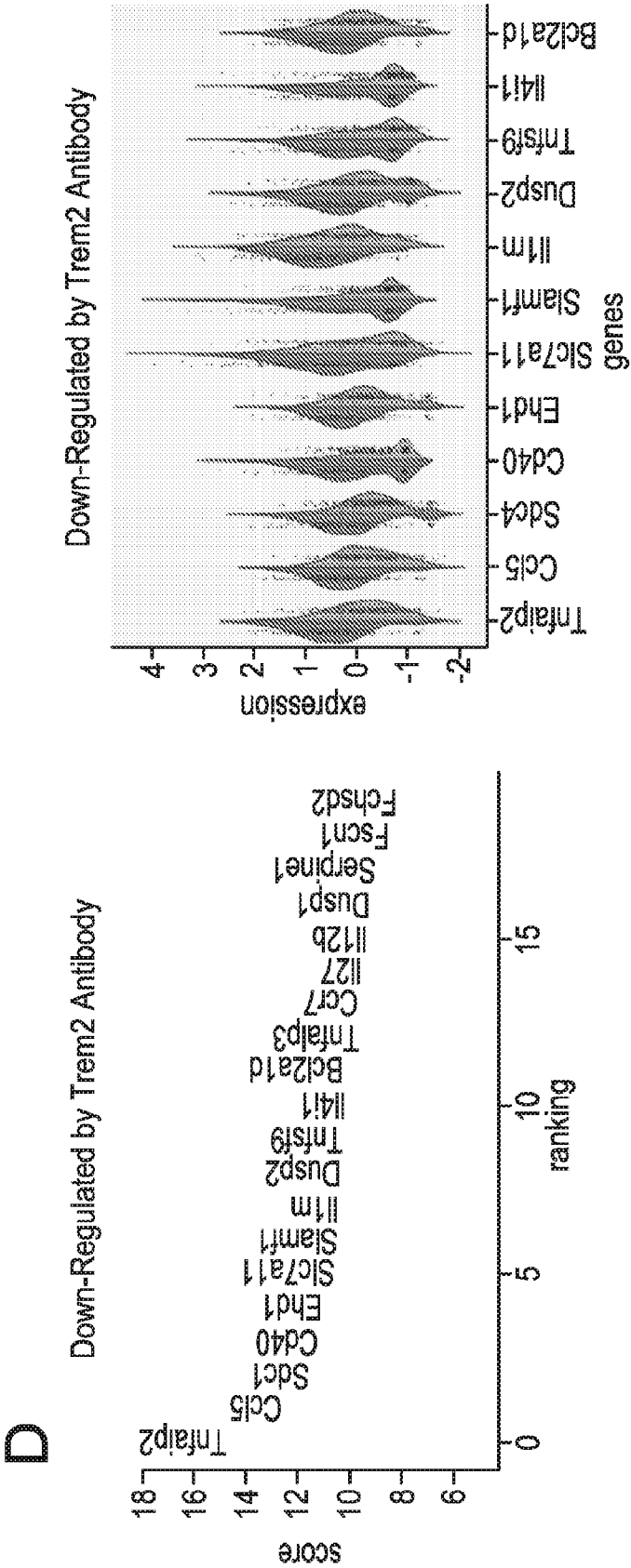


FIG. 18 Cont'd.

Infiltrate Population-KI Only

