

Table S1. Detailed clinical and pathologic information of TCGA entire set.

status	life_span	gender	age	AJCC_stage	Grade	T	N	M	
TCGA-2J-AAB1	1	66	1	65	2	3	T3	N1	M0
TCGA-2J-AAB4	0	729	1	48	2	2	T2	N1	M0
TCGA-2J-AAB6	1	293	1	75	2	2	T3	N0	M0
TCGA-2J-AAB8	0	80	1	71	2	3	T3	N1	M0
TCGA-2J-AAB9	1	627	2	70	2	1	T3	N1	M0
TCGA-2J-AABA	1	607	1	55	2	2	T3	N1	M0
TCGA-2J-AABE	0	676	1	73	2	2	T3	N0	M0
TCGA-2J-AABF	1	691	1	73	2	3	T3	N1	M0
TCGA-2J-AABH	0	1287	1	61	2	3	T3	N0	M0
TCGA-2J-AABI	0	969	2	55	2	3	T3	N0	M0
TCGA-2J-AABK	0	484	1	71	2	2	T3	N1	M0
TCGA-2J-AABO	0	440	1	43	2	2	T3	N1	M0
TCGA-2J-AABP	0	463	2	58	2	4	T3	N1	M0
TCGA-2J-AABR	0	438	2	60	2	3	T3	N0	M0
TCGA-2J-AABT	0	319	2	72	2	2	T3	N1	M0
TCGA-2J-AABU	1	277	1	56	2	3	T3	N1	M0
TCGA-2J-AABV	1	652	1	74	2	4	T3	N1	M0
TCGA-2L-AAQA	1	143	1	76	2	2	T3	N1	MX
TCGA-2L-AAQE	1	684	1	56	2	2	T3	N1	M0
TCGA-2L-AAQI	1	103	1	66	2	3	T3	N1	MX
TCGA-2L-AAQJ	1	394	2	49	3	2	T4	N0	MX
TCGA-2L-AAQL	1	292	1	82	2	3	T3	N1	MX
TCGA-2L-AAQM	0	1383	1	52	2	1	T3	N1	MX
TCGA-3A-A9I7	0	1323	1	45	2	2	T3	N1	MX
TCGA-3A-A9I9	1	634	1	67	2	2	T3	N0	MX
TCGA-3A-A9IB	1	224	2	69	2	3	T3	N1	MX
TCGA-3A-A9IC	1	738	2	61	2	2	T3	N1	MX
TCGA-3A-A9IH	0	1021	2	66	1	2	T1	N0	MX
TCGA-3A-A9IJ	0	1854	1	65	1	1	T2	N0	MX
TCGA-3A-A9IL	0	2741	2	39	1	1	T1	N1	MX
TCGA-3A-A9IN	0	2084	2	62	1	2	T2	NX	MX
TCGA-3A-A9IR	0	1542	2	64	1	1	T2	N0	MX
TCGA-3A-A9IS	0	998	1	67	1	1	T2	N0	MX
TCGA-3A-A9IU	1	458	1	65	2	3	T3	N1	MX
TCGA-3A-A9IV	0	1103	2	59	1	1	T2	N0	MX
TCGA-3A-A9IX	0	1037	1	40	1	2	T1	N0	MX
TCGA-3A-A9IZ	1	308	1	47	2	2	T3	N1	MX
TCGA-3A-A9J0	0	743	1	75	2	2	T3	N1	MX
TCGA-3E-AAAY	0	2285	1	67	2	3	T3	N1	MX
TCGA-3E-AAAZ	1	2182	1	71	2	2	T3	N0	MX
TCGA-F2-6879	1	334	1	57	2	2	T3	N1	M0
TCGA-F2-6880	0	295	1	70	2	1	T3	N1	M0
TCGA-F2-7273	1	592	1	54	2	3	T3	N1	M0
TCGA-F2-7276	1	216	1	64	2	1	T3	N1	M0
TCGA-F2-A44G	1	233	2	79	2	2	T3	N1	M0
TCGA-F2-A44H	0	586	1	65	2	2	T3	N0	M0
TCGA-F2-A7TX	1	95	1	77	2	3	T3	N1	M0
TCGA-F2-A8YN	0	517	1	76	2	2	T3	N0	M0
TCGA-FB-A4P5	1	179	2	69	2	2	T3	N1	MX
TCGA-FB-A4P6	0	767	1	54	2	1	T3	N1	MX
TCGA-FB-A545	1	732	2	72	2	2	T3	N1	M0
TCGA-FB-A5VM	1	498	1	74	1	3	T2	N0	M0
TCGA-FB-A78T	1	375	2	71	2	2	T3	N1	M0
TCGA-FB-A7DR	1	353	1	48	2	2	T3	NX	M0
TCGA-FB-AAPP	1	485	1	71	2	3	T3	N1	MX
TCGA-FB-AAPQ	1	1130	1	65	2	2	T3	N1	MX
TCGA-FB-AAPS	0	228	2	62	2	2	T2	N1	MX
TCGA-FB-AAPU	1	381	2	41	2	2	T3	N0	MX

TCGA-FB-AAPY	1	1059	1	71	2	2	T2	N1	MX
TCGA-FB-AAPZ	0	716	1	54	2	3	T2	N1	MX
TCGA-FB-AAQ0	1	473	1	68	2	3	T3	N0	MX
TCGA-FB-AAQ1	1	123	1	49	2	2	T3	N1	MX
TCGA-FB-AAQ2	1	153	2	81	2	3	T3	N1	MX
TCGA-FB-AAQ3	1	31	2	65	2	2	T3	N1	MX
TCGA-FB-AAQ6	1	244	1	85	1	2	T1	N0	MX
TCGA-H6-8124	0	392	2	56	2	3	T3	N1	M0
TCGA-H6-A45N	1	397	2	88	2	3	T3	N1	MX
TCGA-H8-A6C1	0	671	1	53	2	2	T3	N0	MX
TCGA-HV-A5A3	1	128	1	50	2	2	T3	NX	MX
TCGA-HV-A5A4	0	232	2	72	2	2	T3	N0	MX
TCGA-HV-A5A5	0	289	2	61	2	2	T3	N1	M0
TCGA-HV-A5A6	1	2036	2	65	2	1	T3	N1	M0
TCGA-HV-A7OL	0	252	1	70	2	2	T3	N0	MX
TCGA-HV-AA8V	0	920	1	50	2	3	T3	N1	MX
TCGA-HV-AA8X	1	532	2	75	2	2	T2	N1	MX
TCGA-HZ-7289	1	661	1	77	2	1	T3	N1	MX
TCGA-HZ-7918	0	969	1	72	2	3	T3	N1	M0
TCGA-HZ-7919	1	593	2	52	2	2	T3	N1	M0
TCGA-HZ-7920	1	236	1	71	1	2	T2	N0	MX
TCGA-HZ-7923	0	314	1	65	2	2	T3	N0	MX
TCGA-HZ-7924	0	840	2	60	2	2	T3	N0	MX
TCGA-HZ-7925	1	614	1	66	2	2	T3	N1	MX
TCGA-HZ-7926	1	518	1	57	2	1	T3	N1	MX
TCGA-HZ-8001	0	706	1	69	3	2	T4	N0	MX
TCGA-HZ-8002	1	366	1	61	2	2	T3	N1	MX
TCGA-HZ-8003	1	596	2	65	2	2	T3	N1	MX
TCGA-HZ-8005	1	120	1	81	2	3	T3	N1	MX
TCGA-HZ-8315	1	299	2	54	2	2	T3	N0	MX
TCGA-HZ-8317	1	378	2	69	2	1	T3	N1	MX
TCGA-HZ-8519	0	454	1	73	1	3	T1	N0	MX
TCGA-HZ-8636	1	545	2	58	4	3	T3	N0	M1
TCGA-HZ-8637	1	517	2	76	2	3	T3	N1	MX
TCGA-HZ-A49G	0	660	2	58	2	2	T2	N1	MX
TCGA-HZ-A49H	0	491	2	68	2	2	T3	N1	MX
TCGA-HZ-A49I	1	308	1	77	2	2	T3	N1	MX
TCGA-HZ-A4BH	0	194	1	75	2	3	T3	N1	MX
TCGA-HZ-A4BK	0	657	1	72	2	3	T3	N1	MX
TCGA-HZ-A77O	1	160	2	77	2	2	T2	N1	MX
TCGA-HZ-A77P	0	330	1	77	2	1	T3	N1	MX
TCGA-HZ-A77Q	0	33	2	55	2	2	T3	N1	MX
TCGA-HZ-A9TJ	0	603	1	70	4	2	T3	N0	M1
TCGA-IB-7644	1	394	2	65	4	2	T3	N1	M1
TCGA-IB-7645	1	1502	2	44	2	1	T3	N1	M0
TCGA-IB-7646	1	145	1	60	2	2	T3	N1	M0
TCGA-IB-7649	1	467	2	73	2	2	T3	N1	M0
TCGA-IB-7651	1	603	2	64	2	2	T3	N1	M0
TCGA-IB-7652	0	1116	2	49	2	2	T3	N1	M0
TCGA-IB-7654	1	476	1	80	2	2	T2	N1	M0
TCGA-IB-7885	0	1257	2	78	2	2	T3	N1	M0
TCGA-IB-7886	1	123	1	80	2	3	T3	N1	M0
TCGA-IB-7887	1	110	2	62	2	2	T3	N1	M0
TCGA-IB-7888	1	1332	2	66	2	2	T3	N0	M0
TCGA-IB-7889	1	481	2	85	2	1	T3	N1	M0
TCGA-IB-7890	1	598	1	73	1	3	T2	N0	M0
TCGA-IB-7891	1	913	2	49	2	1	T3	N1	M0
TCGA-IB-7893	1	117	1	64	2	3	T3	N0	M0
TCGA-IB-7897	1	486	2	53	2	2	T3	N1	M0
TCGA-IB-8126	0	462	2	79	3	1	T4	N1	M0
TCGA-IB-8127	0	522	1	59	2	2	T3	N1	M0

TCGA-IB-A5SO	1	365	1	71	2	2	T3	N1	M0
TCGA-IB-A5SP	0	482	1	77	2	2	T3	N0	M0
TCGA-IB-A5SQ	1	219	2	56	1	2	T2	N0	M0
TCGA-IB-A5SS	1	460	2	64	2	3	T3	N1	M0
TCGA-IB-A5ST	0	635	2	64	2	2	T3	N1	M0
TCGA-IB-A6UF	0	666	1	63	2	2	T3	N1	M0
TCGA-IB-A6UG	1	41	1	65	2	3	T3	N1	M0
TCGA-IB-A7LX	1	250	1	57	2	2	T3	N1	MX
TCGA-IB-A7M4	0	483	1	81	2	3	T3	N1	MX
TCGA-IB-AAUN	1	144	2	74	1	2	T2	N0	M0
TCGA-IB-AAUO	1	239	2	64	2	3	T3	N1	M0
TCGA-IB-AAUP	0	431	1	68	2	2	T3	N1	M0
TCGA-IB-AAUQ	1	183	1	50	2	2	T3	N1	M0
TCGA-IB-AAUR	0	338	1	67	2	1	T3	N1	M0
TCGA-IB-AAUS	0	225	2	84	2	2	T3	N1	M0
TCGA-IB-AAUT	0	287	1	65	2	1	T2	N1	M0
TCGA-IB-AAUU	0	245	1	35	2	3	T3	N1	M0
TCGA-IB-AAUV	0	404	1	49	2	2	T3	N1	M0
TCGA-IB-AAUW	1	230	2	63	2	3	T3	N1	M0
TCGA-L1-A7W4	1	278	2	48	2	3	T3	N1	M0
TCGA-LB-A7SX	1	393	2	74	2	2	T3	N1	MX
TCGA-LB-A8F3	0	379	2	64	2	1	T3	N0	MX
TCGA-LB-A9Q5	1	313	2	63	2	3	T3	N1	MX
TCGA-M8-A5N4	0	584	2	48	2	2	T3	N0	M0
TCGA-OE-A75W	1	267	1	75	2	1	T3	N0	M0
TCGA-PZ-A5RE	1	470	2	44	2	3	T3	N1	MX
TCGA-Q3-A5QY	0	416	1	58	2	2	T3	N1	MX
TCGA-Q3-AA2A	0	95	2	64	1	1	T3	N1	MX
TCGA-RB-A7B8	1	466	2	81	2	2	T3	N1	MX
TCGA-RB-AA9M	0	286	1	43	2	3	T1	N1	MX
TCGA-S4-A8RM	0	737	1	67	2	3	T3	N1	MX
TCGA-S4-A8RO	0	525	2	75	2	2	T3	N1	MX
TCGA-S4-A8RP	1	702	2	77	2	3	T3	N1	MX
TCGA-US-A774	1	695	2	76	2	3	T3	N1	MX
TCGA-US-A776	0	1216	1	61	2	2	T3	N0	MX
TCGA-US-A779	1	511	2	54	2	1	T3	N1	MX
TCGA-US-A77E	1	430	1	73	2	3	T3	N1	MX
TCGA-US-A77J	1	568	2	81	2	2	T3	N1	MX
TCGA-XD-AAUG	0	420	2	66	4	2	T3	N1	M1
TCGA-XD-AAUH	0	395	2	57	2	2	T3	N1	M0
TCGA-XD-AAUI	1	366	2	50	2	2	T3	N1	MX
TCGA-XD-AAUL	0	498	1	56	2	2	T3	N0	MX
TCGA-XN-A8T3	0	951	1	67	1	2	T2	N0	M0
TCGA-XN-A8T5	0	720	2	53	1	2	T2	N0	M0
TCGA-YB-A89D	0	350	1	59	2	2	T3	N1	MX
TCGA-YY-A8LH	0	2016	2	61	2	3	T3	N1	MX
TCGA-Z5-AAPL	0	467	2	74	2	1	T3	N0	M0

Table S2. Detailed clinical and pathologic information of CRA001160 dataset.

Number	Gender	Age(y/o)	Diabetes Mellitus	TNM Classification	Staging
PUMCH-T1	M	64	N	T4N2M0	III
PUMCH-T2	M	52	N	T1cN1M0	IIB
PUMCH-T3	F	58	Y	T2N0M0	IB
PUMCH-T4	F	72	Y	T1cN1M0	IIB
PUMCH-T5	F	65	Y	T2N0M0	IB
PUMCH-T6	M	64	N	T3N0M0	IIA
PUMCH-T7	M	70	Y	T3N1M0	IIB
PUMCH-T8	F	66	N	T1cN2M0	III
PUMCH-T9	M	36	N	T2N0M0	IIA
PUMCH-T10	M	61	Y	T2N1M0	IB
PUMCH-T11	M	51	N	T3N1M0	IIB
PUMCH-T12	M	54	N	T3N2M0	III
PUMCH-T13	F	58	Y	T2N1M0	IIB
PUMCH-T14	F	67	Y	T2N1M0	IIB
PUMCH-T15	F	54	N	T2N1M0	IIB
PUMCH-T16	F	56	N	T2N1M0	IIB
PUMCH-T17	F	71	N	T2N0M0	IB
PUMCH-T18	F	68	Y	T2N0M0	IB
PUMCH-T19	F	59	N	T2N0M0	IB
PUMCH-T20	M	59	N	T3N1M0	IIB
PUMCH-T21	M	59	Y	T2N0M0	IB
PUMCH-T22	F	67	N	T2N0M0	IB
PUMCH-T23	M	54	Y	T2N1M0	IIB
PUMCH-T24	F	44	N	T1cN0M0	IB

Table S3. The imaging channels for each antibody and antibody incubation information in tissue microenvironment landscape imaging.

Primary antibody	Catalogue number	Provider	Concentration	Incubation time	Channel
anti-CD3	60181-1-Ig	proteintech	1:10000	1h	opal 540
anti-S100A14	10489-1-AP	proteintech	1:10000	1h	opal 620
anti-CD8	66868-1-Ig	proteintech	1:20000	1h	opal 690

Table S4. Immune-related genes obtained from the ImmPort database.

	Symbol
1	AZGP1
2	B2M
3	CALR
4	CANX
5	CD1A
6	CD1B
7	CD1C
8	CD1D
9	CD1E
10	CD4
11	CD8A
12	CD8B
13	CD74
14	CREB1
15	CTSB
16	CTSE
17	CTSL
18	CTSS
19	FCER1G
20	FCGRT
21	PDIA3
22	HFE
23	HLA-A
24	HLA-B
25	HLA-C
26	HLA-DMA
27	HLA-DMB
28	HLA-DOA
29	HLA-DOB
30	HLA-DPA1
31	HLA-DPB1
32	HLA-DQA1
33	HLA-DQA2
34	HLA-DQB1
35	HLA-DRA
36	HLA-DRB1
37	HLA-DRB3
38	HLA-DRB4
39	HLA-DRB5
40	HLA-E
41	HLA-F
42	HLA-G
43	HLA-H
44	MR1
45	HSPA1A
46	HSPA1B
47	HSPA1L
48	HSPA2
49	HSPA4
50	HSPA5
51	HSPA6
52	HSPA8
53	HSP90AA1
54	HSP90AB1
55	ICAM1

56 IFNA1
57 IFNA2
58 IFNA4
59 IFNA5
60 IFNA6
61 IFNA7
62 IFNA8
63 IFNA10
64 IFNA13
65 IFNA14
66 IFNA16
67 IFNA17
68 IFNA21
69 IFNG
70 KIR2DL1
71 KIR2DL2
72 KIR2DL3
73 KIR2DL4
74 KIR2DS1
75 KIR2DS3
76 KIR2DS4
77 KIR2DS5
78 KIR3DL1
79 KIR3DL2
80 KLRC1
81 KLRC2
82 KLRC3
83 KLRD1
84 LTA
85 CIITA
86 MICA
87 MICB
88 NFYA
89 NFYB
90 NFYC
91 LGMN
92 PSMB8
93 PSMC1
94 PSMC2
95 PSMC3
96 PSMC4
97 PSMC5
98 PSMC6
99 PSMD1
100 PSMD2
101 PSMD3
102 PSMD4
103 PSMD5
104 PSMD7
105 PSMD8
106 PSMD10
107 PSMD11
108 PSMD13
109 PSME1
110 PSME2
111 RELB
112 RFX5

113 RFXAP
114 SLC10A2
115 TAP1
116 TAP2
117 TAPBP
118 THBS1
119 SEM1
120 KLRC4
121 AP3B1
122 RFXANK
123 PSMD6
124 PSME3
125 PSMD14
126 CLEC4M
127 IFI30
128 PROCR
129 ADRM1
130 ECPAS
131 TRPC4AP
132 CD209
133 UBXN1
134 ERAP1
135 TAPBPL
136 KIR2DL5A
137 ERAP2
138 ULBP3
139 ULBP2
140 ULBP1
141 KIR3DL3
142 RAET1E
143 RAET1L
144 UBR1
145 RAET1G
146 PDIA2
147 HAMP
148 PI3
149 CAMP
150 DEFB4A
151 PPBP
152 REG3G
153 CXCL14
154 CXCL16
155 SLPI
156 CXCL8
157 CXCL10
158 CXCL9
159 CXCL5
160 CXCL11
161 CXCL6
162 CXCL1
163 CXCL12
164 CXCL13
165 CXCL2
166 PF4
167 XCL1
168 CXCL3
169 DEFB103B

170 CCL13
171 CCL1
172 DEFB1
173 CCL8
174 ELANE
175 DEFB103A
176 DEFA3
177 DEFA1
178 TMSB10
179 DEFA6
180 DEFA5
181 DEFA4
182 LCN2
183 LCN1
184 COLEC10
185 BPI
186 S100A9
187 S100A8
188 DCD
189 LCN6
190 S100A12
191 HTN3
192 LCN8
193 DEFA1B
194 CCR10
195 CELA1
196 DEFB106A
197 PENK
198 BPIFC
199 MMP12
200 BPIFB6
201 LEAP2
202 SFTPD
203 LCN9
204 BPIFB2
205 PTGDS
206 TMSB4X
207 PGLYRP1
208 ZC3HAV1
209 TMSB15A
210 S100B
211 S100A13
212 S100A6
213 DEFB119
214 DEFB107A
215 DEFB105A
216 SERPIND1
217 DEFB129
218 DEFB127
219 S100P
220 S100A7
221 DEFB104A
222 DEFB126
223 DEFB106B
224 DEFB104B
225 DEFB107B
226 PGLYRP3

227 PGLYRP2
228 S100A10
229 S100A2
230 DEFB125
231 DEFB123
232 DEFB105B
233 DEFB132
234 BPIFB3
235 LCN12
236 PGLYRP4
237 S100A11
238 S100A5
239 S100A3
240 S100A1
241 DEFB128
242 DEFB108B
243 HTN1
244 LMBR1L
245 S100A7A
246 DEFB118
247 COLEC12
248 TMSB4Y
249 DEFB131A
250 DEFB134
251 DEFB130A
252 DEFB124
253 DEFB121
254 DEFB116
255 DEFB115
256 DEFB114
257 DEFB113
258 DEFB112
259 DEFB110
260 TMSB15B
261 DEFB133
262 S100Z
263 MAVS
264 TMSB4XP8
265 S100A14
266 LCN10
267 S100A16
268 DEFB136
269 DEFB135
270 DEFB117
271 ZC3HAV1L
272 S100A7L2
273 MBL3P
274 DEFB4B
275 BPIFB4
276 IFNAR1
277 AZU1
278 DEFB131B
279 DEFA1A3
280 LCN1P1
281 S100G
282 DEFA7P
283 DEFB130B

284 DEFB108F
285 DEFB131C
286 TCHHL1
287 TINAGL1
288 IFNGR1
289 SLC22A17
290 WFIKKN1
291 WFDC2
292 IL6
293 UMODL1
294 TGFB1
295 PF4V1
296 MMP9
297 ANOS1
298 TLR4
299 SPAG11B
300 A2M
301 NFKB1
302 APOBEC3G
303 FABP6
304 NOD2
305 MBL2
306 SFTPA1
307 RBP1
308 TLR2
309 SLC40A1
310 PLAU
311 IL1B
312 PAEP
313 HJV
314 MUC5AC
315 OBP2A
316 PLTP
317 MX1
318 DDX58
319 IFNL1
320 IRF3
321 SFTPA2
322 LPA
323 LBP
324 RBP4
325 NOX4
326 LTF
327 IFNB1
328 RBP5
329 FABP7
330 FABP5
331 FABP3
332 FABP2
333 FABP4
334 R3HDML
335 BPIFA3
336 BPIFB1
337 OASL
338 CRABP2
339 CRABP1
340 RBP7

341 DUOX1
342 OBP2B
343 RBP2
344 LCN15
345 CETP
346 FABP12
347 FABP9
348 BPIFA1
349 LCNL1
350 C8G
351 SPAG11A
352 PI15
353 NOX1
354 PMP2
355 APOD
356 ORM2
357 ORM1
358 TNF
359 CTSG
360 PRTN3
361 MAPK1
362 PML
363 AEN
364 CYBB
365 BPIFA2
366 ISG20
367 BCL3
368 ISG20L2
369 NOX5
370 NOX3
371 DUOX2
372 TLR3
373 TFRC
374 IFIH1
375 LRP1
376 TRIM5
377 IDO1
378 GDF15
379 NEDD4
380 ADIPOQ
381 STAT3
382 STAT1
383 IFNL2
384 SOCS3
385 SEMG1
386 TNFSF10
387 CCL20
388 SOCS1
389 RNASEL
390 IRF1
391 IL15
392 APOBEC3F
393 PLAAT4
394 CHIT1
395 CD40
396 TLR7
397 PPIA

398 ZYX
399 NLRX1
400 PGC
401 VEGFA
402 IKBKE
403 ISG15
404 DHX58
405 TNFAIP3
406 TFR2
407 FCN2
408 MUC4
409 F2R
410 ELN
411 IL27
412 MAPT
413 LYZ
414 CCL5
415 LEP
416 CYLD
417 KLKB1
418 CST4
419 CSRP1
420 MAPK14
421 JUN
422 ITGAV
423 IRF5
424 CCR6
425 IL12B
426 TLR8
427 GNLY
428 CD81
429 EIF2AK2
430 APOM
431 CACYBP
432 NOD1
433 MAPK8
434 MAPK3
435 BST2
436 BPHL
437 PLA2G2A
438 GRN
439 NEWENTRY
440 PDGFRA
441 GNAI1
442 WNT5A
443 FURIN
444 ADAR
445 TYK2
446 NOS2
447 TRAF3
448 TPT1
449 TPM2
450 NEO1
451 AHNAK
452 TLR1
453 TK2
454 PRDX2

455 MX2
456 FGF2
457 FGA
458 TCF7L2
459 F2RL1
460 TKFC
461 MSR1
462 NFKBIZ
463 LMBR1
464 EPPIN
465 SRC
466 MPO
467 ELAVL1
468 ROBO3
469 SP1
470 SOD1
471 PDF
472 DLL4
473 ECD
474 SLC11A1
475 DMBT1
476 STING1
477 SKIV2L
478 SEMG2
479 DES
480 DCK
481 DAXX
482 TNFRSF10A
483 TNFRSF10B
484 EED
485 CCL4
486 LIMS1
487 LALBA
488 APOBEC3H
489 TMPRSS6
490 SPINK5
491 MARCO
492 BECN1
493 TNFSF11
494 KNG1
495 CSK
496 KLRK1
497 KCNH2
498 JUND
499 JAK1
500 CLDN4
501 CCL28
502 RNASE3
503 RN7SL1
504 IRF7
505 IREB2
506 ILK
507 IL18
508 IL17A
509 LTB4R
510 APOBEC3A
511 MASP2

512 TRIM27
513 RELA
514 IL7R
515 IL1A
516 PTX3
517 IFNAR2
518 IFN1@
519 SYTL1
520 APOBEC3C
521 DDX17
522 PTGS2
523 HTR1A
524 SEPTIN7
525 CD40LG
526 CD14
527 MASP1
528 PROC
529 MAP2K2
530 MAP2K1
531 HRG
532 NDRG1
533 IRF9
534 TRIM22
535 LANCL1
536 PPP4C
537 HMOX1
538 HMGB1
539 RNASE7
540 ABCC4
541 HGF
542 HDAC1
543 IFNLR1
544 PLSCR1
545 BACH2
546 TANK
547 PIK3CG
548 ARRB1
549 RSAD2
550 STAB2
551 TBK1
552 PDYN
553 PDGFRB
554 PDCD1
555 PCSK2
556 PCSK1
557 ARG2
558 AQP9
559 FASLG
560 APOH
561 BIRC5
562 ANXA6
563 IL22
564 VTN
565 VIM
566 VCAM1
567 PRDX1
568 GFAP

569 GBP2
570 ALB
571 SLC29A3
572 OAS1
573 AGER
574 UNC93B1
575 TNFSF4
576 NOS1
577 ACTG1
578 ACTA1
579 ACO1
580 SERPINA3
581 CXCR1
582 CCL15
583 CCL14
584 CCL16
585 CCL19
586 CCL18
587 CCL17
588 CCL26
589 CCL22
590 CCR3
591 CCL4L1
592 ACKR2
593 CCR7
594 CCL27
595 CCR8
596 ACKR4
597 CCL2
598 CCL21
599 CCL7
600 CCL3
601 CCL11
602 CCR5
603 CCL23
604 CCL25
605 CCL3L3
606 CCL4L2
607 CCL3L1
608 CCR1
609 CCL24
610 XCL2
611 CXCR4
612 CXCR6
613 CCR4
614 TAFA5
615 TAFA3
616 TAFA4
617 TAFA1
618 TAFA2
619 CCL15-CCL14
620 PTK2B
621 IL4
622 CDH1
623 LTBP1
624 IL13
625 IL10

626 IL2
627 PPARG
628 FGR
629 MIF
630 CRP
631 JAK2
632 PTK2
633 PTGDR
634 CD86
635 HCK
636 VDR
637 OLR1
638 GRK2
639 TXK
640 RNASE2
641 CD79A
642 CD79B
643 LYN
644 SYK
645 BTK
646 BLNK
647 VAV3
648 VAV1
649 VAV2
650 RAC1
651 RAC2
652 RAC3
653 PPP3CA
654 PPP3CB
655 PPP3CC
656 CHP1
657 PPP3R1
658 PPP3R2
659 CHP2
660 NFAT5
661 NFATC1
662 NFATC2
663 NFATC3
664 NFATC4
665 HRAS
666 KRAS
667 NRAS
668 FOS
669 CARD11
670 BCL10
671 MALT1
672 CHUK
673 IKBKB
674 IKBKG
675 NFKBIA
676 NFKBIB
677 NFKBIE
678 CD19
679 CR2
680 PIK3R5
681 PIK3R1
682 PIK3R2

683 PIK3R3
684 PIK3CA
685 PIK3CB
686 PIK3CD
687 AKT3
688 AKT1
689 AKT2
690 GSK3B
691 INPP5D
692 CD22
693 CD72
694 PTPN6
695 LILRB3
696 FCGR2B
697 RASGRP3
698 PLCG2
699 PRKCB
700 IFITM1
701 IGH
702 IGHA1
703 IGHA2
704 IGHD
705 IGHD1-1
706 IGHD1-14
707 IGHD1-20
708 IGHD1-26
709 IGHD1-7
710 IGHD2-15
711 IGHD2-2
712 IGHD2-21
713 IGHD2-8
714 IGHD3-10
715 IGHD3-16
716 IGHD3-22
717 IGHD3-3
718 IGHD3-9
719 IGHD4-11
720 IGHD4-17
721 IGHD4-23
722 IGHD4-4
723 IGHD5-12
724 IGHD5-18
725 IGHD5-24
726 IGHD5-5
727 IGHD6-13
728 IGHD6-19
729 IGHD6-25
730 IGHD6-6
731 IGHD7-27
732 IGHE
733 IGHG1
734 IGHG2
735 IGHG3
736 IGHG4
737 IGHJ1
738 IGHJ2
739 IGHJ3

740 IGHJ4
741 IGHJ5
742 IGHJ6
743 IGHM
744 IGHV1-18
745 IGHV1-2
746 IGHV1-24
747 IGHV1-3
748 IGHV1-45
749 IGHV1-46
750 IGHV1-58
751 IGHV1-69
752 IGHV1-8
753 IGHV1-38-4
754 IGHV1-69-2
755 IGHV2-26
756 IGHV2-5
757 IGHV2-70
758 IGHV3-11
759 IGHV3-13
760 IGHV3-15
761 IGHV3-16
762 IGHV3-20
763 IGHV3-21
764 IGHV3-23
765 IGHV3-30
766 IGHV3-30-3
767 IGHV3-30-5
768 IGHV3-33
769 IGHV3-35
770 IGHV3-38
771 IGHV3-43
772 IGHV3-48
773 IGHV3-49
774 IGHV3-53
775 IGHV3-64
776 IGHV3-66
777 IGHV3-7
778 IGHV3-72
779 IGHV3-73
780 IGHV3-74
781 IGHV3-9
782 IGHV3-38-3
783 IGHV3-69-1
784 IGHV4-28
785 IGHV4-30-1
786 IGHV4-30-2
787 IGHV4-30-4
788 IGHV4-31
789 IGHV4-34
790 IGHV4-39
791 IGHV4-4
792 IGHV4-59
793 IGHV4-61
794 IGHV4-38-2
795 IGHV5-51
796 IGHV5-10-1

797 IGHV6-1
798 IGHV7-4-1
799 IGHV7-81
800 IGK
801 IGKC
802 IGKDEL
803 IGKJ
804 IGKJ1
805 IGKJ2
806 IGKJ3
807 IGKJ4
808 IGKJ5
809 IGKV@
810 IGKV1-12
811 IGKV1-13
812 IGKV1-16
813 IGKV1-17
814 IGKV1-27
815 IGKV1-33
816 IGKV1-37
817 IGKV1-39
818 IGKV1-5
819 IGKV1-6
820 IGKV1-8
821 IGKV1-9
822 IGKV1D-12
823 IGKV1D-13
824 IGKV1D-16
825 IGKV1D-17
826 IGKV1D-33
827 IGKV1D-37
828 IGKV1D-39
829 IGKV1D-42
830 IGKV1D-43
831 IGKV1D-8
832 IGKV2-24
833 IGKV2-28
834 IGKV2-30
835 IGKV2-40
836 IGKV2D-24
837 IGKV2D-28
838 IGKV2D-29
839 IGKV2D-30
840 IGKV2D-40
841 IGKV3-11
842 IGKV3-15
843 IGKV3-20
844 IGKV3-7
845 IGKV3D-11
846 IGKV3D-15
847 IGKV3D-20
848 IGKV3D-7
849 IGKV4-1
850 IGKV5-2
851 IGKV6-21
852 IGKV6D-21
853 IGKV6D-41

854 IGL
855 IGLC1
856 IGLC2
857 IGLC3
858 IGLC6
859 IGLC7
860 IGLJ
861 IGLJ1
862 IGLJ2
863 IGLJ3
864 IGLJ4
865 IGLJ5
866 IGLJ6
867 IGLJ7
868 IGLV@
869 IGLV1-36
870 IGLV1-40
871 IGLV1-44
872 IGLV1-47
873 IGLV1-50
874 IGLV1-51
875 IGLV10-54
876 IGLV11-55
877 IGLV2-11
878 IGLV2-14
879 IGLV2-18
880 IGLV2-23
881 IGLV2-33
882 IGLV2-8
883 IGLV3-1
884 IGLV3-10
885 IGLV3-12
886 IGLV3-16
887 IGLV3-19
888 IGLV3-21
889 IGLV3-22
890 IGLV3-25
891 IGLV3-27
892 IGLV3-32
893 IGLV3-9
894 IGLV4-3
895 IGLV4-60
896 IGLV4-69
897 IGLV5-37
898 IGLV5-39
899 IGLV5-45
900 IGLV5-48
901 IGLV5-52
902 IGLV6-57
903 IGLV7-43
904 IGLV7-46
905 IGLV8-61
906 IGLV9-49
907 C3
908 C5
909 CCL3P1
910 CKLF

911 CMA1
912 CX3CL1
913 CXCL17
914 CCN1
915 EDN1
916 EDN2
917 EDN3
918 FGF10
919 LECT2
920 PPBPP1
921 PROK2
922 SAA1
923 SAA2
924 SBDS
925 SEMA3A
926 SEMA3B
927 SEMA3C
928 SEMA3D
929 SEMA3E
930 SEMA3F
931 SEMA3G
932 SEMA4A
933 SEMA4B
934 SEMA4C
935 SEMA4D
936 SEMA4F
937 SEMA4G
938 SEMA5A
939 SEMA5B
940 SEMA6A
941 SEMA6B
942 SEMA6C
943 SEMA6D
944 SEMA7A
945 SLIT1
946 SLIT2
947 TNC
948 TYMP
949 C5AR1
950 CCR9
951 CCRL2
952 CMKLR1
953 CX3CR1
954 CXCR3
955 CXCR5
956 ACKR3
957 CYSLTR1
958 CYSLTR2
959 ACKR1
960 EDNRA
961 EDNRB
962 FPR1
963 FPR2
964 GPR17
965 GPR32
966 GPR33
967 PTGDR2

968 C5AR2
969 CXCR2
970 LTB4R2
971 PLAUR
972 PLXNA1
973 PLXNA2
974 PLXNA3
975 PLXNA4
976 PLXNB1
977 PLXNB2
978 PLXNB3
979 PLXNC1
980 PLXND1
981 PTAFR
982 ROBO1
983 ROBO2
984 RXFP3
985 XCR1
986 ADM
987 ADM2
988 AGRP
989 AGT
990 AMBN
991 AMELX
992 AMH
993 ANGPTL5
994 ANGPTL7
995 APLN
996 AREG
997 MANF
998 CDNF
999 ARTN
1000 AVP
1001 BDNF
1002 BMP1
1003 BMP10
1004 BMP15
1005 BMP2
1006 BMP3
1007 BMP4
1008 BMP5
1009 BMP6
1010 BMP7
1011 BMP8A
1012 BMP8B
1013 BTC
1014 MYDGF
1015 CALCA
1016 CALCB
1017 CAT
1018 CCK
1019 CD320
1020 CD70
1021 ADA2
1022 CER1
1023 CGA
1024 CGB3

1025 CGB1
1026 CGB2
1027 CGB5
1028 CGB7
1029 CGB8
1030 CHGA
1031 CHGB
1032 CLCF1
1033 CLEC11A
1034 CMTM1
1035 CMTM2
1036 CMTM3
1037 CMTM4
1038 CMTM5
1039 CMTM6
1040 CMTM7
1041 CMTM8
1042 CNTF
1043 CORT
1044 CRH
1045 CSF1
1046 CSF2
1047 CSF3
1048 CSH1
1049 CSH2
1050 CSHL1
1051 CSPG5
1052 CTF1
1053 CCN2
1054 DKK1
1055 EBI3
1056 EGF
1057 EPGN
1058 EPO
1059 EREG
1060 ESM1
1061 FAM3B
1062 FAM3C
1063 FAM3D
1064 FGF1
1065 FGF11
1066 FGF12
1067 FGF13
1068 FGF14
1069 FGF16
1070 FGF17
1071 FGF18
1072 FGF19
1073 FGF20
1074 FGF21
1075 FGF22
1076 FGF23
1077 FGF3
1078 FGF4
1079 FGF5
1080 FGF6
1081 FGF7

1082 FGF8
1083 FGF9
1084 VEGFD
1085 FIGNL2
1086 FLT3LG
1087 FSHB
1088 GAL
1089 GALP
1090 GAST
1091 GCG
1092 GDF1
1093 GDF10
1094 GDF11
1095 GDF2
1096 GDF3
1097 GDF5
1098 GDF6
1099 GDF7
1100 GDF9
1101 GDNF
1102 GH1
1103 GH2
1104 GHRH
1105 GHRL
1106 GIP
1107 GKN1
1108 GMFB
1109 GMFG
1110 GNRH1
1111 GNRH2
1112 GPHA2
1113 GPHB5
1114 GPI
1115 GREM1
1116 GREM2
1117 GRP
1118 GUCA2A
1119 HBEGF
1120 HDGF
1121 HDGFL3
1122 IAPP
1123 IFNE
1124 IFNK
1125 IFNW1
1126 IGF1
1127 IGF2
1128 IL11
1129 IL12A
1130 IL16
1131 IL17B
1132 IL17C
1133 IL17D
1134 IL17F
1135 IL19
1136 IL1F10
1137 IL36RN
1138 IL36A

1139 IL37
1140 IL36B
1141 IL36G
1142 IL1RN
1143 IL20
1144 IL21
1145 IL23A
1146 IL24
1147 IL25
1148 IL26
1149 IFNL3
1150 IL3
1151 IL31
1152 IL32
1153 IL33
1154 IL34
1155 IL5
1156 IL6ST
1157 IL7
1158 IL9
1159 INHA
1160 INHBA
1161 INHBB
1162 INHBC
1163 INHBE
1164 INS
1165 INS-IGF2
1166 INSL3
1167 INSL4
1168 INSL5
1169 INSL6
1170 JAG1
1171 JAG2
1172 FGF7P6
1173 FGF7P3
1174 KITLG
1175 KL
1176 LACRT
1177 LEFTY1
1178 LEFTY2
1179 LHB
1180 LIF
1181 LRSAM1
1182 LTB
1183 LTBP2
1184 LTBP3
1185 LTBP4
1186 MDK
1187 MIA
1188 MLN
1189 MSTN
1190 NAMPT
1191 NDP
1192 NENF
1193 NGF
1194 NMB
1195 NODAL

1196 CCN3
1197 NPFF
1198 NPPA
1199 NPPB
1200 NPPC
1201 NPY
1202 NRG1
1203 NRG2
1204 NRG3
1205 NRG4
1206 NRTN
1207 NTF3
1208 NTF4
1209 NTS
1210 NUDT6
1211 OGN
1212 OSGIN1
1213 OSM
1214 OSTN
1215 OXT
1216 ENDOU
1217 PDGFA
1218 PDGFB
1219 PDGFC
1220 PDGFD
1221 PDGFRL
1222 PGF
1223 PMCH
1224 PNOC
1225 POMC
1226 PPBPP2
1227 PPY
1228 PRL
1229 PRLH
1230 PROK1
1231 PSPN
1232 PTH
1233 PTH2
1234 PTHLH
1235 PTN
1236 PYY
1237 QRFP
1238 RABEP1
1239 RABEP2
1240 REG1A
1241 RETN
1242 RETNLB
1243 RLN1
1244 RLN2
1245 RLN3
1246 SCG2
1247 SCGB3A1
1248 SCT
1249 AIMP1
1250 SECTM1
1251 SLURP1
1252 SPP1

1253 SST
1254 STC1
1255 STC2
1256 TAC1
1257 TDGF1
1258 TDGF1P3
1259 TG
1260 TGFA
1261 TGFB2
1262 TGFB3
1263 THPO
1264 TNFRSF11B
1265 TNFSF12
1266 TNFSF13
1267 TNFSF13B
1268 TNFSF14
1269 TNFSF15
1270 TNFSF18
1271 TNFSF8
1272 TNFSF9
1273 TOR2A
1274 TRH
1275 TSHB
1276 TSLP
1277 TXLNA
1278 UCN
1279 UCN2
1280 UCN3
1281 UTS2
1282 UTS2B
1283 VEGFB
1284 VEGFC
1285 VGF
1286 VIP
1287 ACVR1B
1288 ACVR1C
1289 ACVR2A
1290 ACVR2B
1291 ACVRL1
1292 ADCYAP1R1
1293 ADIPOR1
1294 ADIPOR2
1295 ADRB1
1296 ADRB2
1297 AGTR1
1298 AGTR2
1299 AMHR2
1300 ANGPT1
1301 ANGPT4
1302 ANGPTL1
1303 ANGPTL2
1304 ANGPTL3
1305 ANGPTL4
1306 ANGPTL6
1307 APLNR
1308 AR
1309 AVPR1A

1310 AVPR1B
1311 AVPR2
1312 BMPR1A
1313 BMPR1B
1314 BMPR2
1315 BRD8
1316 C3AR1
1317 CALCR
1318 CALCRL
1319 CNTFR
1320 CRHR1
1321 CRHR2
1322 CRIM1
1323 CRLF1
1324 CRLF2
1325 CRLF3
1326 CSF1R
1327 CSF2RA
1328 CSF2RB
1329 CSF3R
1330 EGFR
1331 ENG
1332 EPOR
1333 ESR1
1334 ESR2
1335 ESRRA
1336 ESRRB
1337 ESRRG
1338 FGFR1
1339 FGFR2
1340 FGFR3
1341 FGFR4
1342 FGFR1
1343 FLT1
1344 FLT3
1345 FLT4
1346 FSHR
1347 GALR2
1348 GALR3
1349 GCGR
1350 GHR
1351 GHRHR
1352 GHSR
1353 GIPR
1354 GLP1R
1355 GLP2R
1356 GNRHR
1357 GPER1
1358 HNF4A
1359 HNF4G
1360 HTR3A
1361 HTR3B
1362 HTR3C
1363 HTR3D
1364 HTR3E
1365 IFNGR2
1366 IGF1R

1367 IGF2R
1368 IL10RA
1369 IL10RB
1370 IL11RA
1371 IL12RB1
1372 IL12RB2
1373 IL13RA1
1374 IL13RA2
1375 IL15RA
1376 IL2RB
1377 IL17RA
1378 IL17RB
1379 IL17RC
1380 IL17RD
1381 IL17RE
1382 IL18R1
1383 IL18RAP
1384 IL1R1
1385 IL1R2
1386 IL1RAP
1387 IL1RL1
1388 IL1RL2
1389 IL20RA
1390 IL20RB
1391 IL21R
1392 IL22RA1
1393 IL22RA2
1394 IL23R
1395 IL27RA
1396 IL2RA
1397 IL2RG
1398 IL31RA
1399 IL3RA
1400 IL4R
1401 IL5RA
1402 IL6R
1403 IL9R
1404 INSR
1405 KDR
1406 LEPR
1407 LGR4
1408 LGR5
1409 LGR6
1410 LHCGR
1411 LIFR
1412 LTBR
1413 MC1R
1414 MC2R
1415 MC3R
1416 MC4R
1417 MCHR1
1418 MCHR2
1419 MET
1420 MLNR
1421 MPL
1422 MTNR1A
1423 MTNR1B

1424 NGFR
1425 NMBR
1426 NPR1
1427 NPR3
1428 NR0B1
1429 NR0B2
1430 NR1D1
1431 NR1D2
1432 NR1H2
1433 NR1H3
1434 NR1H4
1435 NR1I2
1436 NR1I3
1437 NR2C1
1438 NR2C2
1439 NR2E1
1440 NR2E3
1441 NR2F1
1442 NR2F2
1443 NR2F6
1444 NR3C1
1445 NR3C2
1446 NR4A1
1447 NR4A2
1448 NR4A3
1449 NR5A1
1450 NR5A2
1451 NR6A1
1452 NRP1
1453 NRP2
1454 OGFR
1455 OPRD1
1456 OPRK1
1457 OPRL1
1458 OPRM1
1459 OSMR
1460 OXTR
1461 PGR
1462 PGRMC2
1463 PPARA
1464 PPARD
1465 PRLHR
1466 PRLR
1467 PTGER1
1468 PTGER2
1469 PTGER3
1470 PTGER4
1471 PTGFR
1472 PTH1R
1473 PTH2R
1474 RARA
1475 RARB
1476 RARG
1477 RORA
1478 RORB
1479 RORC
1480 RXFP1

1481 RXFP2
1482 RXRA
1483 RXRB
1484 RXRG
1485 S1PR1
1486 S1PR2
1487 SCTR
1488 SDC1
1489 SDC2
1490 SDC3
1491 SDC4
1492 SORT1
1493 SSTR1
1494 SSTR2
1495 SSTR5
1496 ST2
1497 TACR1
1498 TEK
1499 TGFB1
1500 TGFB2
1501 TGFB3
1502 THRA
1503 THRB
1504 TIE1
1505 TNFRSF10C
1506 TNFRSF10D
1507 TNFRSF11A
1508 TNFRSF12A
1509 TNFRSF13B
1510 TNFRSF13C
1511 TNFRSF14
1512 TNFRSF17
1513 TNFRSF18
1514 TNFRSF19
1515 TNFRSF1A
1516 TNFRSF1B
1517 TNFRSF21
1518 TNFRSF25
1519 TNFRSF4
1520 TNFRSF6B
1521 TNFRSF8
1522 TNFRSF9
1523 TRHR
1524 TSHR
1525 TUBB3
1526 VIPR1
1527 VIPR2
1528 PTPN11
1529 ICAM2
1530 ITGAL
1531 ITGB2
1532 PAK1
1533 NCR2
1534 TYROBP
1535 LCK
1536 FCGR3A
1537 FCGR3B

1538	NCR1
1539	NCR3
1540	CD247
1541	ZAP70
1542	LCP2
1543	LAT
1544	PLCG1
1545	SH3BP2
1546	FYN
1547	SHC2
1548	SHC4
1549	SHC3
1550	SHC1
1551	GRB2
1552	SOS1
1553	SOS2
1554	ARAF
1555	BRAF
1556	RAF1
1557	HCST
1558	CD48
1559	CD244
1560	PRKCA
1561	PRKCG
1562	SH2D1B
1563	SH2D1A
1564	FAS
1565	GZMB
1566	PRF1
1567	CASP3
1568	BID
1569	CD3D
1570	CD3E
1571	CD3G
1572	PTPRC
1573	ITK
1574	TEC
1575	NCK1
1576	NCK2
1577	GRAP2
1578	PAK2
1579	PAK3
1580	PAK4
1581	PAK6
1582	PAK5
1583	RHOA
1584	CDC42
1585	CD28
1586	ICOS
1587	MAP3K8
1588	MAP3K14
1589	CTLA4
1590	CBLC
1591	CBL
1592	CBLB
1593	CDK4
1594	RASGRP1

1595	PDK1
1596	PRKCQ
1597	TRAC
1598	TRAJ1
1599	TRAJ2
1600	TRAJ3
1601	TRAJ4
1602	TRAJ5
1603	TRAJ6
1604	TRAJ7
1605	TRAJ8
1606	TRAJ9
1607	TRAJ10
1608	TRAJ11
1609	TRAJ12
1610	TRAJ13
1611	TRAJ14
1612	TRAJ15
1613	TRAJ16
1614	TRAJ17
1615	TRAJ18
1616	TRAJ19
1617	TRAJ20
1618	TRAJ21
1619	TRAJ22
1620	TRAJ23
1621	TRAJ24
1622	TRAJ25
1623	TRAJ26
1624	TRAJ27
1625	TRAJ28
1626	TRAJ29
1627	TRAJ30
1628	TRAJ31
1629	TRAJ32
1630	TRAJ33
1631	TRAJ34
1632	TRAJ35
1633	TRAJ36
1634	TRAJ37
1635	TRAJ38
1636	TRAJ39
1637	TRAJ40
1638	TRAJ41
1639	TRAJ42
1640	TRAJ43
1641	TRAJ44
1642	TRAJ45
1643	TRAJ46
1644	TRAJ47
1645	TRAJ48
1646	TRAJ49
1647	TRAJ50
1648	TRAJ52
1649	TRAJ53
1650	TRAJ54
1651	TRAJ56

1652	TRAJ57
1653	TRAJ58
1654	TRAJ59
1655	TRAJ61
1656	TRAV1-1
1657	TRAV1-2
1658	TRAV2
1659	TRAV3
1660	TRAV4
1661	TRAV5
1662	TRAV7
1663	TRAV8-1
1664	TRAV8-2
1665	TRAV8-3
1666	TRAV8-4
1667	TRAV8-6
1668	TRAV8-7
1669	TRAV9-1
1670	TRAV9-2
1671	TRAV10
1672	TRAV12-1
1673	TRAV12-2
1674	TRAV12-3
1675	TRAV13-1
1676	TRAV13-2
1677	TRAV14DV4
1678	TRAV16
1679	TRAV17
1680	TRAV18
1681	TRAV19
1682	TRAV20
1683	TRAV21
1684	TRAV22
1685	TRAV23DV6
1686	TRAV24
1687	TRAV25
1688	TRAV26-1
1689	TRAV26-2
1690	TRAV27
1691	TRAV29DV5
1692	TRAV30
1693	TRAV34
1694	TRAV35
1695	TRAV36DV7
1696	TRAV38-1
1697	TRAV38-2DV8
1698	TRAV39
1699	TRAV40
1700	TRAV41
1701	TRBC1
1702	TRBC2
1703	TRBD1
1704	TRBD2
1705	TRBJ1-1
1706	TRBJ1-2
1707	TRBJ1-3
1708	TRBJ1-4

1709	TRBJ1-5
1710	TRBJ1-6
1711	TRBJ2-1
1712	TRBJ2-2
1713	TRBJ2-3
1714	TRBJ2-4
1715	TRBJ2-5
1716	TRBJ2-6
1717	TRBJ2-7
1718	TRBV2
1719	TRBV3-1
1720	TRBV4-1
1721	TRBV4-2
1722	TRBV4-3
1723	TRBV5-1
1724	TRBV5-4
1725	TRBV5-5
1726	TRBV5-6
1727	TRBV5-7
1728	TRBV5-8
1729	TRBV6-1
1730	TRBV6-2
1731	TRBV6-3
1732	TRBV6-4
1733	TRBV6-5
1734	TRBV6-6
1735	TRBV6-7
1736	TRBV6-8
1737	TRBV6-9
1738	TRBV7-2
1739	TRBV7-3
1740	TRBV7-4
1741	TRBV7-6
1742	TRBV7-7
1743	TRBV7-8
1744	TRBV7-9
1745	TRBV9
1746	TRBV10-1
1747	TRBV10-2
1748	TRBV10-3
1749	TRBV11-1
1750	TRBV11-2
1751	TRBV11-3
1752	TRBV12-3
1753	TRBV12-4
1754	TRBV12-5
1755	TRBV13
1756	TRBV14
1757	TRBV15
1758	TRBV16
1759	TRBV17
1760	TRBV18
1761	TRBV19
1762	TRBV20-1
1763	TRBV24-1
1764	TRBV25-1
1765	TRBV27

1766	TRBV28
1767	TRBV29-1
1768	TRBV30
1769	TRDC
1770	TRDD1
1771	TRDD2
1772	TRDD3
1773	TRDJ1
1774	TRDJ2
1775	TRDJ3
1776	TRDJ4
1777	TRDV1
1778	TRDV2
1779	TRDV3
1780	TRGV9
1781	TRGV8
1782	TRGV5
1783	TRGV4
1784	TRGV3
1785	TRGV2
1786	TRGJP2
1787	TRGJP1
1788	TRGJP
1789	TRGJ2
1790	TRGJ1
1791	TRGC2
1792	TRGC1
1793	TRAV6