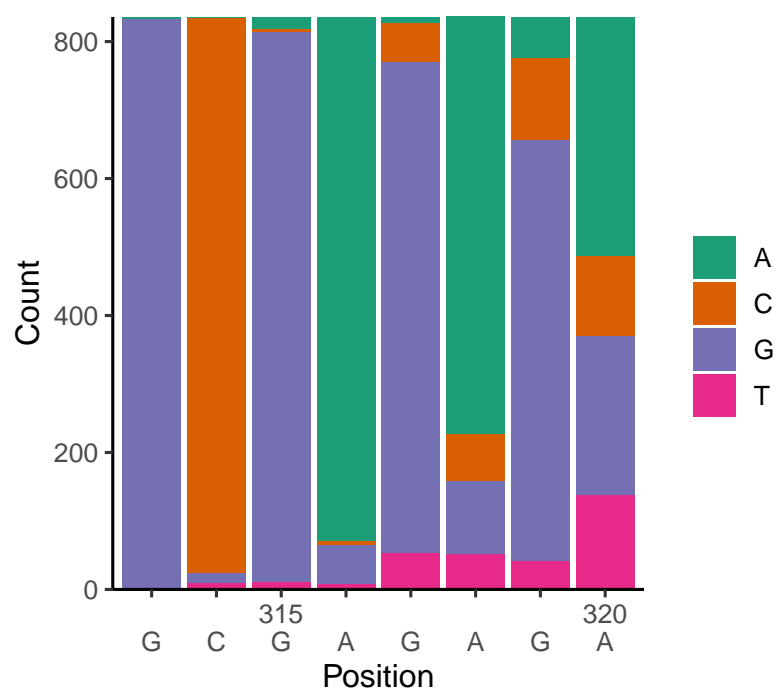
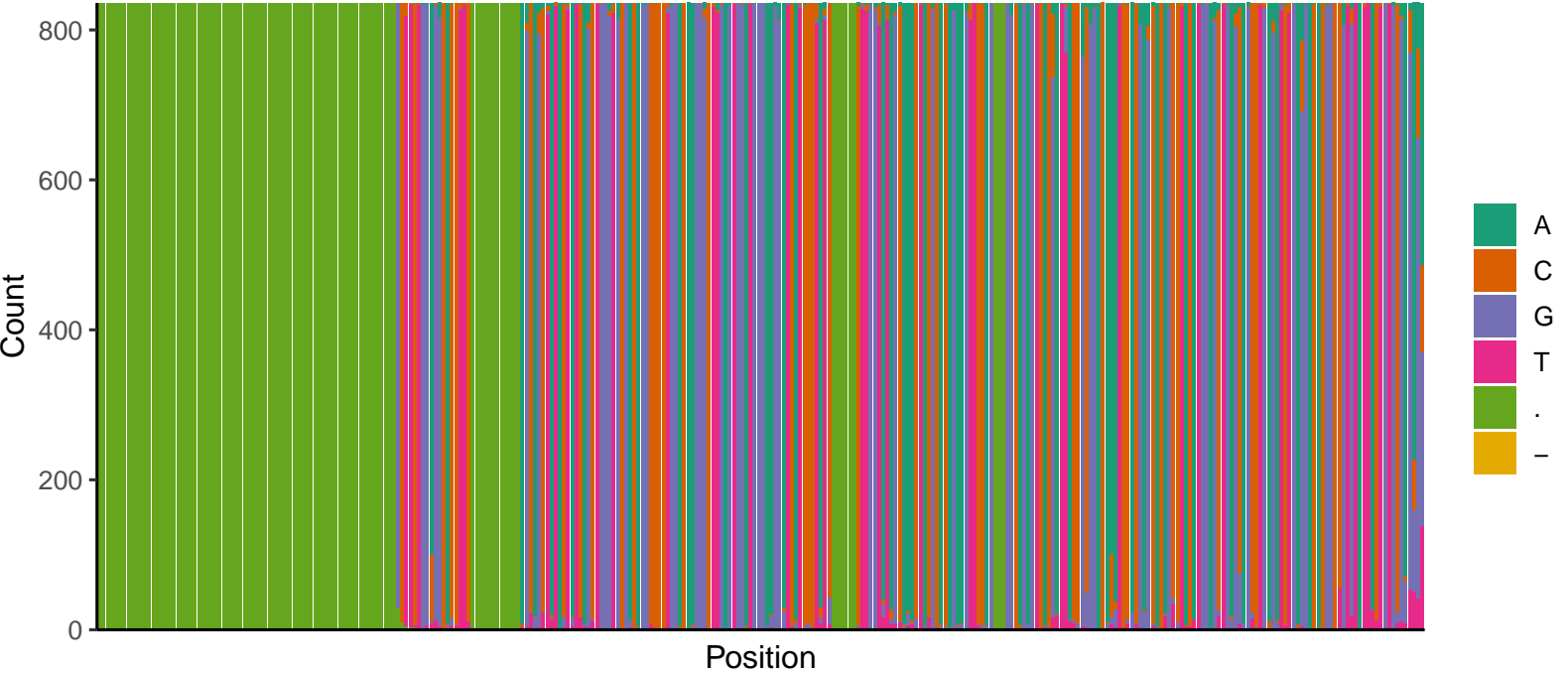


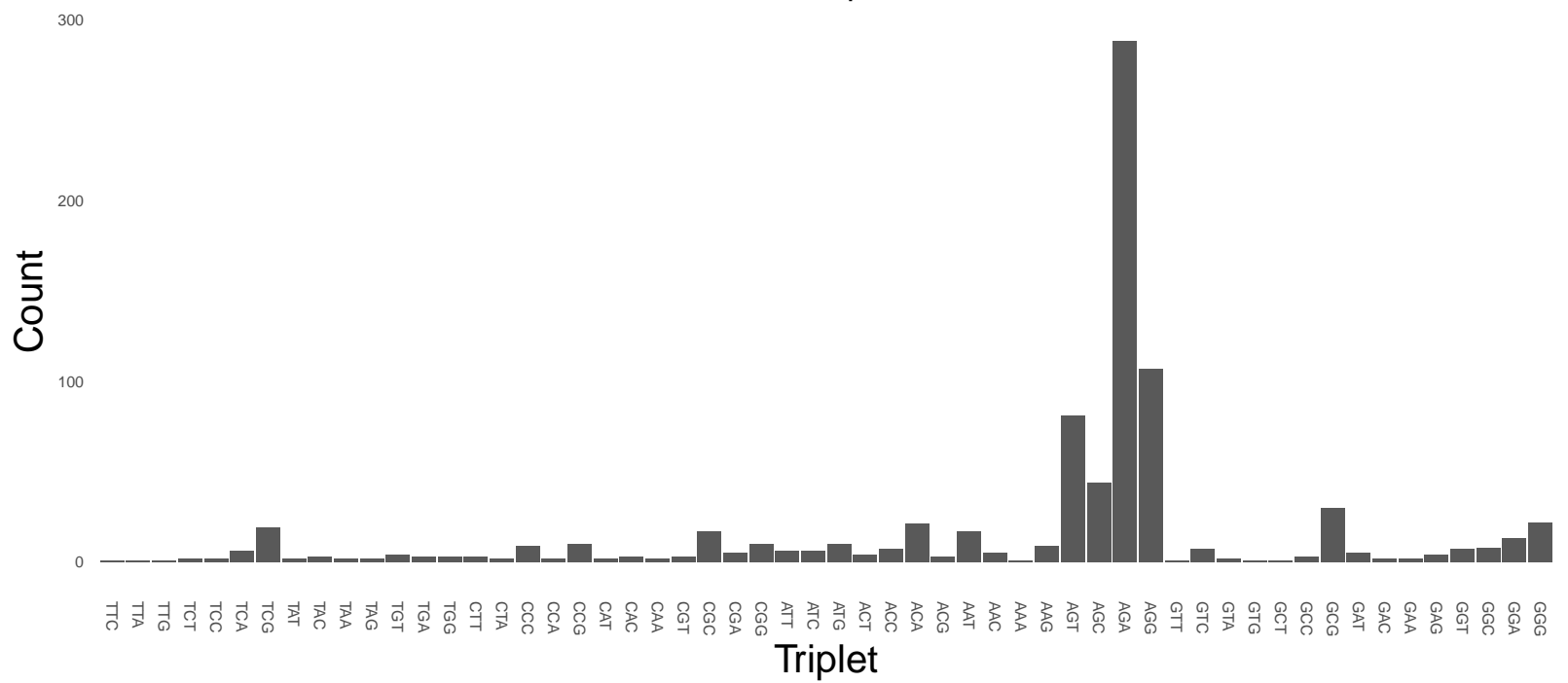
Gene IGHV1-69*08_C191T



Gene IGHV1-69*08_C191T

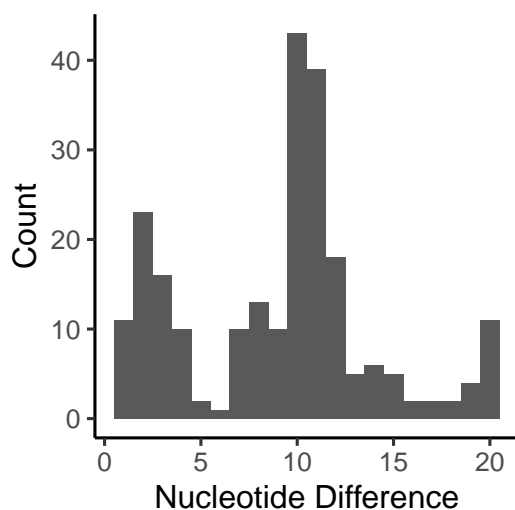


IGHV1-69*08_C191T- Final 3 nucleotides as a triplet



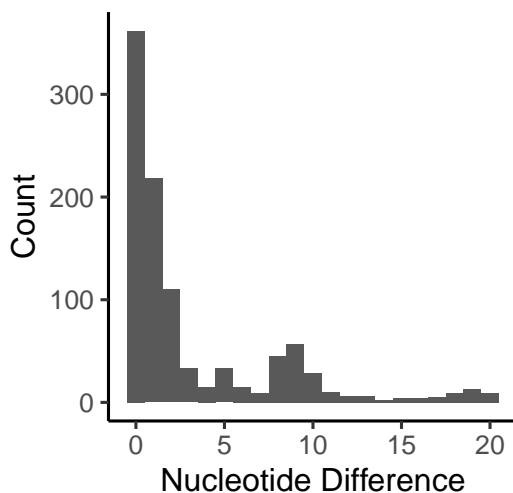
IGHV1-2*02

253 sequences assigned
No exact matches.



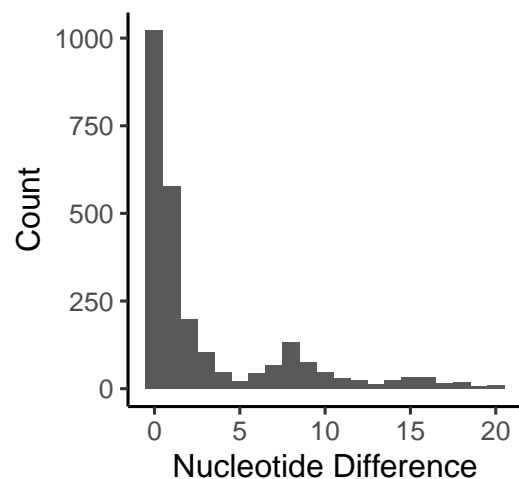
IGHV1-8*01

1227 sequences assigned
362 (29.5%) exact matches, in which:
352 unique CDR3
6 unique J



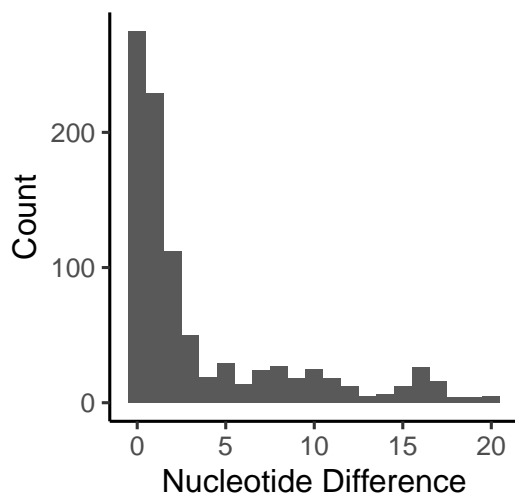
IGHV1-18*04

2851 sequences assigned
1022 (35.8%) exact matches, in which:
978 unique CDR3
6 unique J



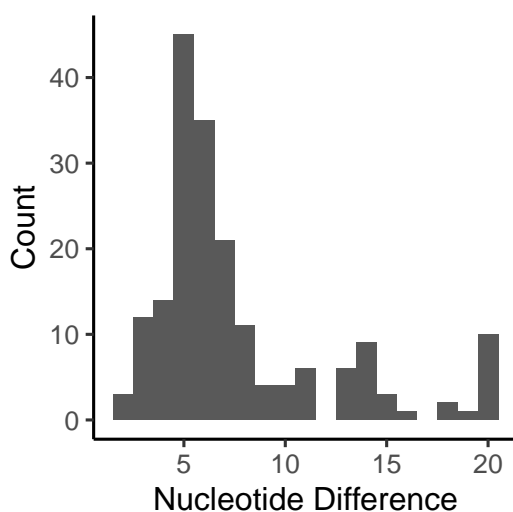
IGHV1-2*04

980 sequences assigned
275 (28.1%) exact matches, in which:
249 unique CDR3
6 unique J



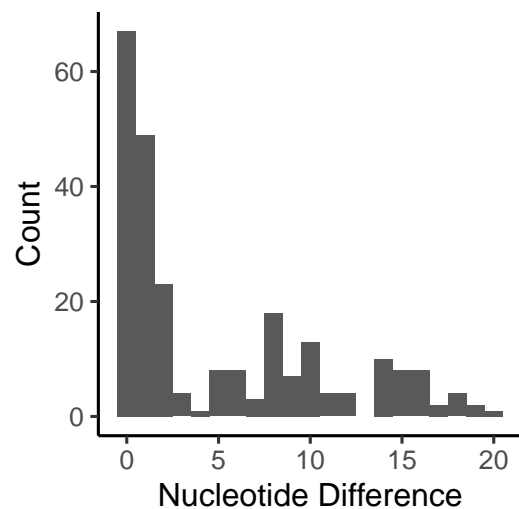
IGHV1-8*02

409 sequences assigned
No exact matches.



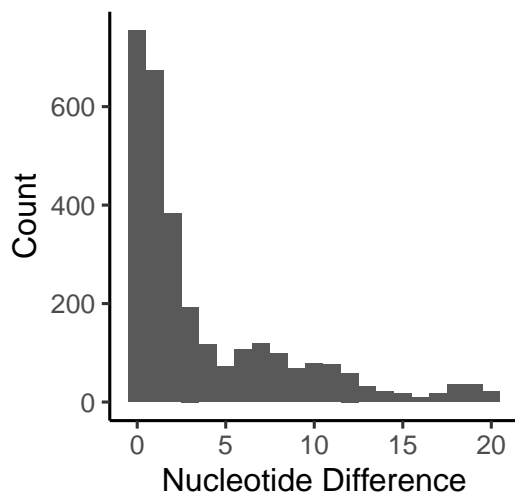
IGHV1-24*01

300 sequences assigned
67 (22.3%) exact matches, in which:
64 unique CDR3
6 unique J



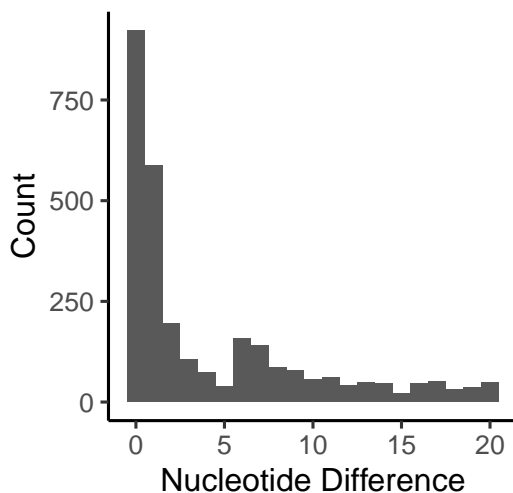
IGHV1-3*01_05

3463 sequences assigned
755 (21.8%) exact matches, in which:
677 unique CDR3
6 unique J



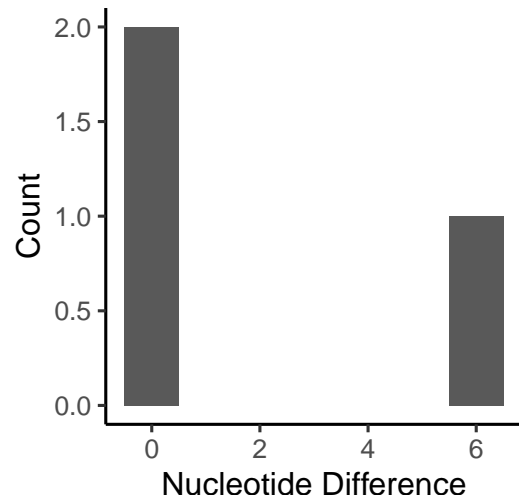
IGHV1-18*01

3300 sequences assigned
923 (28%) exact matches, in which:
886 unique CDR3
6 unique J



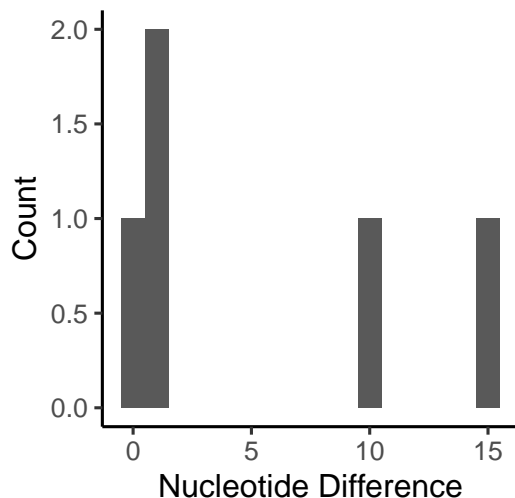
IGHV1-45*02

4 sequences assigned
2 (50%) exact matches, in which:
2 unique CDR3
1 unique J



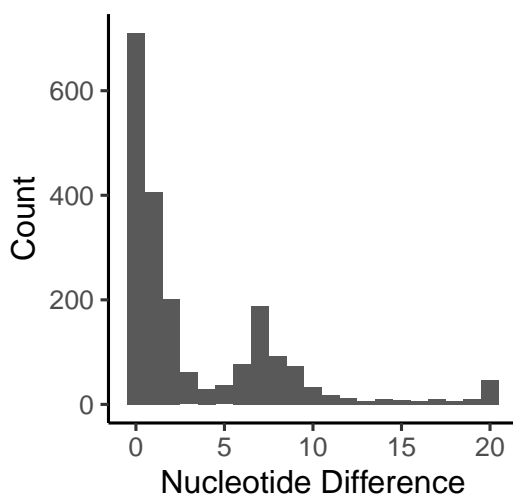
IGHV1-45*03

5 sequences assigned
1 (20%) exact matches, in which:
1 unique CDR3
1 unique J



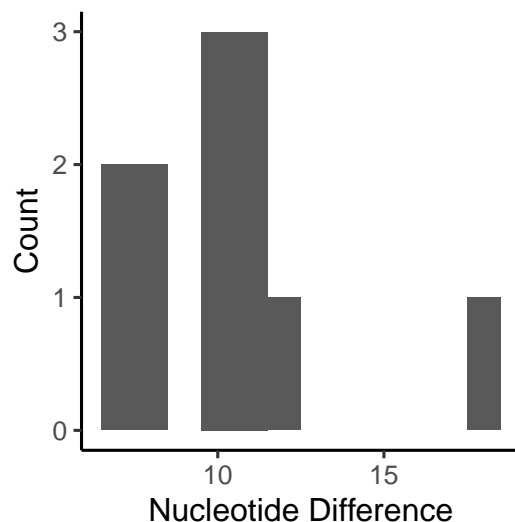
IGHV1-69*04_09

2255 sequences assigned
711 (31.5%) exact matches, in which:
685 unique CDR3
6 unique J



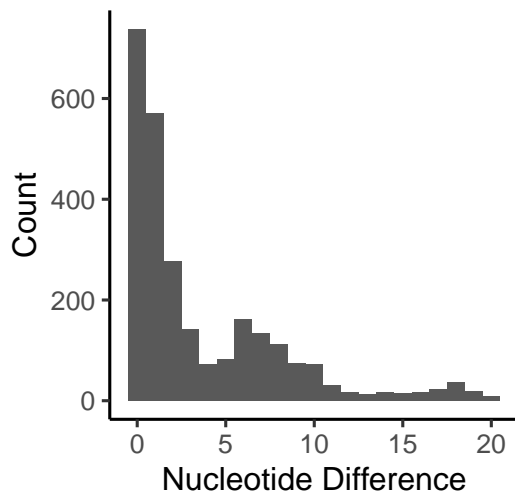
IGHV1-NL1*01

12 sequences assigned
No exact matches.



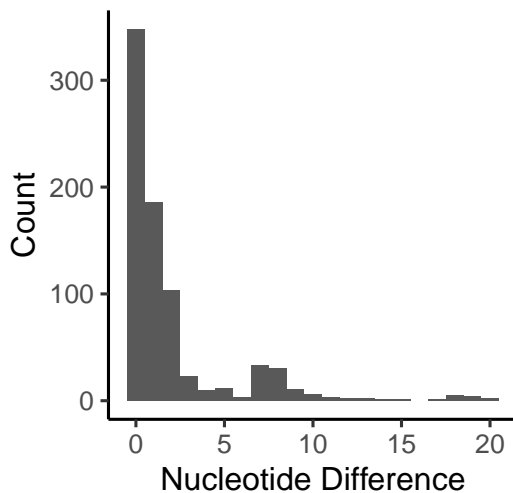
IGHV1-46*01

2948 sequences assigned
738 (25%) exact matches, in which:
693 unique CDR3
6 unique J



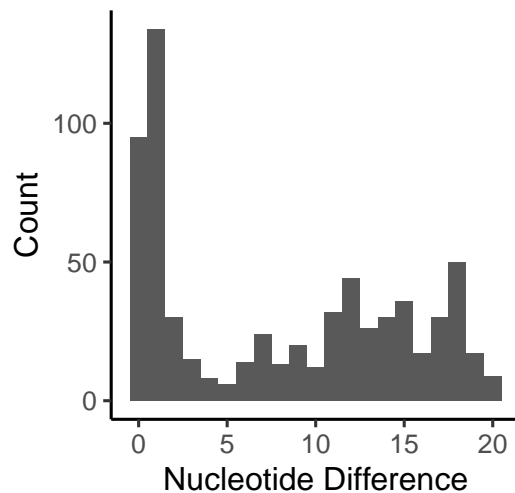
IGHV1-69*08_C191T

836 sequences assigned
348 (41.6%) exact matches, in which:
339 unique CDR3
6 unique J



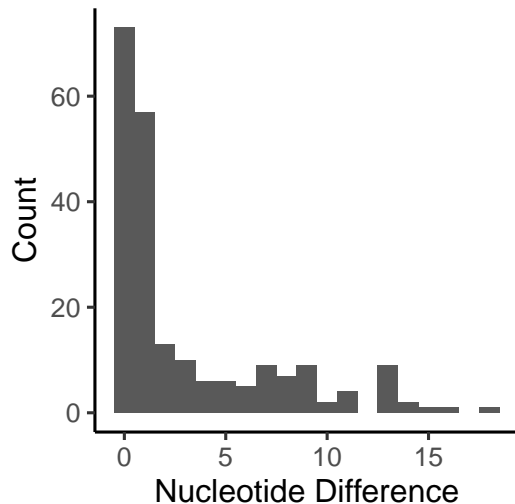
IGHV2-5*02

745 sequences assigned
95 (12.8%) exact matches, in which:
80 unique CDR3
5 unique J



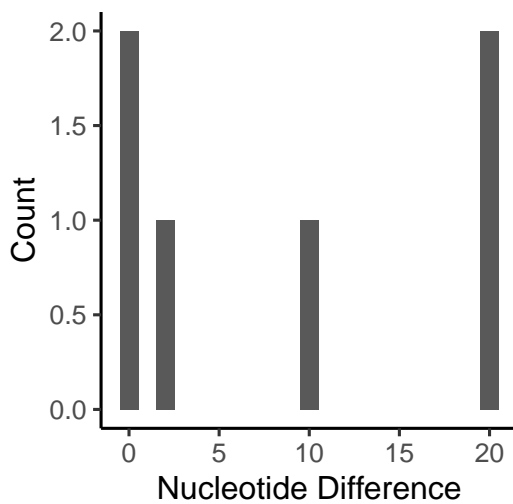
IGHV1-58*02

221 sequences assigned
73 (33%) exact matches, in which:
70 unique CDR3
5 unique J



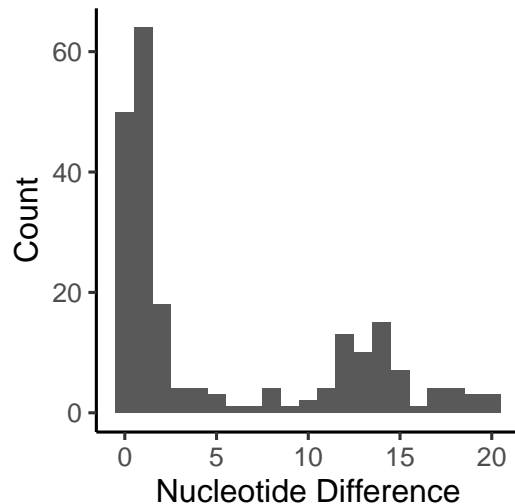
IGHV1-69D*01

8 sequences assigned
2 (25%) exact matches, in which:
2 unique CDR3
2 unique J



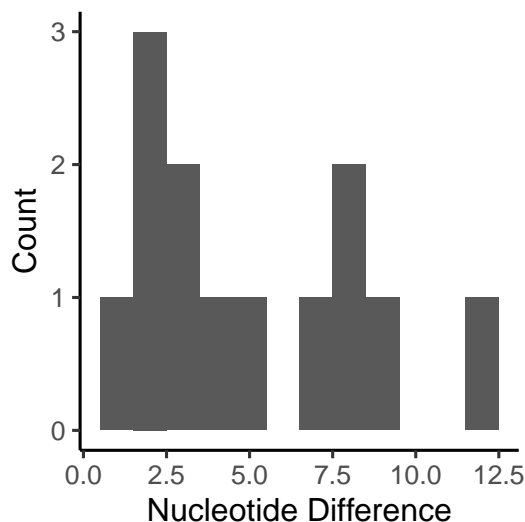
IGHV2-26*01

232 sequences assigned
50 (21.6%) exact matches, in which:
38 unique CDR3
4 unique J



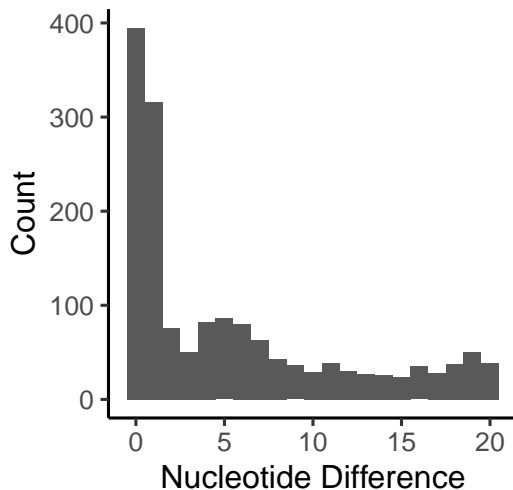
IGHV2-70*12

13 sequences assigned
No exact matches.



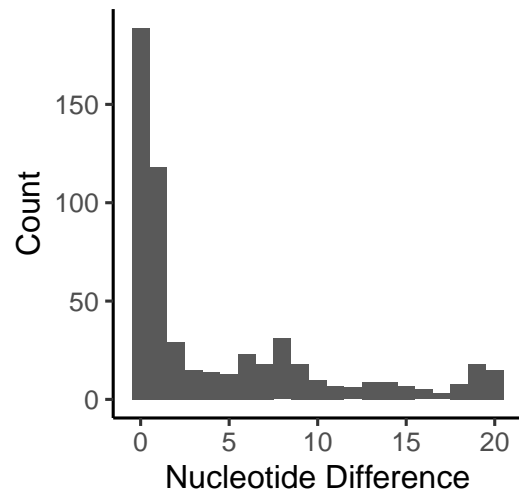
IGHV3-7*01

2396 sequences assigned
395 (16.5%) exact matches, in which:
341 unique CDR3
6 unique J



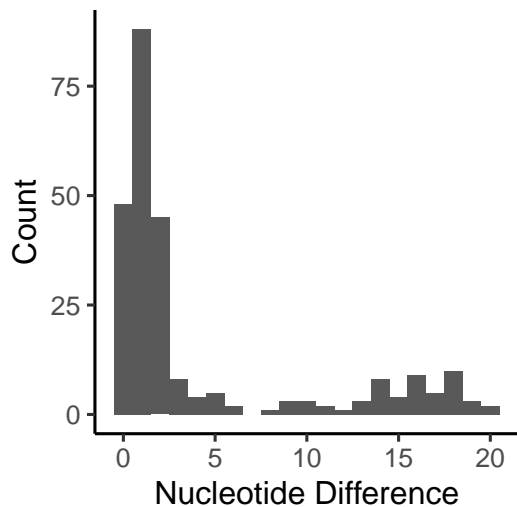
IGHV3-11*01

774 sequences assigned
189 (24.4%) exact matches, in which:
154 unique CDR3
6 unique J



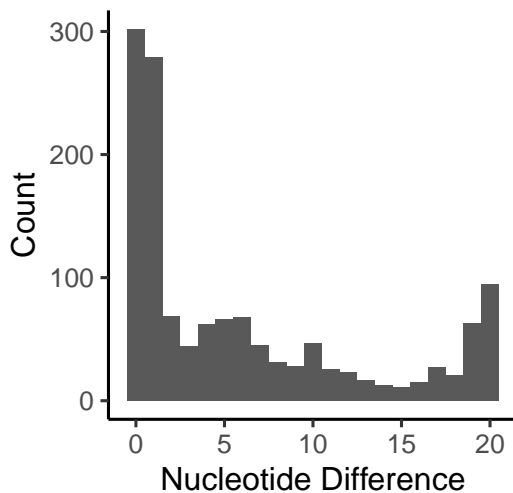
IGHV2-70*11_15

281 sequences assigned
48 (17.1%) exact matches, in which:
40 unique CDR3
5 unique J



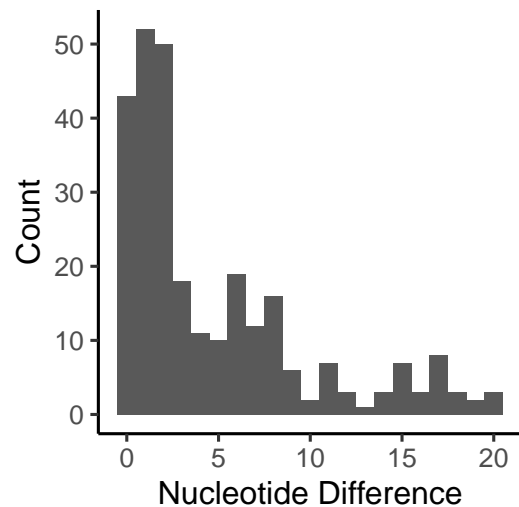
IGHV3-7*03

2236 sequences assigned
302 (13.5%) exact matches, in which:
242 unique CDR3
6 unique J



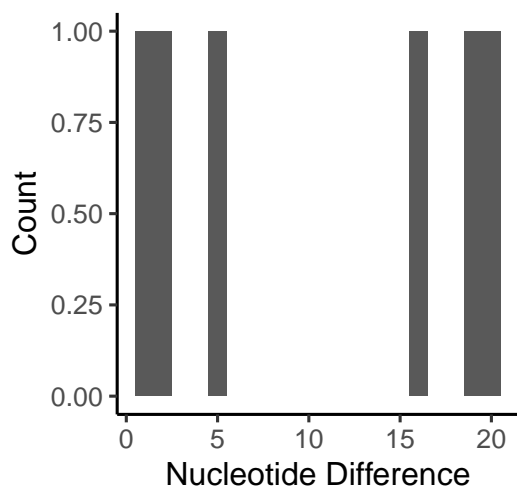
IGHV3-11*04

318 sequences assigned
43 (13.5%) exact matches, in which:
43 unique CDR3
4 unique J



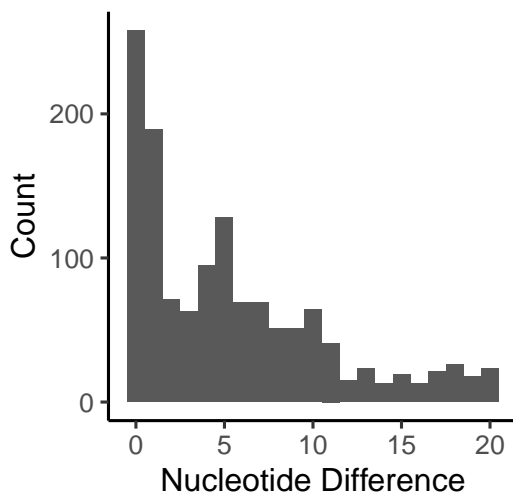
IGHV2-70D*04

11 sequences assigned
No exact matches.



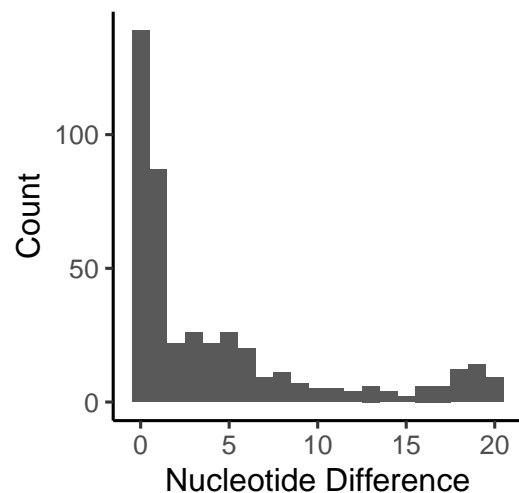
IGHV3-9*01

1726 sequences assigned
258 (14.9%) exact matches, in which:
196 unique CDR3
6 unique J



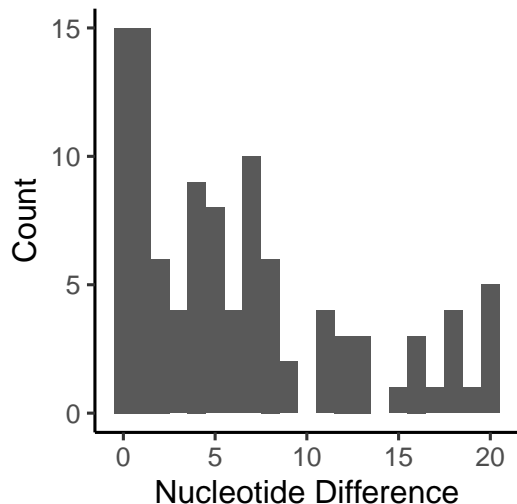
IGHV3-11*06

648 sequences assigned
139 (21.5%) exact matches, in which:
114 unique CDR3
5 unique J



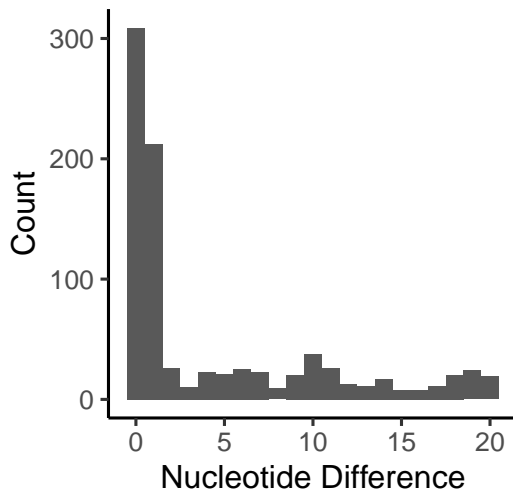
IGHV3-11*03_05

199 sequences assigned
15 (7.5%) exact matches, in which:
14 unique CDR3
3 unique J



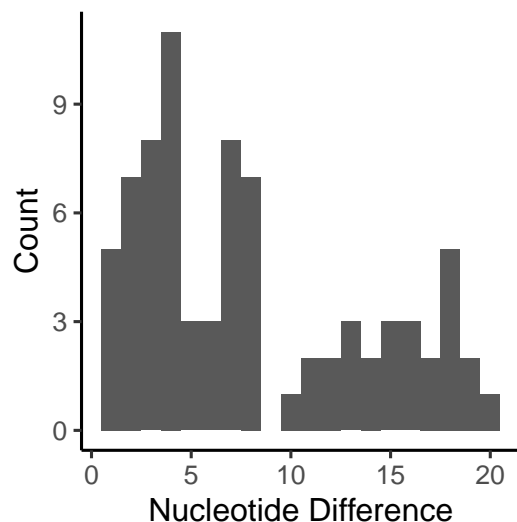
IGHV3-15*01_02

1185 sequences assigned
309 (26.1%) exact matches, in which:
202 unique CDR3
6 unique J



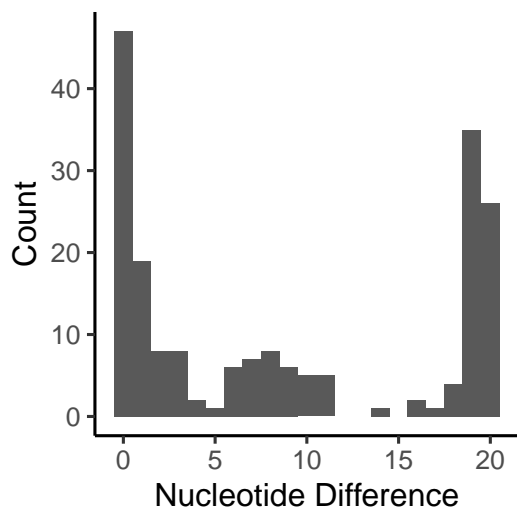
IGHV3-20*03_04

122 sequences assigned
No exact matches.



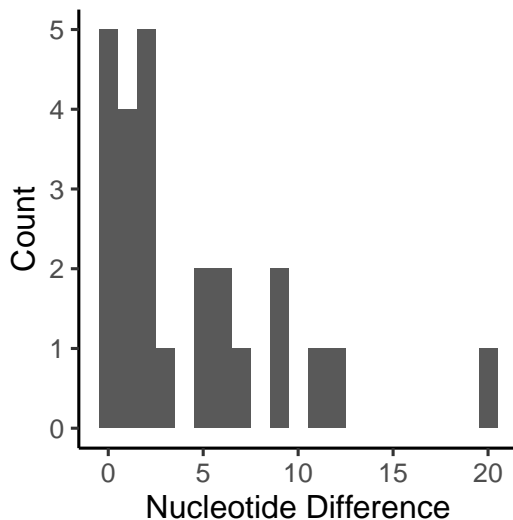
IGHV3-13*01

279 sequences assigned
47 (16.8%) exact matches, in which:
43 unique CDR3
4 unique J



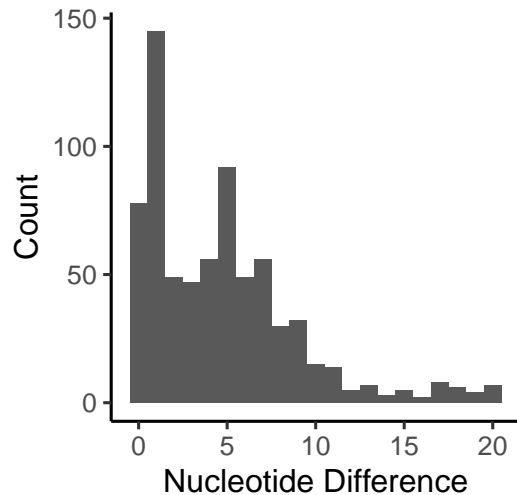
IGHV3-19*01

25 sequences assigned
5 (20%) exact matches, in which:
5 unique CDR3
2 unique J



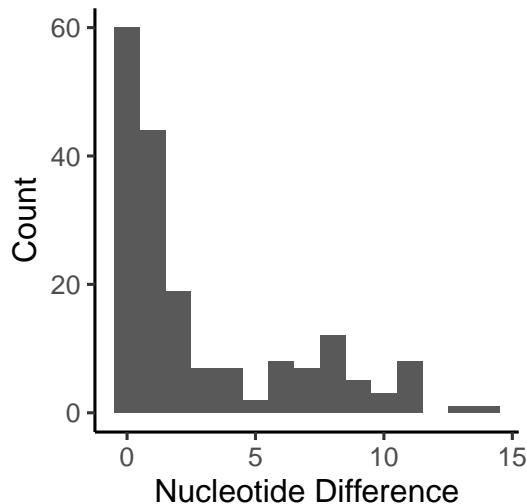
IGHV3-21*04

863 sequences assigned
78 (9%) exact matches, in which:
72 unique CDR3
5 unique J



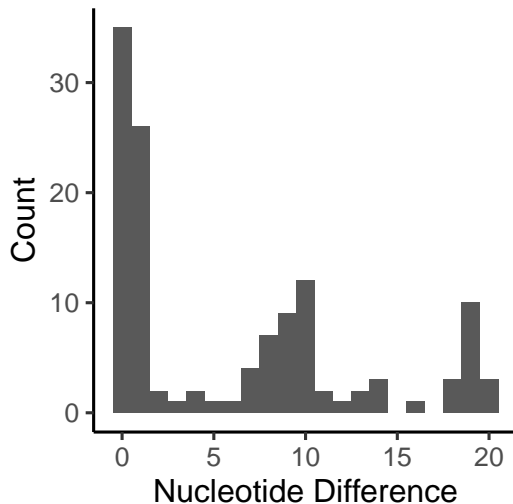
IGHV3-13*05

185 sequences assigned
60 (32.4%) exact matches, in which:
50 unique CDR3
5 unique J



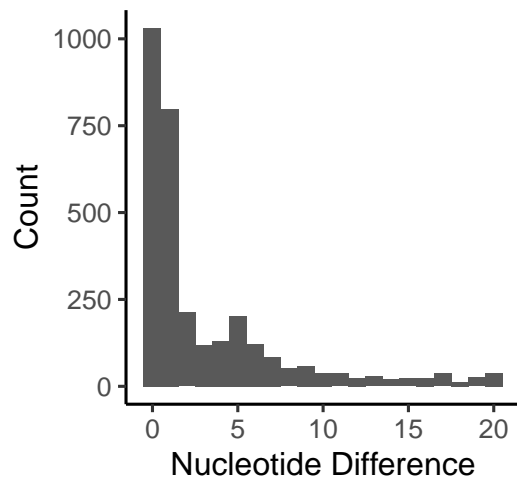
IGHV3-20*01_02

170 sequences assigned
35 (20.6%) exact matches, in which:
25 unique CDR3
4 unique J



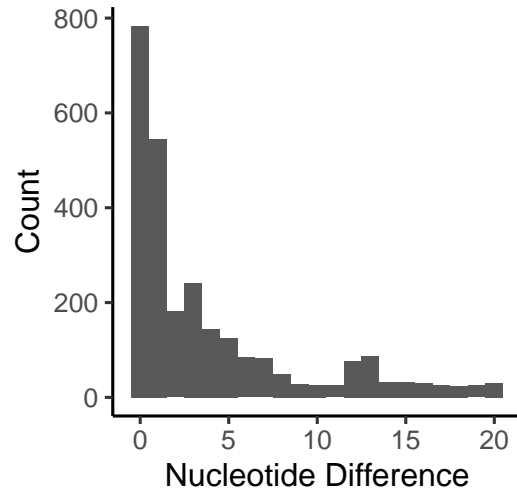
IGHV3-21*01_02

3924 sequences assigned
1031 (26.3%) exact matches, in which:
814 unique CDR3
6 unique J



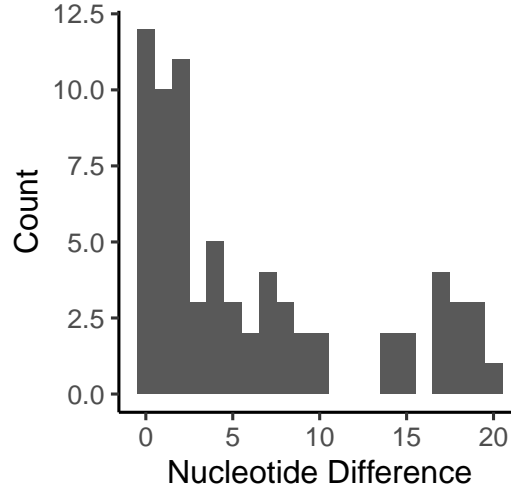
IGHV3-30-3*01

3135 sequences assigned
784 (25%) exact matches, in which:
640 unique CDR3
6 unique J



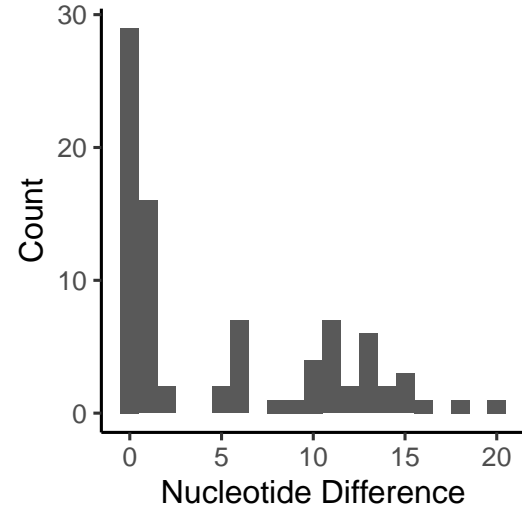
IGHV3-33*05

100 sequences assigned
12 (12%) exact matches, in which:
11 unique CDR3
3 unique J



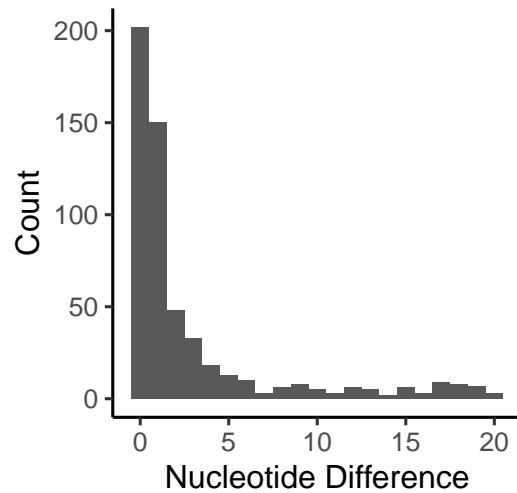
IGHV3-43*01

146 sequences assigned
29 (19.9%) exact matches, in which:
23 unique CDR3
4 unique J



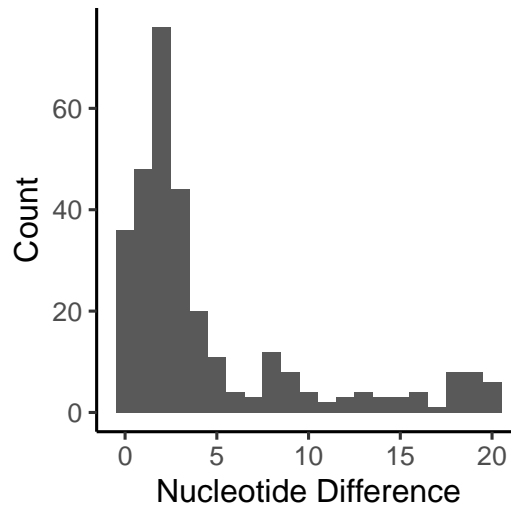
IGHV3-30*03

690 sequences assigned
202 (29.3%) exact matches, in which:
193 unique CDR3
5 unique J



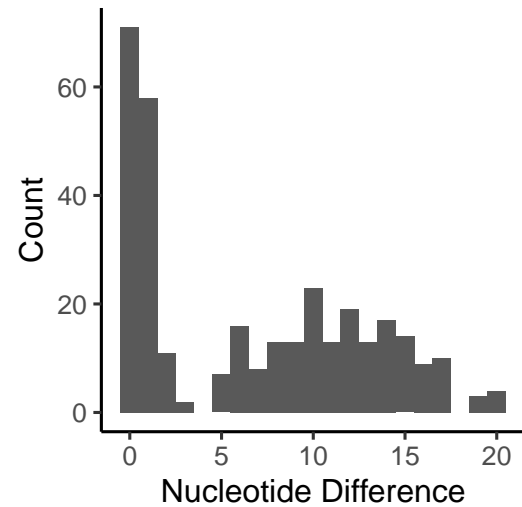
IGHV3-33*06

404 sequences assigned
36 (8.9%) exact matches, in which:
33 unique CDR3
6 unique J



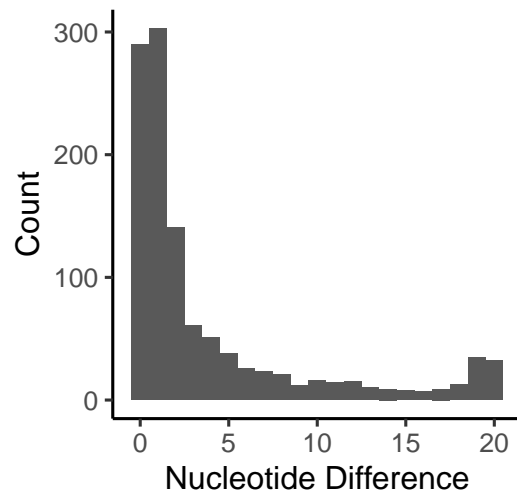
IGHV3-43*02

423 sequences assigned
71 (16.8%) exact matches, in which:
53 unique CDR3
5 unique J



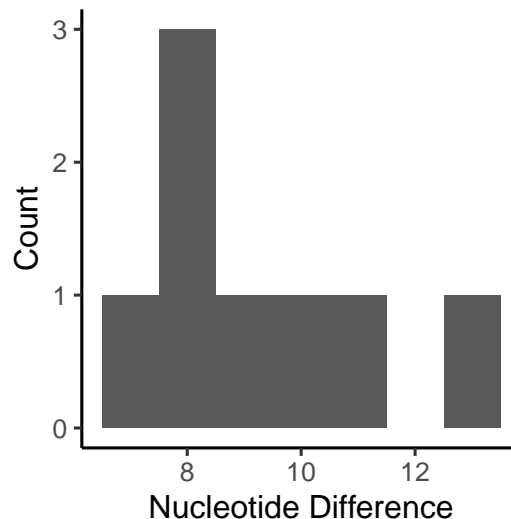
IGHV3-33*01

1557 sequences assigned
290 (18.6%) exact matches, in which:
225 unique CDR3
6 unique J



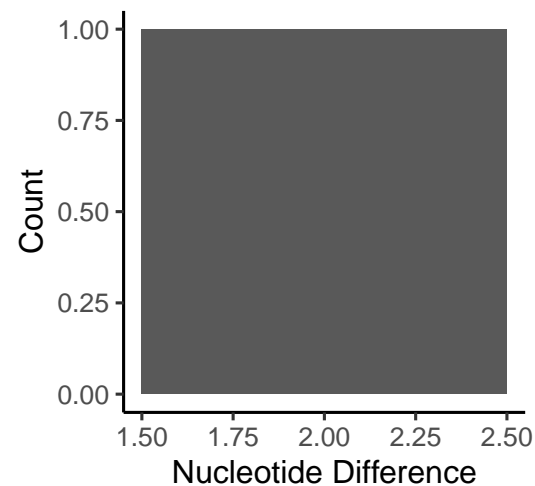
IGHV3-35*01

8 sequences assigned
No exact matches.



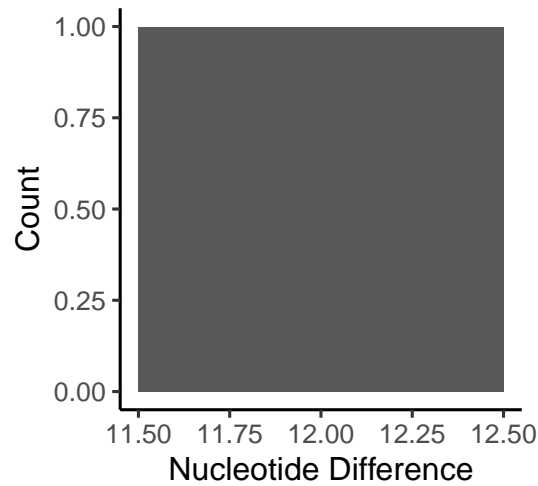
IGHV3-47*01

1 sequences assigned
No exact matches.



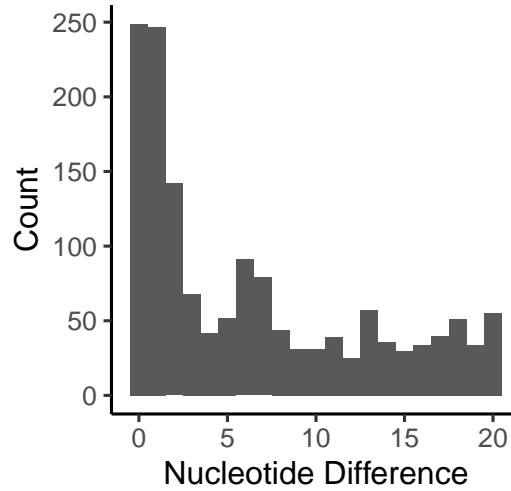
IGHV3-47*02

1 sequences assigned
No exact matches.



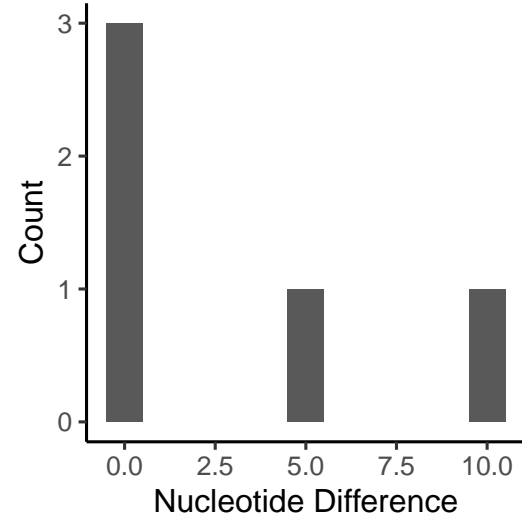
IGHV3-48*03

1908 sequences assigned
249 (13.1%) exact matches, in which:
182 unique CDR3
6 unique J



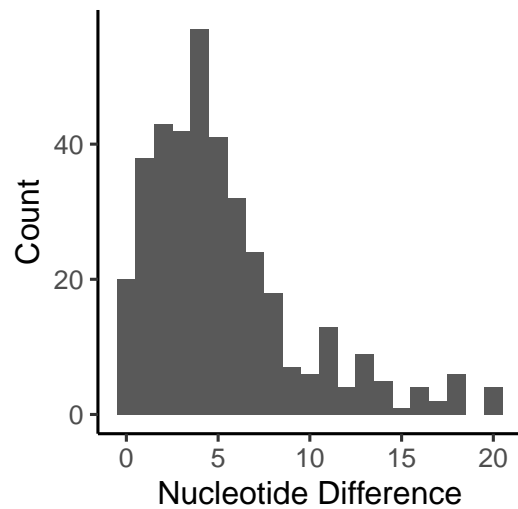
IGHV3-52*01_03

5 sequences assigned
3 (60%) exact matches, in which:
3 unique CDR3
2 unique J



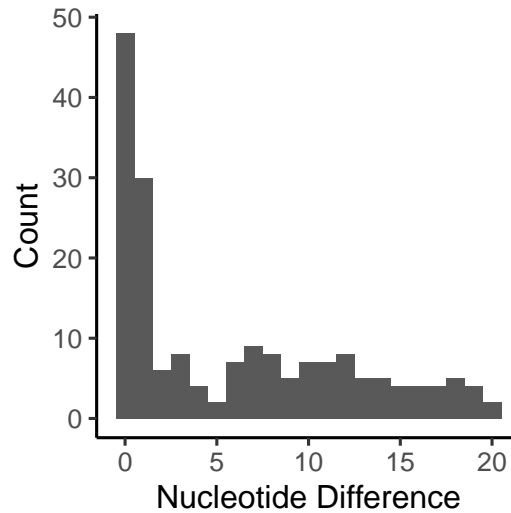
IGHV3-48*01

416 sequences assigned
20 (4.8%) exact matches, in which:
20 unique CDR3
3 unique J



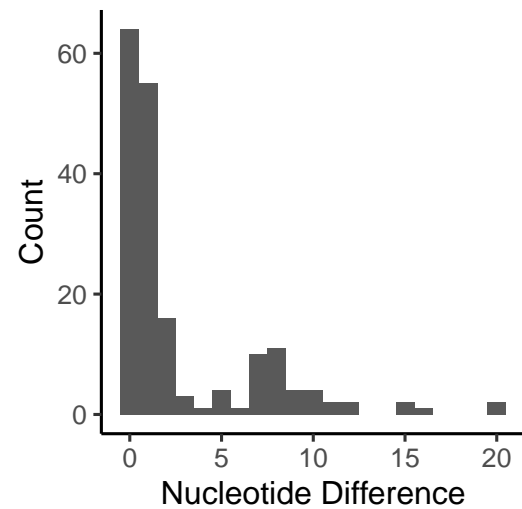
IGHV3-49*04

291 sequences assigned
48 (16.5%) exact matches, in which:
39 unique CDR3
4 unique J



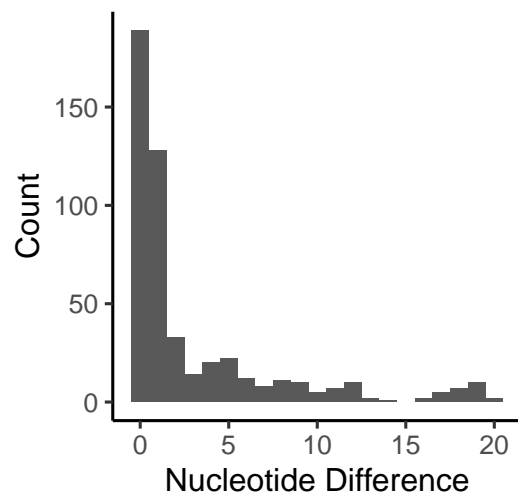
IGHV3-53*04

209 sequences assigned
64 (30.6%) exact matches, in which:
54 unique CDR3
6 unique J



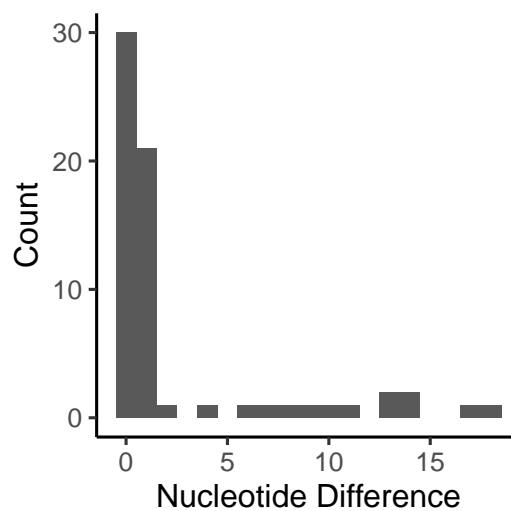
IGHV3-48*02

630 sequences assigned
189 (30%) exact matches, in which:
142 unique CDR3
6 unique J



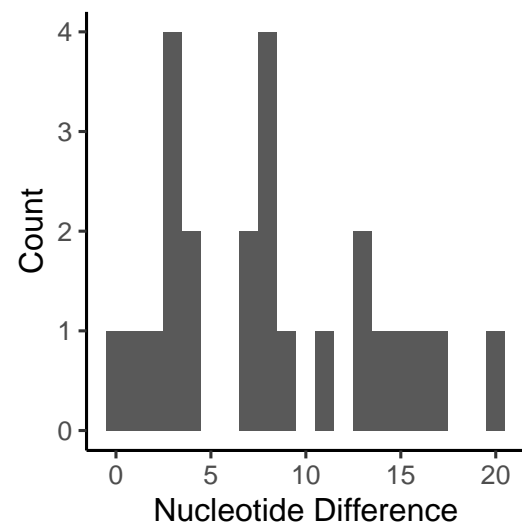
IGHV3-49*03_05

142 sequences assigned
30 (21.1%) exact matches, in which:
24 unique CDR3
4 unique J



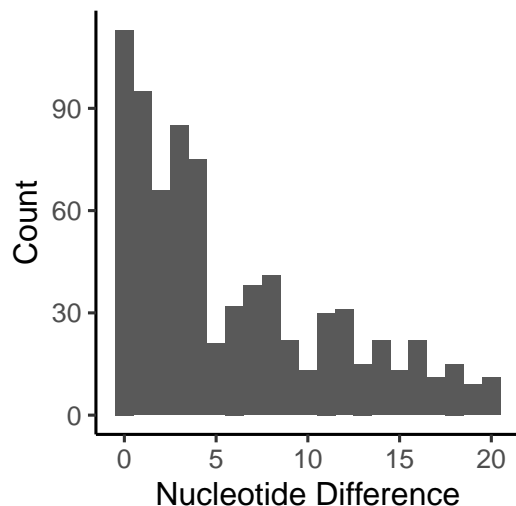
IGHV3-53*05

45 sequences assigned
1 (2.2%) exact matches, in which:
1 unique CDR3
1 unique J



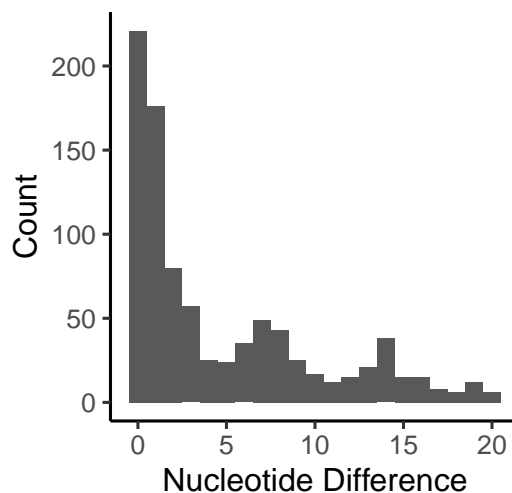
IGHV3-53*01_02

1001 sequences assigned
113 (11.3%) exact matches, in which:
99 unique CDR3
5 unique J



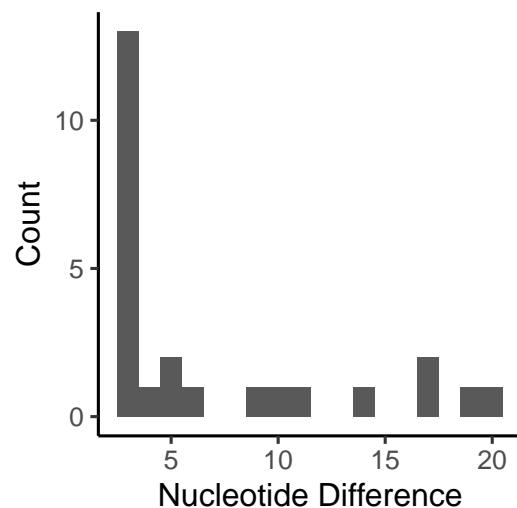
IGHV3-66*01

1179 sequences assigned
221 (18.7%) exact matches, in which:
183 unique CDR3
6 unique J



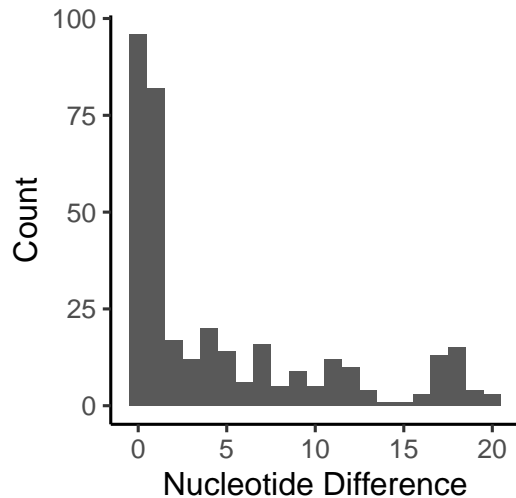
IGHV3-69-1*01

36 sequences assigned
No exact matches.



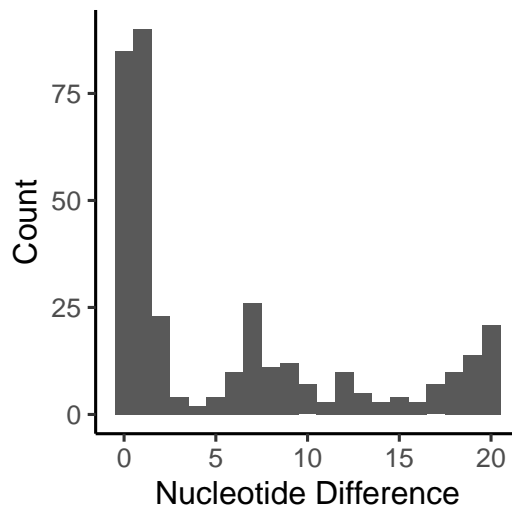
IGHV3-64*01

435 sequences assigned
96 (22.1%) exact matches, in which:
74 unique CDR3
4 unique J



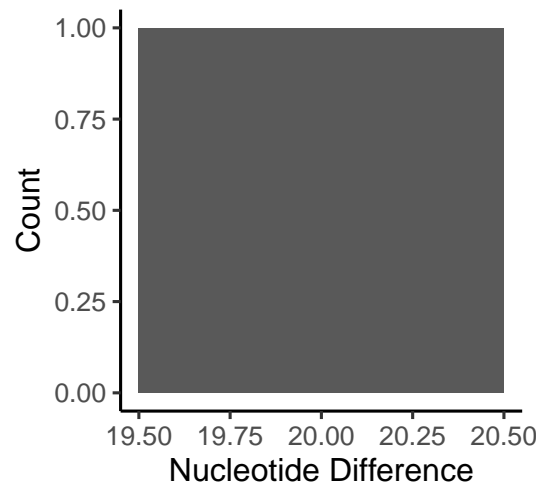
IGHV3-66*02

475 sequences assigned
85 (17.9%) exact matches, in which:
69 unique CDR3
5 unique J



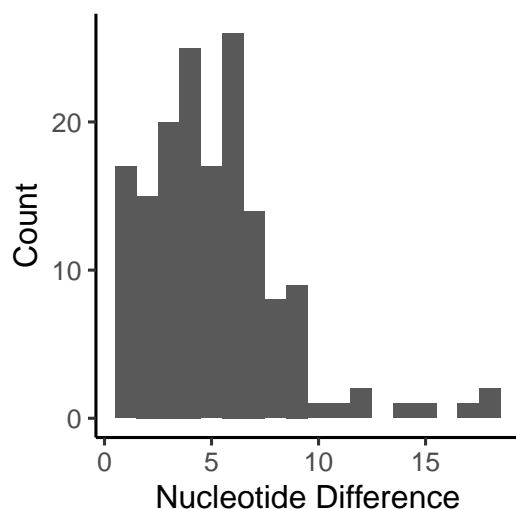
IGHV3-69-1*02

13 sequences assigned
No exact matches.



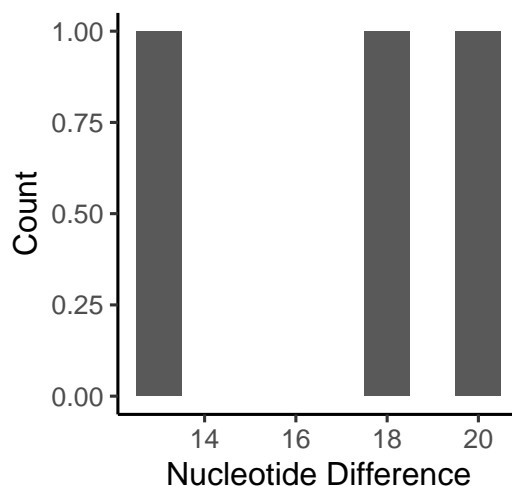
IGHV3-64*04

184 sequences assigned
No exact matches.



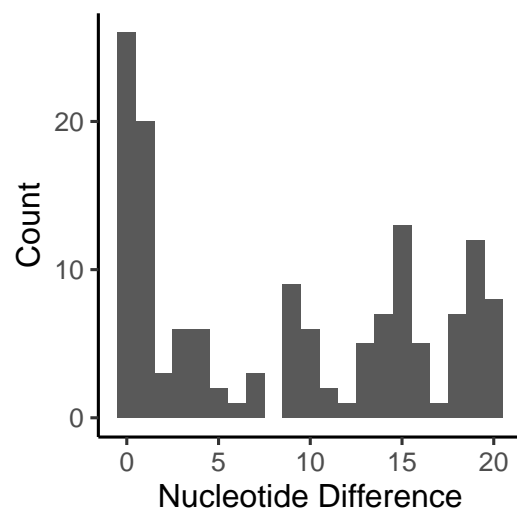
IGHV3-66*03

46 sequences assigned
No exact matches.



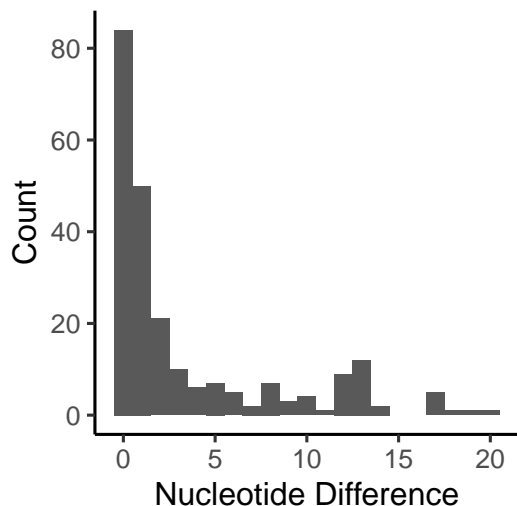
IGHV3-72*01

220 sequences assigned
26 (11.8%) exact matches, in which:
19 unique CDR3
3 unique J



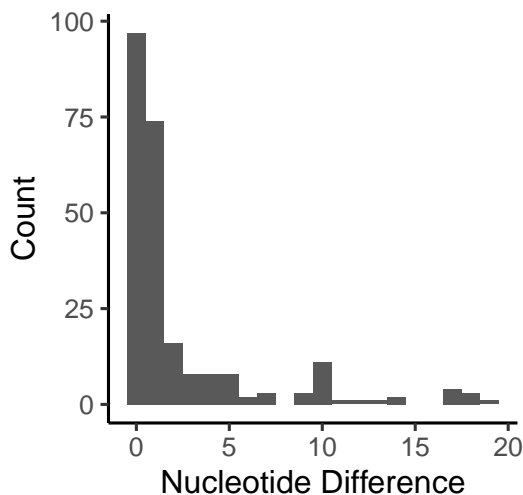
IGHV3-73*01_02

355 sequences assigned
84 (23.7%) exact matches, in which:
63 unique CDR3
4 unique J



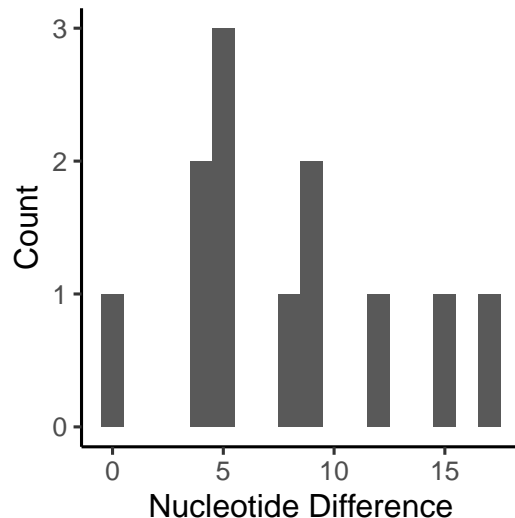
IGHV3-64D*06

300 sequences assigned
97 (32.3%) exact matches, in which:
76 unique CDR3
6 unique J



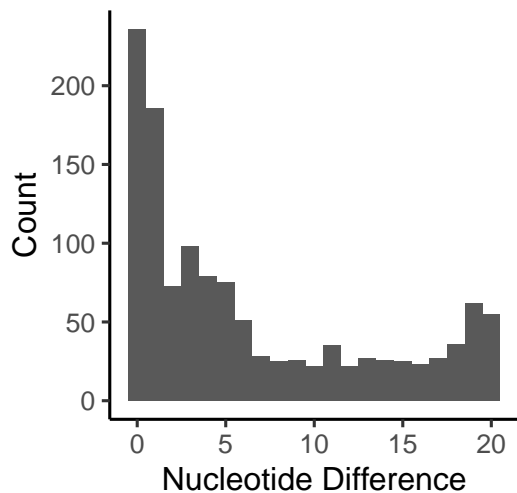
IGHV4-28*03

15 sequences assigned
1 (6.7%) exact matches, in which:
1 unique CDR3
1 unique J



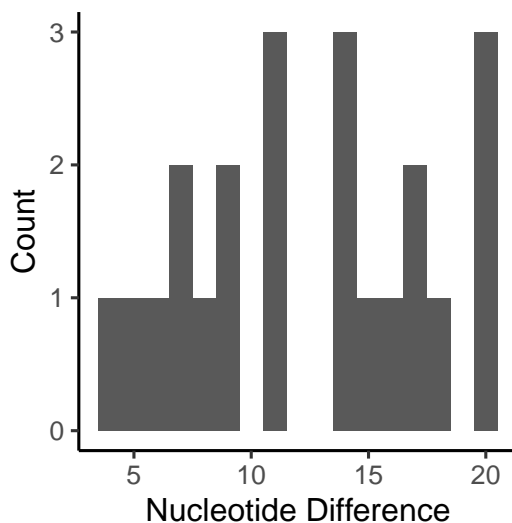
IGHV3-74*01_02

1994 sequences assigned
236 (11.8%) exact matches, in which:
195 unique CDR3
6 unique J



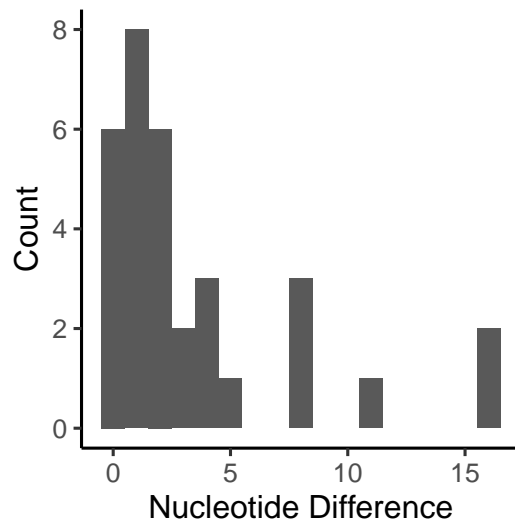
IGHV3-NL1*01

41 sequences assigned
No exact matches.



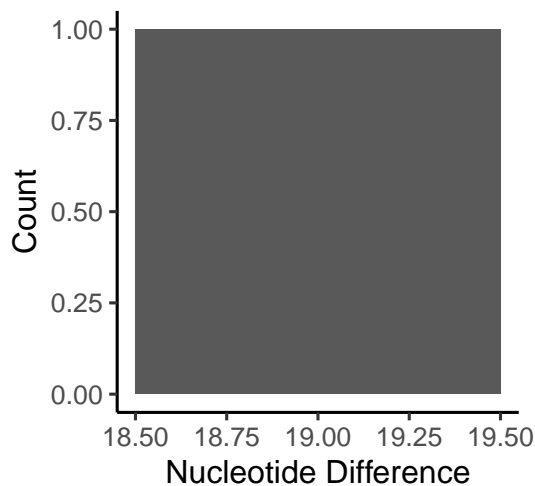
IGHV4-28*02_05

39 sequences assigned
6 (15.4%) exact matches, in which:
6 unique CDR3
4 unique J



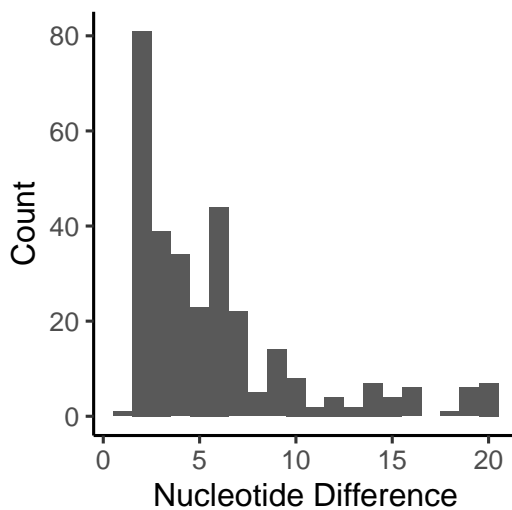
IGHV3-43D*04

28 sequences assigned
No exact matches.



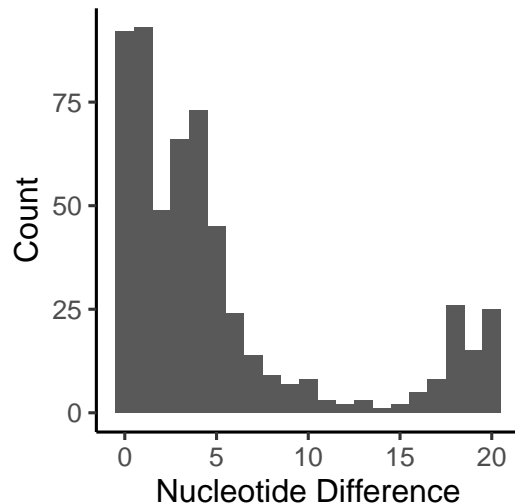
IGHV4-4*07

338 sequences assigned
No exact matches.



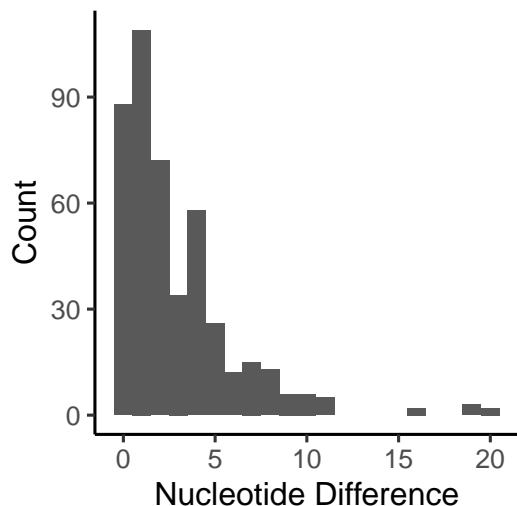
IGHV4-30-4*01

824 sequences assigned
92 (11.2%) exact matches, in which:
87 unique CDR3
6 unique J



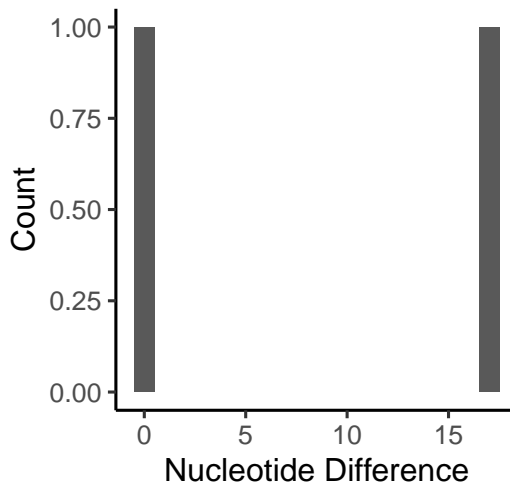
IGHV4-30-2*01

481 sequences assigned
88 (18.3%) exact matches, in which:
70 unique CDR3
5 unique J



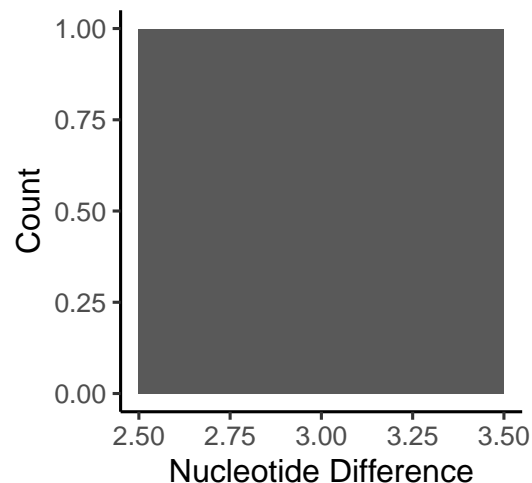
IGHV4-38-2*02

6 sequences assigned
1 (16.7%) exact matches, in which:
1 unique CDR3
1 unique J



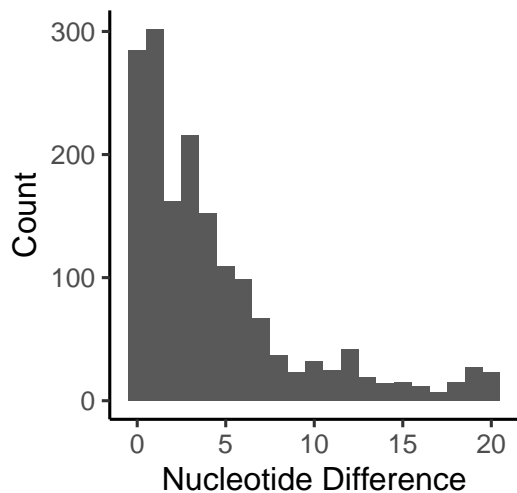
IGHV4-55*01_05

1 sequences assigned
No exact matches.



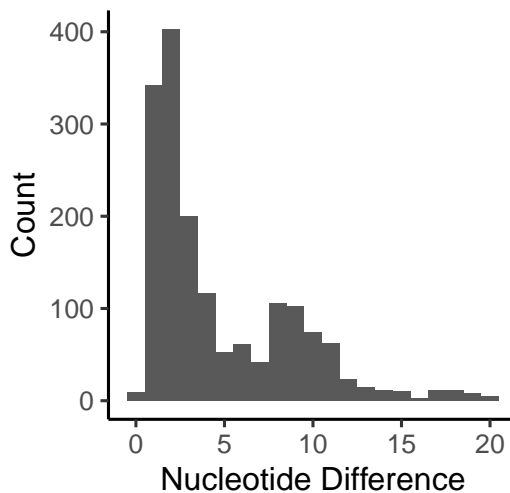
IGHV4-31*03_04

1994 sequences assigned
285 (14.3%) exact matches, in which:
240 unique CDR3
6 unique J



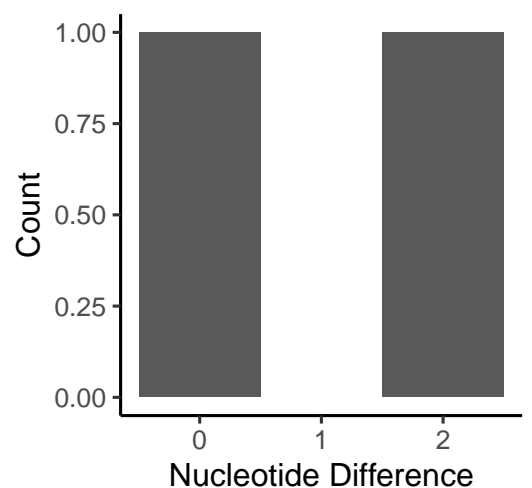
IGHV4-39*07

1735 sequences assigned
9 (0.5%) exact matches, in which:
9 unique CDR3
2 unique J



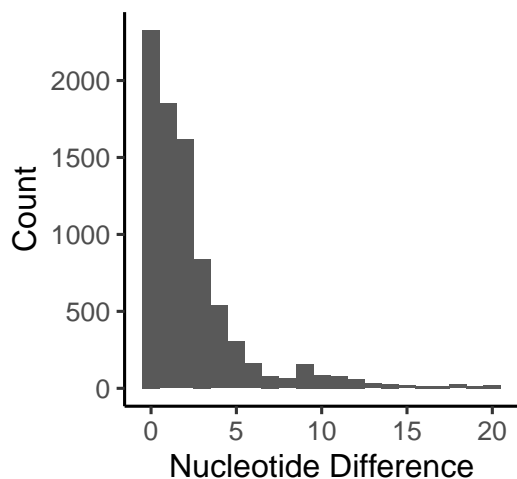
IGHV4-55*02_04_08

2 sequences assigned
1 (50%) exact matches, in which:
1 unique CDR3
1 unique J



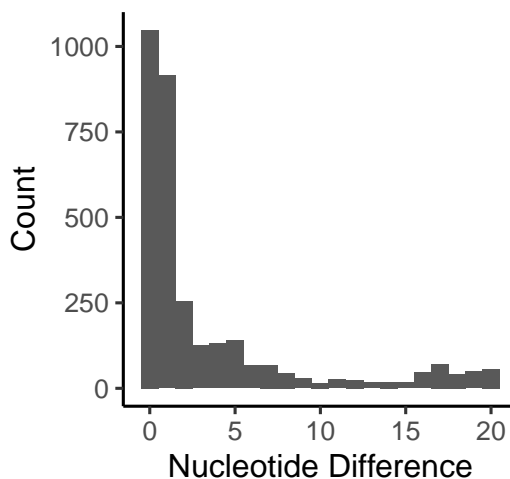
IGHV4-34*01_02

8630 sequences assigned
2328 (27%) exact matches, in which:
2016 unique CDR3
6 unique J



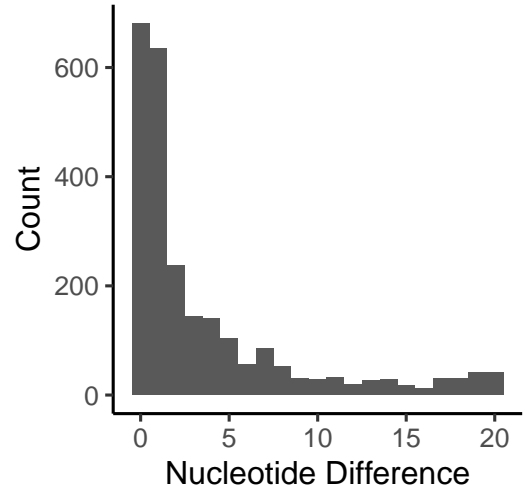
IGHV4-39*01_05

3871 sequences assigned
1048 (27.1%) exact matches, in which:
890 unique CDR3
6 unique J



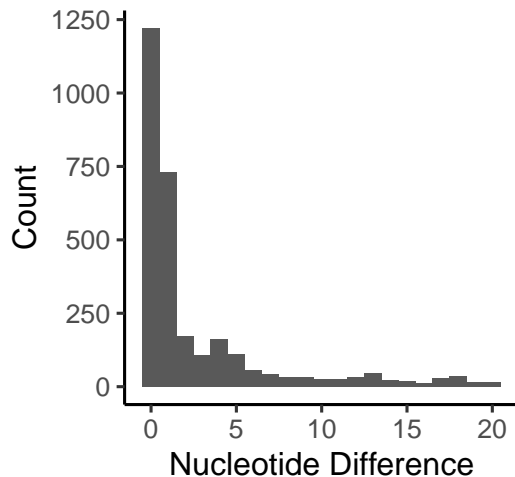
IGHV4-59*08

3348 sequences assigned
681 (20.3%) exact matches, in which:
626 unique CDR3
6 unique J



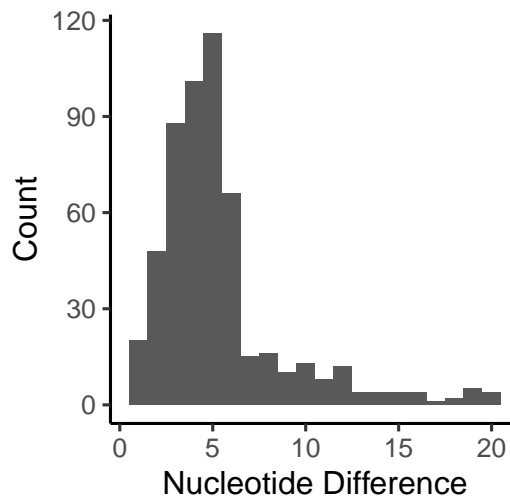
IGHV4-59*01_07

3569 sequences assigned
1220 (34.2%) exact matches, in which:
1130 unique CDR3
6 unique J



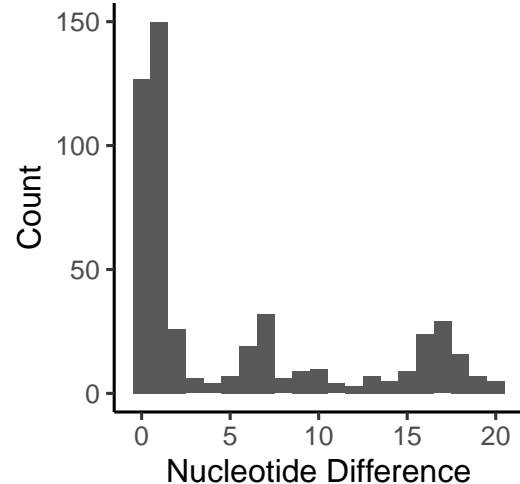
IGHV4-61*08

588 sequences assigned
No exact matches.



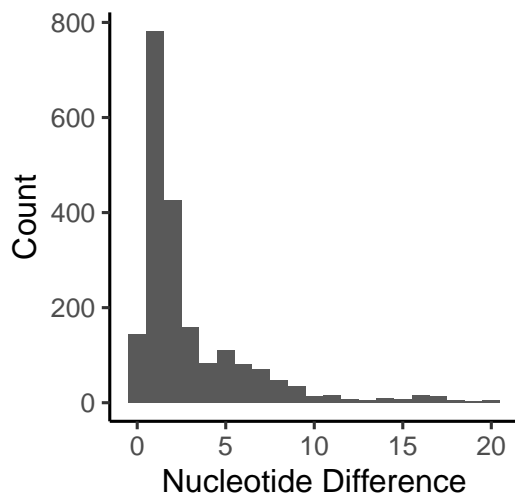
IGHV6-1*01_02

567 sequences assigned
127 (22.4%) exact matches, in which:
116 unique CDR3
6 unique J



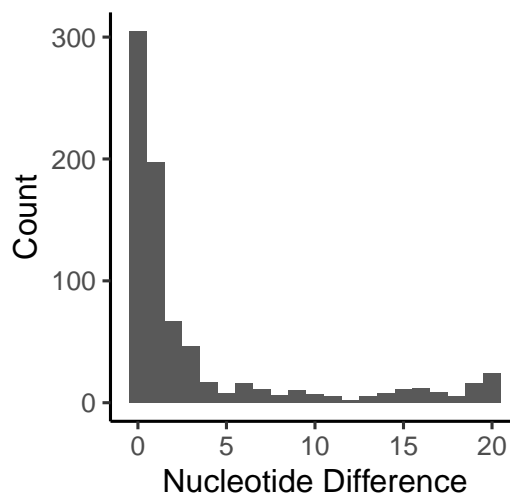
IGHV4-59*12

2246 sequences assigned
144 (6.4%) exact matches, in which:
144 unique CDR3
6 unique J



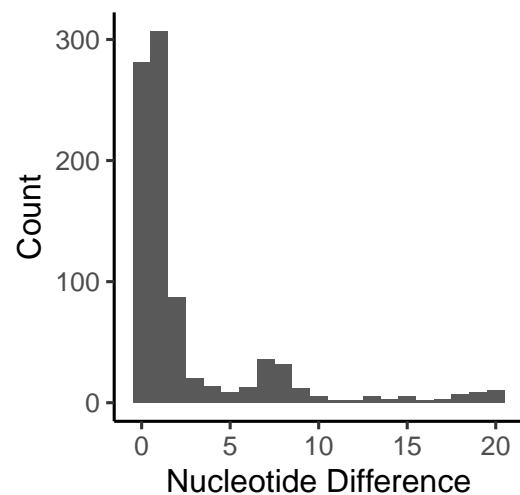
IGHV5-10-1*01_03

991 sequences assigned
305 (30.8%) exact matches, in which:
255 unique CDR3
6 unique J



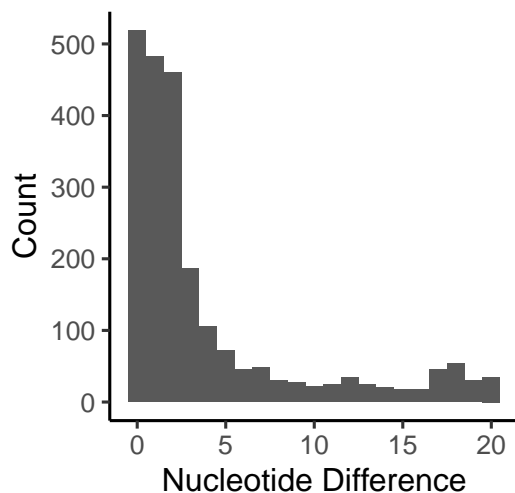
IGHV7-4-1*02

1180 sequences assigned
281 (23.8%) exact matches, in which:
243 unique CDR3
6 unique J



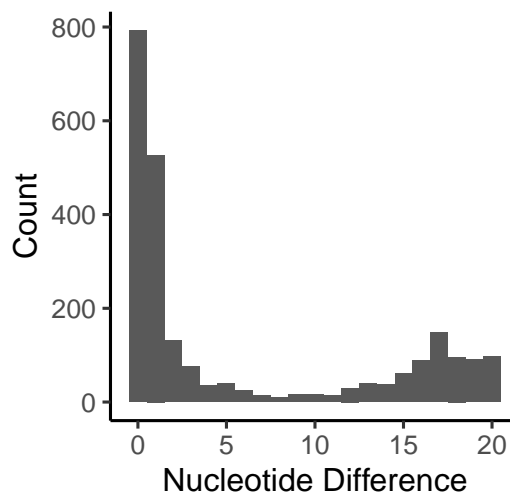
IGHV4-61*02

2754 sequences assigned
519 (18.8%) exact matches, in which:
464 unique CDR3
6 unique J



IGHV5-51*01_03

2958 sequences assigned
793 (26.8%) exact matches, in which:
647 unique CDR3
6 unique J





Novel sequence(s) IGHV3~30*03_T288C IGHV5~51*07_A128G are not listed in the genotype and will be ignored.

Warning: IGHV4~31*02, IGHV4~31*03_04 have identical germline sequences.

Novel sequence(s) IGHV5~51*07_A128G are not listed in the genotype and will be ignored.

Novel sequence(s) IGHV1~69*04_09_G112A are not listed in the genotype and will be ignored.

Novel sequence(s) IGHV5~51*07_A128G are not listed in the genotype and will be ignored.

Warning – no inferred sequences found.

Novel sequence(s) IGHV1~69*08_C191T IGHV3~30*03_T288C IGHV3~30~3*02_G75C IGHV4~59*02_G88A IGHV5~51*07_A128G are not listed in the genotype and will be ignored.

Novel sequence(s) IGHV4~59*02_G88A IGHV5~51*07_A128G are not listed in the genotype and will be ignored.

Novel sequence(s) IGHV5~51*07_A128G are not listed in the genotype and will be ignored.

Novel sequence(s) IGHV4~4*02_03_C300T IGHV5~51*07_A128G are not listed in the genotype and will be ignored.

Novel sequence(s) IGHV5~51*07_A128G are not listed in the genotype and will be ignored.

Warning – no inferred sequences found.

Novel sequence(s) IGHV4~59*02_G88A are not listed in the genotype and will be ignored.

Novel sequence(s) IGHV1~69*08_C191T IGHV3~11*06_T300C IGHV3~30*03_T288C IGHV4~59*02_G88A IGHV5~51*07_A128G are not listed in the genotype and will be ignored.

Novel sequence(s) IGHV4~59*02_G88A IGHV5~51*07_A128G are not listed in the genotype and will be ignored.

Novel sequence(s) IGHV5~51*07_A128G are not listed in the genotype and will be ignored.

Warning – no inferred sequences found.

Warning – no inferred sequences found.

Novel sequence(s) IGHV3~30*03_T288C IGHV3~30~3*01_T288C IGHV4~59*02_G88A IGHV5~10~1*01_03_T258C IGHV5~51*07_A128G are not listed in the genotype and will be ignored.

Warning – no inferred sequences found.

Novel sequence(s) IGHV3~48*04_A193T_C198T_A200C_C201T_T210A are not listed in the genotype and will be ignored.

Novel sequence(s) IGHV4~59*02_G88A are not listed in the genotype and will be ignored.

Novel sequence(s) IGHV5~51*07_A128G are not listed in the genotype and will be ignored.

Novel sequence(s) IGHV3~33*01_C288T IGHV5~51*07_A128G are not listed in the genotype and will be ignored.

Novel sequence(s) IGHV4~59*02_G88A IGHV5~51*07_A128G are not listed in the genotype and will be ignored.

Novel sequence(s) IGHV3~33*01_T105C_A173T_T192G_C288T are not listed in the genotype and will be ignored.

Novel sequence(s) IGHV3~30*04_T288C IGHV3~33*01_G75C IGHV4~30~2*03_T288C IGHV4~59*02_G88A are not listed in the genotype and will be ignored.

Novel sequence(s) IGHV3~11*06_T300C are not listed in the genotype and will be ignored.

Novel sequence(s) IGHV5~51*07_A128G are not listed in the genotype and will be ignored.

Novel sequence(s) IGHV5~51*07_A128G are not listed in the genotype and will be ignored.

Novel sequence(s) IGHV4~59*02_G88A IGHV5~51*07_A128G are not listed in the genotype and will be ignored.

Novel sequence(s) IGHV5~51*07_A128G are not listed in the genotype and will be ignored.