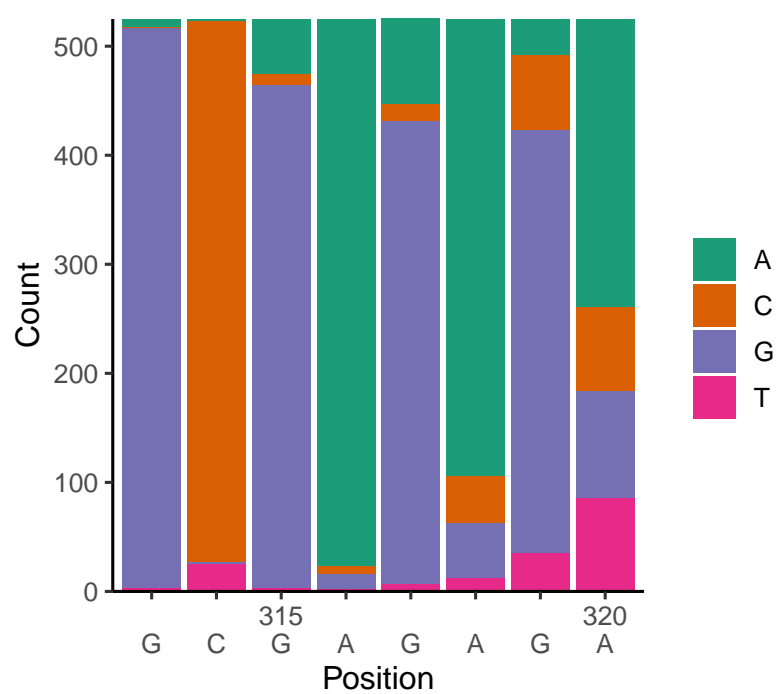
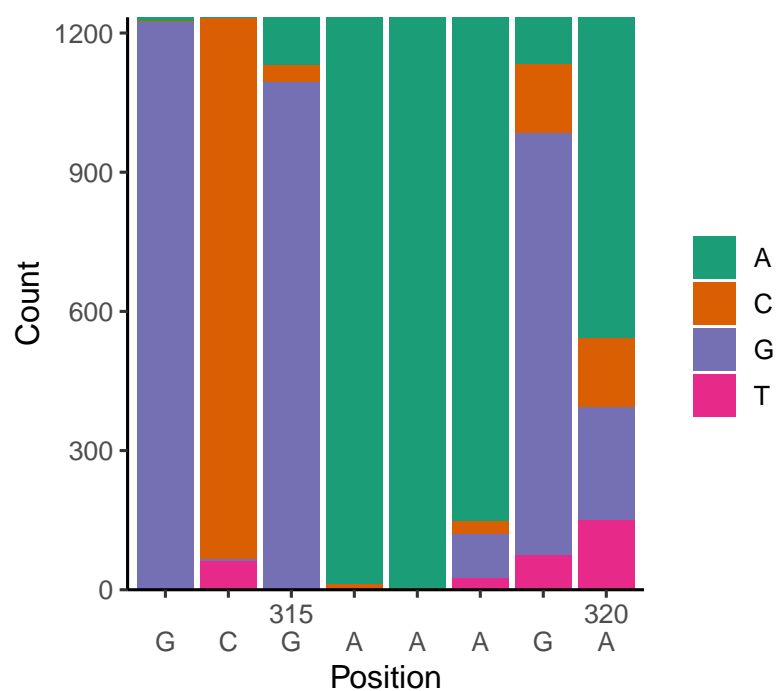


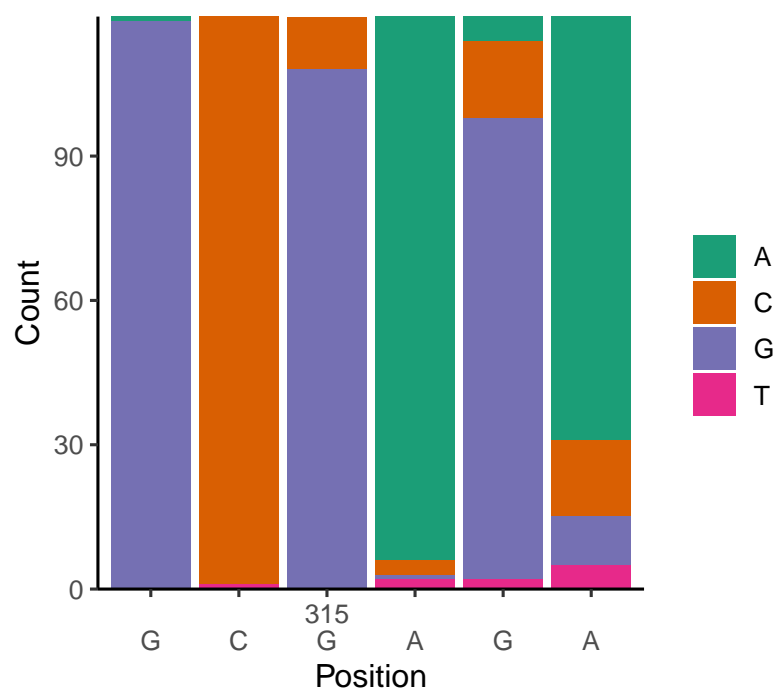
Gene IGHV3-20\*03\_04\_A104G



Gene IGHV3-30-3\*02\_G75C



Gene IGHV5-10-1\*01\_03\_A118G



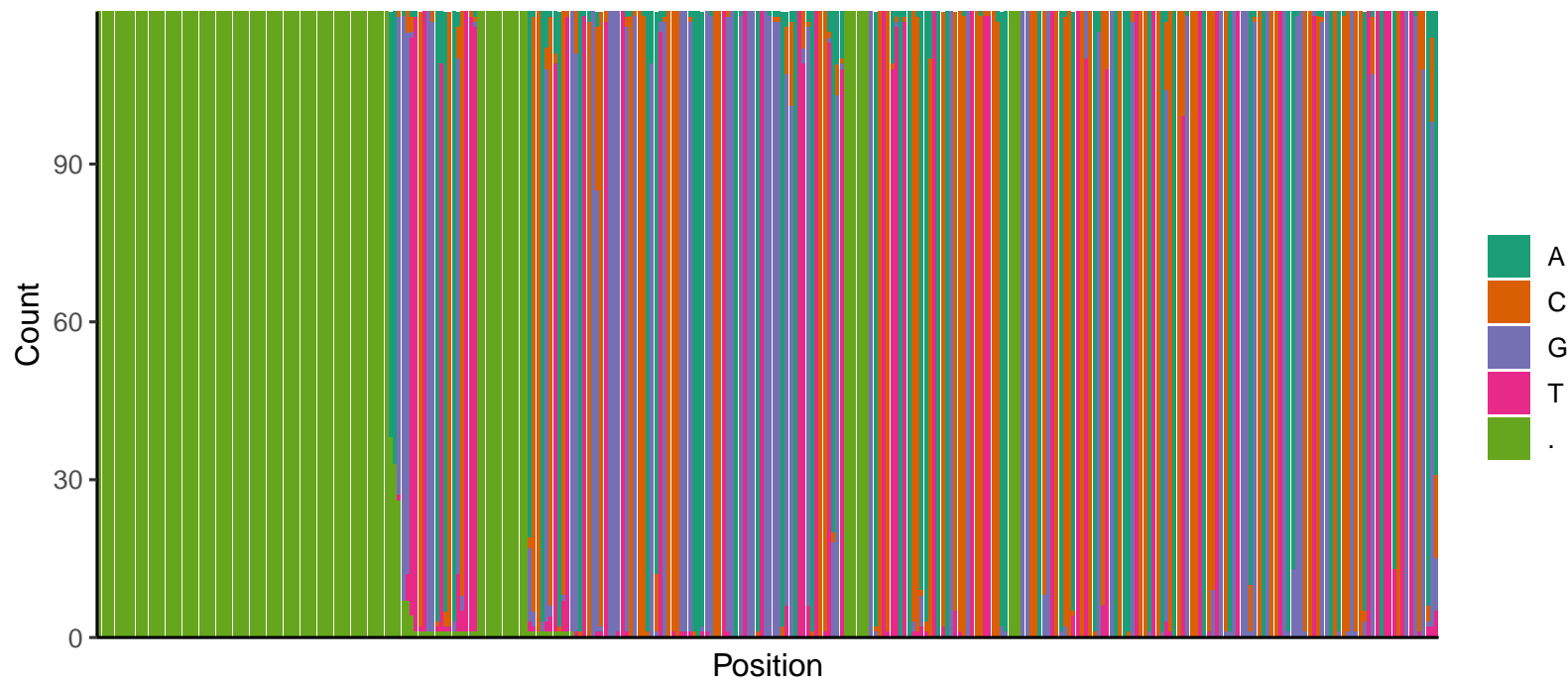
Gene IGHV3-20\*03\_04\_A104G



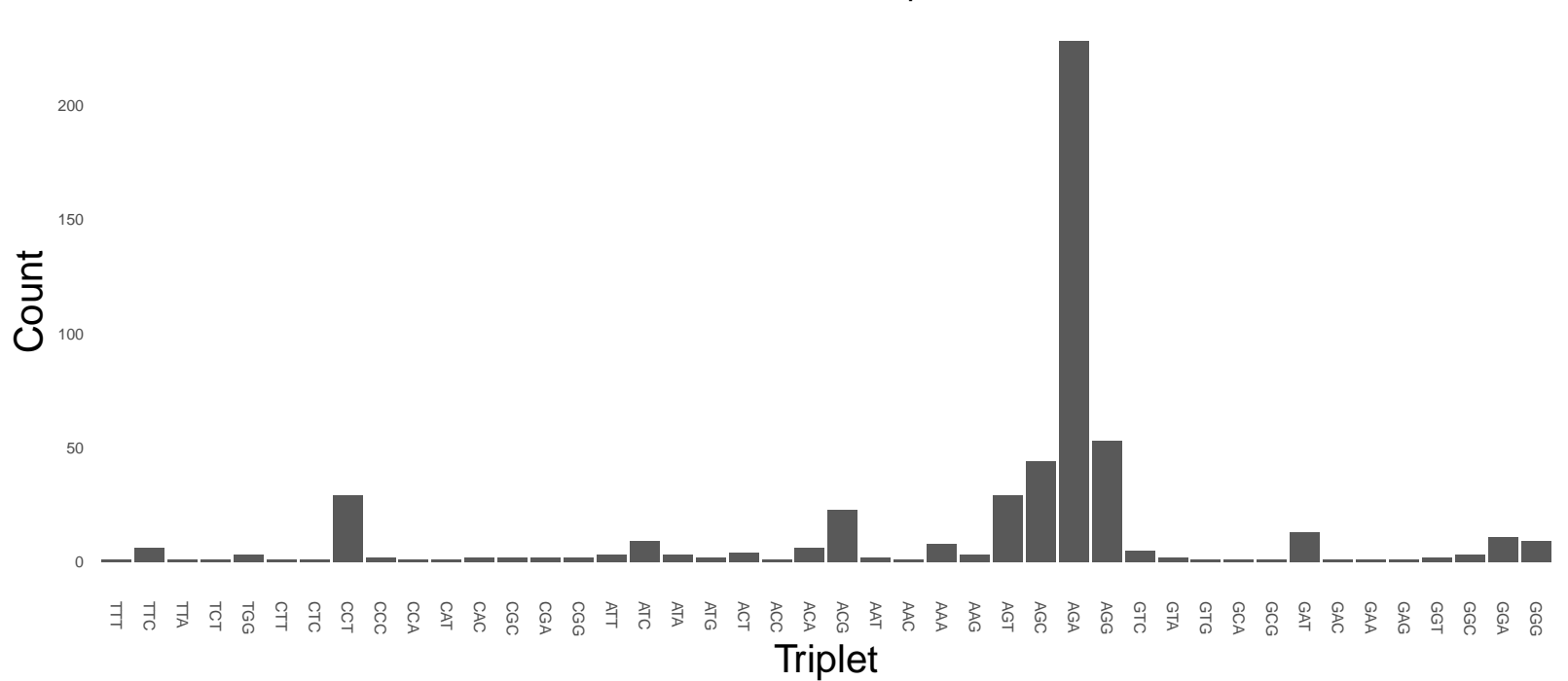
Gene IGHV3-30-3\*02\_G75C



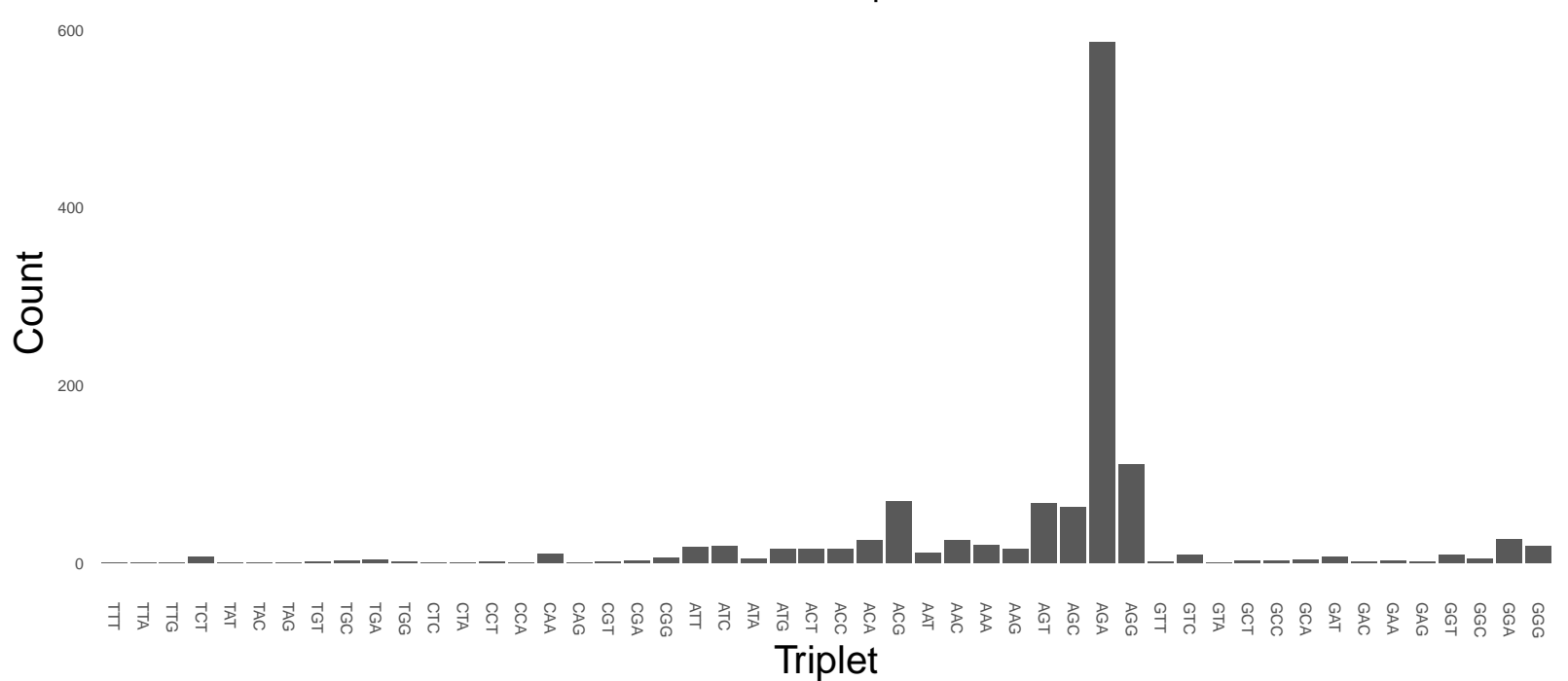
Gene IGHV5-10-1\*01\_03\_A118G



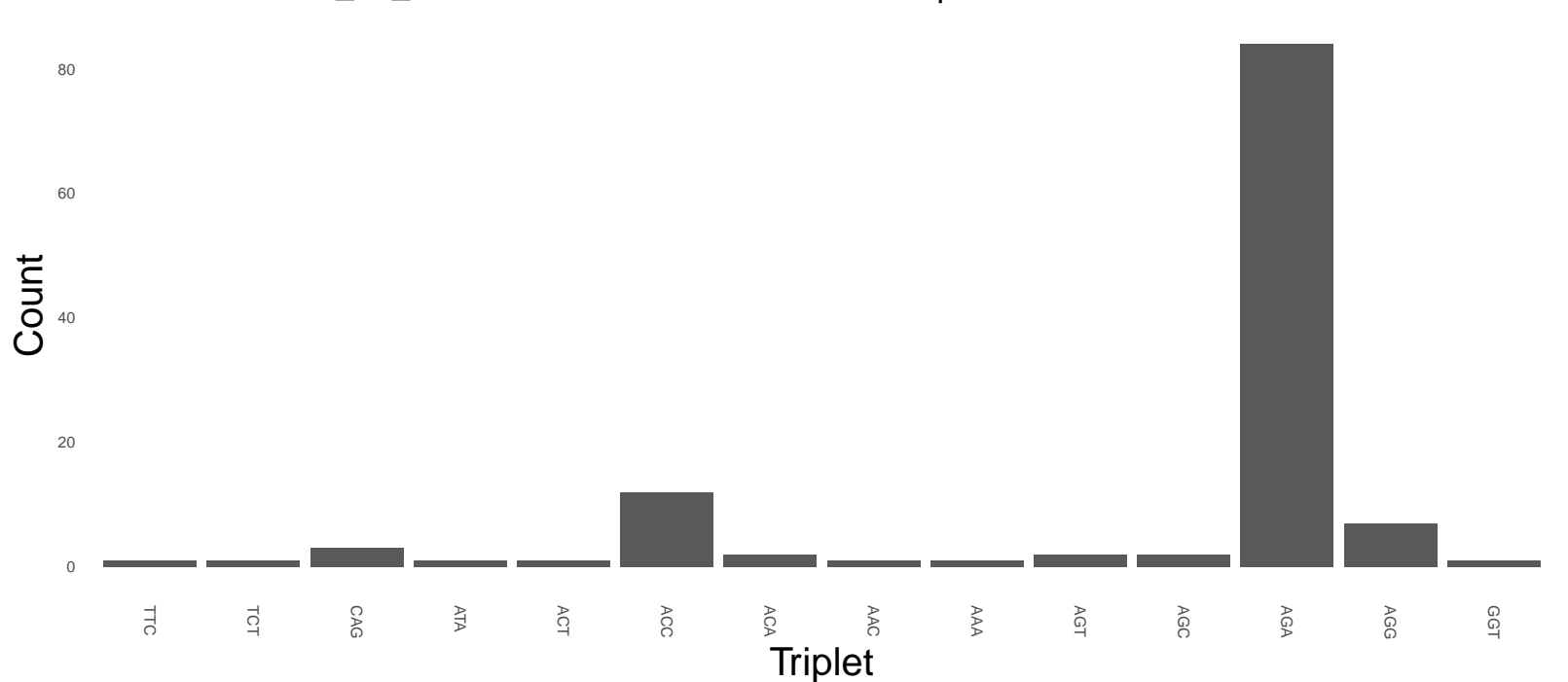
IGHV3–20\*03\_04\_A104G– Final 3 nucleotides as a triplet



IGHV3–30–3\*02\_G75C– Final 3 nucleotides as a triplet

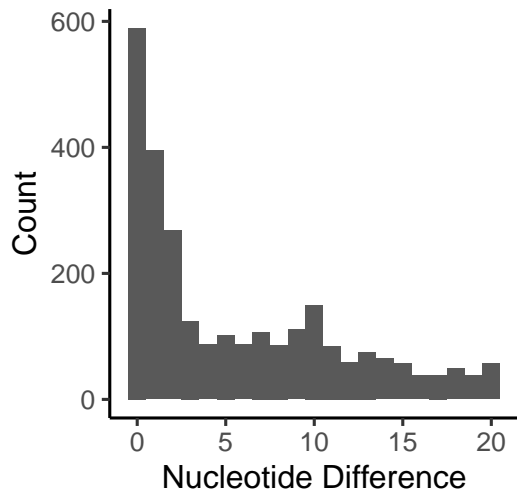


IGHV5–10–1\*01\_03\_A118G– Final 3 nucleotides as a triplet



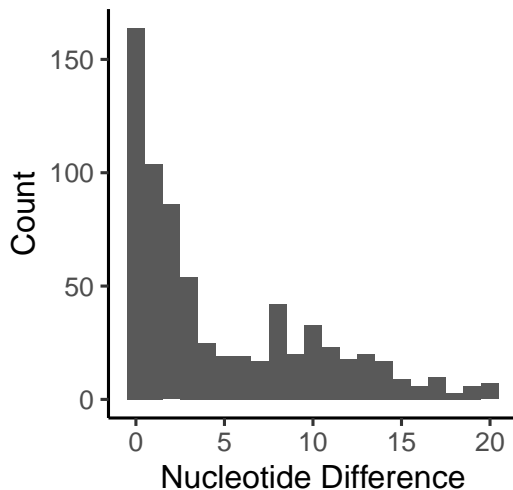
### IGHV1-2\*02

3127 sequences assigned  
590 (18.9%) exact matches, in which:  
572 unique CDR3  
6 unique J



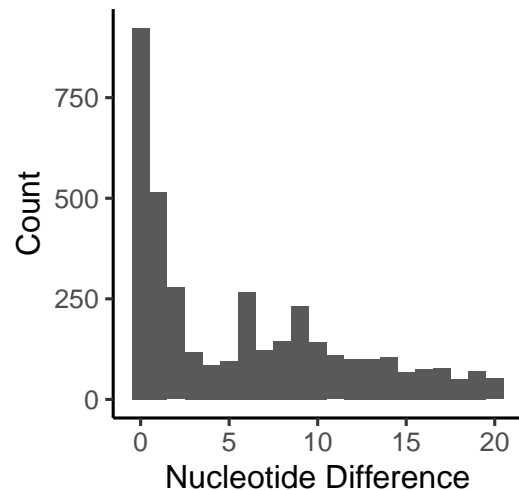
### IGHV1-3\*01\_05

791 sequences assigned  
164 (20.7%) exact matches, in which:  
155 unique CDR3  
5 unique J



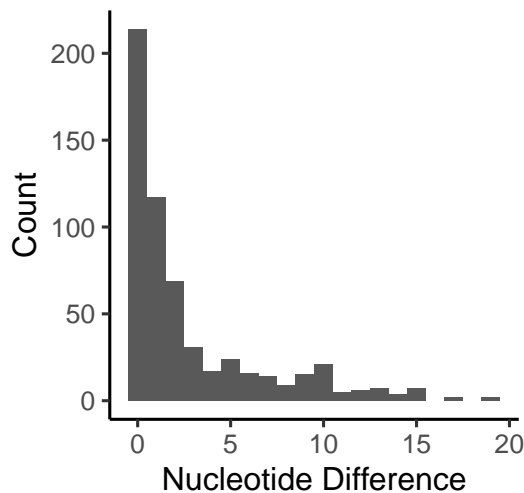
### IGHV1-18\*01

4349 sequences assigned  
924 (21.2%) exact matches, in which:  
890 unique CDR3  
6 unique J



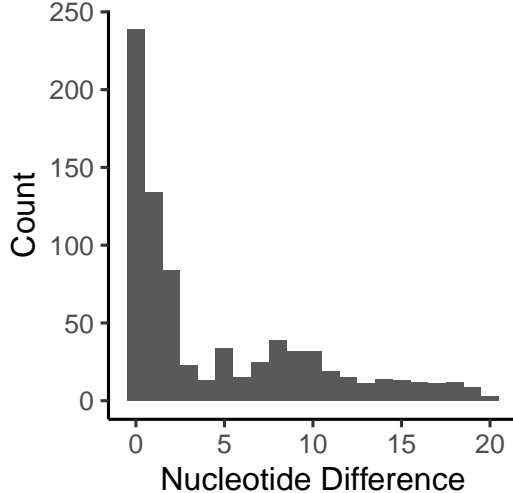
### IGHV1-2\*04

583 sequences assigned  
214 (36.7%) exact matches, in which:  
209 unique CDR3  
6 unique J



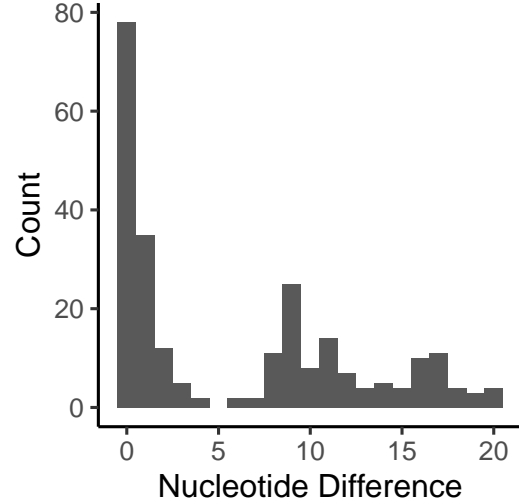
### IGHV1-8\*01

960 sequences assigned  
239 (24.9%) exact matches, in which:  
234 unique CDR3  
5 unique J



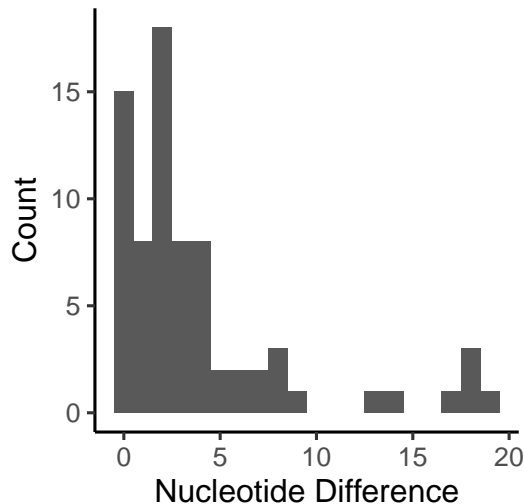
### IGHV1-24\*01

273 sequences assigned  
78 (28.6%) exact matches, in which:  
77 unique CDR3  
5 unique J



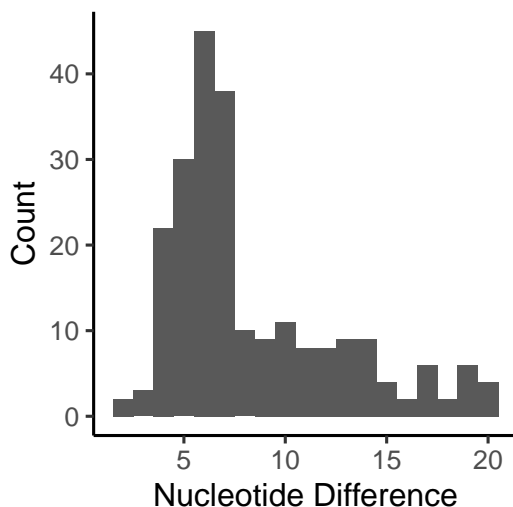
### IGHV1-3\*02

77 sequences assigned  
15 (19.5%) exact matches, in which:  
15 unique CDR3  
3 unique J



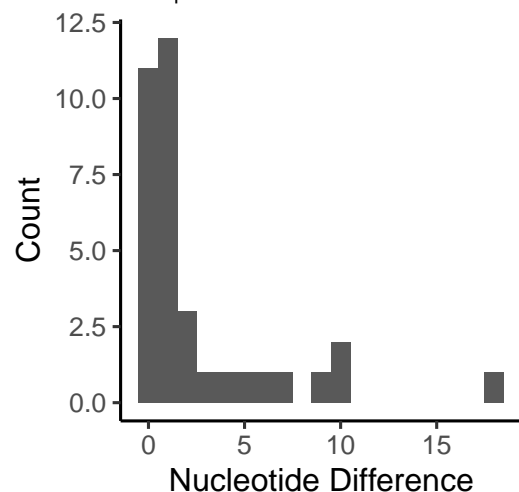
### IGHV1-8\*02

254 sequences assigned  
No exact matches.



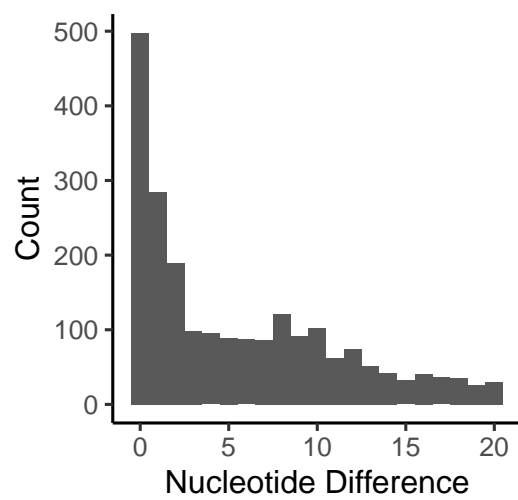
### IGHV1-45\*02

35 sequences assigned  
11 (31.4%) exact matches, in which:  
10 unique CDR3  
2 unique J



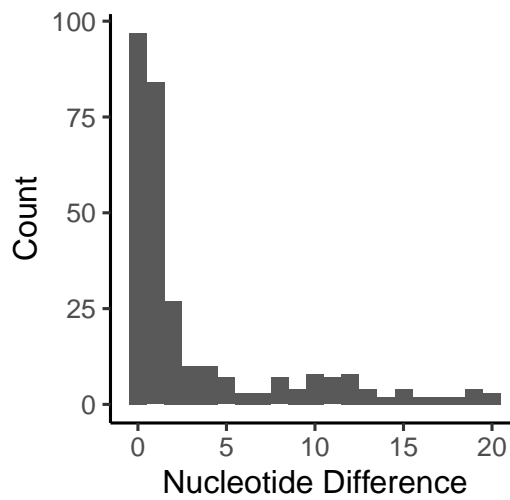
### IGHV1–46\*01

2353 sequences assigned  
498 (21.2%) exact matches, in which:  
483 unique CDR3  
6 unique J



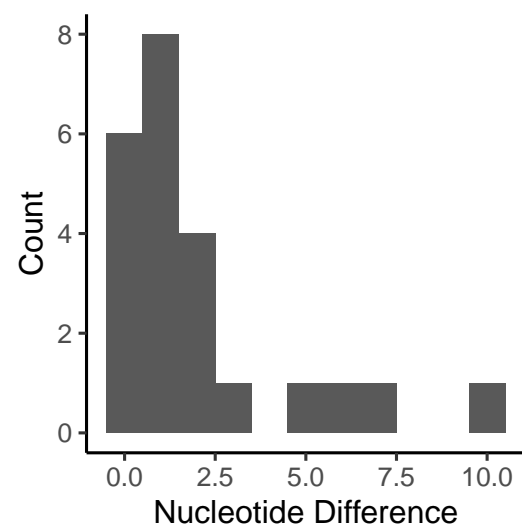
### IGHV2–5\*02

337 sequences assigned  
97 (28.8%) exact matches, in which:  
88 unique CDR3  
4 unique J



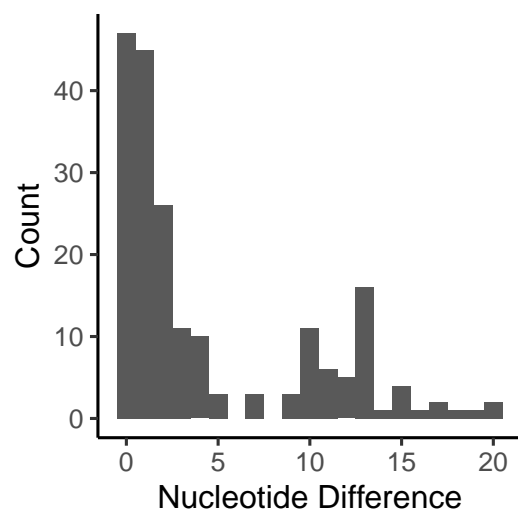
### IGHV2–70\*12

26 sequences assigned  
6 (23.1%) exact matches, in which:  
6 unique CDR3  
4 unique J



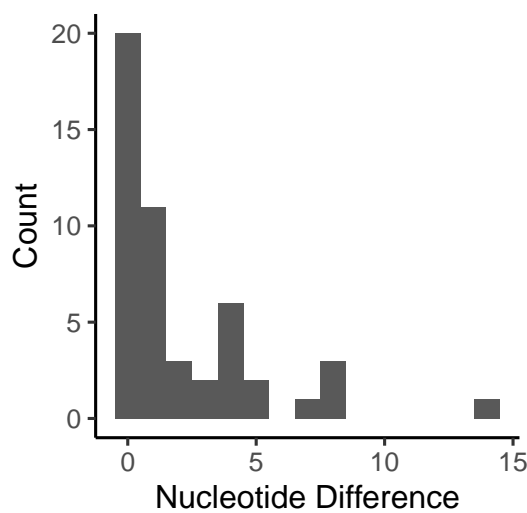
### IGHV1–58\*01\_03

210 sequences assigned  
47 (22.4%) exact matches, in which:  
45 unique CDR3  
5 unique J



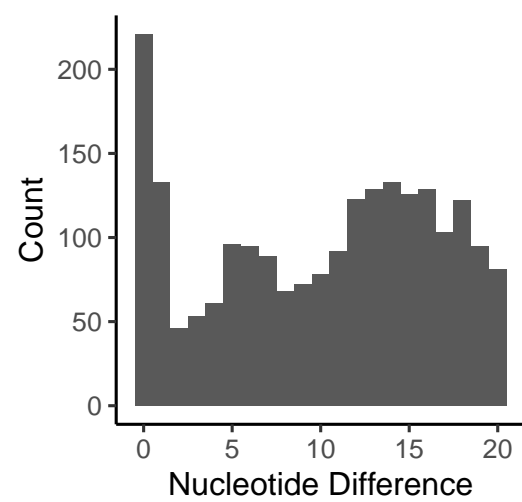
### IGHV2–26\*01

52 sequences assigned  
20 (38.5%) exact matches, in which:  
19 unique CDR3  
4 unique J



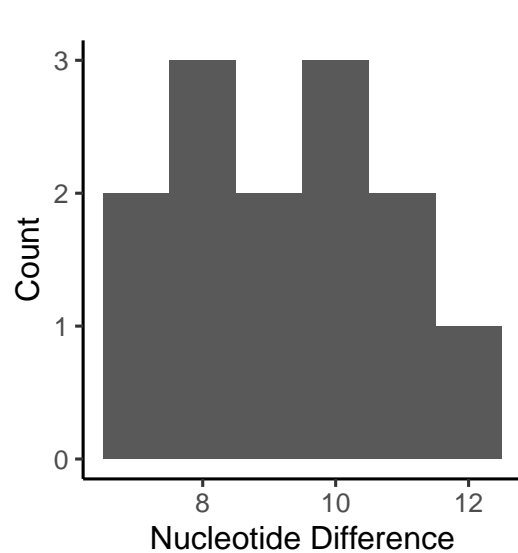
### IGHV3–7\*01

2725 sequences assigned  
221 (8.1%) exact matches, in which:  
184 unique CDR3  
6 unique J



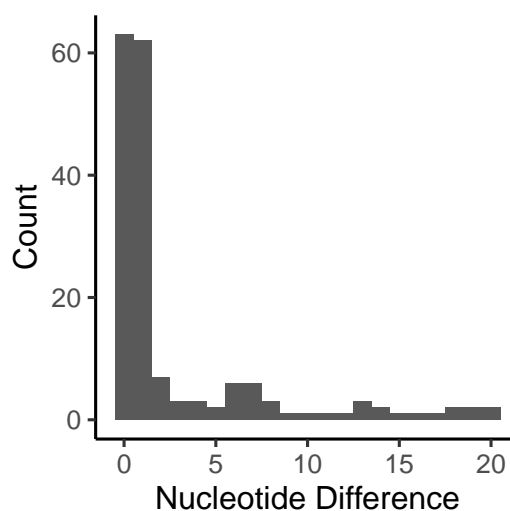
### IGHV1–NL1\*01

13 sequences assigned  
No exact matches.



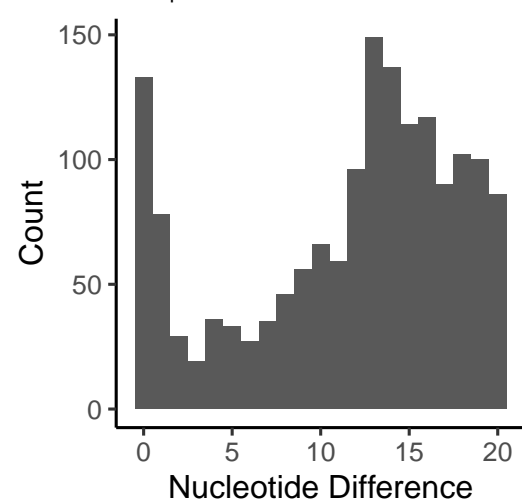
### IGHV2–70\*01

209 sequences assigned  
63 (30.1%) exact matches, in which:  
56 unique CDR3  
4 unique J



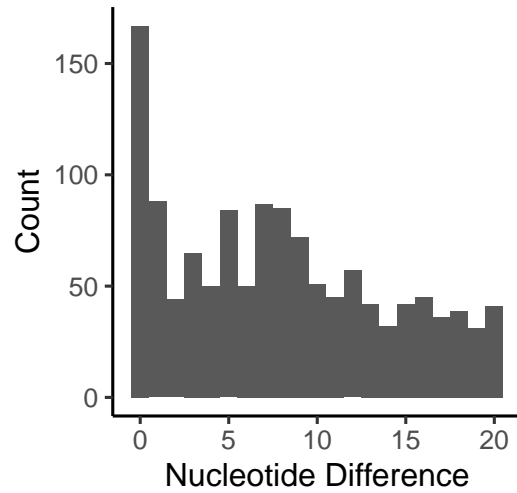
### IGHV3–7\*03

2117 sequences assigned  
133 (6.3%) exact matches, in which:  
113 unique CDR3  
5 unique J



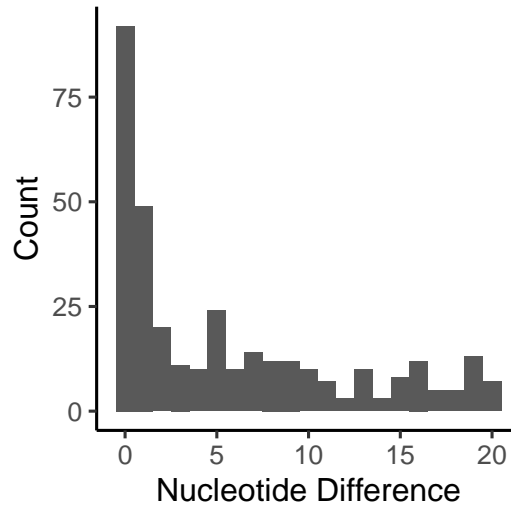
### IGHV3-9\*01

1541 sequences assigned  
167 (10.8%) exact matches, in which:  
134 unique CDR3  
4 unique J



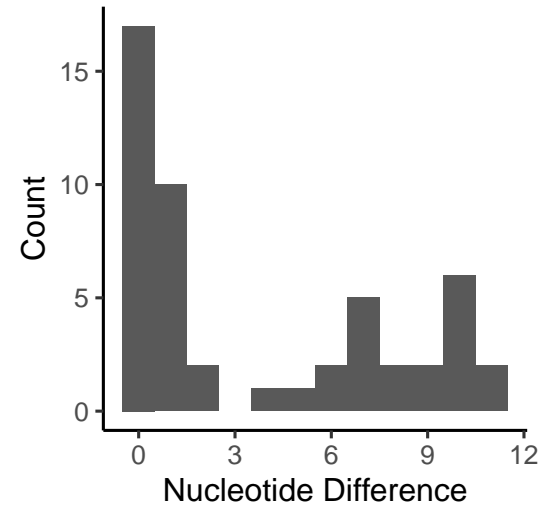
### IGHV3-11\*06

457 sequences assigned  
92 (20.1%) exact matches, in which:  
77 unique CDR3  
4 unique J



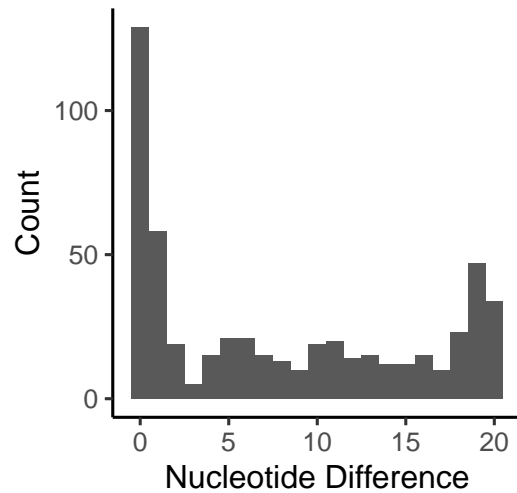
### IGHV3-13\*05

50 sequences assigned  
17 (34%) exact matches, in which:  
14 unique CDR3  
4 unique J



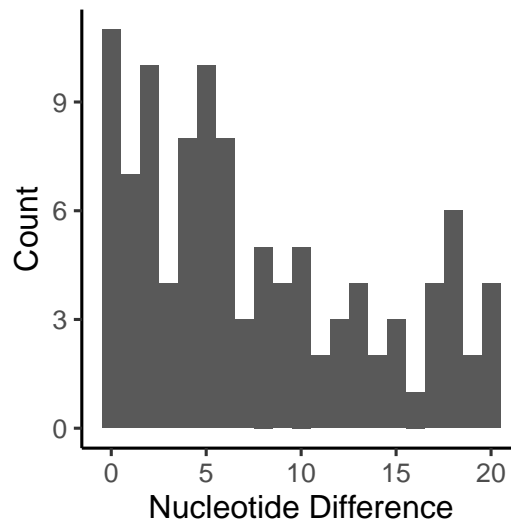
### IGHV3-11\*01

767 sequences assigned  
129 (16.8%) exact matches, in which:  
100 unique CDR3  
6 unique J



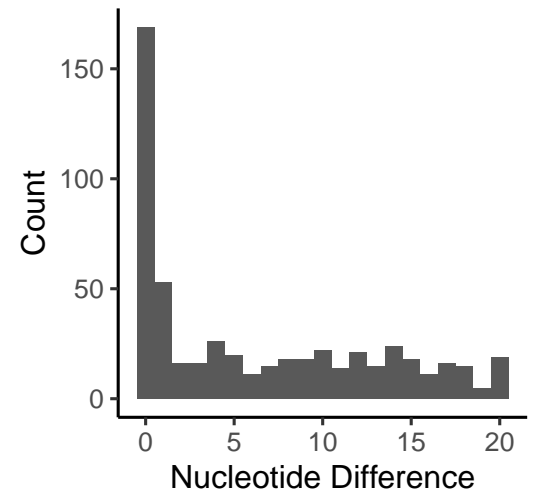
### IGHV3-11\*03\_05

141 sequences assigned  
11 (7.8%) exact matches, in which:  
11 unique CDR3  
5 unique J



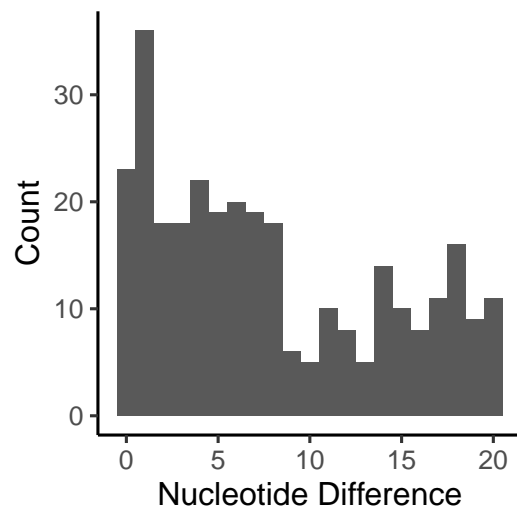
### IGHV3-15\*01\_02

677 sequences assigned  
169 (25%) exact matches, in which:  
122 unique CDR3  
5 unique J



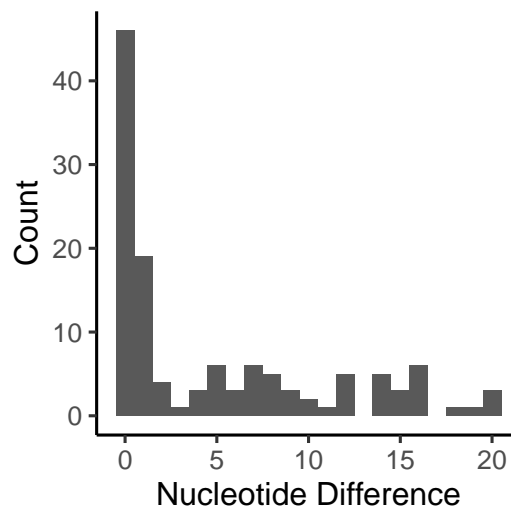
### IGHV3-11\*04

367 sequences assigned  
23 (6.3%) exact matches, in which:  
23 unique CDR3  
4 unique J



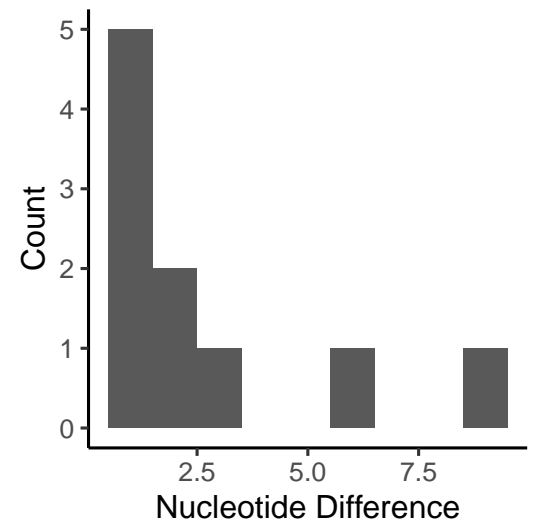
### IGHV3-13\*01

164 sequences assigned  
46 (28%) exact matches, in which:  
36 unique CDR3  
5 unique J



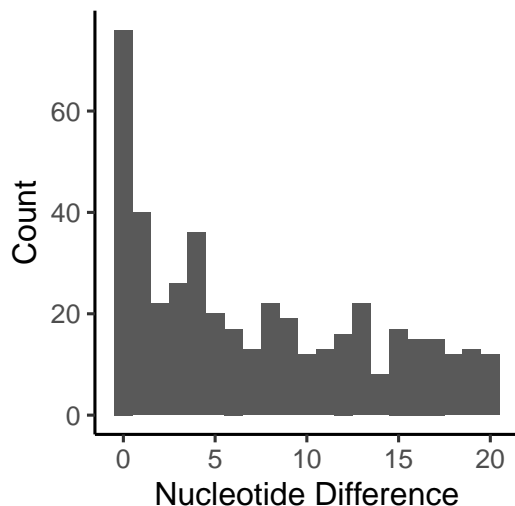
### IGHV3-19\*01

10 sequences assigned  
No exact matches.



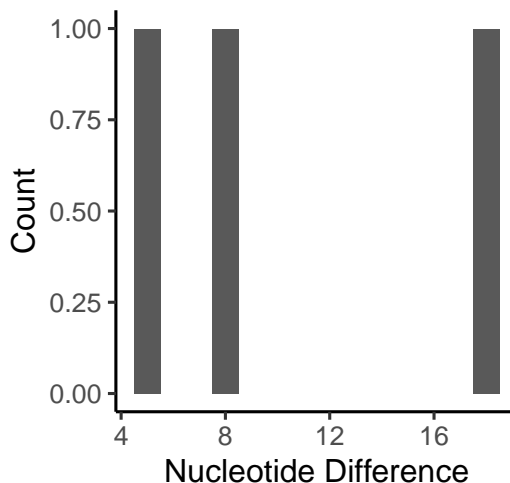
### IGHV3-20\*03\_04\_A104G

525 sequences assigned  
76 (14.5%) exact matches, in which:  
56 unique CDR3  
4 unique J



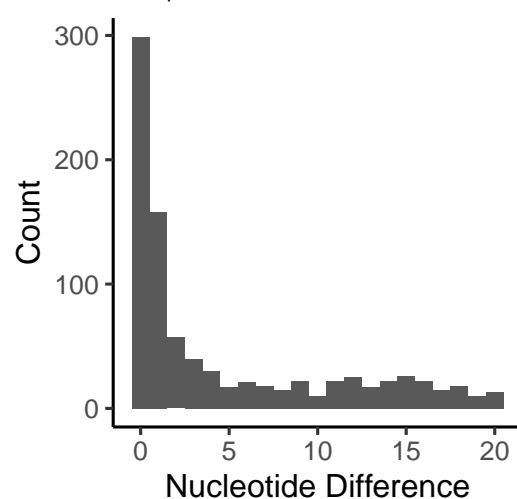
### IGHV3-22\*01\_02

3 sequences assigned  
No exact matches.



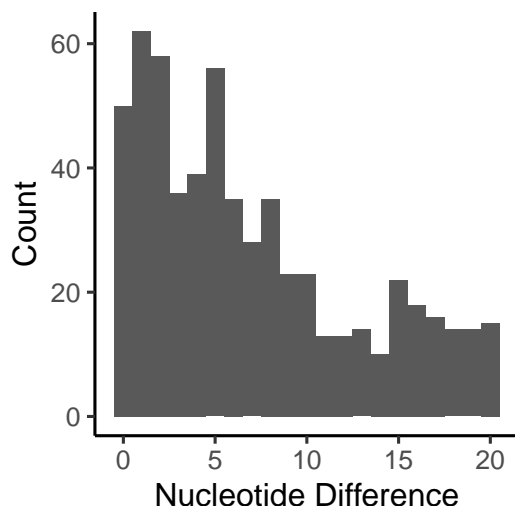
### IGHV3-30\*03

1029 sequences assigned  
299 (29.1%) exact matches, in which:  
287 unique CDR3  
6 unique J



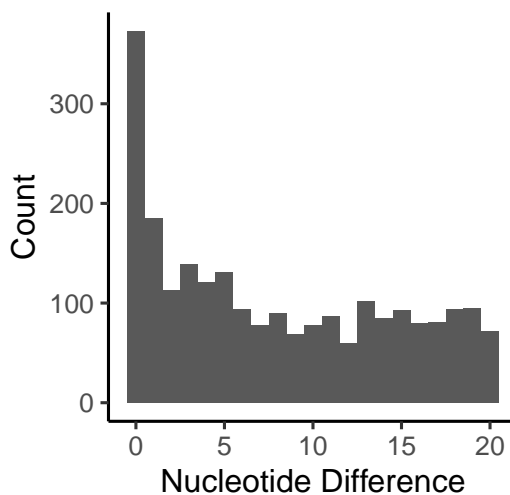
### IGHV3-21\*04

737 sequences assigned  
50 (6.8%) exact matches, in which:  
49 unique CDR3  
6 unique J



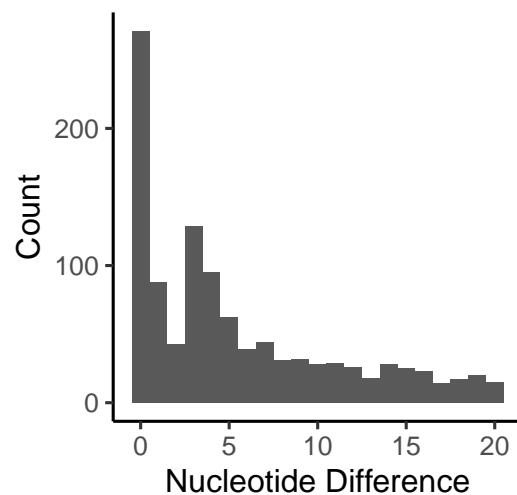
### IGHV3-23\*03

2910 sequences assigned  
373 (12.8%) exact matches, in which:  
287 unique CDR3  
5 unique J



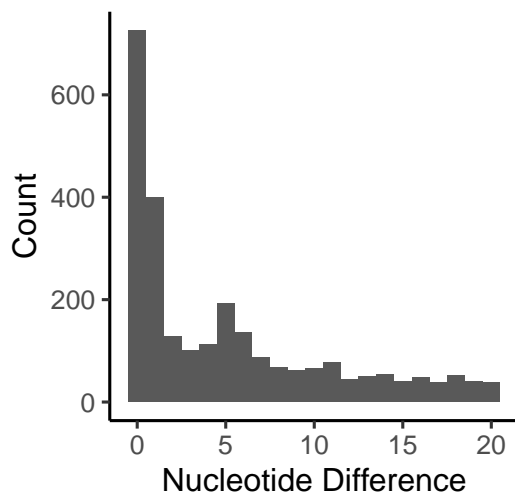
### IGHV3-30-3\*02\_G75C

1234 sequences assigned  
271 (22%) exact matches, in which:  
264 unique CDR3  
6 unique J



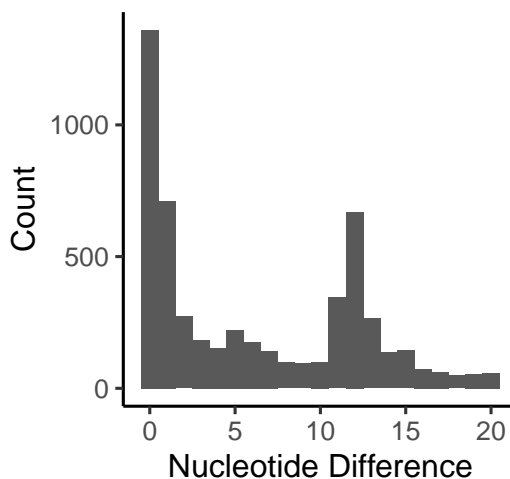
### IGHV3-21\*01\_02

2844 sequences assigned  
726 (25.5%) exact matches, in which:  
584 unique CDR3  
6 unique J



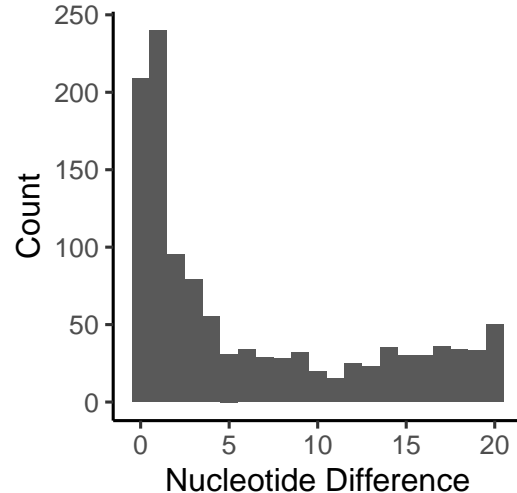
### IGHV3-30-3\*01

6019 sequences assigned  
1360 (22.6%) exact matches, in which:  
1148 unique CDR3  
6 unique J



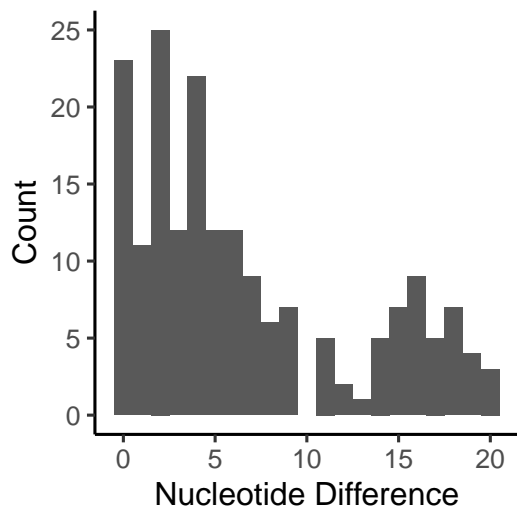
### IGHV3-33\*01

1482 sequences assigned  
209 (14.1%) exact matches, in which:  
171 unique CDR3  
6 unique J



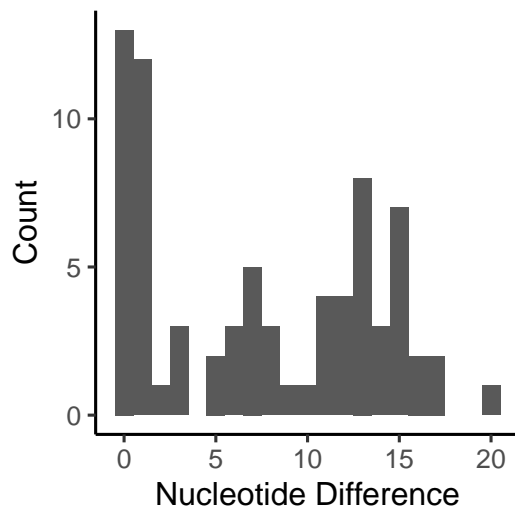
### IGHV3-33\*05

225 sequences assigned  
23 (10.2%) exact matches, in which:  
22 unique CDR3  
4 unique J



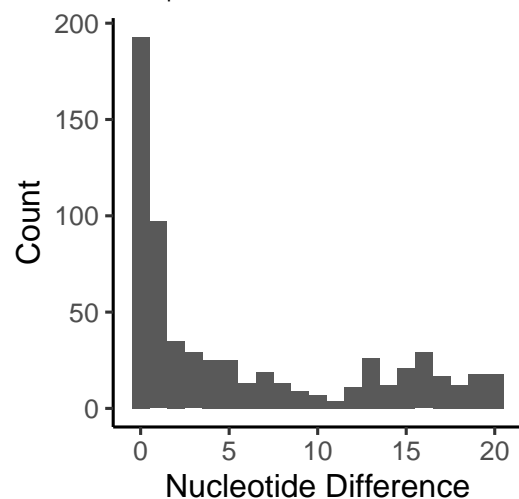
### IGHV3-43\*01

112 sequences assigned  
13 (11.6%) exact matches, in which:  
11 unique CDR3  
4 unique J



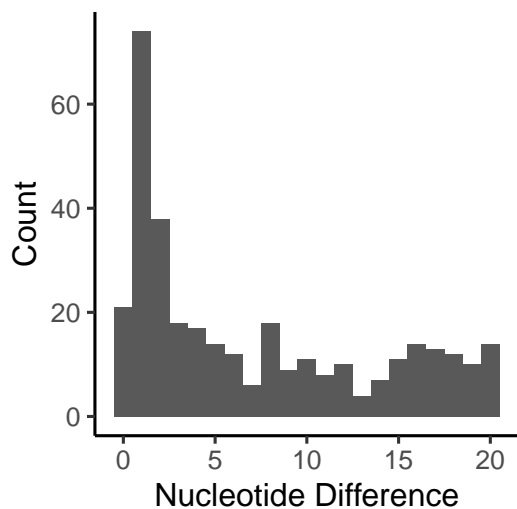
### IGHV3-48\*02

811 sequences assigned  
193 (23.8%) exact matches, in which:  
147 unique CDR3  
5 unique J



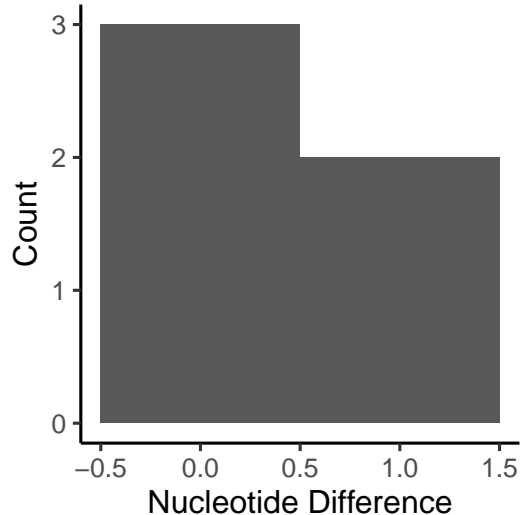
### IGHV3-33\*06

480 sequences assigned  
21 (4.4%) exact matches, in which:  
20 unique CDR3  
4 unique J



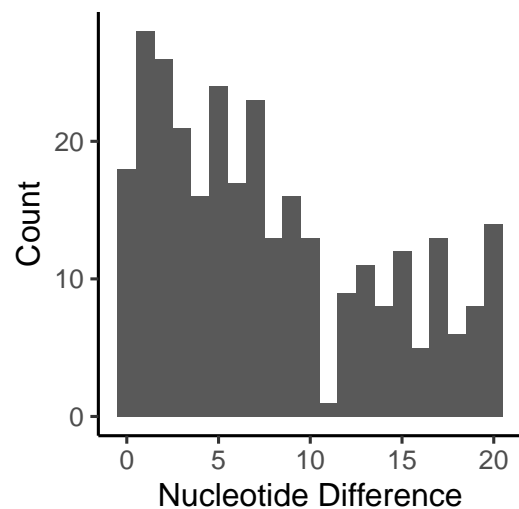
### IGHV3-47\*02

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



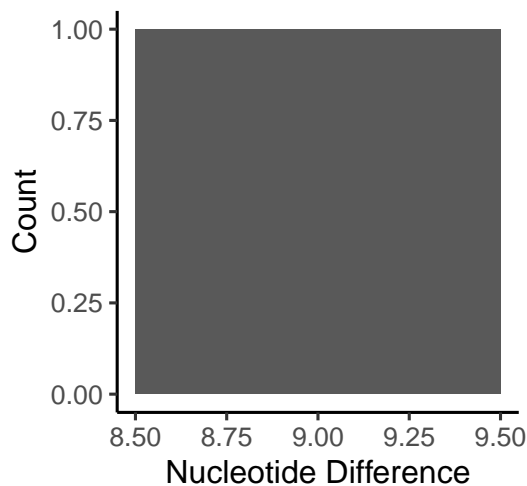
### IGHV3-48\*04

378 sequences assigned  
18 (4.8%) exact matches, in which:  
17 unique CDR3  
4 unique J



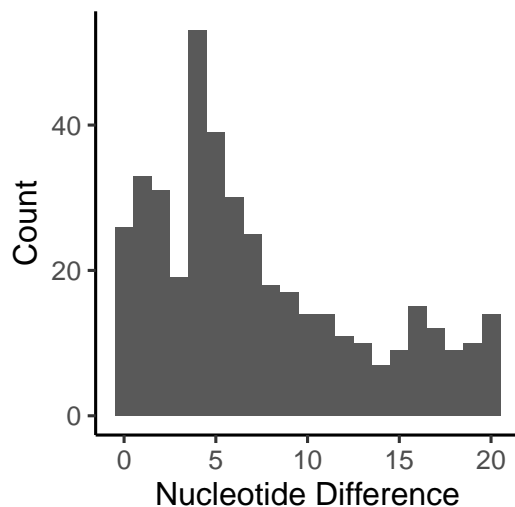
### IGHV3-35\*01

1 sequences assigned  
No exact matches.



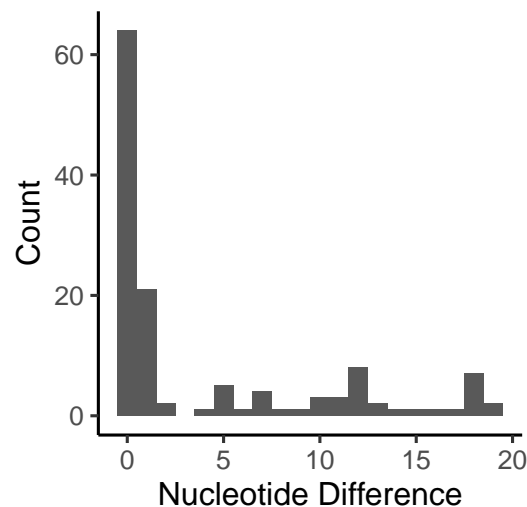
### IGHV3-48\*01

494 sequences assigned  
26 (5.3%) exact matches, in which:  
26 unique CDR3  
5 unique J



### IGHV3-49\*03\_05

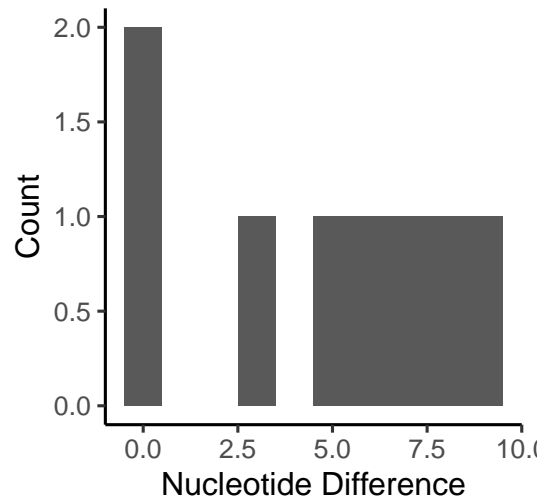
160 sequences assigned  
64 (40%) exact matches, in which:  
43 unique CDR3  
6 unique J





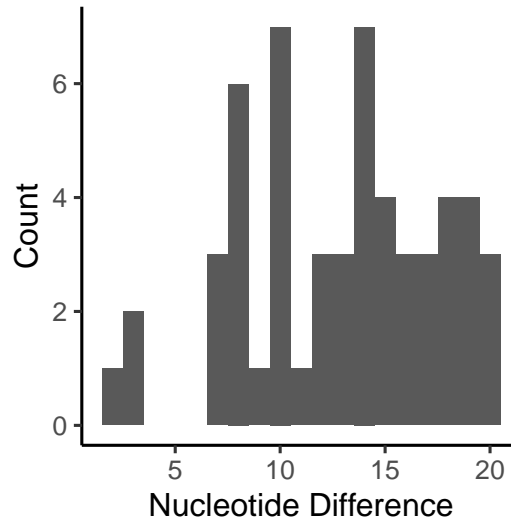
### IGHV3-52\*01\_03

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



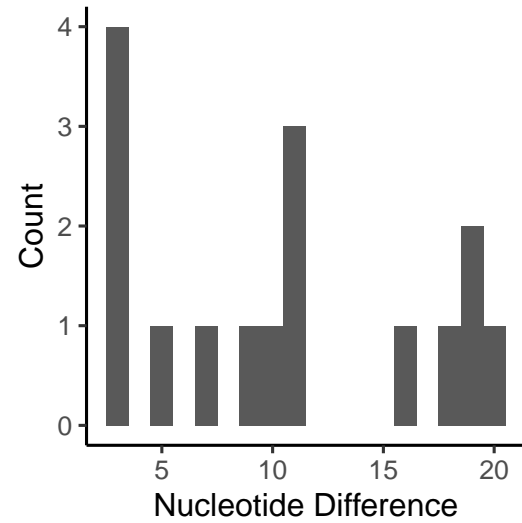
### IGHV3-66\*01

82 sequences assigned  
No exact matches.



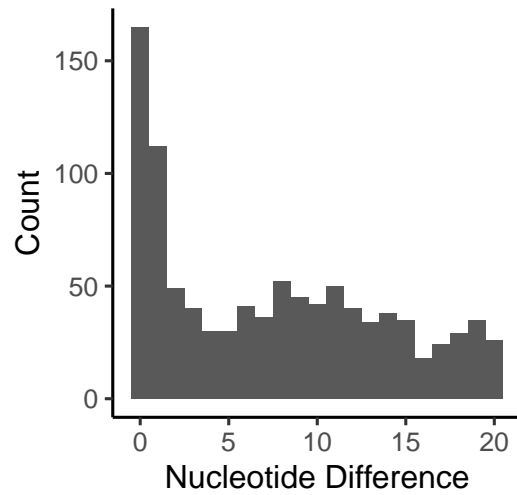
### IGHV3-69-1\*01

25 sequences assigned  
No exact matches.



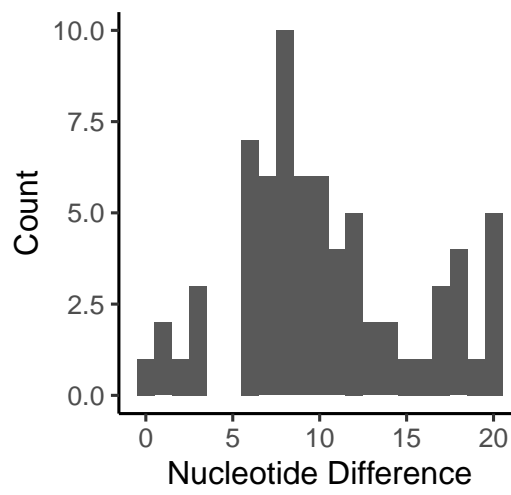
### IGHV3-53\*01\_02

1296 sequences assigned  
165 (12.7%) exact matches, in which:  
131 unique CDR3  
6 unique J



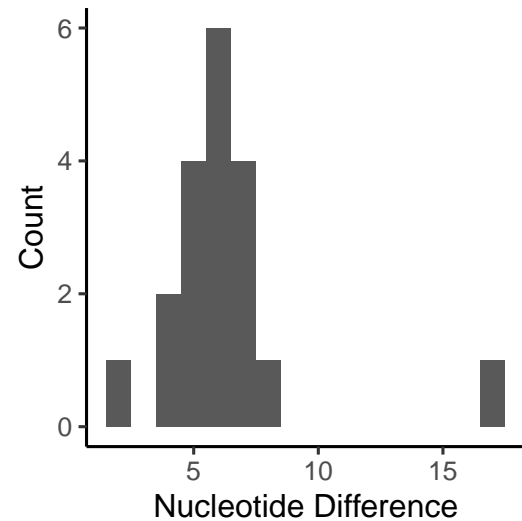
### IGHV3-66\*02

95 sequences assigned  
1 (1.1%) exact matches, in which:  
1 unique CDR3  
1 unique J



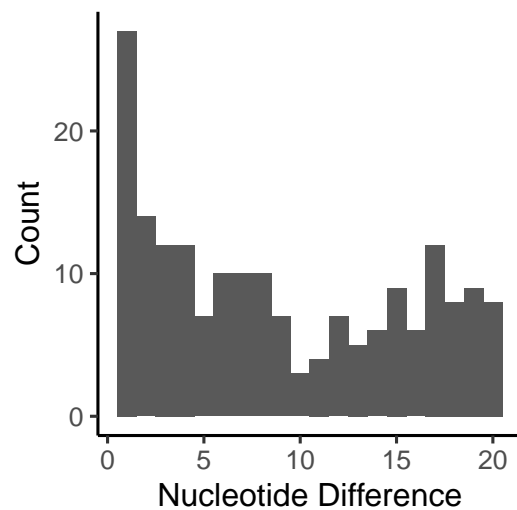
### IGHV3-69-1\*02

26 sequences assigned  
No exact matches.



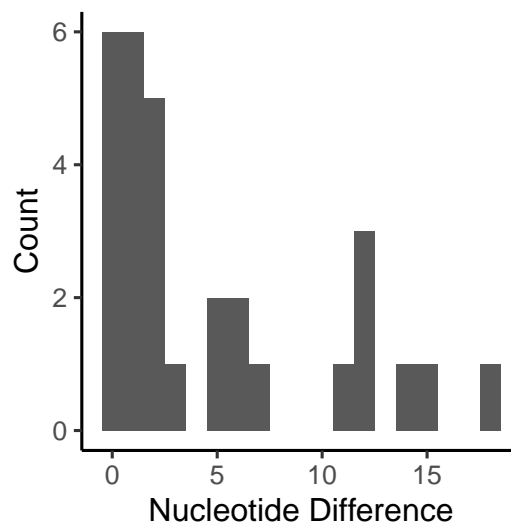
### IGHV3-64\*04

247 sequences assigned  
No exact matches.



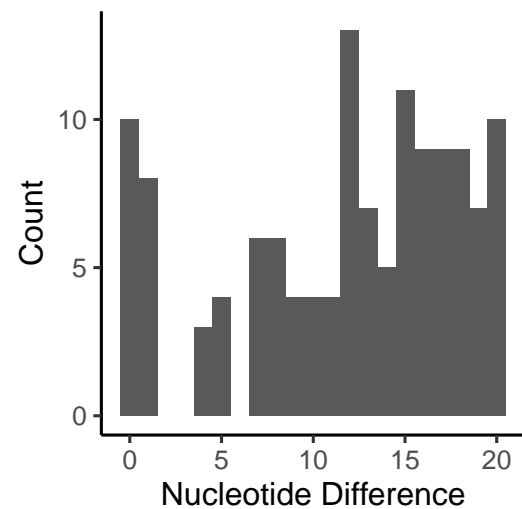
### IGHV3-66\*03

35 sequences assigned  
6 (17.1%) exact matches, in which:  
6 unique CDR3  
2 unique J



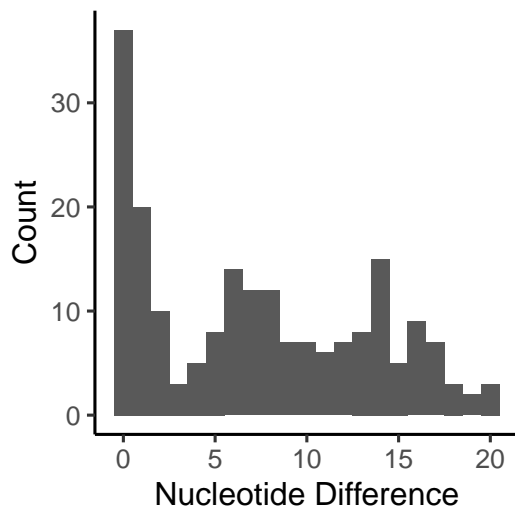
### IGHV3-72\*01

149 sequences assigned  
10 (6.7%) exact matches, in which:  
7 unique CDR3  
3 unique J



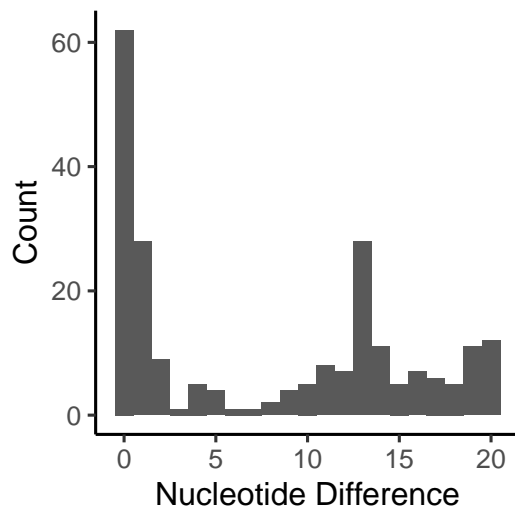
### IGHV3-73\*01\_02

234 sequences assigned  
37 (15.8%) exact matches, in which:  
23 unique CDR3  
4 unique J



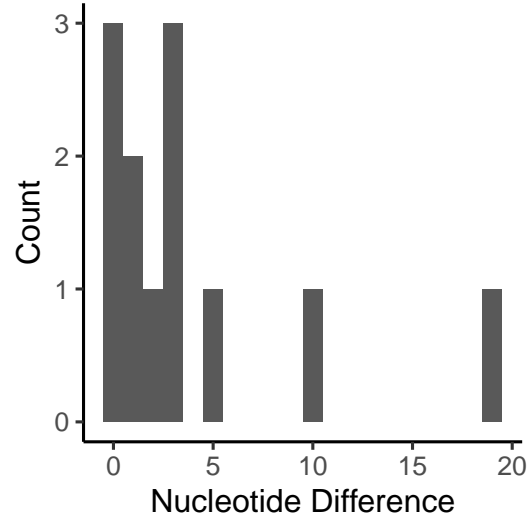
### IGHV3-64D\*06

330 sequences assigned  
62 (18.8%) exact matches, in which:  
48 unique CDR3  
5 unique J



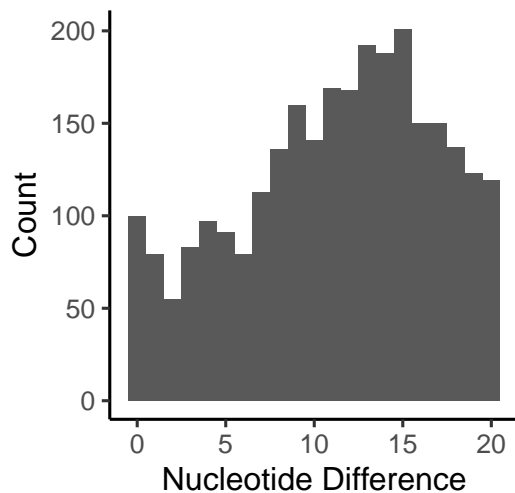
### IGHV4-28\*03

12 sequences assigned  
3 (25%) exact matches, in which:  
2 unique CDR3  
2 unique J



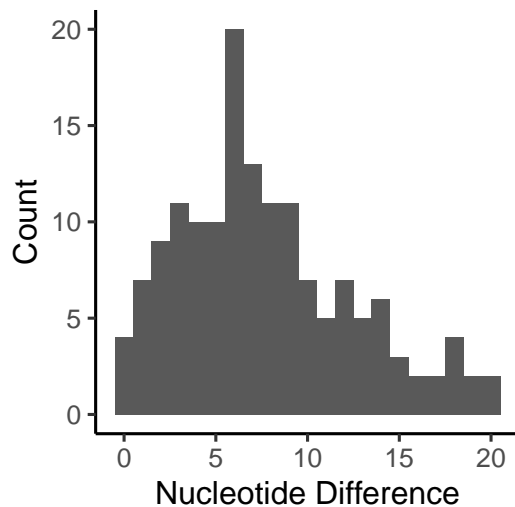
### IGHV3-74\*01\_02

3495 sequences assigned  
100 (2.9%) exact matches, in which:  
81 unique CDR3  
4 unique J



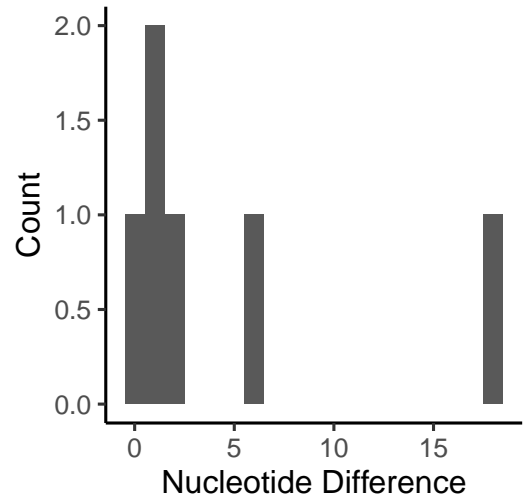
### IGHV3-NL1\*01

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



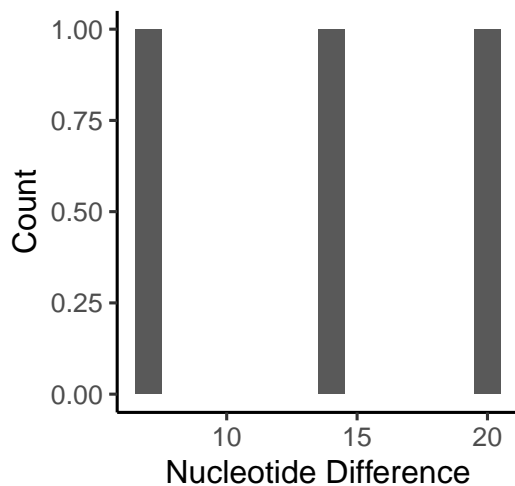
### IGHV4-28\*01\_07

8 sequences assigned  
1 (12.5%) exact matches, in which:  
1 unique CDR3  
1 unique J



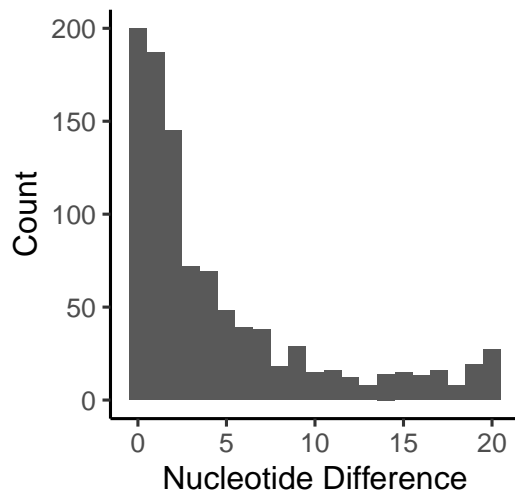
### IGHV3-43D\*04

5 sequences assigned  
No exact matches.



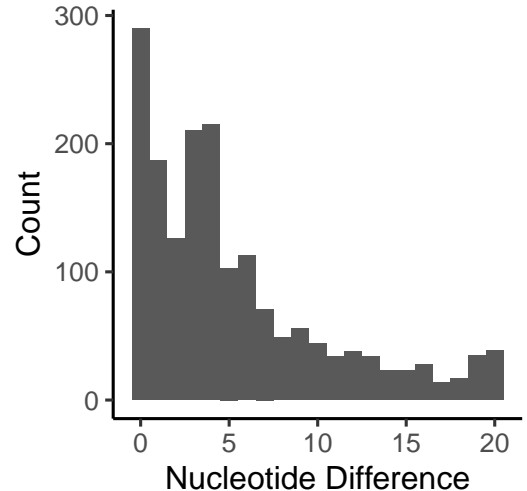
### IGHV4-4\*07

1621 sequences assigned  
200 (12.3%) exact matches, in which:  
188 unique CDR3  
6 unique J



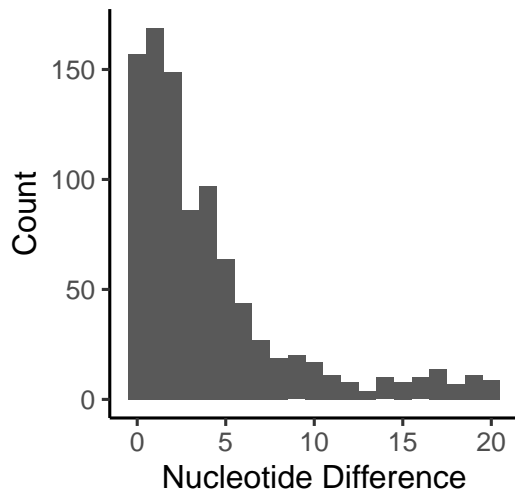
### IGHV4-30-4\*01

1943 sequences assigned  
290 (14.9%) exact matches, in which:  
270 unique CDR3  
6 unique J



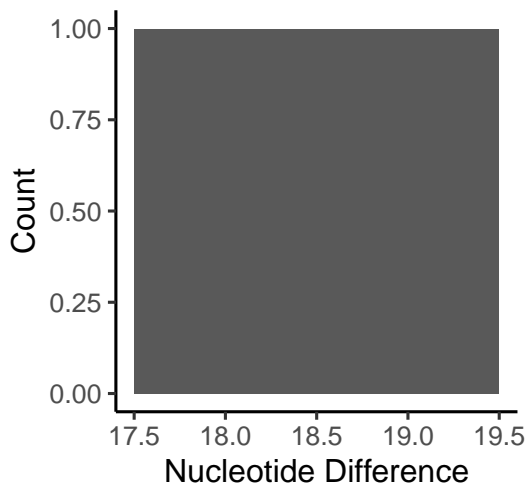
### IGHV4-30-2\*01

1159 sequences assigned  
157 (13.5%) exact matches, in which:  
136 unique CDR3  
5 unique J



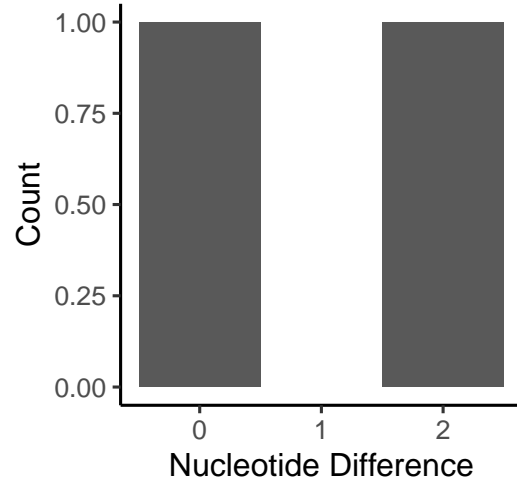
### IGHV4-38-2\*02

2 sequences assigned  
No exact matches.



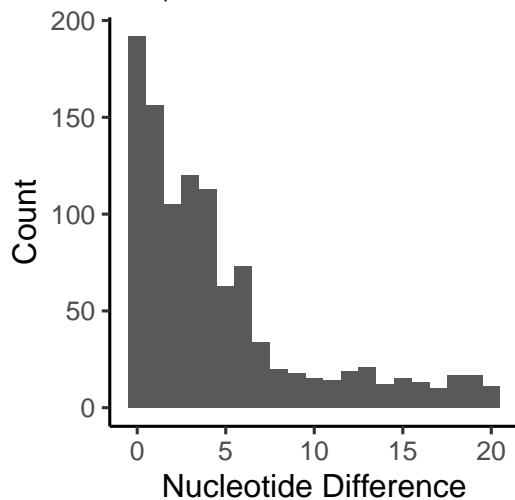
### IGHV4-55\*01\_05

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



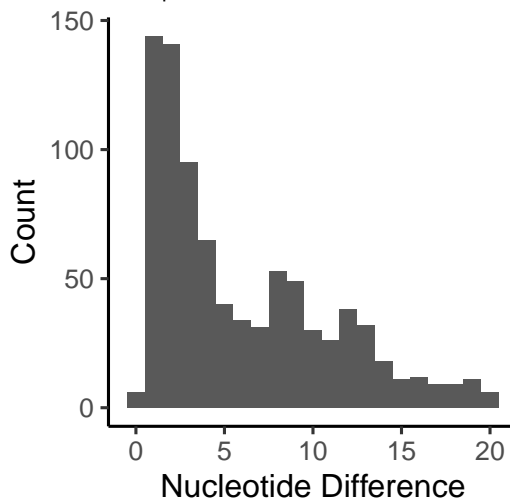
### IGHV4-31\*03\_04

1304 sequences assigned  
192 (14.7%) exact matches, in which:  
173 unique CDR3  
5 unique J



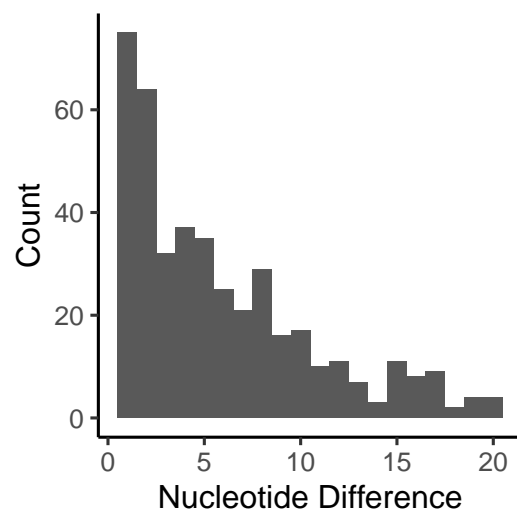
### IGHV4-39\*07

912 sequences assigned  
6 (0.7%) exact matches, in which:  
6 unique CDR3  
4 unique J



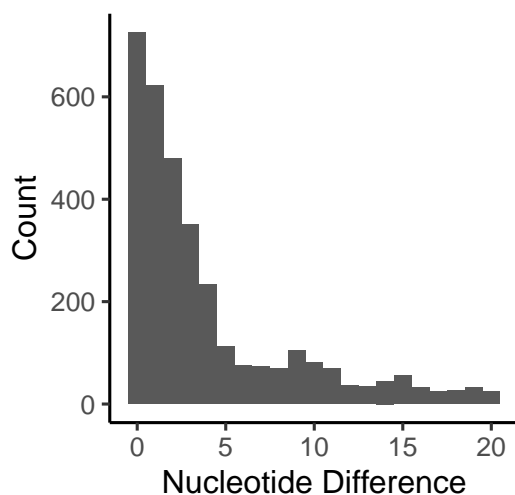
### IGHV4-59\*08

453 sequences assigned  
No exact matches.



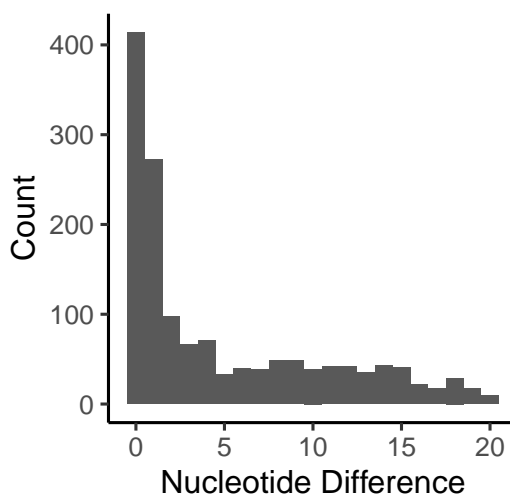
### IGHV4-34\*01\_02

3515 sequences assigned  
726 (20.7%) exact matches, in which:  
669 unique CDR3  
6 unique J



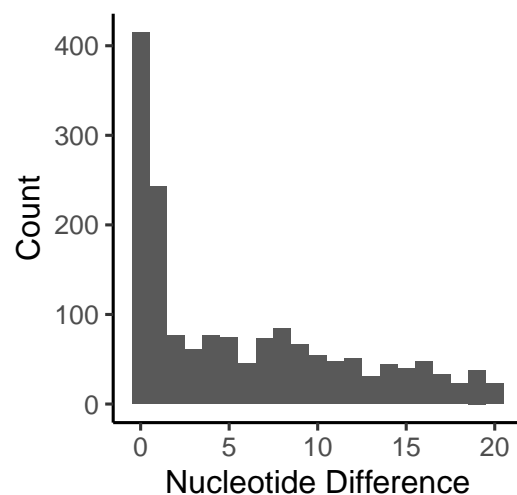
### IGHV4-39\*01\_05

1699 sequences assigned  
414 (24.4%) exact matches, in which:  
374 unique CDR3  
6 unique J



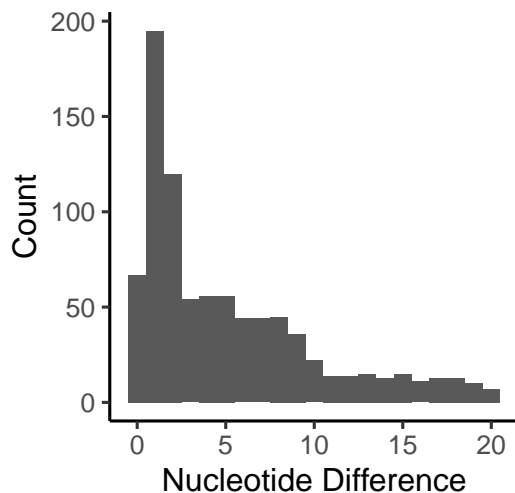
### IGHV4-59\*01\_07

2063 sequences assigned  
415 (20.1%) exact matches, in which:  
400 unique CDR3  
6 unique J



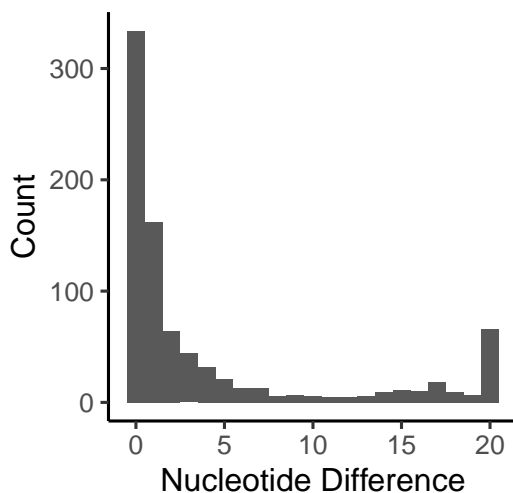
### IGHV4-59\*12

976 sequences assigned  
67 (6.9%) exact matches, in which:  
67 unique CDR3  
5 unique J



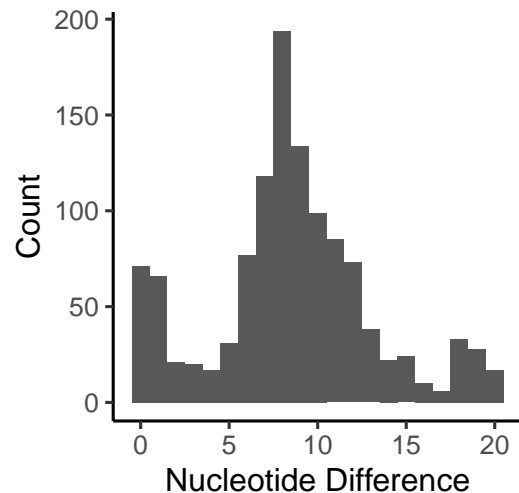
### IGHV5-10-1\*01\_03

2334 sequences assigned  
334 (14.3%) exact matches, in which:  
306 unique CDR3  
6 unique J



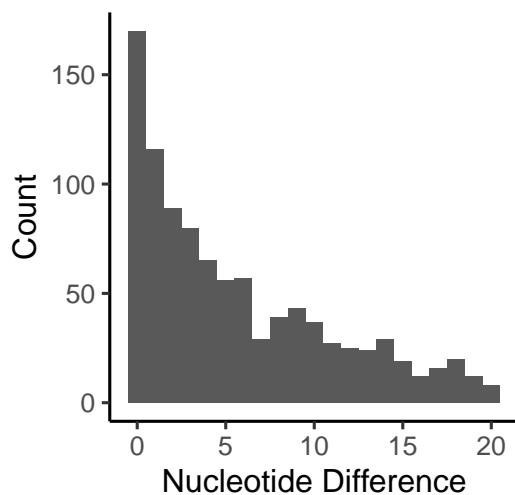
### IGHV6-1\*01\_02

1272 sequences assigned  
71 (5.6%) exact matches, in which:  
65 unique CDR3  
6 unique J



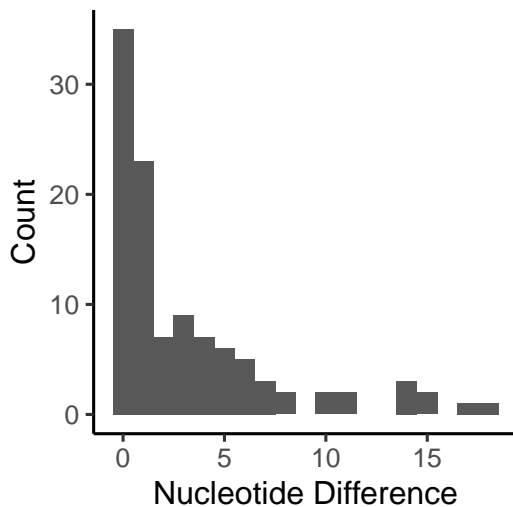
### IGHV4-61\*01

1024 sequences assigned  
170 (16.6%) exact matches, in which:  
157 unique CDR3  
6 unique J



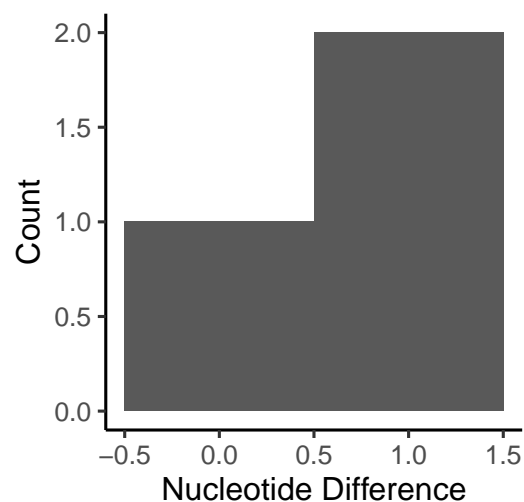
### IGHV5-10-1\*01\_03\_A118

119 sequences assigned  
35 (29.4%) exact matches, in which:  
35 unique CDR3  
6 unique J



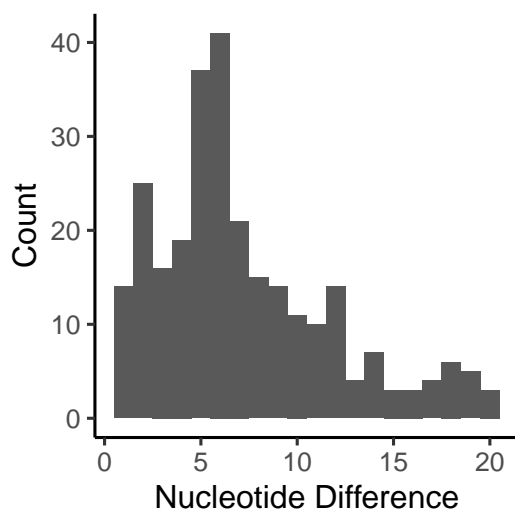
### IGHV7-4-1\*01

3 sequences assigned  
1 (33.3%) exact matches, in which:  
1 unique CDR3  
1 unique J



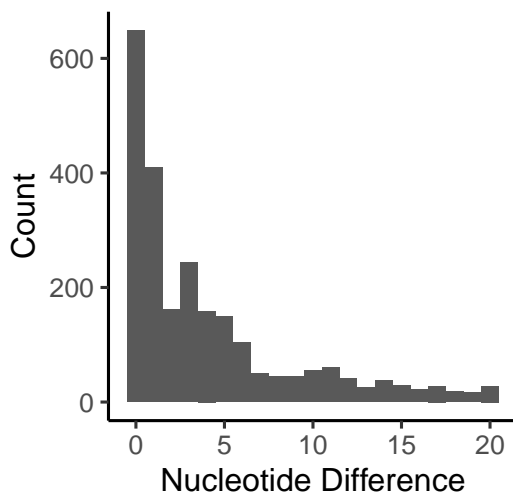
### IGHV4-61\*08

331 sequences assigned  
No exact matches.



### IGHV5-51\*01\_03

2642 sequences assigned  
649 (24.6%) exact matches, in which:  
612 unique CDR3  
6 unique J





Novel sequence(s)IGHV5–51\*07\_A128G 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)IGHV3–30–3\*01\_T288CIGHV4–59\*02\_G88AIGHV5–51\*07\_A128G are not listed in the genotype and will be ignored.

Novel sequence(s)IGHV3–30\*03\_T288C 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)IGHV3–33\*01\_G75CIGHV4–59\*02\_G88AIGHV5–51\*07\_A128G are not listed in the genotype and will be ignored.

Novel sequence(s)IGHV3–33\*01\_G75CIGHV4–59\*02\_G88AIGHV5–51\*07\_A128G are not listed in the genotype and will be ignored.

Novel sequence(s)IGHV3–30\*03\_T288CIGHV4–59\*02\_G88AIGHV5–51\*07\_A128G are not listed in the genotype and will be ignored.

Warning – no inferred sequences found.

Warning – no inferred sequences found.

Warning – no inferred sequences found.

Novel sequence(s)IGHV1–69\*04\_09\_G112AIGHV4–59\*02\_G88AIGHV5–10–1\*01\_03\_T258CIGHV5–51\*07\_A128G are not listed in the genotype and will be ignored.