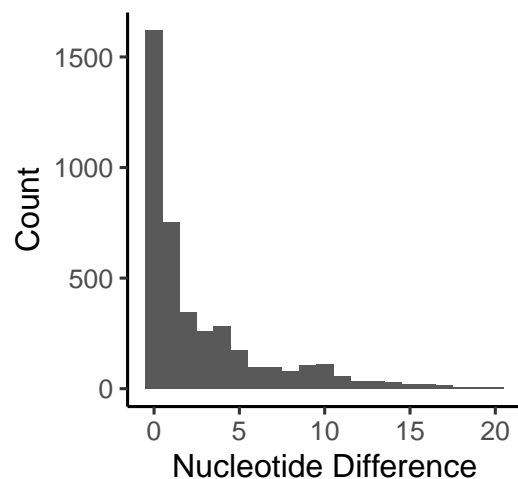


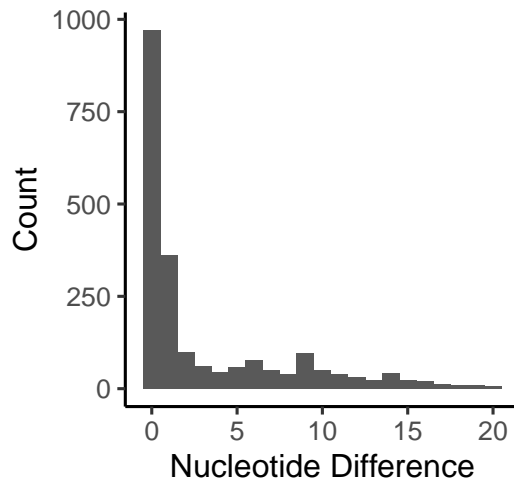
### IGHV1-2\*02

4198 sequences assigned  
1620 (38.6%) exact matches, in which:  
1520 unique CDR3  
7 unique J



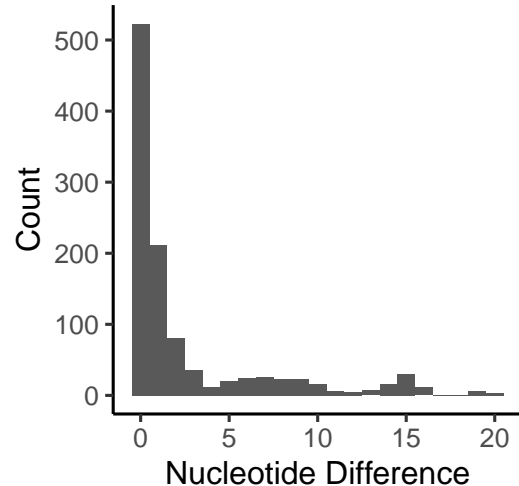
### IGHV1-18\*01

2159 sequences assigned  
970 (44.9%) exact matches, in which:  
920 unique CDR3  
7 unique J



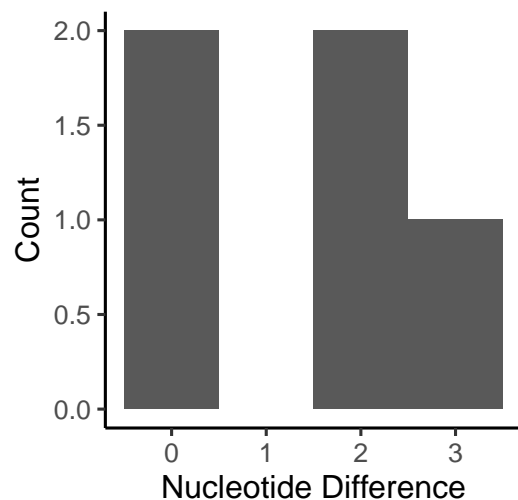
### IGHV1-46\*01

1094 sequences assigned  
523 (47.8%) exact matches, in which:  
503 unique CDR3  
7 unique J



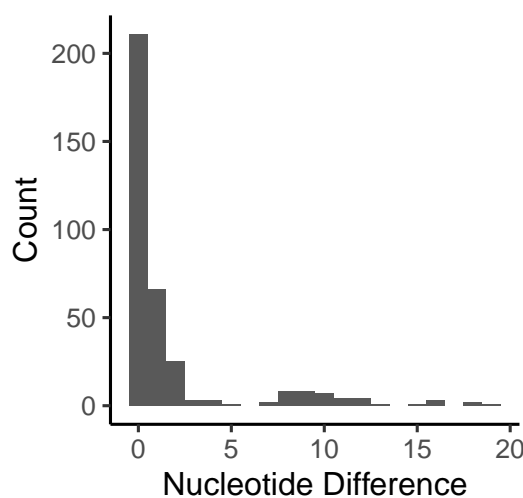
### IGHV1-3\*02

5 sequences assigned  
2 (40%) exact matches, in which:  
2 unique CDR3  
1 unique J



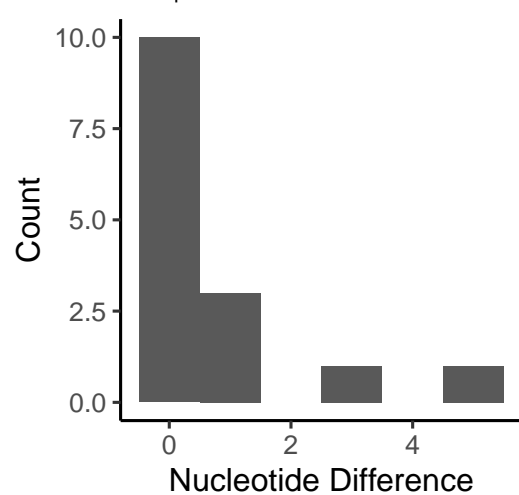
### IGHV1-24\*01

350 sequences assigned  
211 (60.3%) exact matches, in which:  
202 unique CDR3  
7 unique J



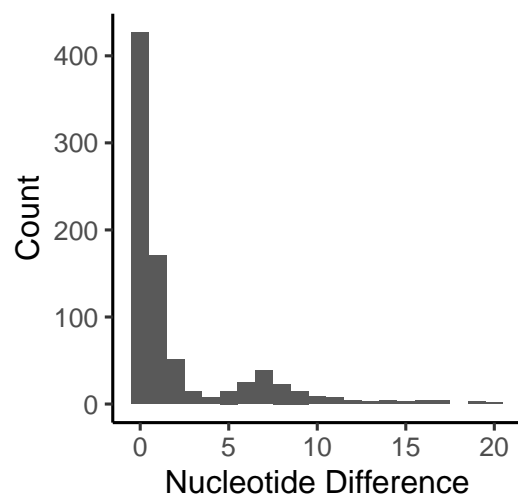
### IGHV1-58\*02

15 sequences assigned  
10 (66.7%) exact matches, in which:  
9 unique CDR3  
4 unique J



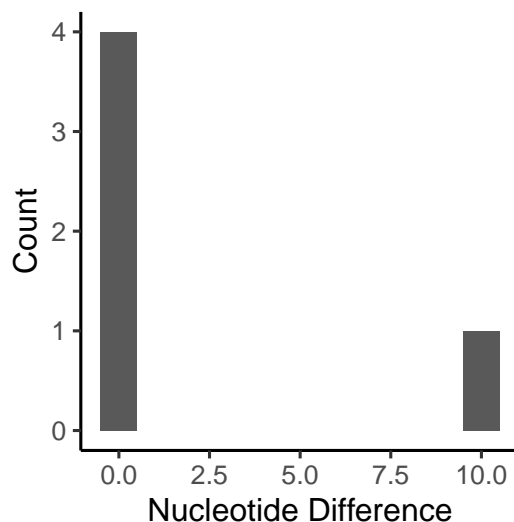
### IGHV1-8\*01

833 sequences assigned  
427 (51.3%) exact matches, in which:  
409 unique CDR3  
7 unique J



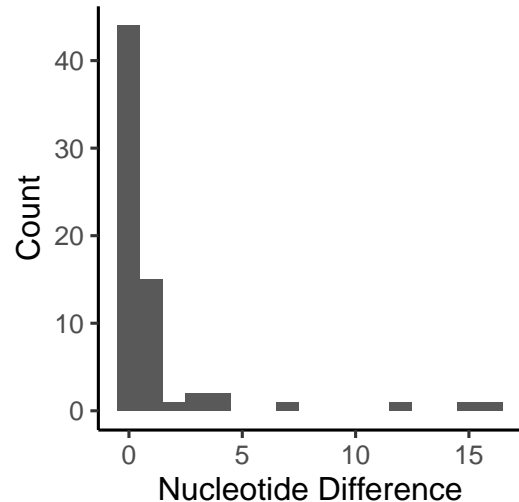
### IGHV1-45\*02

5 sequences assigned  
4 (80%) exact matches, in which:  
4 unique CDR3  
2 unique J



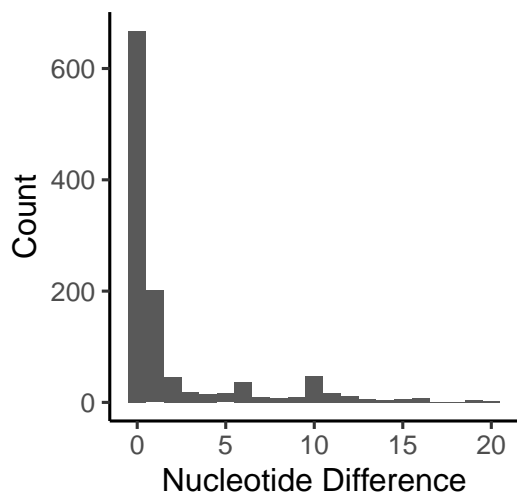
### IGHV1-58\*01\_03

70 sequences assigned  
44 (62.9%) exact matches, in which:  
43 unique CDR3  
4 unique J



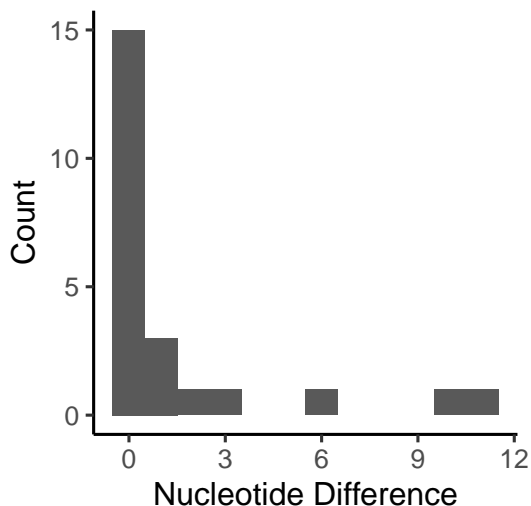
### IGHV1-69\*01\_12\_13

1157 sequences assigned  
668 (57.7%) exact matches, in which:  
654 unique CDR3  
7 unique J



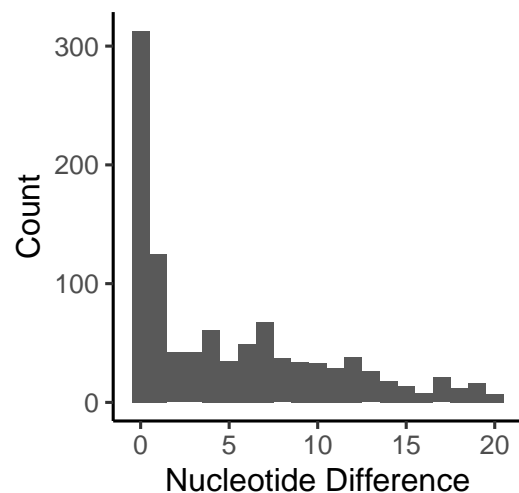
### IGHV2-26\*01

23 sequences assigned  
15 (65.2%) exact matches, in which:  
15 unique CDR3  
5 unique J



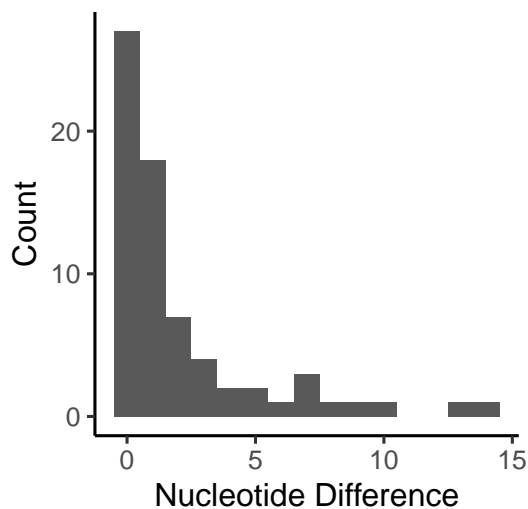
### IGHV3-7\*01

1067 sequences assigned  
313 (29.3%) exact matches, in which:  
250 unique CDR3  
7 unique J



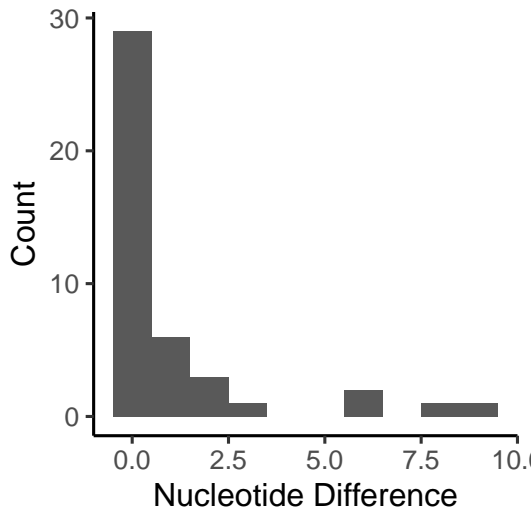
### IGHV2-5\*01

69 sequences assigned  
27 (39.1%) exact matches, in which:  
27 unique CDR3  
5 unique J



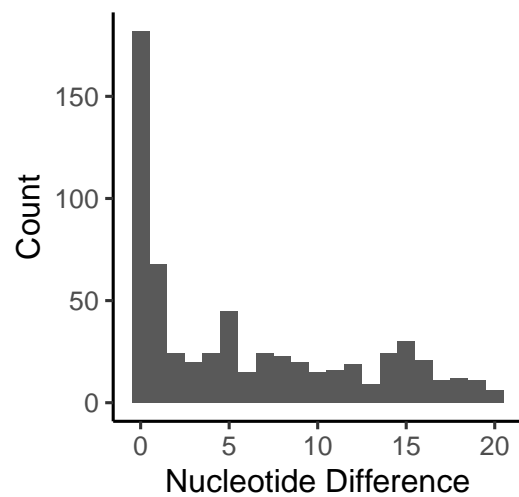
### IGHV2-70\*01

43 sequences assigned  
29 (67.4%) exact matches, in which:  
27 unique CDR3  
6 unique J



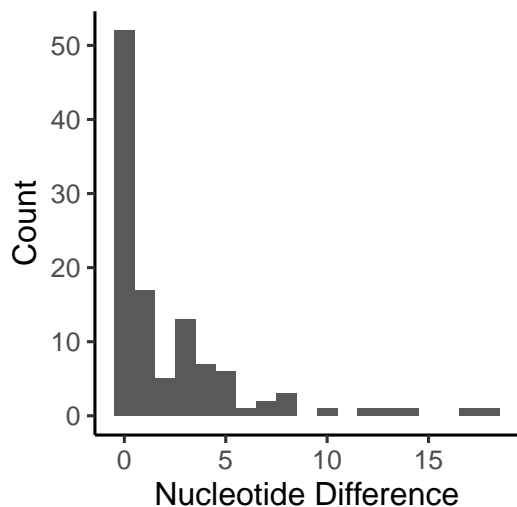
### IGHV3-7\*04

636 sequences assigned  
182 (28.6%) exact matches, in which:  
136 unique CDR3  
7 unique J



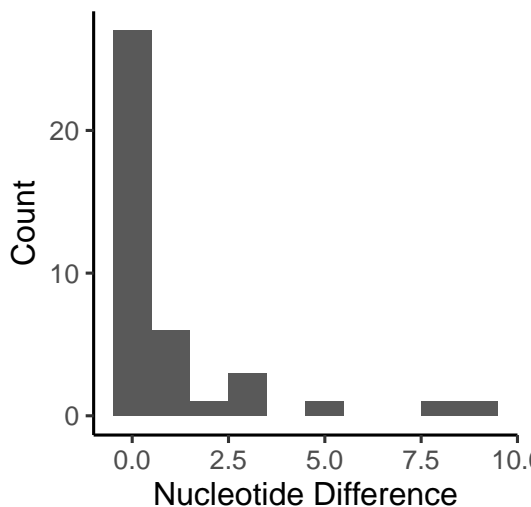
### IGHV2-5\*02

114 sequences assigned  
52 (45.6%) exact matches, in which:  
52 unique CDR3  
4 unique J



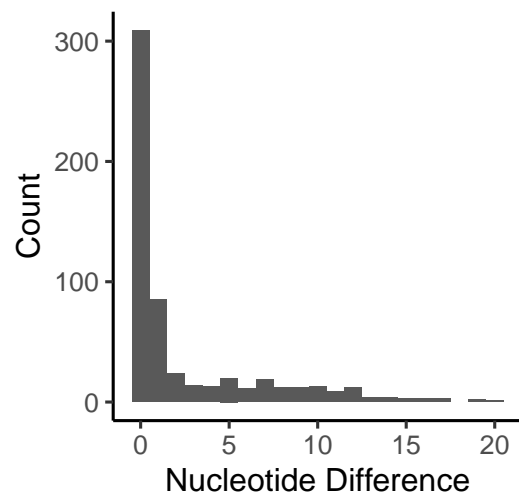
### IGHV2-70\*11\_15

40 sequences assigned  
27 (67.5%) exact matches, in which:  
26 unique CDR3  
4 unique J



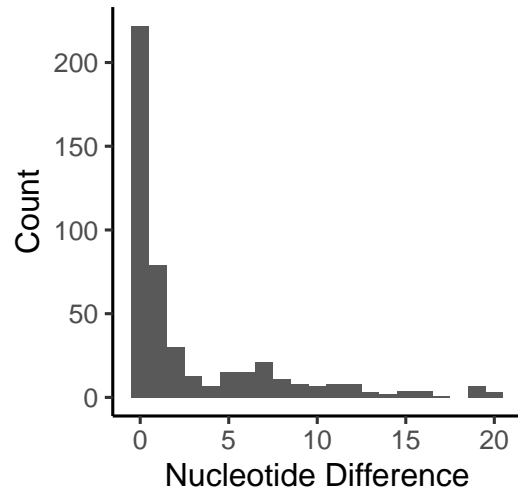
### IGHV3-9\*01

579 sequences assigned  
309 (53.4%) exact matches, in which:  
255 unique CDR3  
5 unique J



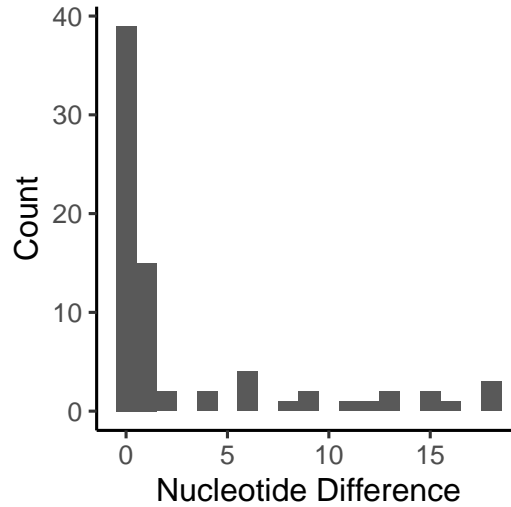
### IGHV3-11\*01

472 sequences assigned  
222 (47%) exact matches, in which:  
175 unique CDR3  
7 unique J



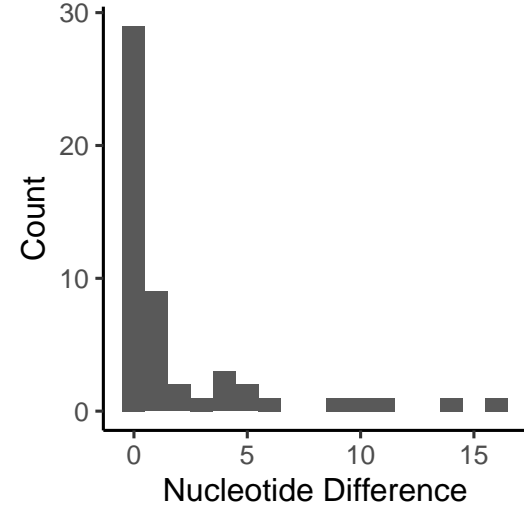
### IGHV3-13\*01

76 sequences assigned  
39 (51.3%) exact matches, in which:  
32 unique CDR3  
5 unique J



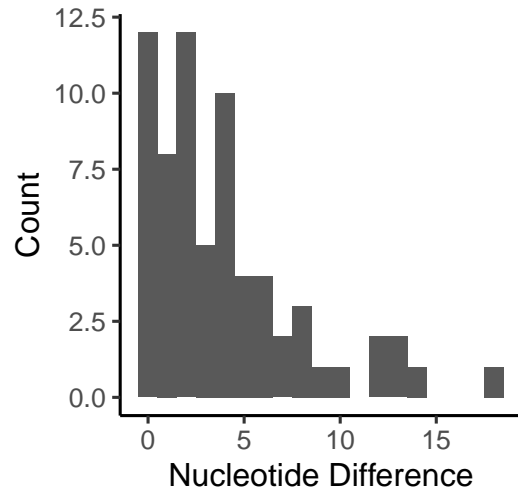
### IGHV3-20\*01\_02

53 sequences assigned  
29 (54.7%) exact matches, in which:  
23 unique CDR3  
6 unique J



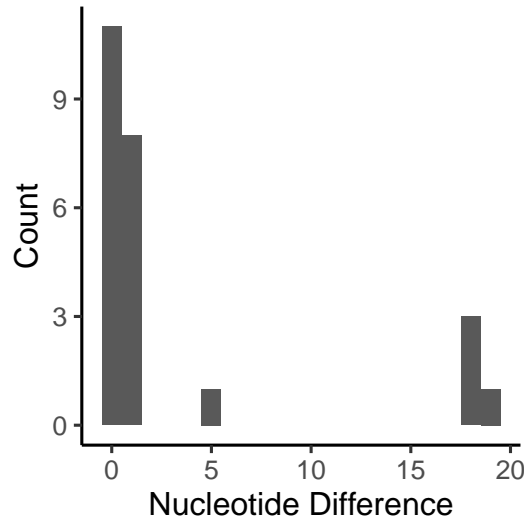
### IGHV3-11\*04

69 sequences assigned  
12 (17.4%) exact matches, in which:  
12 unique CDR3  
3 unique J



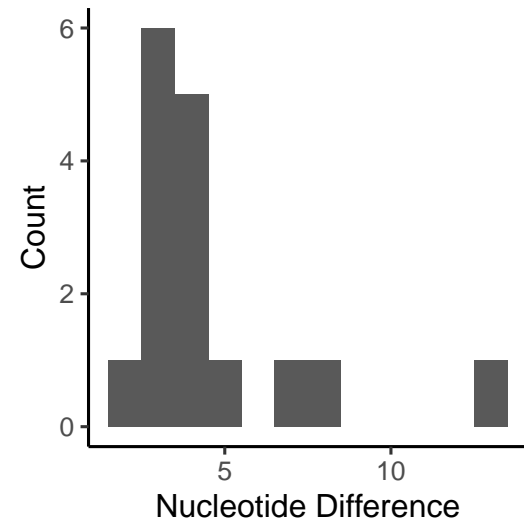
### IGHV3-13\*05

24 sequences assigned  
11 (45.8%) exact matches, in which:  
9 unique CDR3  
5 unique J



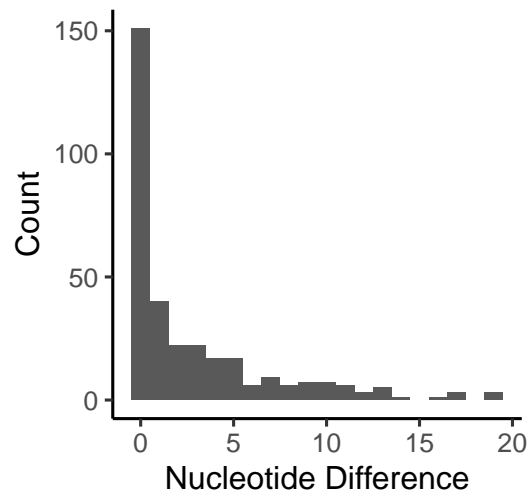
### IGHV3-20\*03\_04

16 sequences assigned  
No exact matches.



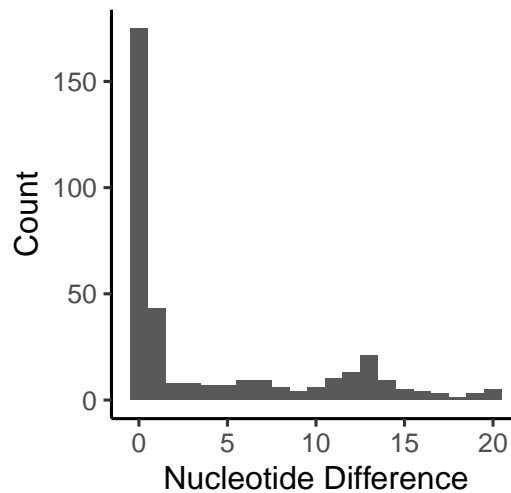
### IGHV3-11\*06

333 sequences assigned  
151 (45.3%) exact matches, in which:  
117 unique CDR3  
6 unique J



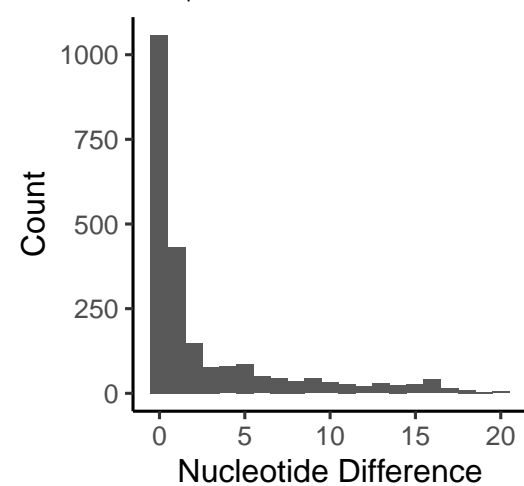
### IGHV3-15\*01\_02

384 sequences assigned  
175 (45.6%) exact matches, in which:  
155 unique CDR3  
7 unique J



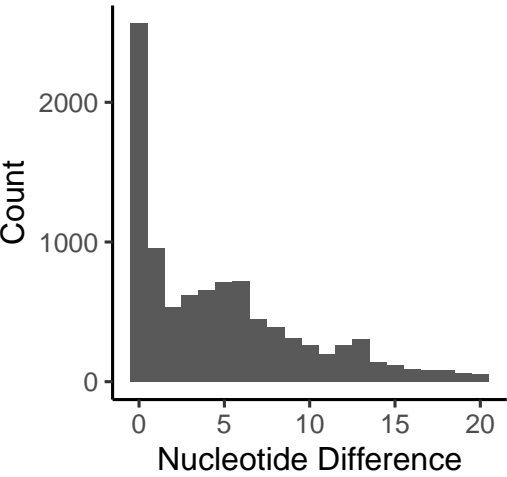
### IGHV3-21\*01\_02

2318 sequences assigned  
1058 (45.6%) exact matches, in which:  
815 unique CDR3  
7 unique J



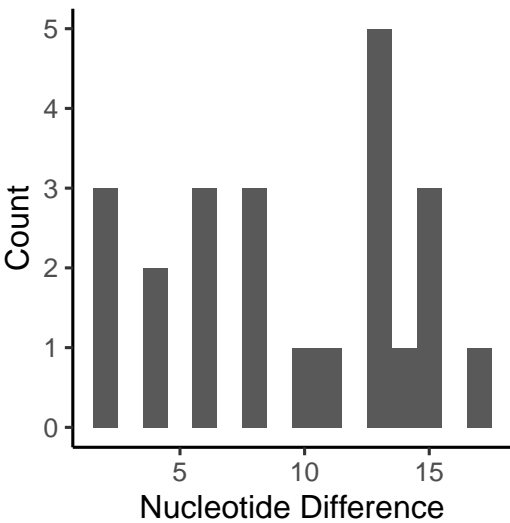
IGHV3-23\*01\_04

9761 sequences assigned  
2565 (26.3%) exact matches, in which:  
1933 unique CDR3  
7 unique J



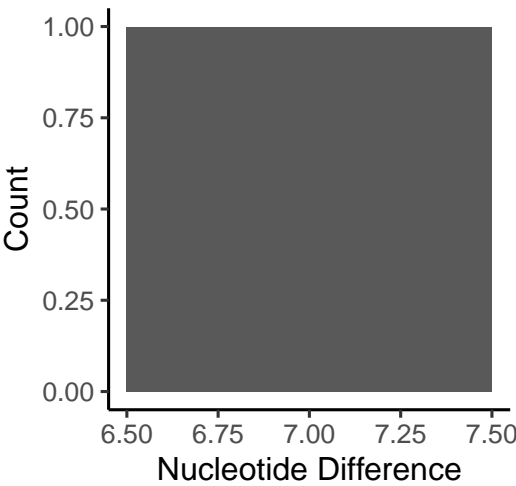
IGHV3-33\*01

23 sequences assigned  
No exact matches.



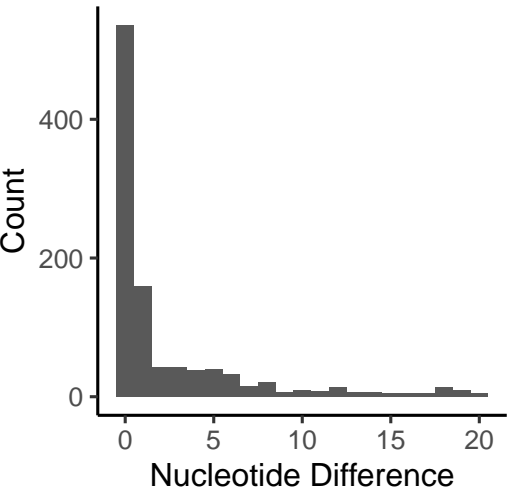
IGHV3-35\*01

1 sequences assigned  
No exact matches.



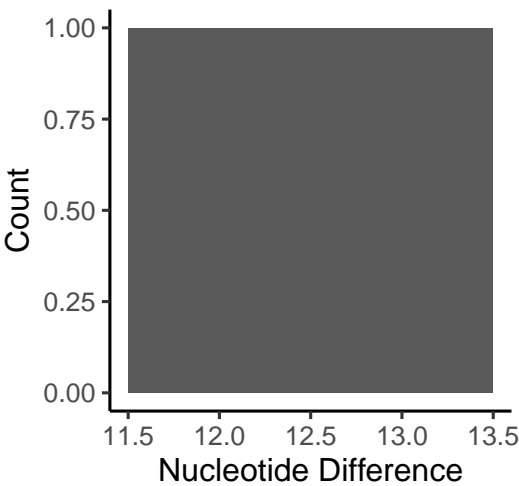
IGHV3-30-3\*01

1135 sequences assigned  
536 (47.2%) exact matches, in which:  
424 unique CDR3  
7 unique J



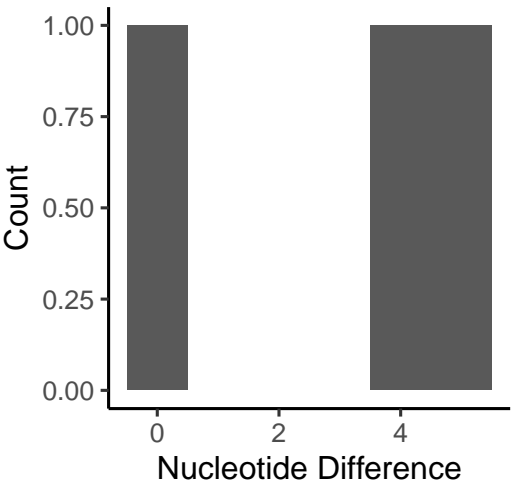
IGHV3-33\*03

3 sequences assigned  
No exact matches.



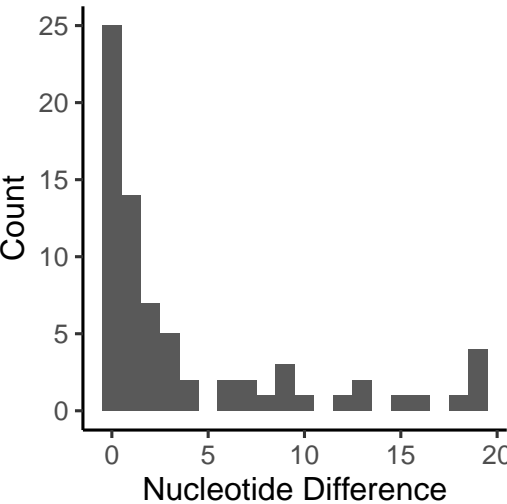
IGHV3-35\*02

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



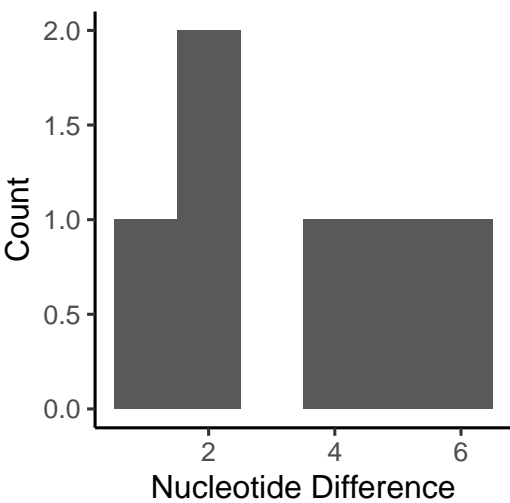
IGHV3-30\*03

81 sequences assigned  
25 (30.9%) exact matches, in which:  
24 unique CDR3  
5 unique J



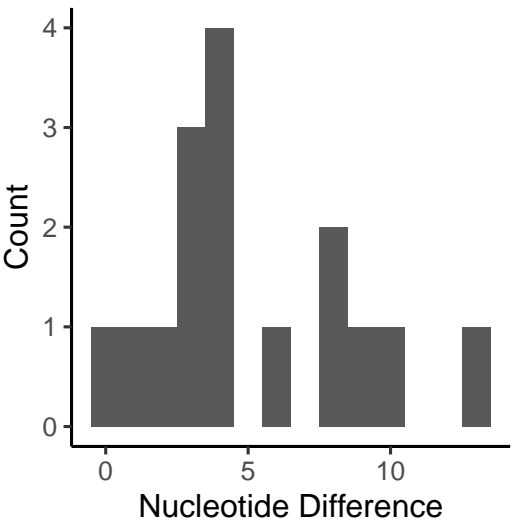
IGHV3-33\*05

7 sequences assigned  
No exact matches.



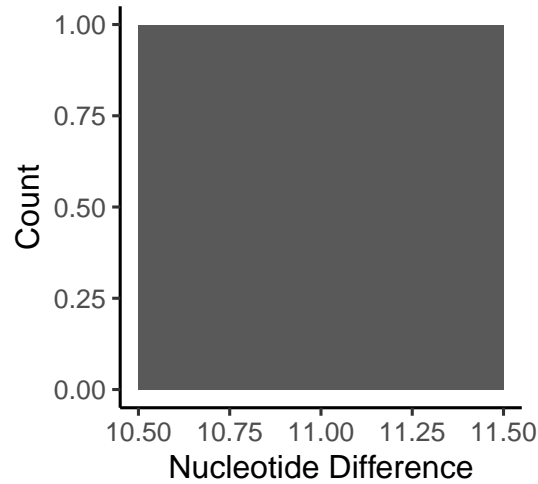
IGHV3-38-3\*01

16 sequences assigned  
1 (6.2%) exact matches, in which:  
1 unique CDR3  
1 unique J



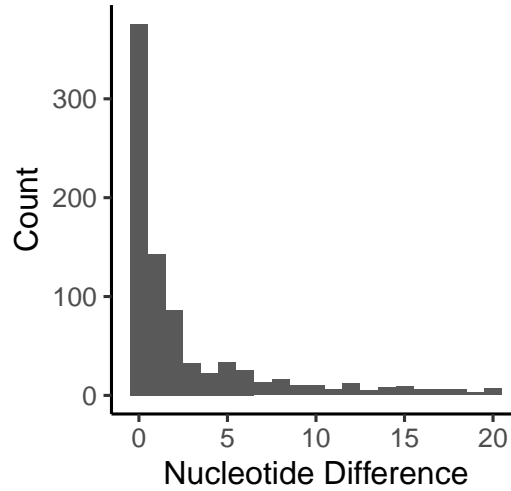
### IGHV3-38\*03

1 sequences assigned  
No exact matches.



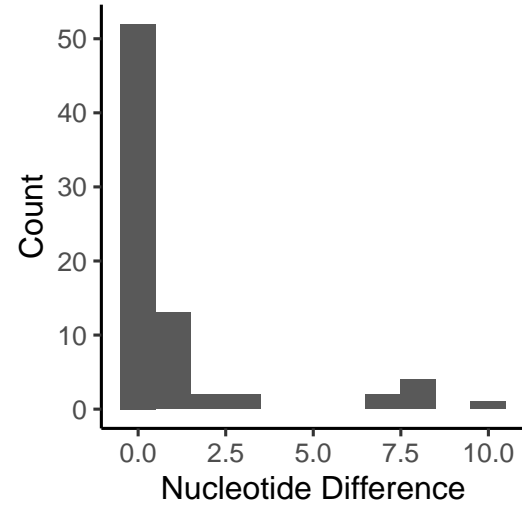
### IGHV3-48\*02

858 sequences assigned  
376 (43.8%) exact matches, in which:  
289 unique CDR3  
6 unique J



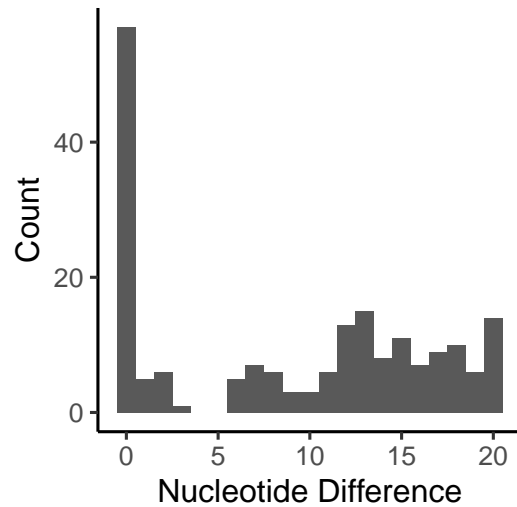
### IGHV3-53\*04

76 sequences assigned  
52 (68.4%) exact matches, in which:  
43 unique CDR3  
5 unique J



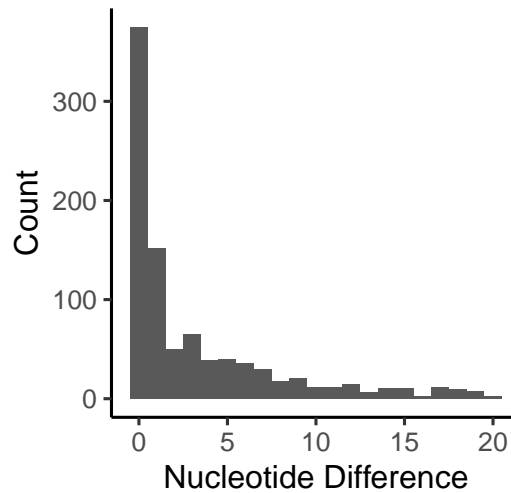
### IGHV3-43\*01

231 sequences assigned  
57 (24.7%) exact matches, in which:  
45 unique CDR3  
4 unique J



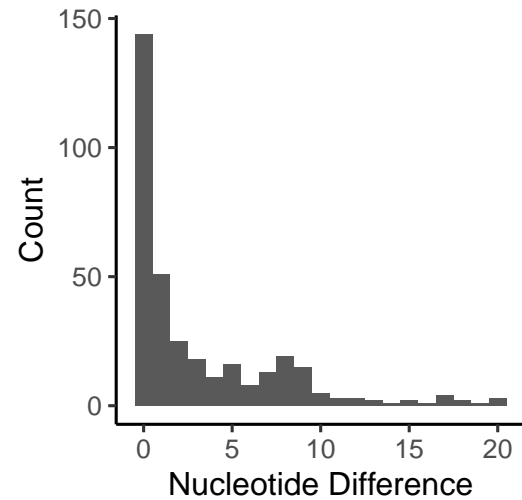
### IGHV3-48\*04

947 sequences assigned  
375 (39.6%) exact matches, in which:  
288 unique CDR3  
7 unique J



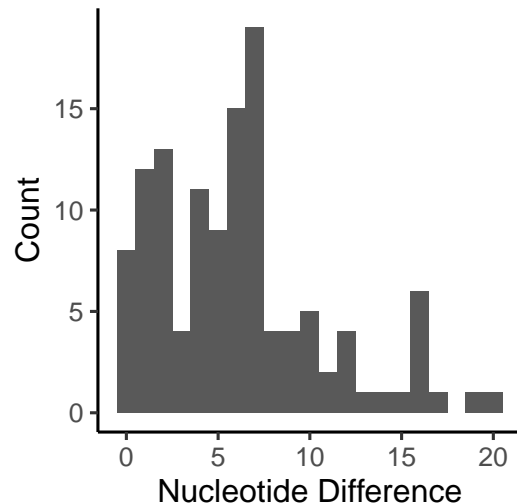
### IGHV3-53\*01\_02

355 sequences assigned  
144 (40.6%) exact matches, in which:  
111 unique CDR3  
7 unique J



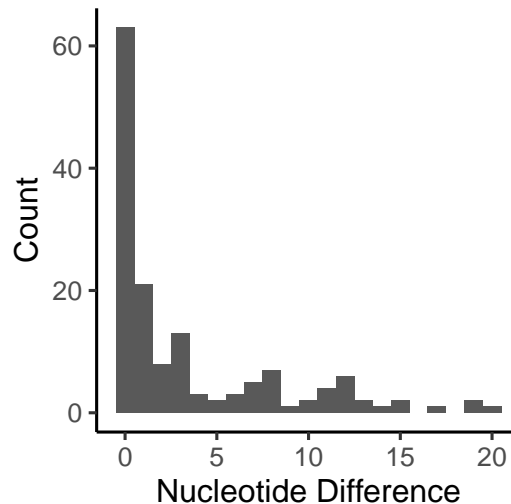
### IGHV3-48\*01

126 sequences assigned  
8 (6.3%) exact matches, in which:  
8 unique CDR3  
2 unique J



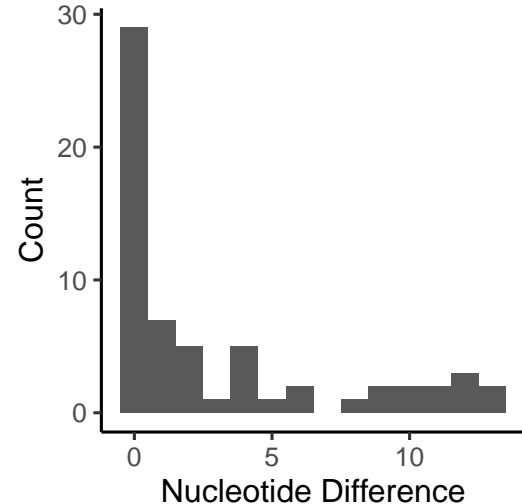
### IGHV3-49\*03\_05

155 sequences assigned  
63 (40.6%) exact matches, in which:  
47 unique CDR3  
5 unique J



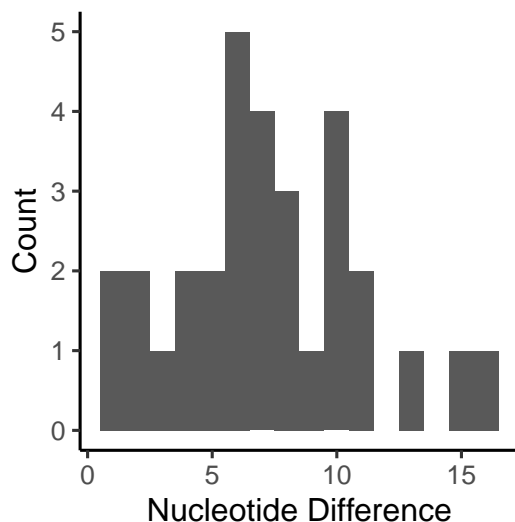
### IGHV3-64\*01

63 sequences assigned  
29 (46%) exact matches, in which:  
22 unique CDR3  
4 unique J



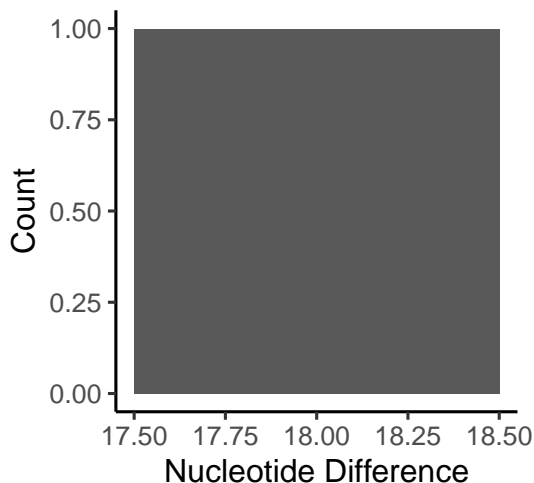
### IGHV3-64\*04

31 sequences assigned  
No exact matches.



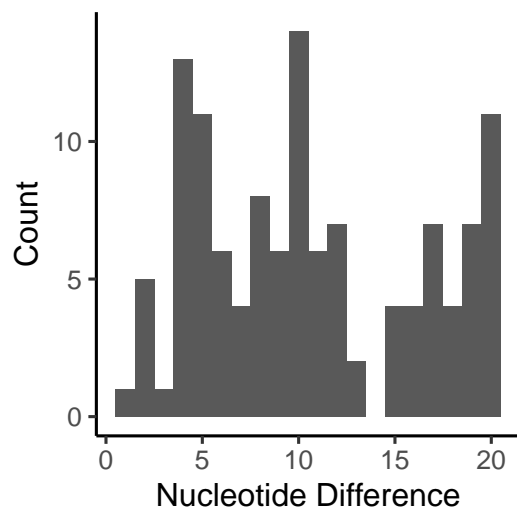
### IGHV3-69-1\*01

3 sequences assigned  
No exact matches.



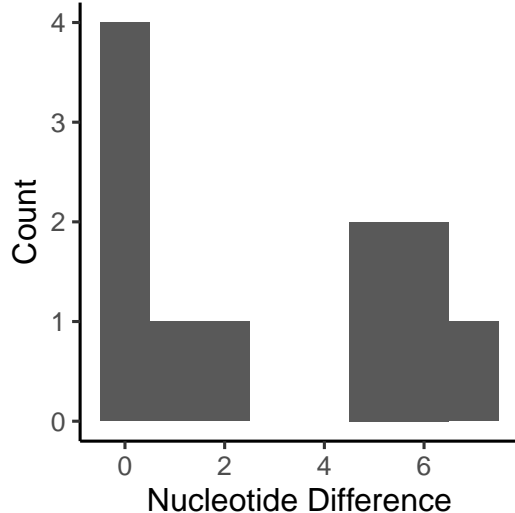
### IGHV3-74\*03

154 sequences assigned  
No exact matches.



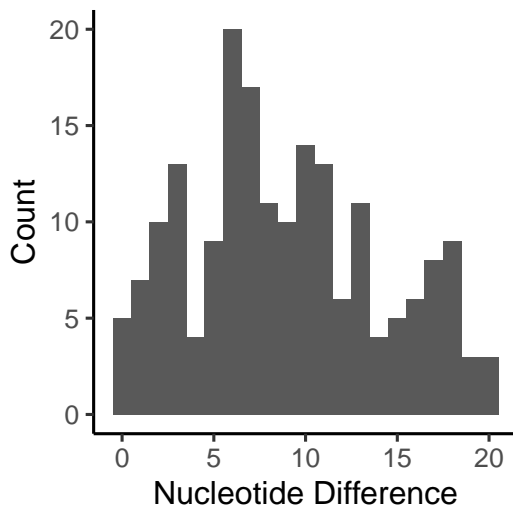
### IGHV3-64\*02\_07

12 sequences assigned  
4 (33.3%) exact matches, in which:  
3 unique CDR3  
2 unique J



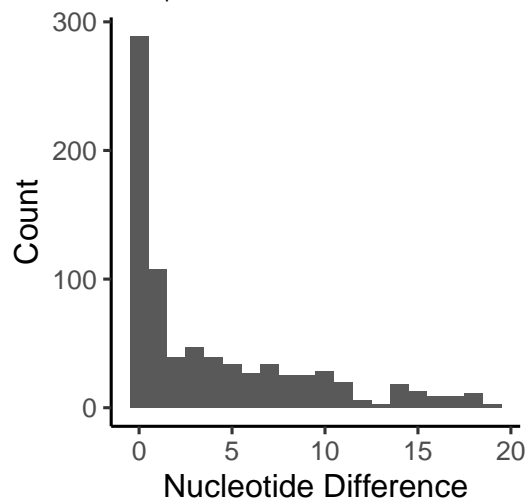
### IGHV3-72\*01

198 sequences assigned  
5 (2.5%) exact matches, in which:  
4 unique CDR3  
2 unique J



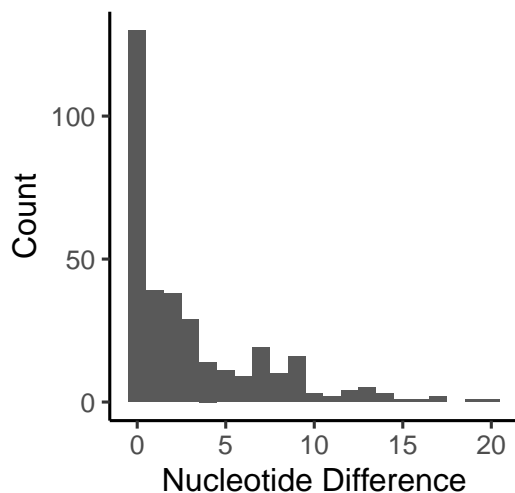
### IGHV3-74\*01\_02

804 sequences assigned  
289 (35.9%) exact matches, in which:  
216 unique CDR3  
6 unique J



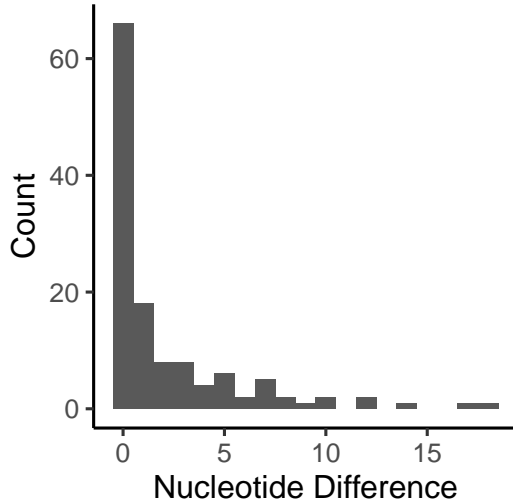
### IGHV3-66\*01

344 sequences assigned  
130 (37.8%) exact matches, in which:  
99 unique CDR3  
6 unique J



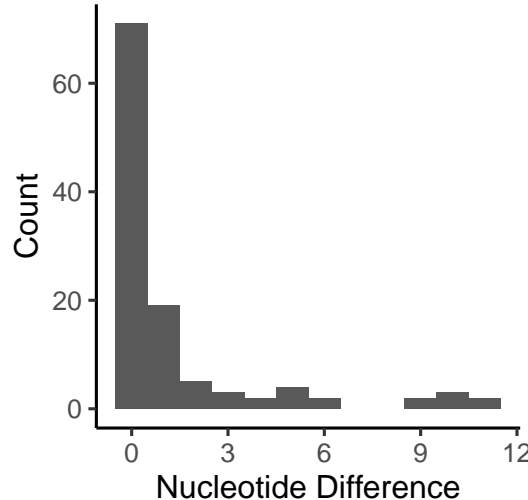
### IGHV3-73\*01\_02

129 sequences assigned  
66 (51.2%) exact matches, in which:  
58 unique CDR3  
6 unique J



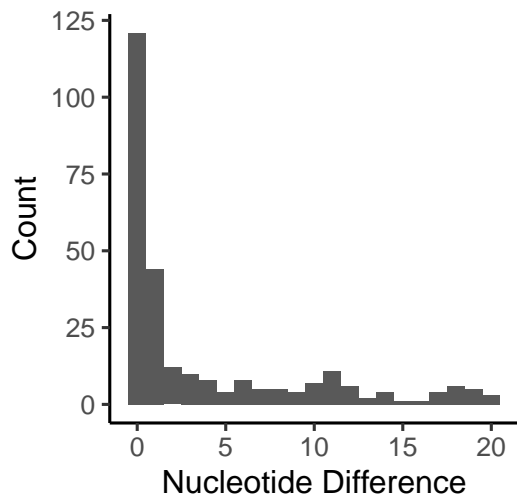
### IGHV3-43D\*03

114 sequences assigned  
71 (62.3%) exact matches, in which:  
57 unique CDR3  
6 unique J



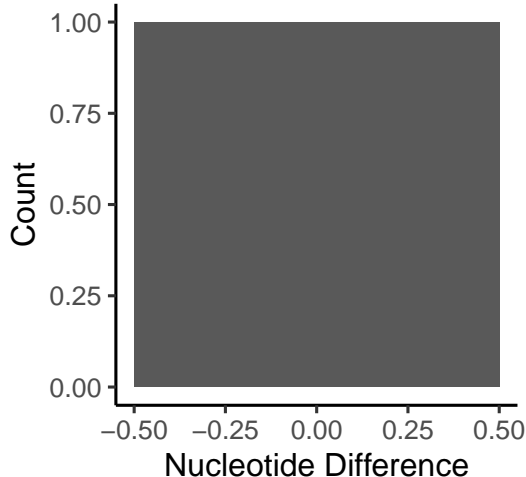
### IGHV3–64D\*06

313 sequences assigned  
121 (38.7%) exact matches, in which:  
89 unique CDR3  
7 unique J



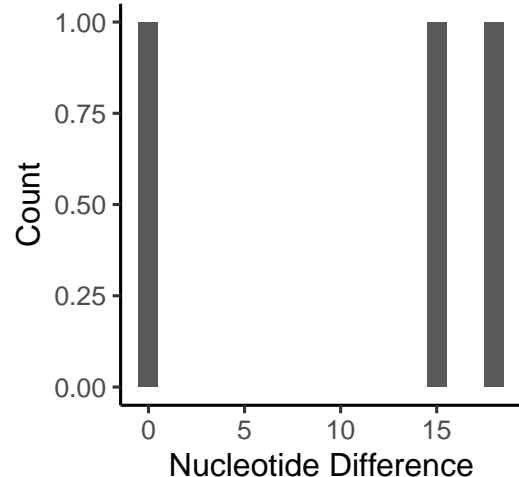
### IGHV4–28\*01\_07

1 sequences assigned  
1 (100%) exact matches, in which:  
1 unique CDR3  
1 unique J



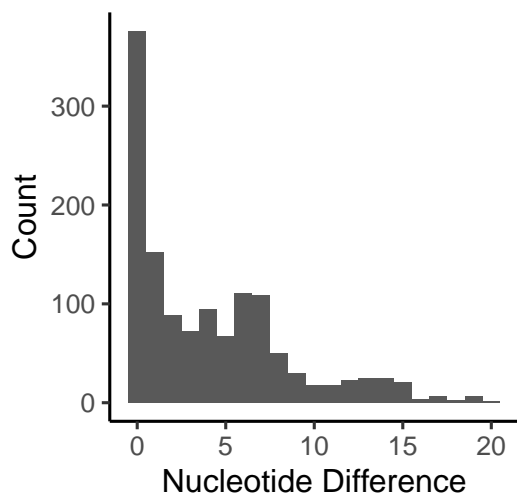
### IGHV4–31\*02

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



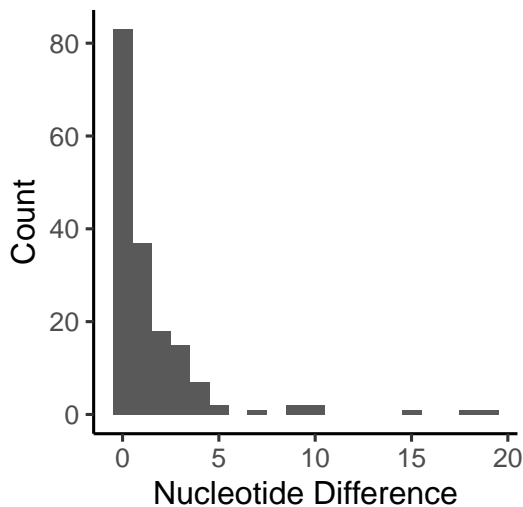
### IGHV4–4\*07

1317 sequences assigned  
376 (28.5%) exact matches, in which:  
357 unique CDR3  
7 unique J



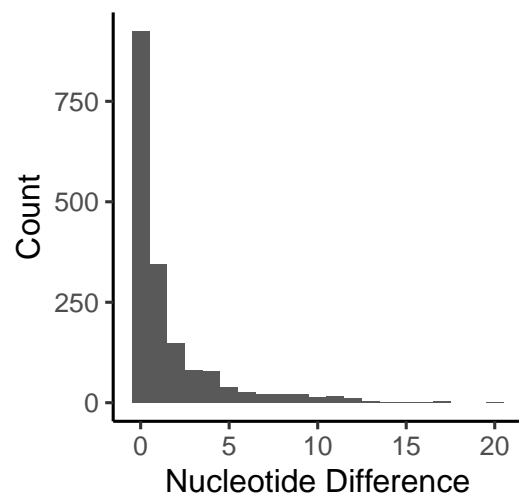
### IGHV4–30–2\*01

171 sequences assigned  
83 (48.5%) exact matches, in which:  
81 unique CDR3  
7 unique J



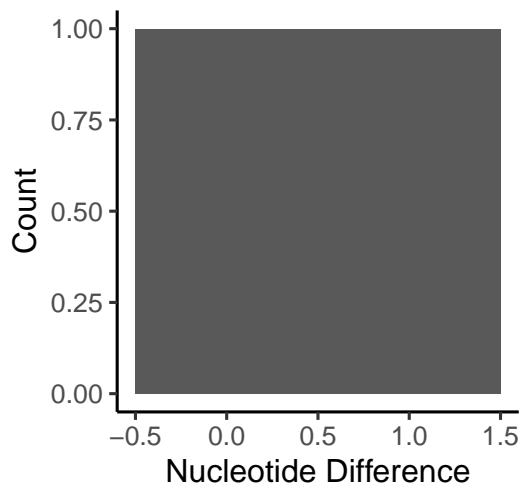
### IGHV4–34\*01\_02

1785 sequences assigned  
925 (51.8%) exact matches, in which:  
894 unique CDR3  
7 unique J



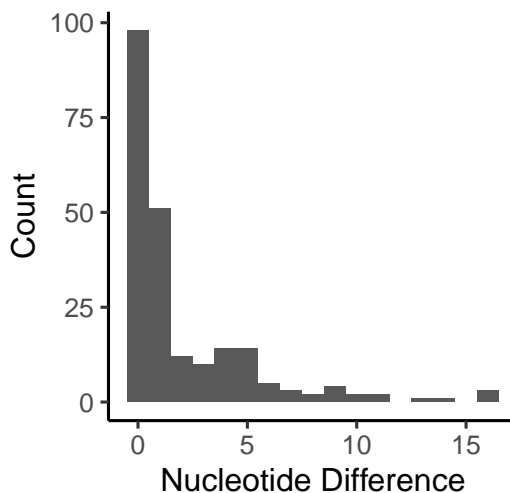
### IGHV4–28\*03

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



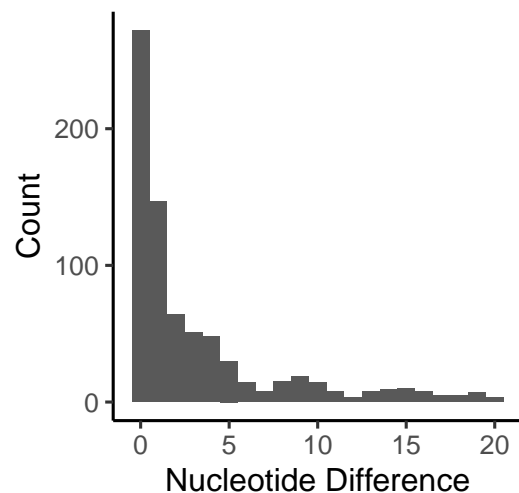
### IGHV4–30–4\*01

225 sequences assigned  
98 (43.6%) exact matches, in which:  
97 unique CDR3  
6 unique J



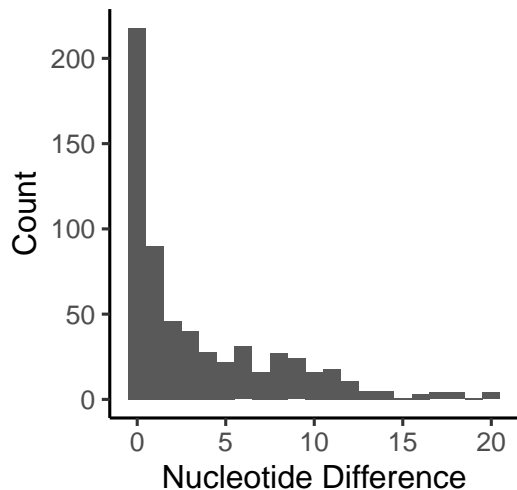
### IGHV4–38–2\*02

770 sequences assigned  
272 (35.3%) exact matches, in which:  
258 unique CDR3  
6 unique J



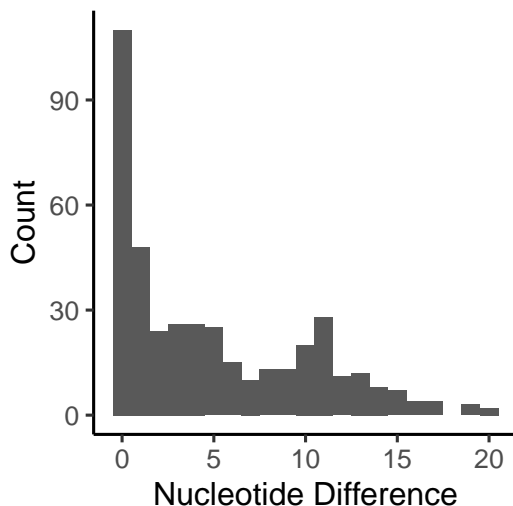
### IGHV4–39\*07

625 sequences assigned  
218 (34.9%) exact matches, in which:  
212 unique CDR3  
6 unique J



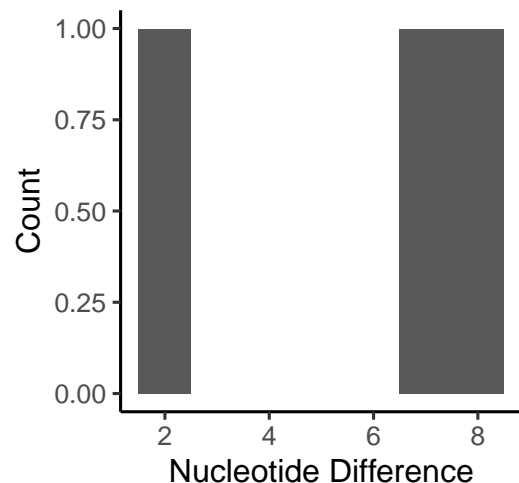
### IGHV4–61\*01

416 sequences assigned  
110 (26.4%) exact matches, in which:  
106 unique CDR3  
7 unique J



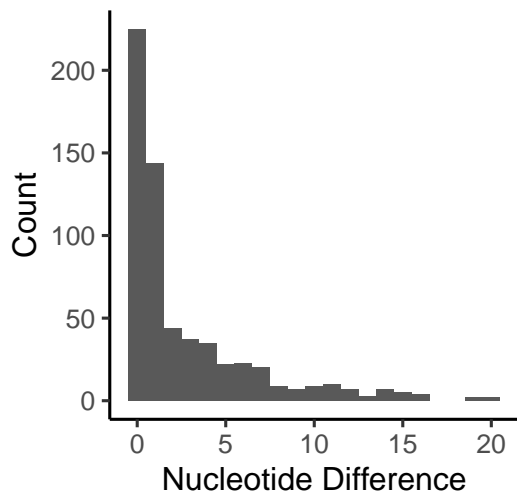
### IGHV5–51\*04

3 sequences assigned  
No exact matches.



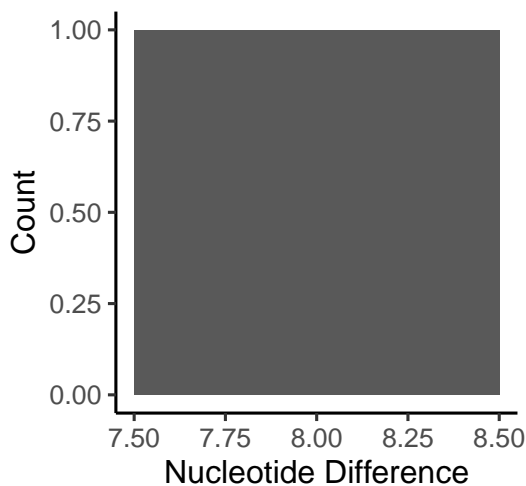
### IGHV4–59\*08

623 sequences assigned  
225 (36.1%) exact matches, in which:  
213 unique CDR3  
7 unique J



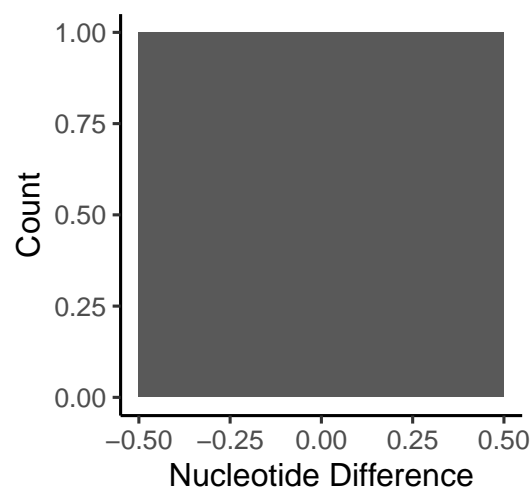
### IGHV4/OR15–8\*01

1 sequences assigned  
No exact matches.



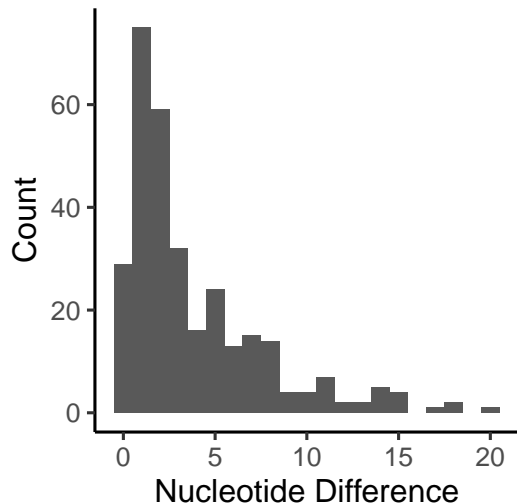
### IGHV5–51\*06

1 sequences assigned  
1 (100%) exact matches, in which:  
1 unique CDR3  
1 unique J



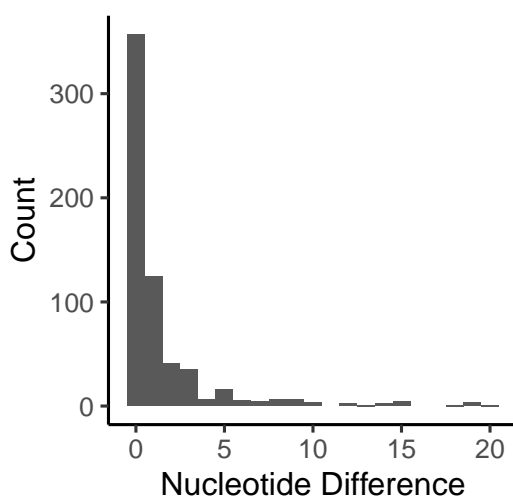
### IGHV4–59\*12

317 sequences assigned  
29 (9.1%) exact matches, in which:  
28 unique CDR3  
5 unique J



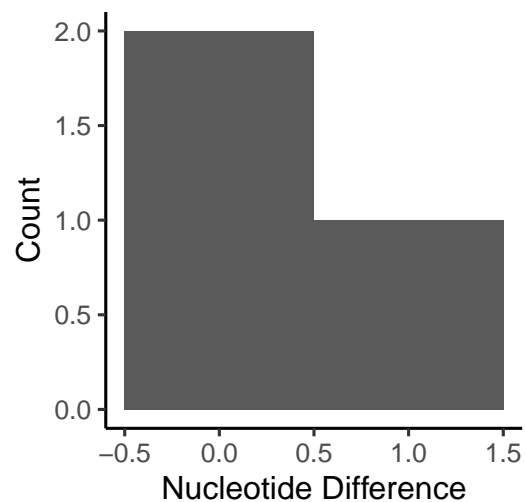
### IGHV5–10–1\*01\_03

622 sequences assigned  
357 (57.4%) exact matches, in which:  
328 unique CDR3  
7 unique J



### IGHV5–51\*07

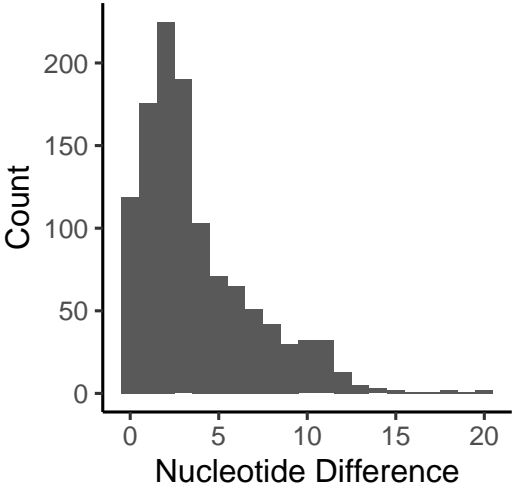
3 sequences assigned  
2 (66.7%) exact matches, in which:  
2 unique CDR3  
2 unique J



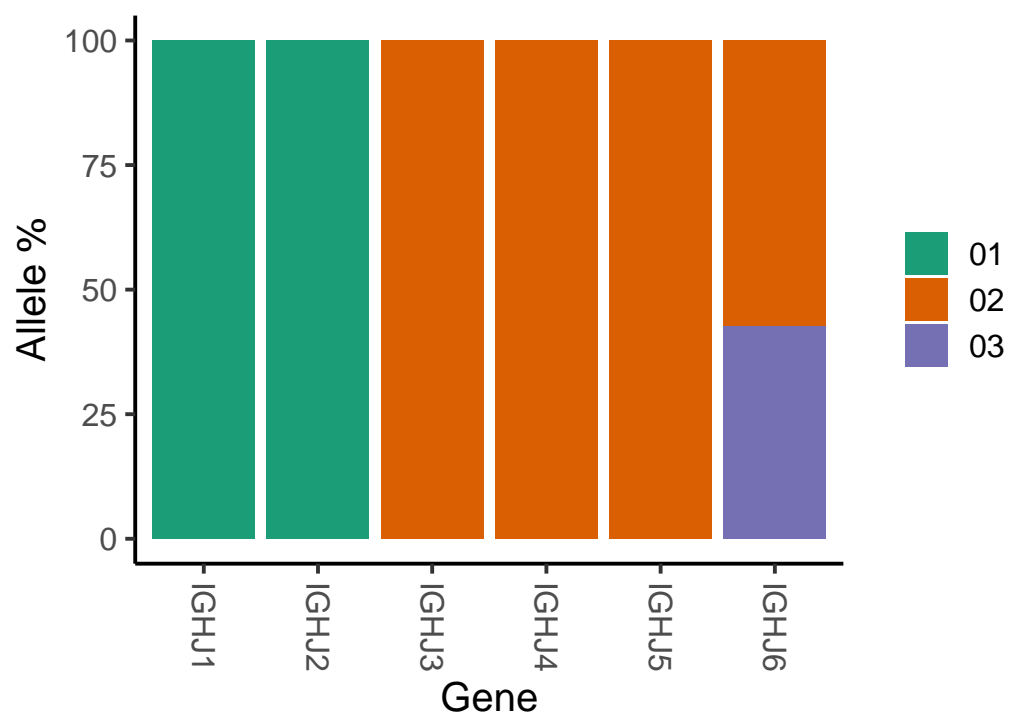


# IGHV6-1\*01\_02

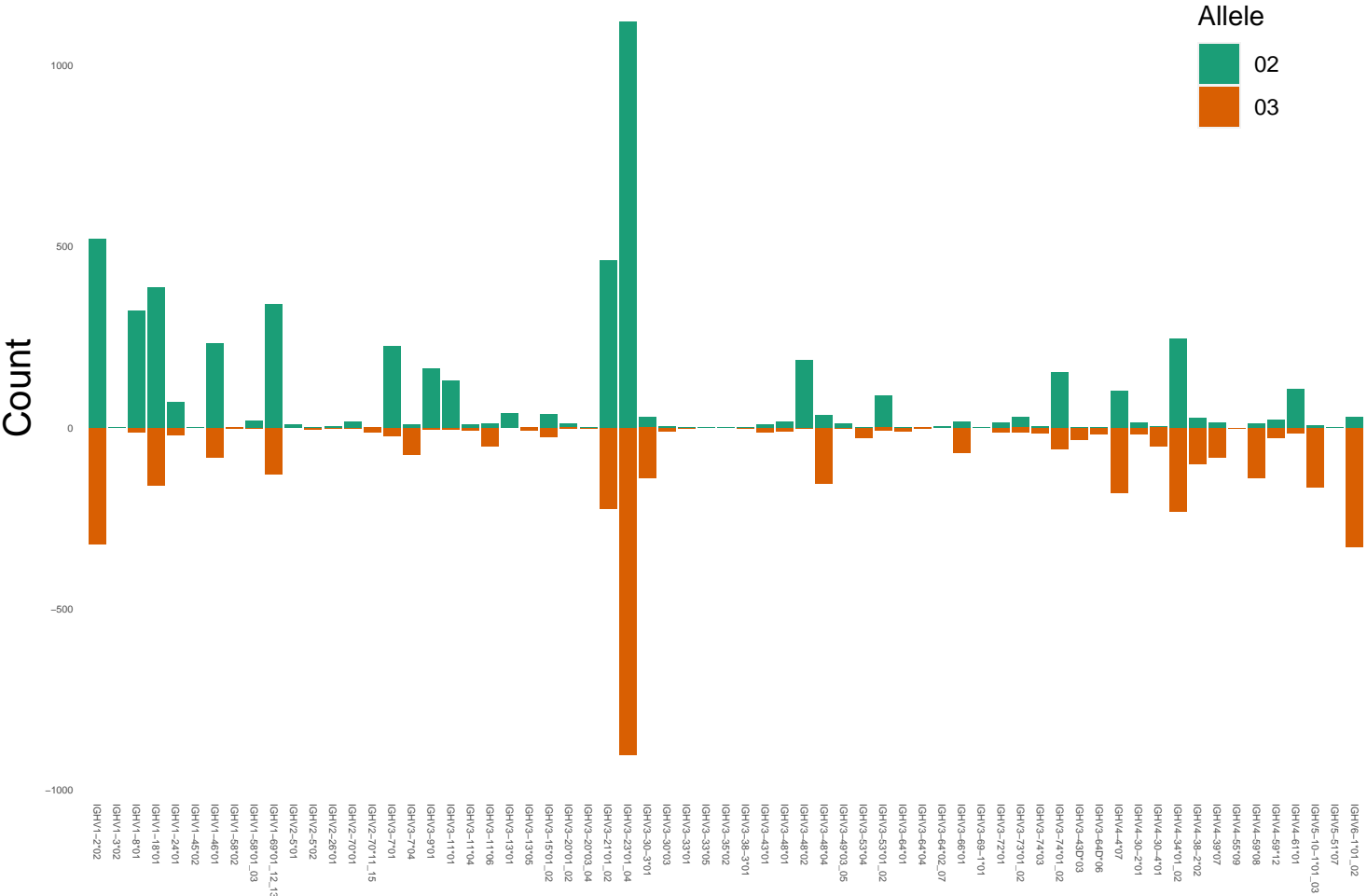
1167 sequences assigned  
119 (10.2%) exact matches, in which:  
113 unique CDR3  
7 unique J



Allele Usage



Sequence Count by IGHJ6 allele usage



Warning – no inferred sequences found.