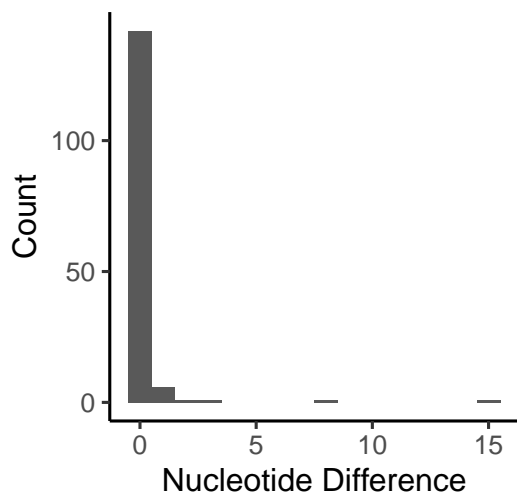


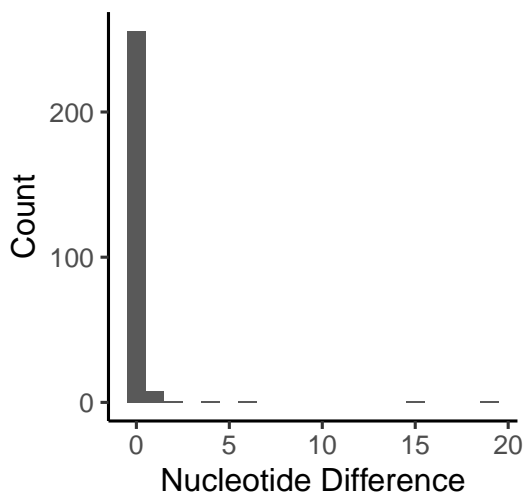
### IGHV1-2\*04

152 sequences assigned  
142 (93.4%) exact matches, in which:  
142 unique CDR3  
6 unique J



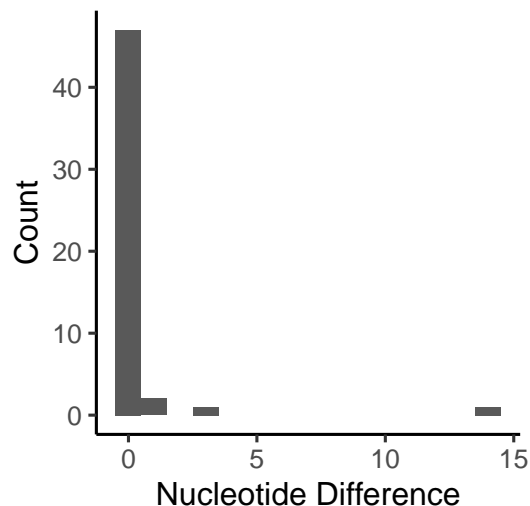
### IGHV1-24\*01

269 sequences assigned  
256 (95.2%) exact matches, in which:  
255 unique CDR3  
7 unique J



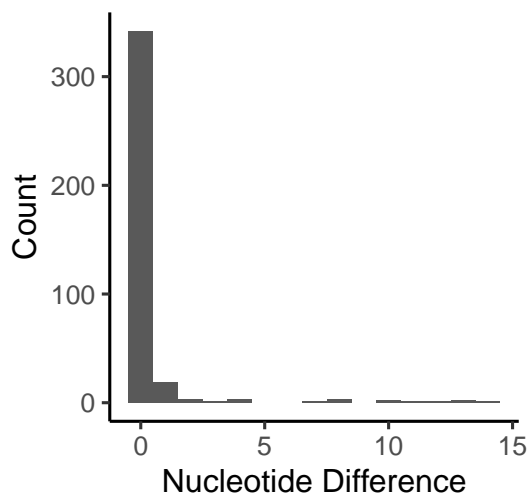
### IGHV1-46\*04

51 sequences assigned  
47 (92.2%) exact matches, in which:  
47 unique CDR3  
7 unique J



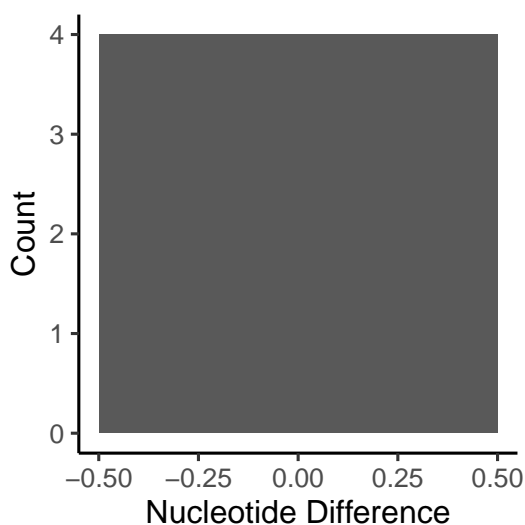
### IGHV1-3\*01

381 sequences assigned  
342 (89.8%) exact matches, in which:  
342 unique CDR3  
7 unique J



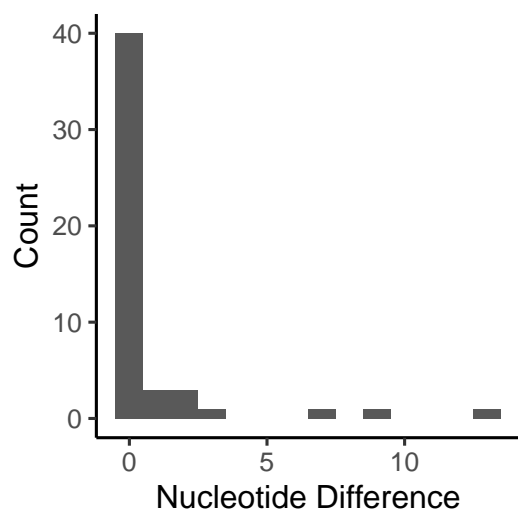
### IGHV1-45\*02

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



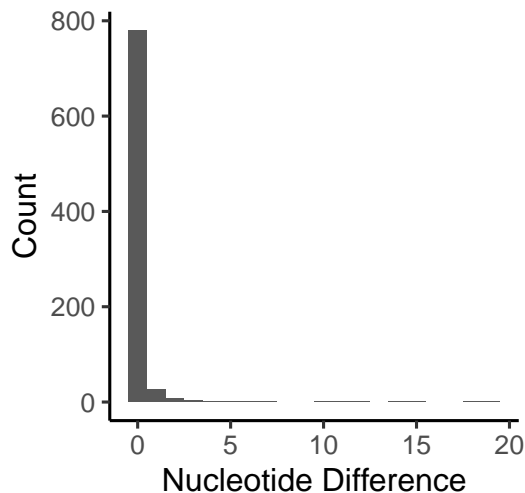
### IGHV1-58\*01

50 sequences assigned  
40 (80%) exact matches, in which:  
40 unique CDR3  
7 unique J



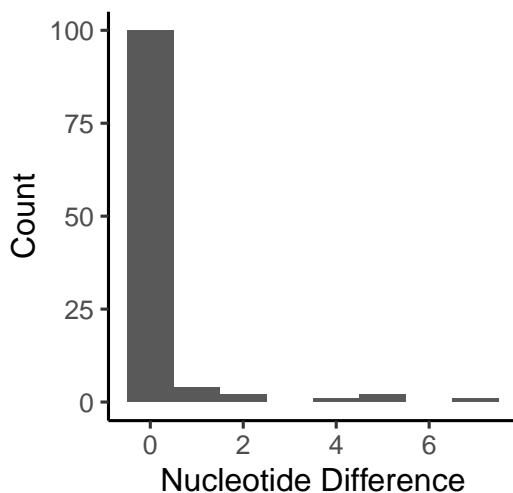
### IGHV1-18\*04

836 sequences assigned  
780 (93.3%) exact matches, in which:  
780 unique CDR3  
7 unique J



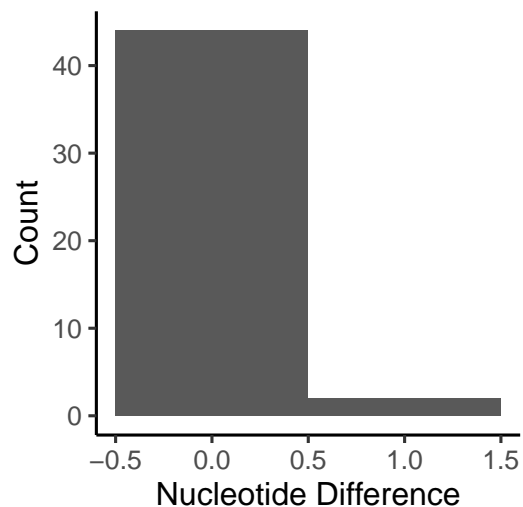
### IGHV1-46\*01

110 sequences assigned  
100 (90.9%) exact matches, in which:  
100 unique CDR3  
6 unique J



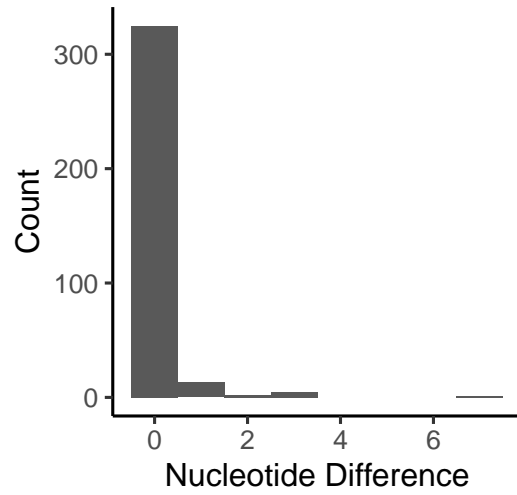
### IGHV1-69-2\*01

46 sequences assigned  
44 (95.7%) exact matches, in which:  
44 unique CDR3  
5 unique J



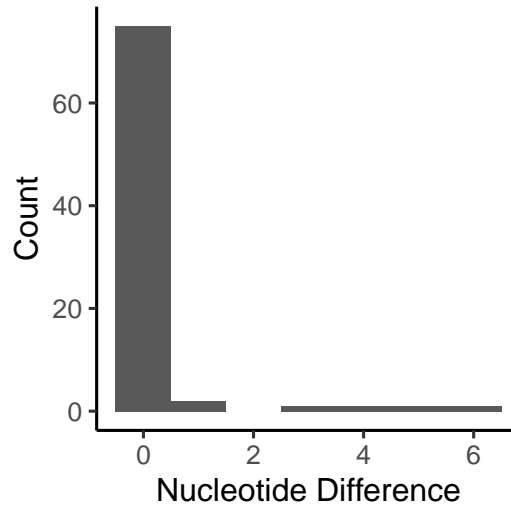
### IGHV1–69\*17

346 sequences assigned  
325 (93.9%) exact matches, in which:  
324 unique CDR3  
7 unique J



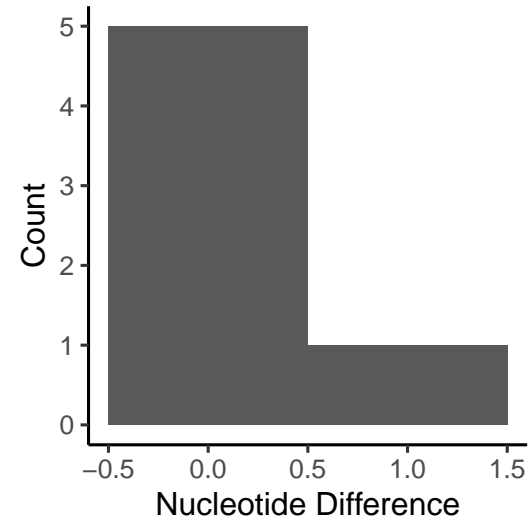
### IGHV2–70\*01

81 sequences assigned  
75 (92.6%) exact matches, in which:  
75 unique CDR3  
6 unique J



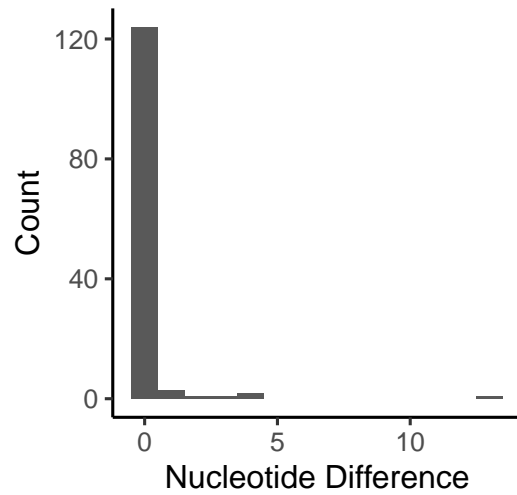
### IGHV3–13\*05

6 sequences assigned  
5 (83.3%) exact matches, in which:  
5 unique CDR3  
3 unique J



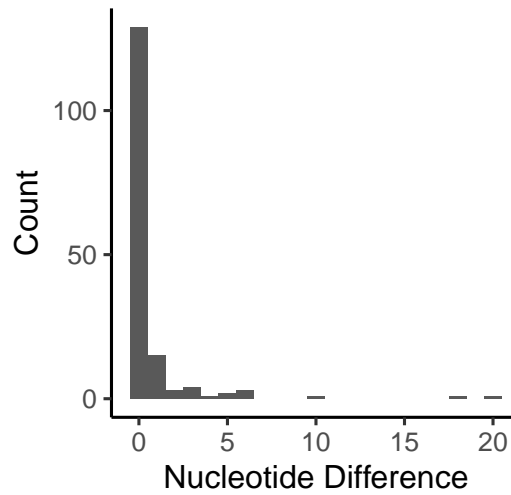
### IGHV2–5\*02

132 sequences assigned  
124 (93.9%) exact matches, in which:  
124 unique CDR3  
7 unique J



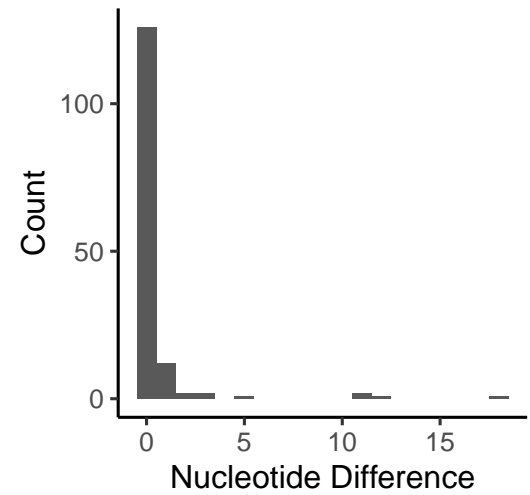
### IGHV3–7\*03

160 sequences assigned  
129 (80.6%) exact matches, in which:  
129 unique CDR3  
7 unique J



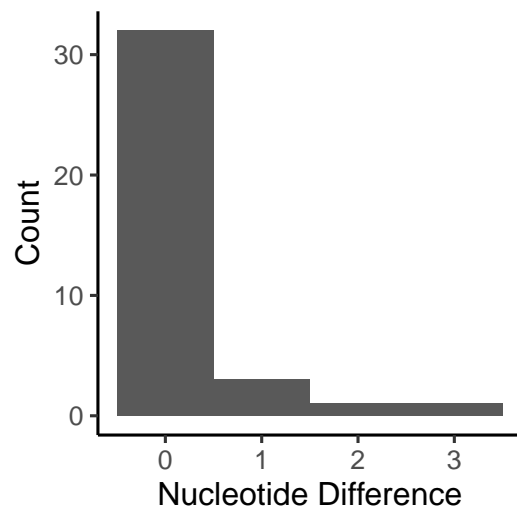
### IGHV3–15\*01

147 sequences assigned  
126 (85.7%) exact matches, in which:  
126 unique CDR3  
5 unique J



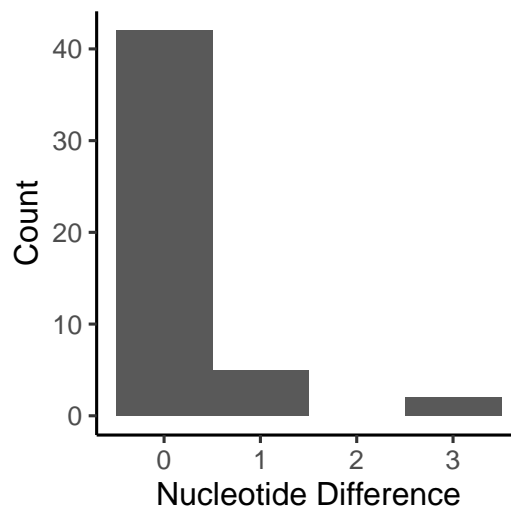
### IGHV2–26\*01

37 sequences assigned  
32 (86.5%) exact matches, in which:  
32 unique CDR3  
5 unique J



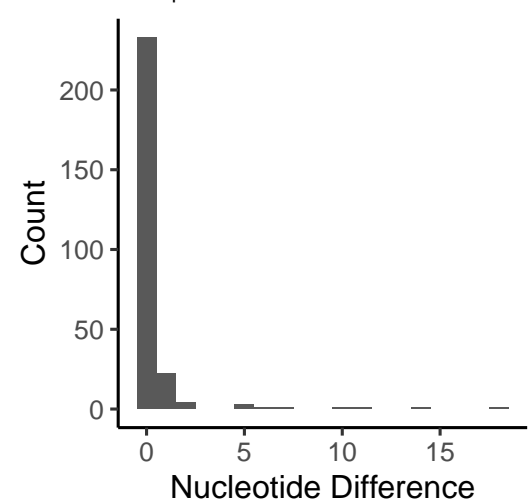
### IGHV3–11\*06

50 sequences assigned  
42 (84%) exact matches, in which:  
42 unique CDR3  
7 unique J



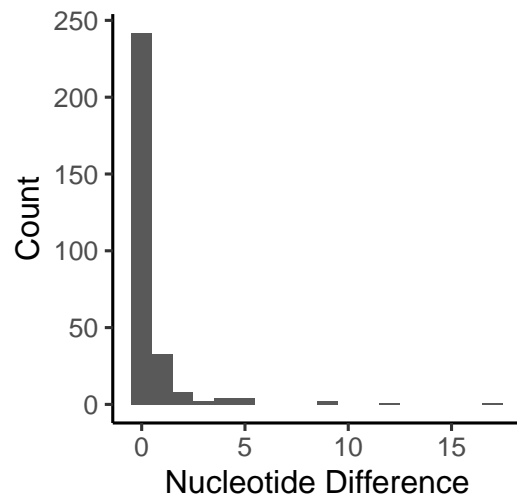
### IGHV3–21\*01

268 sequences assigned  
233 (86.9%) exact matches, in which:  
233 unique CDR3  
6 unique J



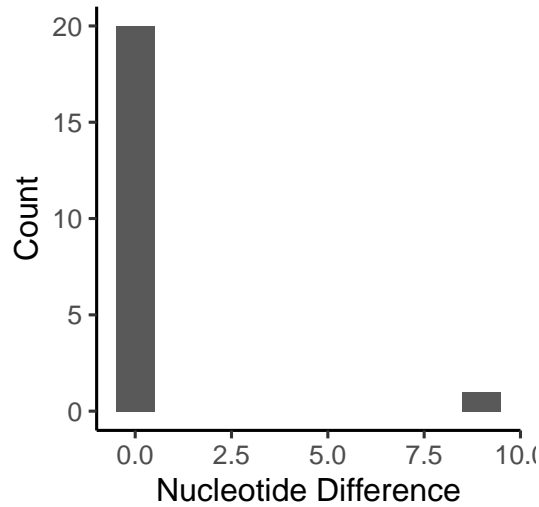
### IGHV3-33\*01

298 sequences assigned  
242 (81.2%) exact matches, in which:  
242 unique CDR3  
7 unique J



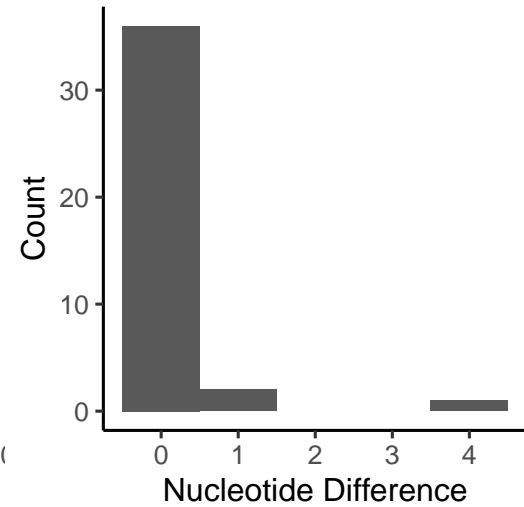
### IGHV3-43\*01

21 sequences assigned  
20 (95.2%) exact matches, in which:  
20 unique CDR3  
5 unique J



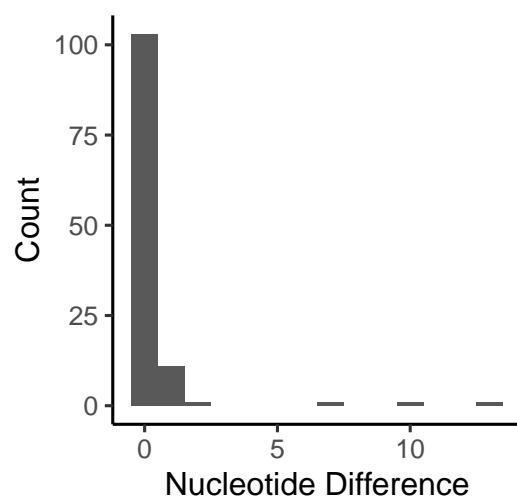
### IGHV3-49\*03

39 sequences assigned  
36 (92.3%) exact matches, in which:  
36 unique CDR3  
6 unique J



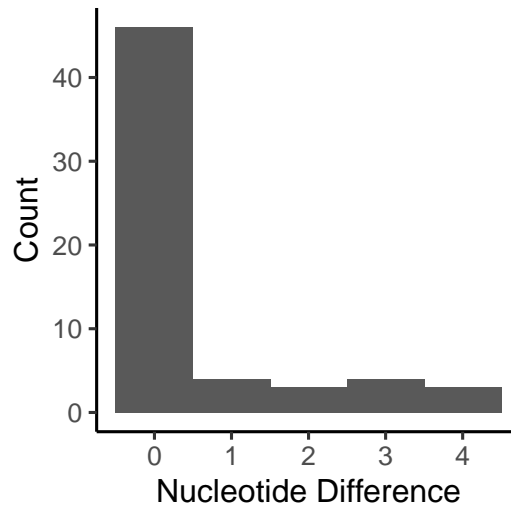
### IGHV3-33\*08

118 sequences assigned  
103 (87.3%) exact matches, in which:  
103 unique CDR3  
7 unique J



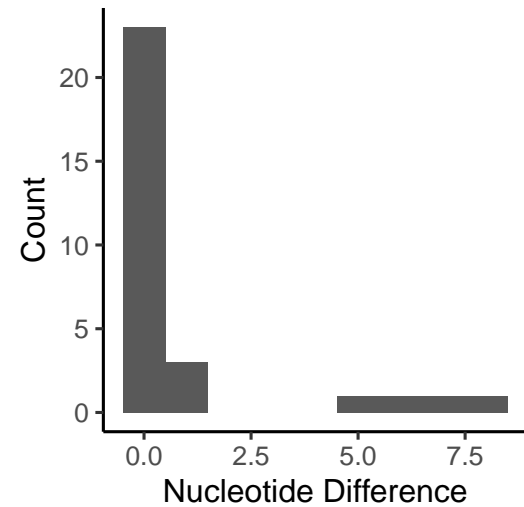
### IGHV3-48\*01

60 sequences assigned  
46 (76.7%) exact matches, in which:  
46 unique CDR3  
6 unique J



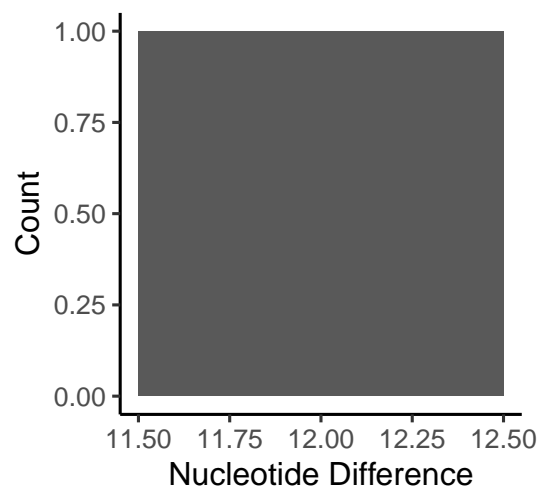
### IGHV3-49\*05

30 sequences assigned  
23 (76.7%) exact matches, in which:  
23 unique CDR3  
5 unique J



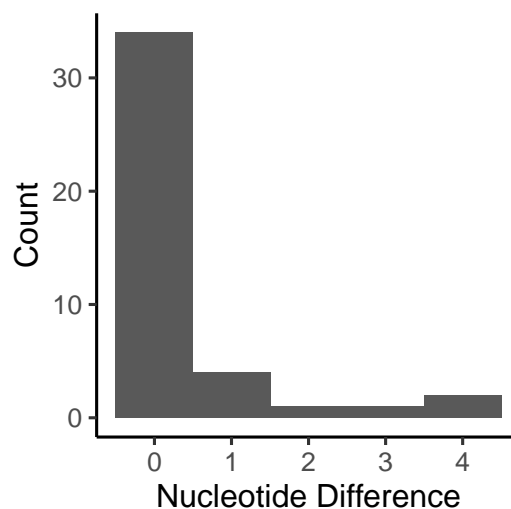
### IGHV3-38-3\*01

1 sequences assigned  
No exact matches.



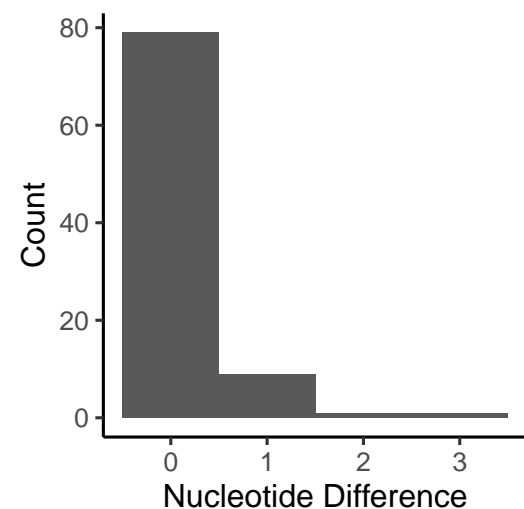
### IGHV3-48\*02

42 sequences assigned  
34 (81%) exact matches, in which:  
34 unique CDR3  
5 unique J



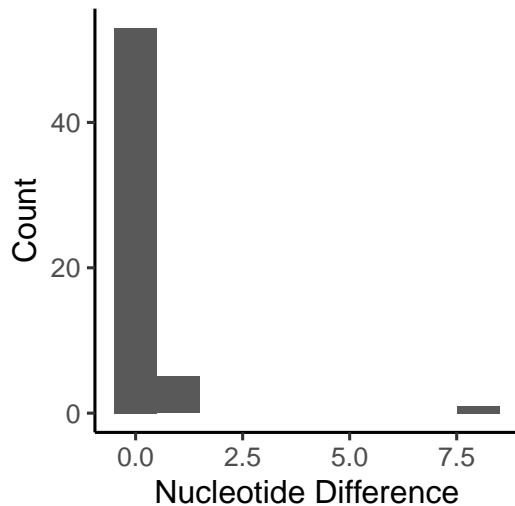
### IGHV3-53\*01

90 sequences assigned  
79 (87.8%) exact matches, in which:  
79 unique CDR3  
7 unique J



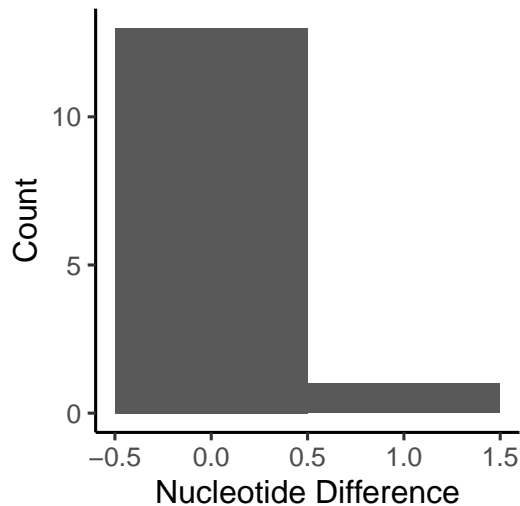
### IGHV3-53\*02

59 sequences assigned  
53 (89.8%) exact matches, in which:  
53 unique CDR3  
5 unique J



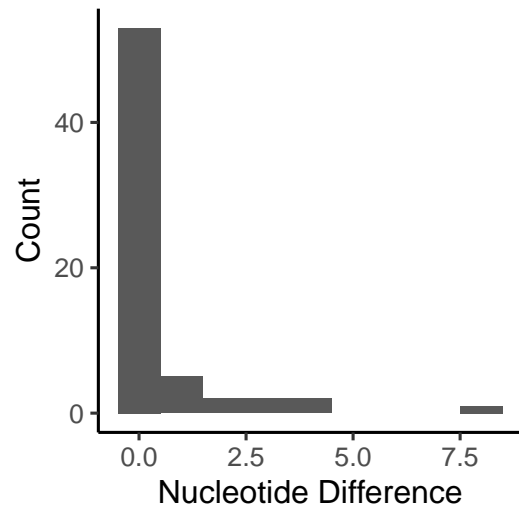
### IGHV3-73\*01

14 sequences assigned  
13 (92.9%) exact matches, in which:  
13 unique CDR3  
4 unique J



### IGHV3-64D\*06

65 sequences assigned  
53 (81.5%) exact matches, in which:  
53 unique CDR3  
7 unique J



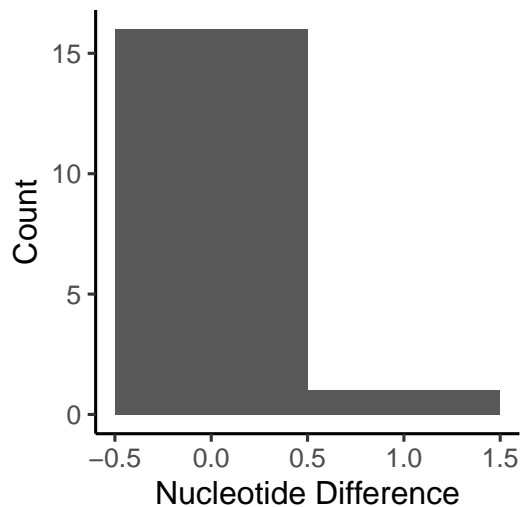
### IGHV3-64\*02

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



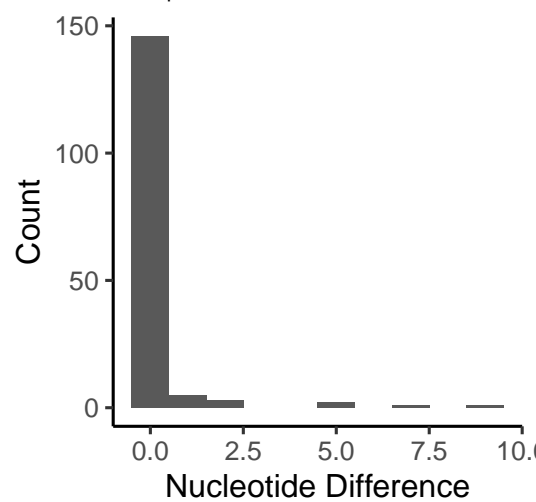
### IGHV3-73\*02

17 sequences assigned  
16 (94.1%) exact matches, in which:  
16 unique CDR3  
3 unique J



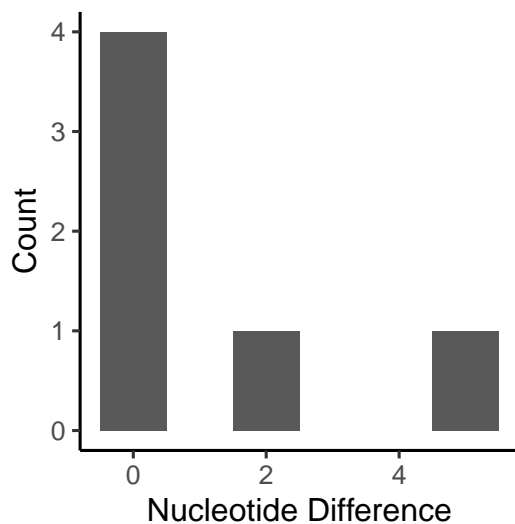
### IGHV4-4\*02

158 sequences assigned  
146 (92.4%) exact matches, in which:  
146 unique CDR3  
7 unique J



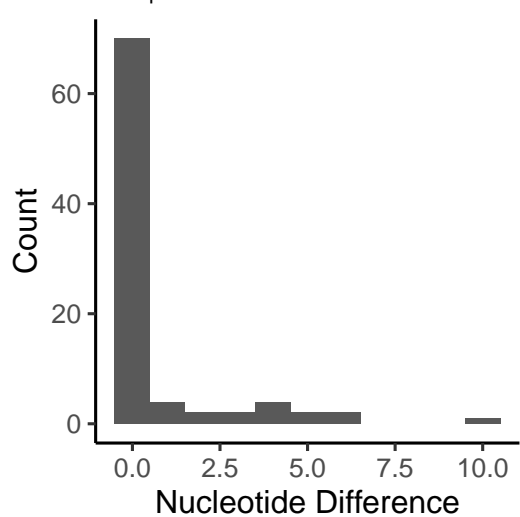
### IGHV3-72\*01

6 sequences assigned  
4 (66.7%) exact matches, in which:  
4 unique CDR3  
3 unique J



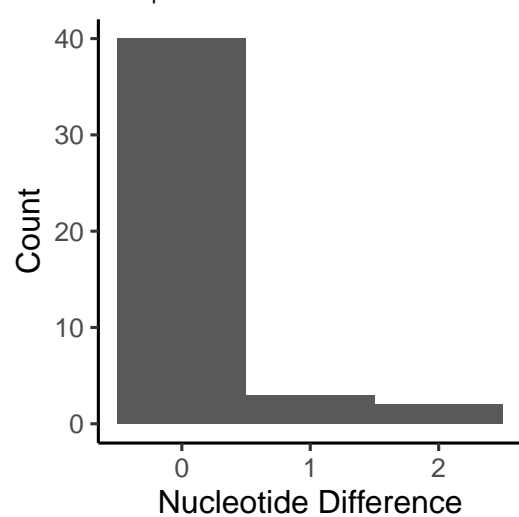
### IGHV3-74\*01

87 sequences assigned  
70 (80.5%) exact matches, in which:  
70 unique CDR3  
7 unique J



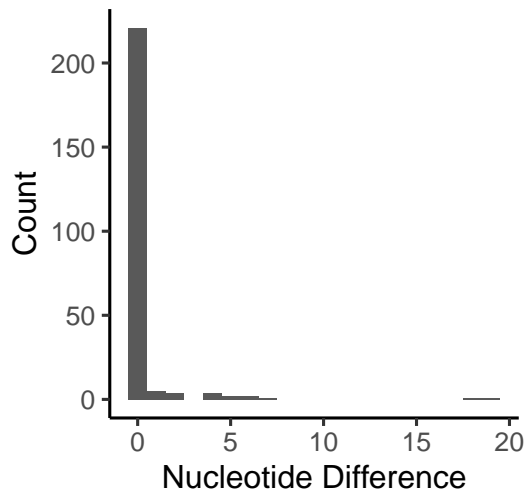
### IGHV4-30-2\*01

46 sequences assigned  
40 (87%) exact matches, in which:  
40 unique CDR3  
7 unique J



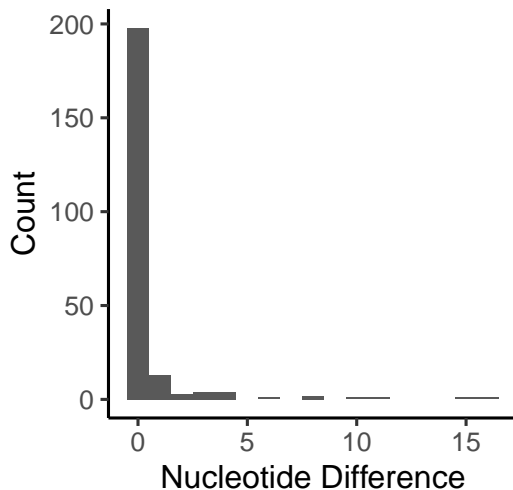
### IGHV4–31\*03

241 sequences assigned  
221 (91.7%) exact matches, in which:  
221 unique CDR3  
7 unique J



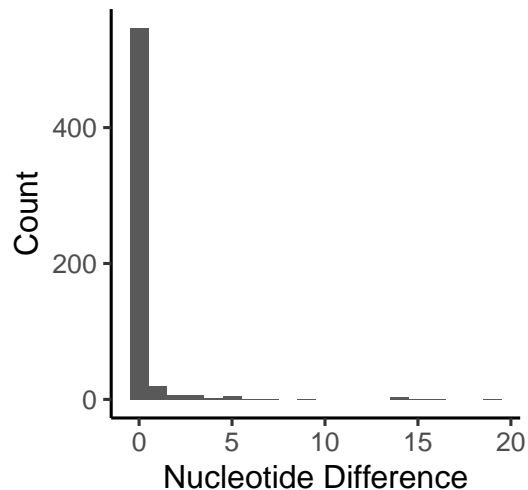
### IGHV4–59\*01

229 sequences assigned  
198 (86.5%) exact matches, in which:  
198 unique CDR3  
7 unique J



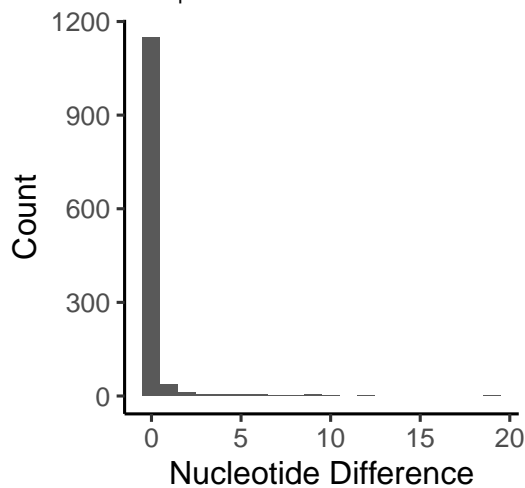
### IGHV5–51\*01

596 sequences assigned  
547 (91.8%) exact matches, in which:  
546 unique CDR3  
7 unique J



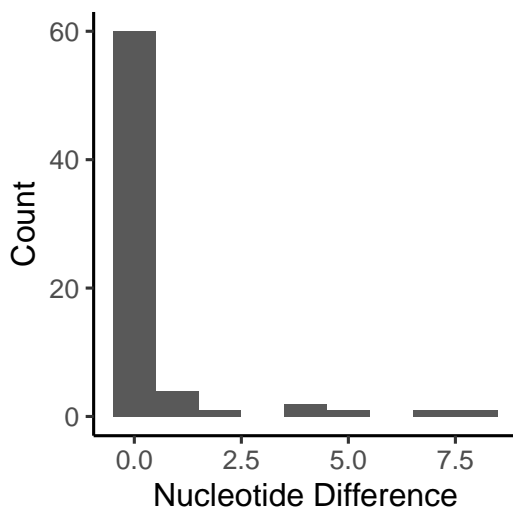
### IGHV4–34\*01

1224 sequences assigned  
1148 (93.8%) exact matches, in which:  
1148 unique CDR3  
7 unique J



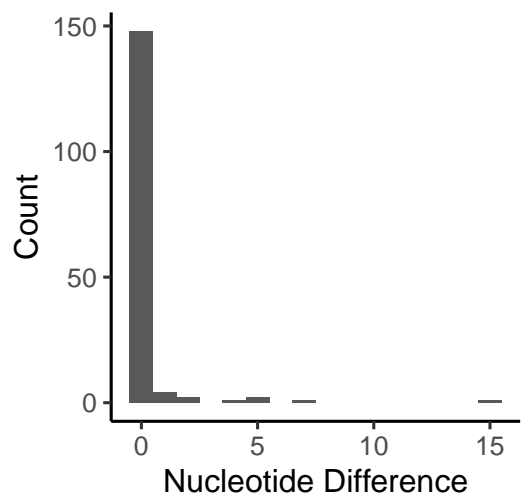
### IGHV4–61\*01

70 sequences assigned  
60 (85.7%) exact matches, in which:  
60 unique CDR3  
7 unique J



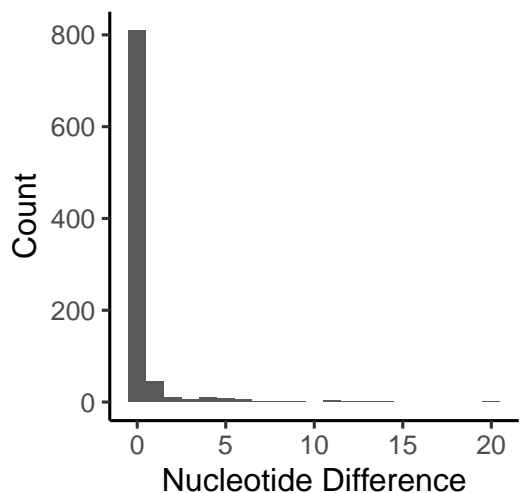
### IGHV6–1\*01

159 sequences assigned  
148 (93.1%) exact matches, in which:  
147 unique CDR3  
7 unique J



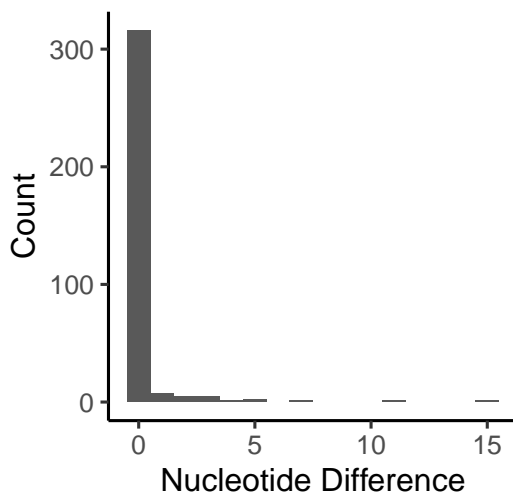
### IGHV4–39\*01

906 sequences assigned  
810 (89.4%) exact matches, in which:  
810 unique CDR3  
7 unique J



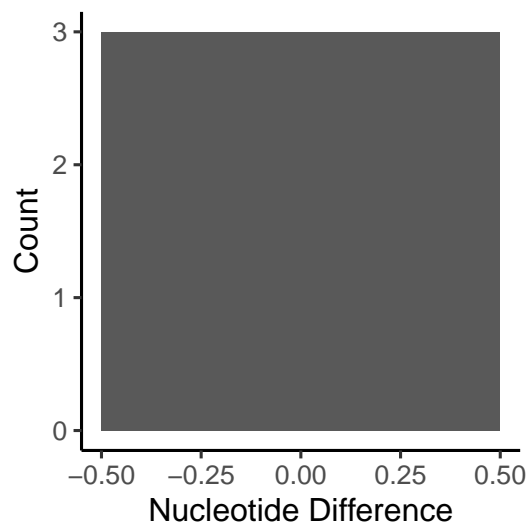
### IGHV5–10–1\*03

339 sequences assigned  
316 (93.2%) exact matches, in which:  
316 unique CDR3  
7 unique J

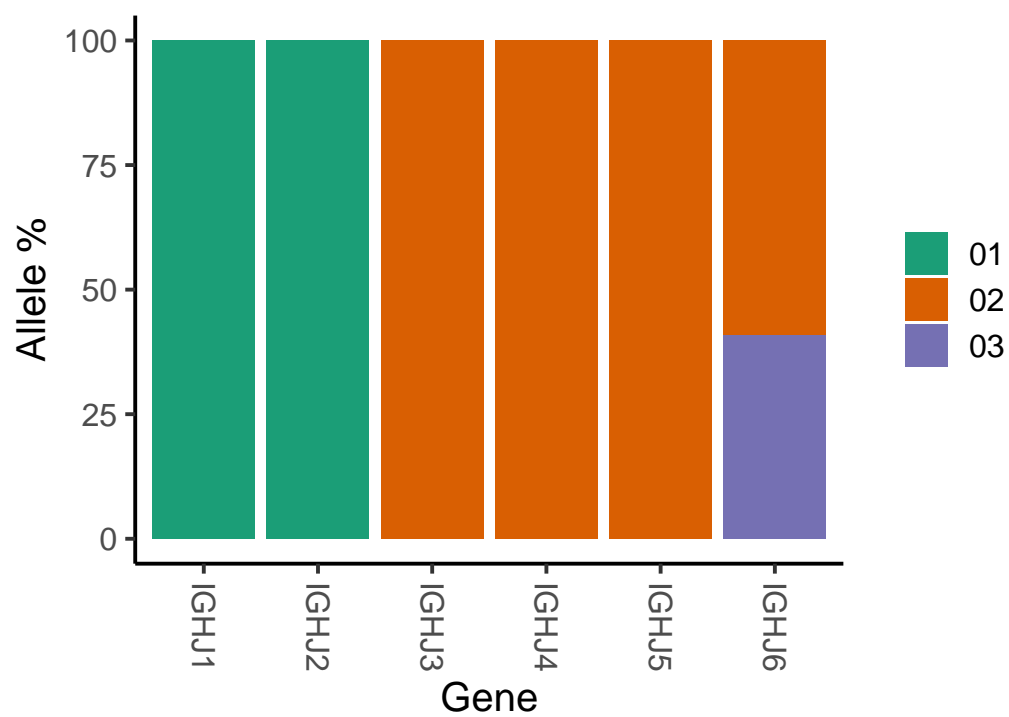


### IGHV7–4–1\*01

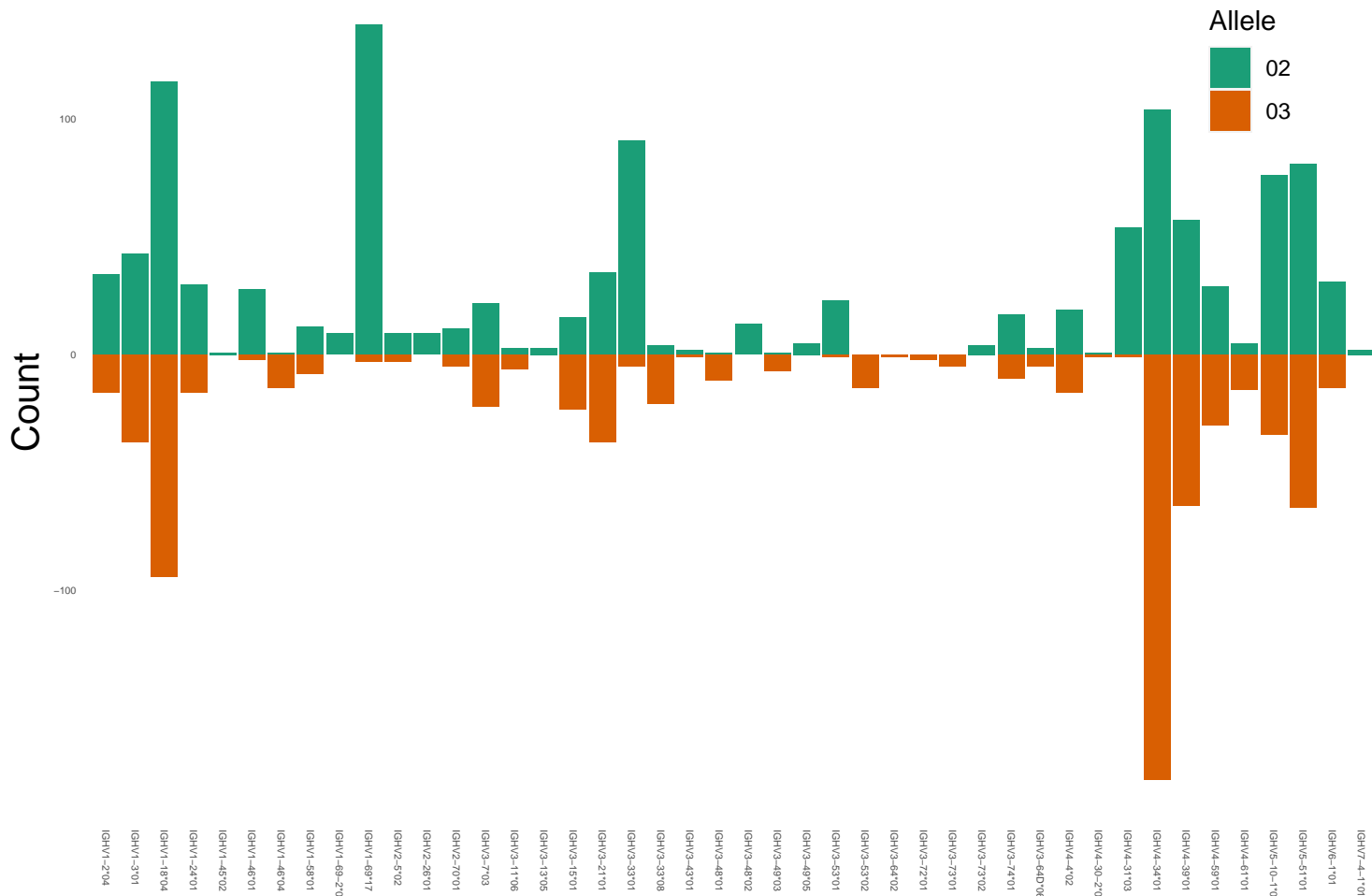
3 sequences assigned  
3 (100%) exact matches, in which:  
3 unique CDR3  
2 unique J



Allele Usage



Sequence Count by IGHJ6 allele usage



Warning – no inferred sequences found.