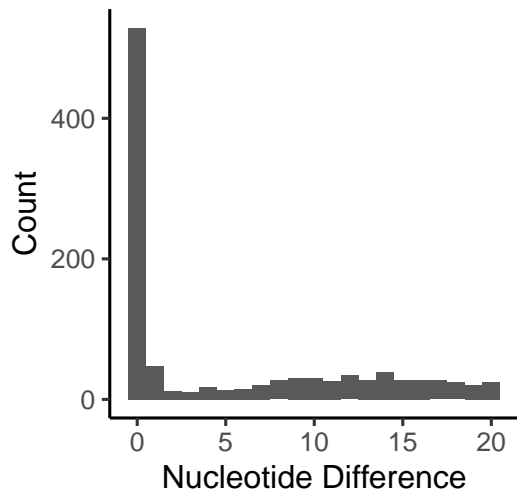


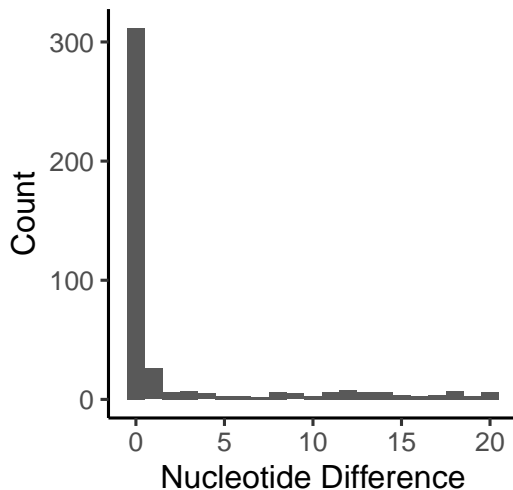
### IGHV1-2\*02

1274 sequences assigned  
529 (41.5%) exact matches, in which:  
527 unique CDR3  
7 unique J



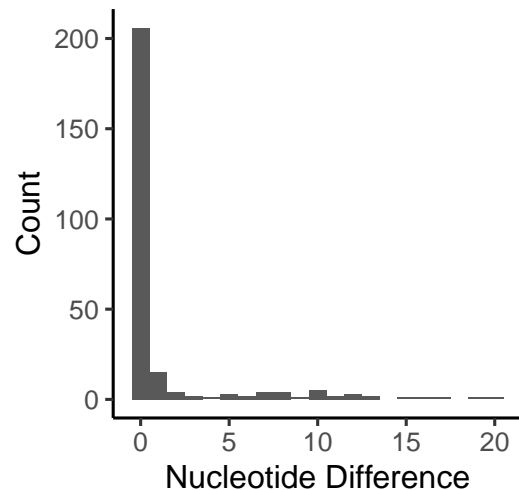
### IGHV1-8\*01

499 sequences assigned  
312 (62.5%) exact matches, in which:  
311 unique CDR3  
7 unique J



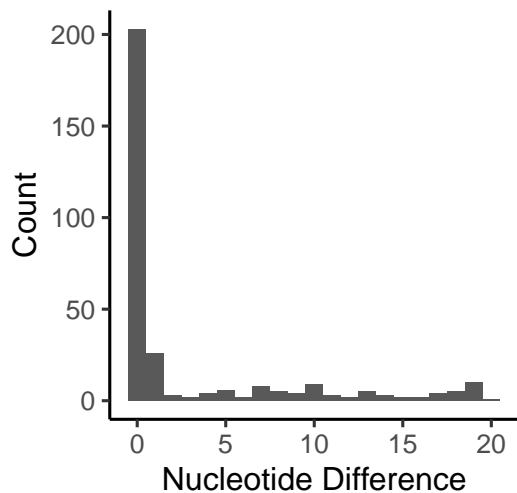
### IGHV1-24\*01

274 sequences assigned  
206 (75.2%) exact matches, in which:  
206 unique CDR3  
7 unique J



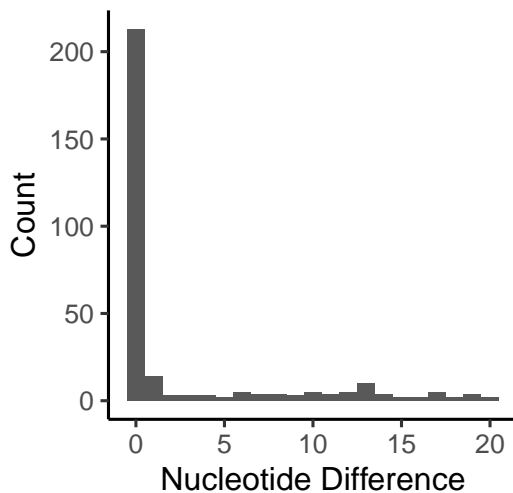
### IGHV1-2\*04

340 sequences assigned  
203 (59.7%) exact matches, in which:  
202 unique CDR3  
5 unique J



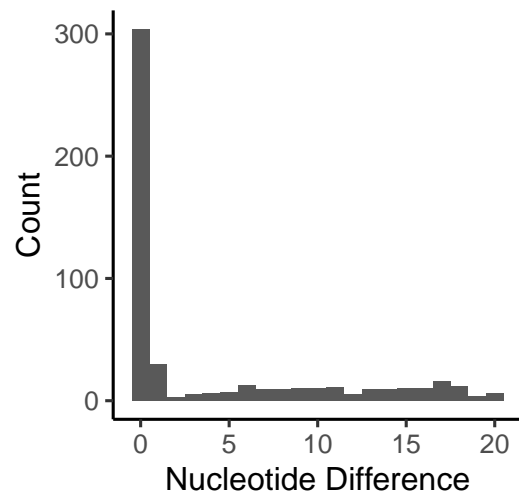
### IGHV1-8\*03

310 sequences assigned  
213 (68.7%) exact matches, in which:  
211 unique CDR3  
5 unique J



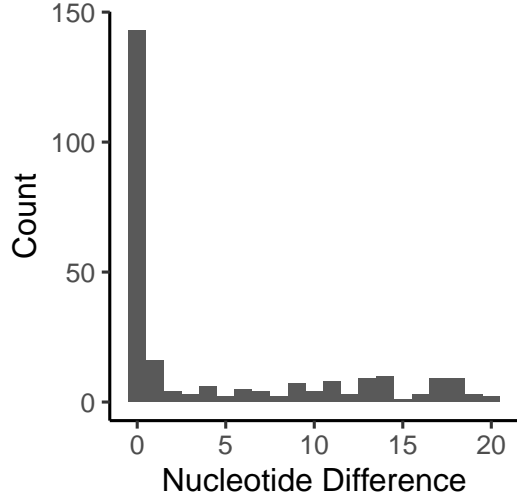
### IGHV1-46\*01

675 sequences assigned  
304 (45%) exact matches, in which:  
302 unique CDR3  
7 unique J



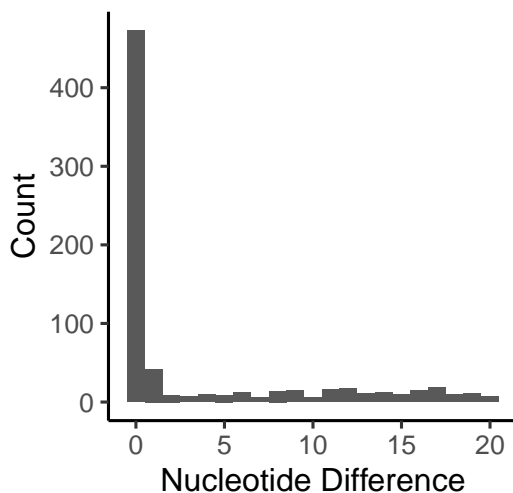
### IGHV1-3\*01

346 sequences assigned  
143 (41.3%) exact matches, in which:  
143 unique CDR3  
6 unique J



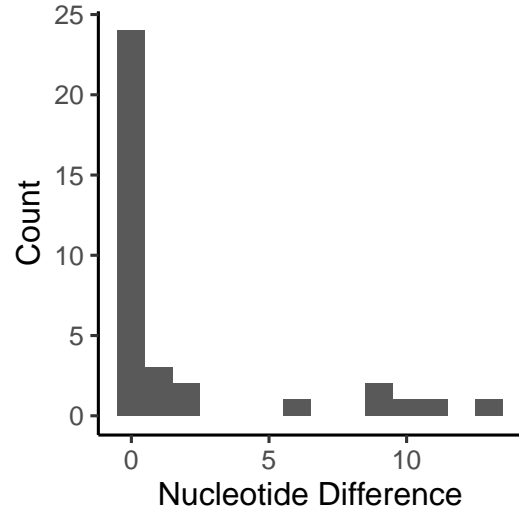
### IGHV1-18\*01

871 sequences assigned  
473 (54.3%) exact matches, in which:  
472 unique CDR3  
7 unique J



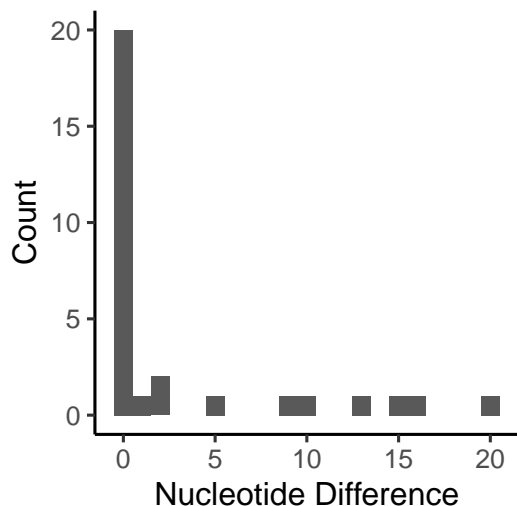
### IGHV1-58\*01

35 sequences assigned  
24 (68.6%) exact matches, in which:  
24 unique CDR3  
5 unique J



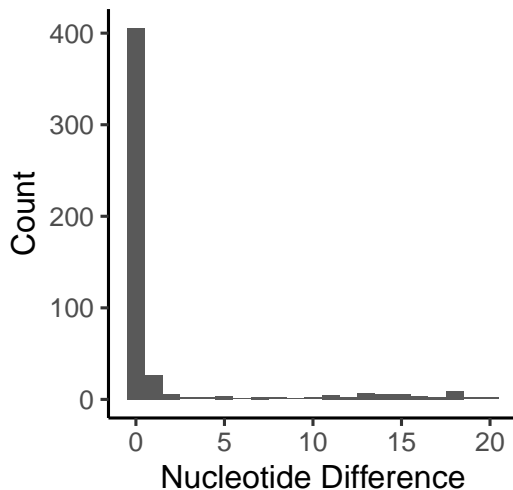
### IGHV1-58\*02

35 sequences assigned  
20 (57.1%) exact matches, in which:  
20 unique CDR3  
4 unique J



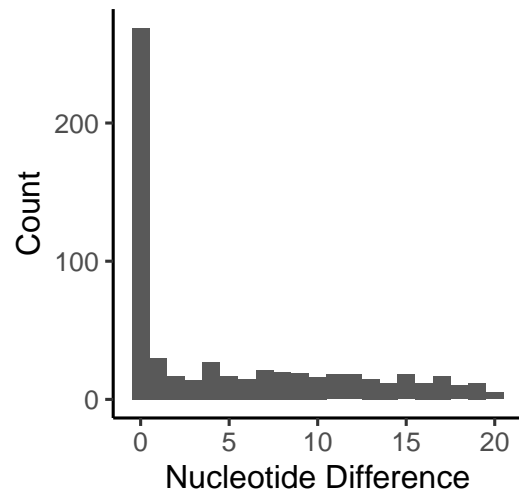
### IGHV1-69\*04

570 sequences assigned  
406 (71.2%) exact matches, in which:  
404 unique CDR3  
6 unique J



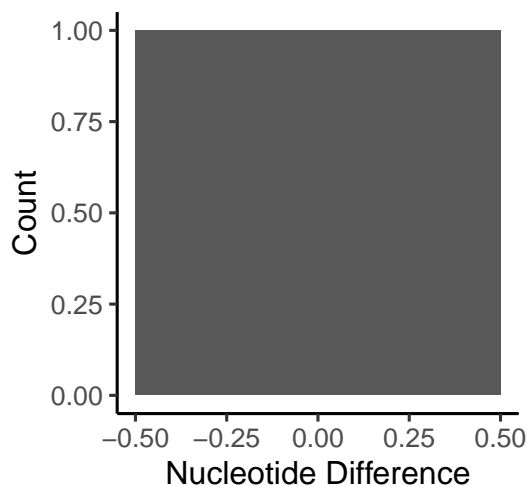
### IGHV2-5\*02

666 sequences assigned  
269 (40.4%) exact matches, in which:  
269 unique CDR3  
6 unique J



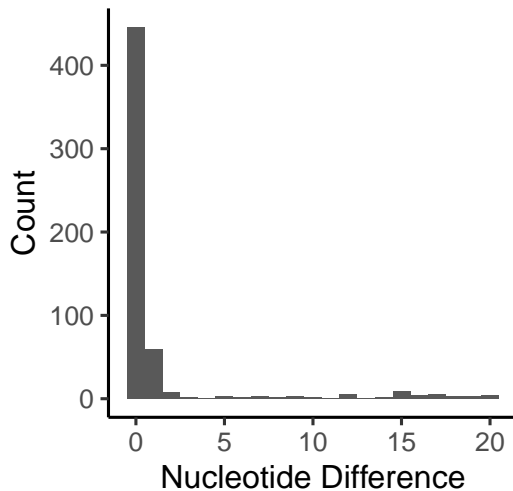
### IGHV1-68\*02

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



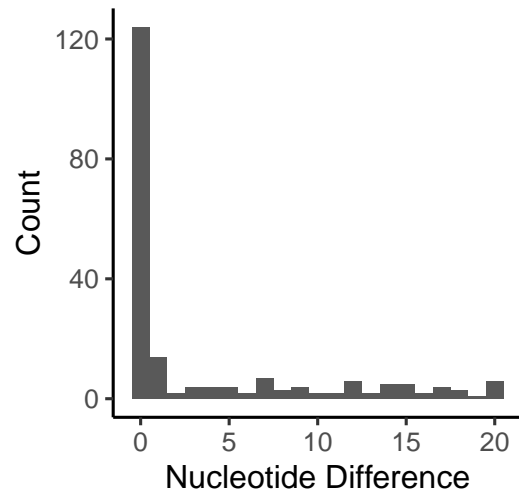
### IGHV1-69\*06

656 sequences assigned  
446 (68%) exact matches, in which:  
445 unique CDR3  
7 unique J



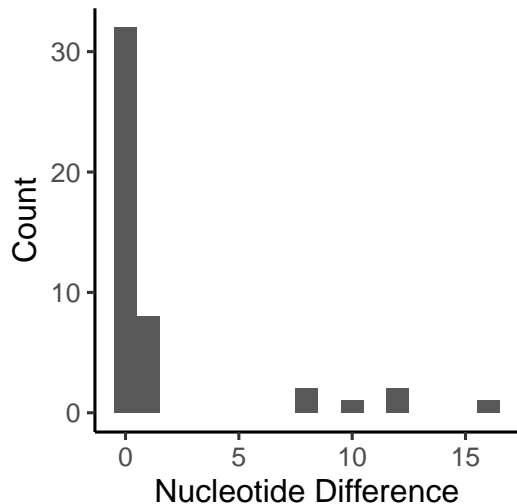
### IGHV2-26\*01

223 sequences assigned  
124 (55.6%) exact matches, in which:  
123 unique CDR3  
6 unique J



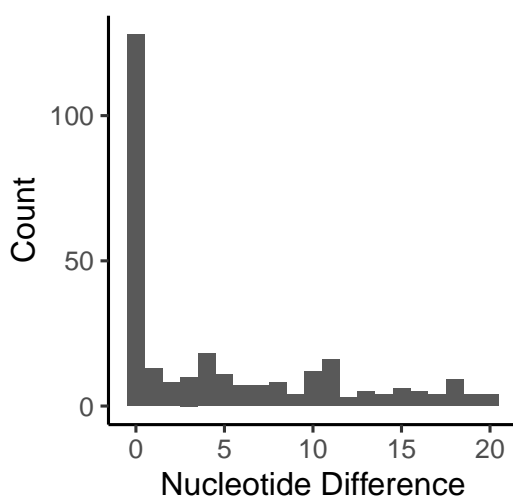
### IGHV1-69-2\*01

52 sequences assigned  
32 (61.5%) exact matches, in which:  
31 unique CDR3  
5 unique J



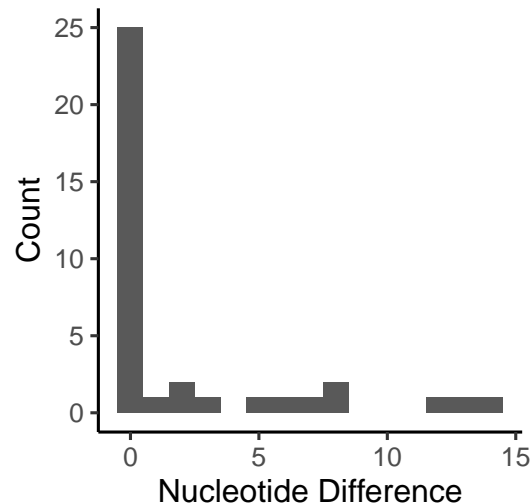
### IGHV2-5\*01

310 sequences assigned  
128 (41.3%) exact matches, in which:  
128 unique CDR3  
6 unique J



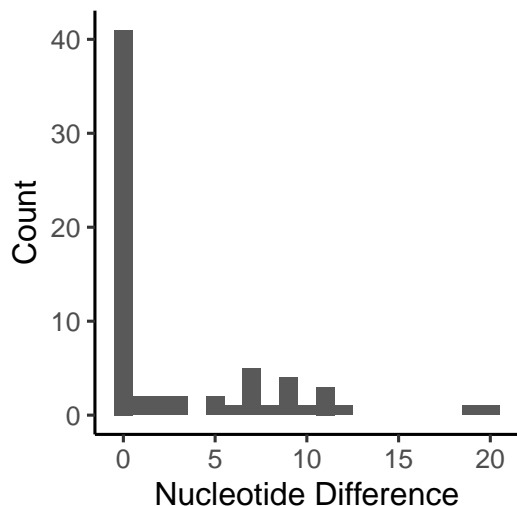
### IGHV2-70\*01

41 sequences assigned  
25 (61%) exact matches, in which:  
25 unique CDR3  
4 unique J



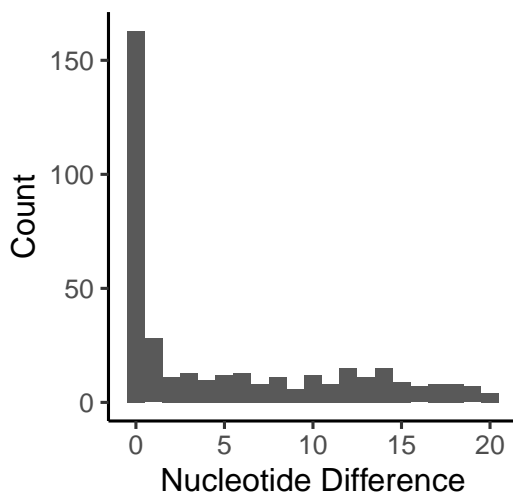
## IGHV2-70\*15

74 sequences assigned  
41 (55.4%) exact matches, in which:  
41 unique CDR3  
5 unique J



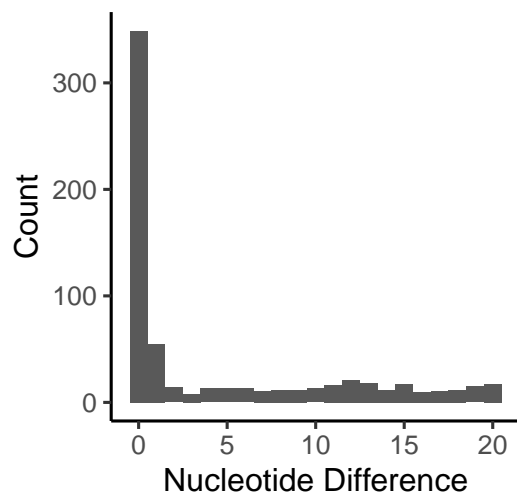
## IGHV3-11\*01

459 sequences assigned  
163 (35.5%) exact matches, in which:  
163 unique CDR3  
5 unique J



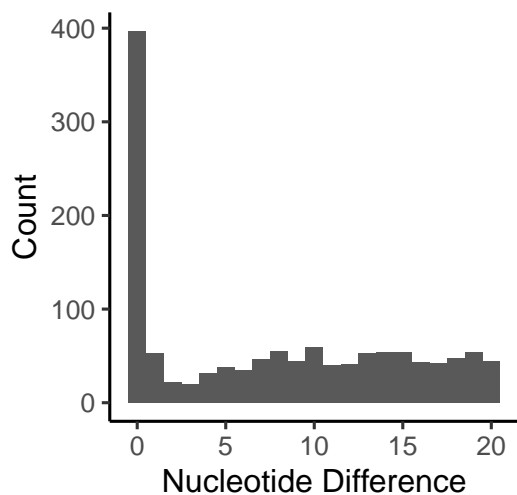
## IGHV3-15\*01

805 sequences assigned  
349 (43.4%) exact matches, in which:  
347 unique CDR3  
7 unique J



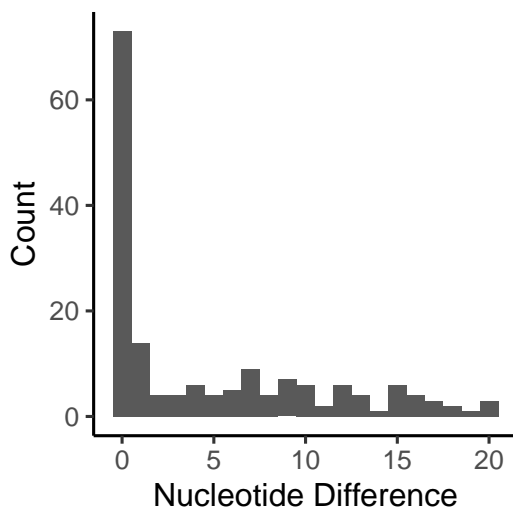
## IGHV3-7\*01

1644 sequences assigned  
397 (24.1%) exact matches, in which:  
396 unique CDR3  
7 unique J



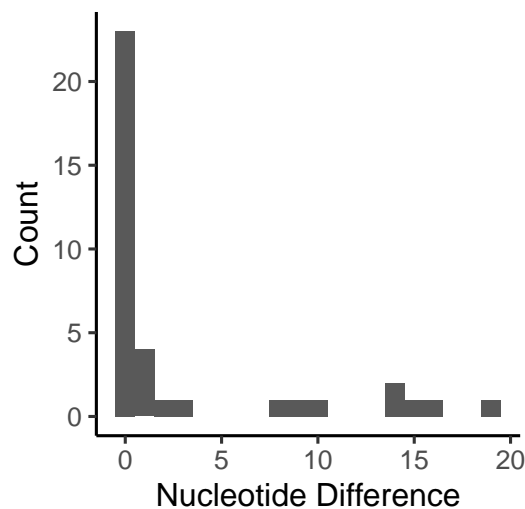
## IGHV3-11\*04

218 sequences assigned  
73 (33.5%) exact matches, in which:  
73 unique CDR3  
5 unique J



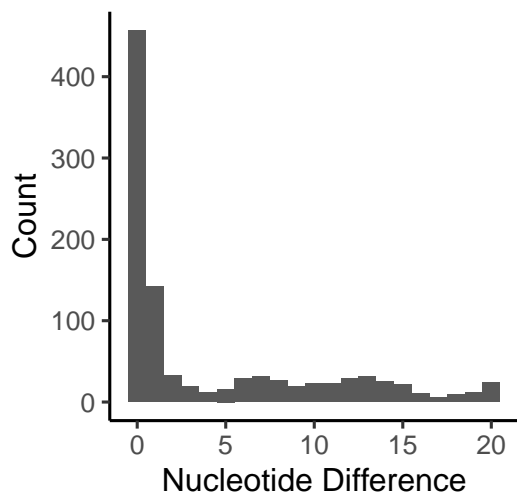
## IGHV3-20\*01

42 sequences assigned  
23 (54.8%) exact matches, in which:  
23 unique CDR3  
5 unique J



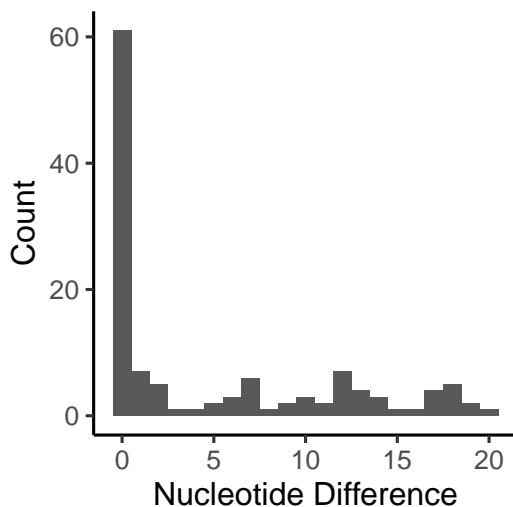
## IGHV3-9\*01

1125 sequences assigned  
457 (40.6%) exact matches, in which:  
456 unique CDR3  
6 unique J



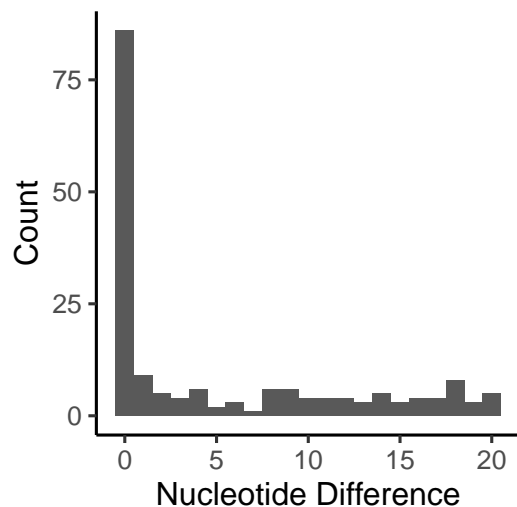
## IGHV3-13\*01

143 sequences assigned  
61 (42.7%) exact matches, in which:  
61 unique CDR3  
5 unique J



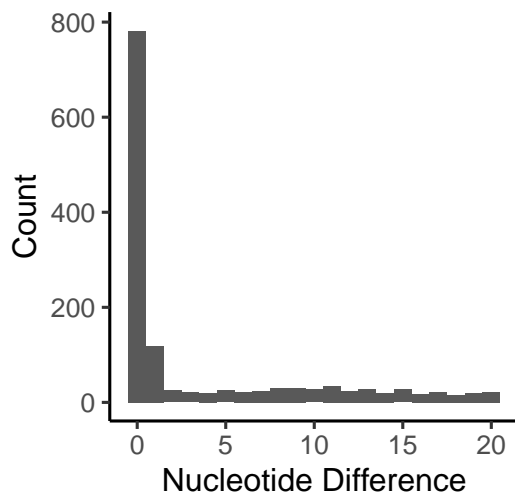
## IGHV3-20\*04

208 sequences assigned  
86 (41.3%) exact matches, in which:  
85 unique CDR3  
5 unique J



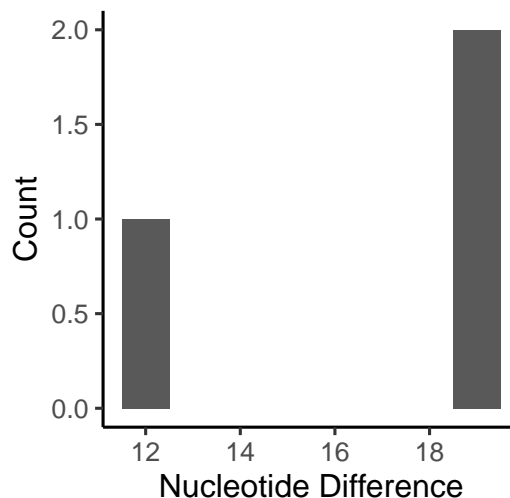
### IGHV3-21\*01

1544 sequences assigned  
782 (50.6%) exact matches, in which:  
780 unique CDR3  
7 unique J



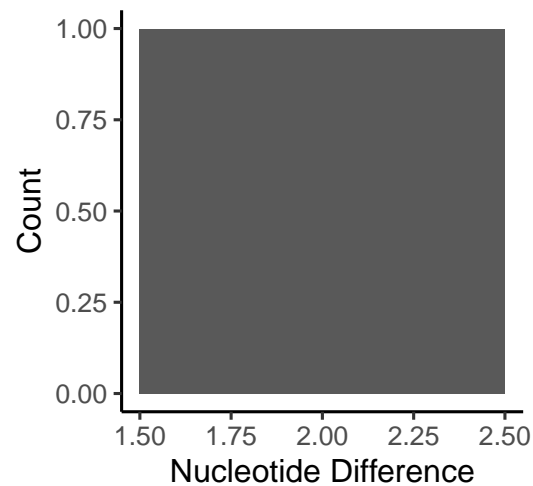
### IGHV3-41\*02

3 sequences assigned  
No exact matches.



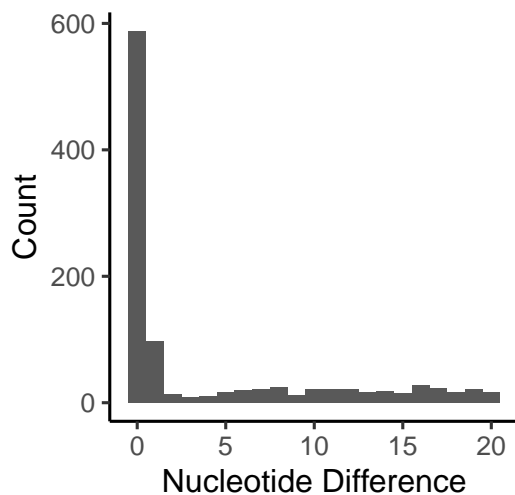
### IGHV3-47\*02

1 sequences assigned  
No exact matches.



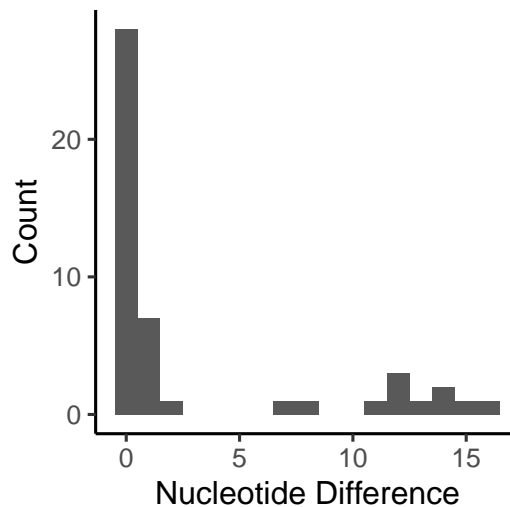
### IGHV3-30-3\*01

1210 sequences assigned  
588 (48.6%) exact matches, in which:  
584 unique CDR3  
6 unique J



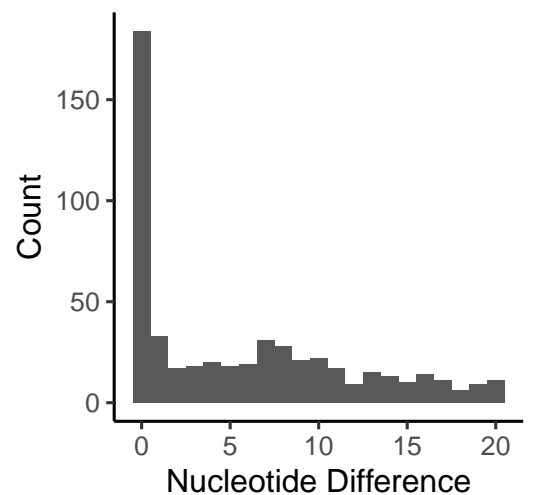
### IGHV3-43\*01

52 sequences assigned  
28 (53.8%) exact matches, in which:  
27 unique CDR3  
4 unique J



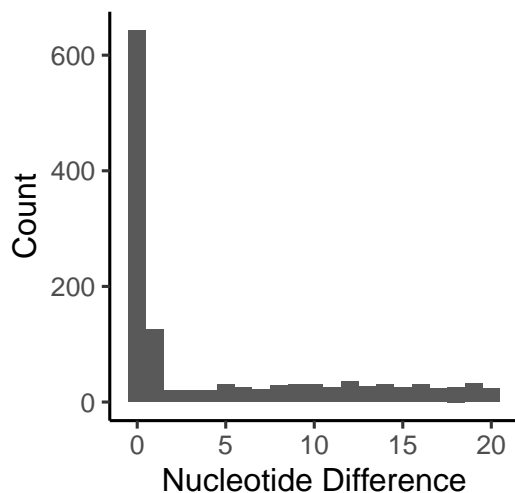
### IGHV3-48\*02

651 sequences assigned  
184 (28.3%) exact matches, in which:  
182 unique CDR3  
6 unique J



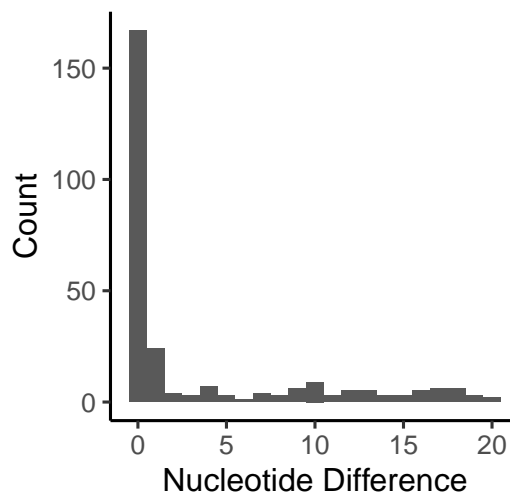
### IGHV3-33\*01

1533 sequences assigned  
643 (41.9%) exact matches, in which:  
642 unique CDR3  
7 unique J



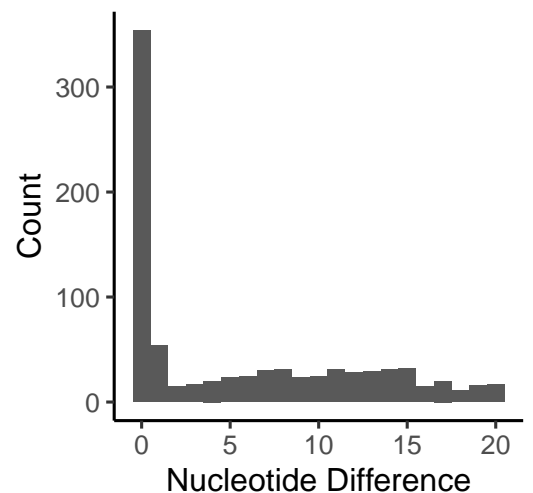
### IGHV3-43\*02

327 sequences assigned  
167 (51.1%) exact matches, in which:  
167 unique CDR3  
5 unique J



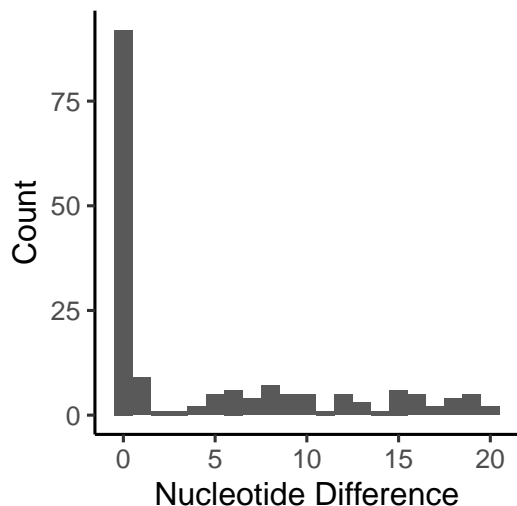
### IGHV3-48\*03

980 sequences assigned  
354 (36.1%) exact matches, in which:  
354 unique CDR3  
6 unique J



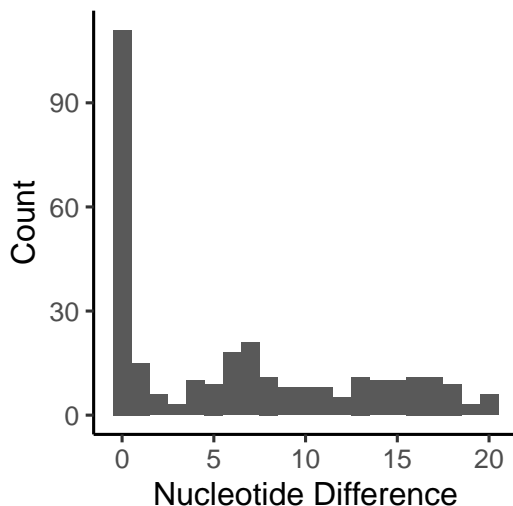
### IGHV3-49\*04

195 sequences assigned  
92 (47.2%) exact matches, in which:  
91 unique CDR3  
5 unique J



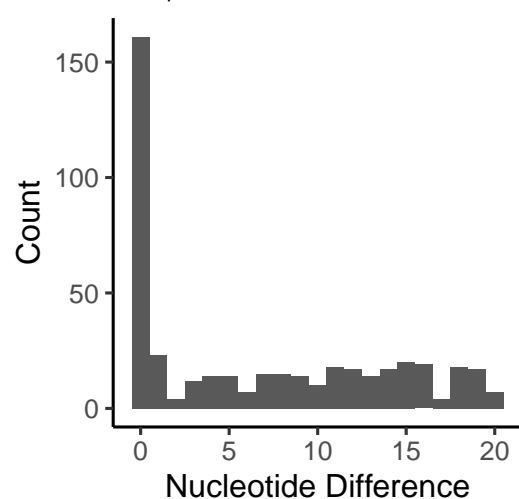
### IGHV3-53\*01

412 sequences assigned  
111 (26.9%) exact matches, in which:  
111 unique CDR3  
6 unique J



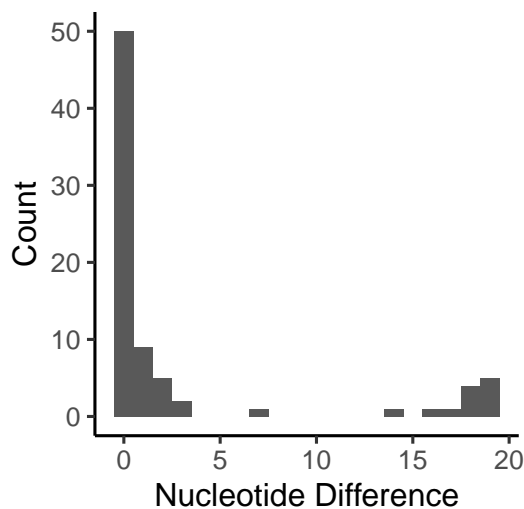
### IGHV3-66\*01

564 sequences assigned  
161 (28.5%) exact matches, in which:  
160 unique CDR3  
6 unique J



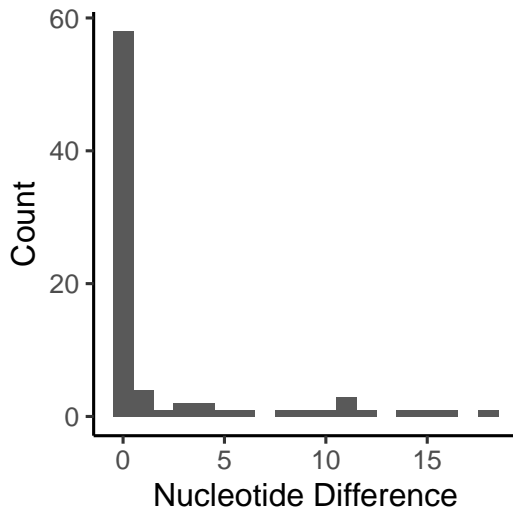
### IGHV3-49\*05

104 sequences assigned  
50 (48.1%) exact matches, in which:  
50 unique CDR3  
6 unique J



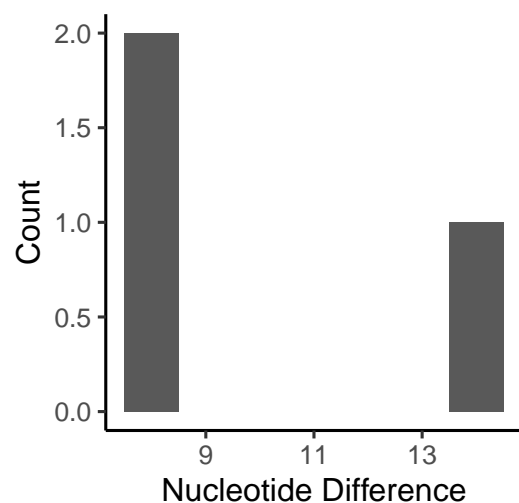
### IGHV3-53\*04

87 sequences assigned  
58 (66.7%) exact matches, in which:  
58 unique CDR3  
5 unique J



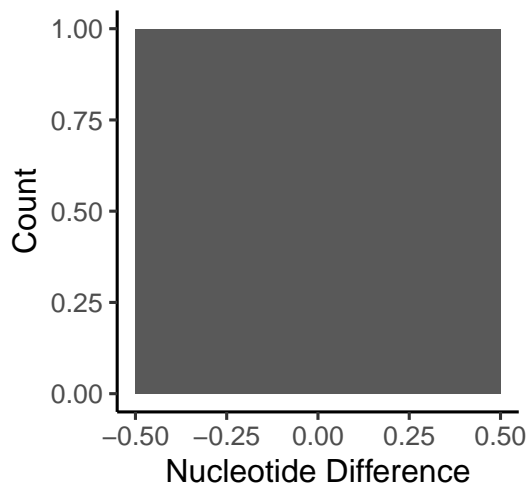
### IGHV3-69-1\*01

6 sequences assigned  
No exact matches.



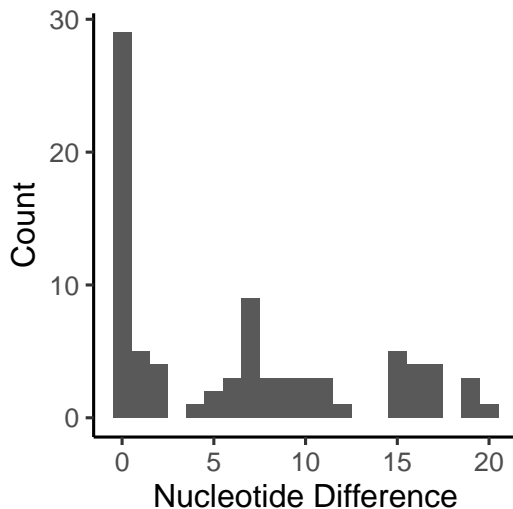
### IGHV3-52\*01

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



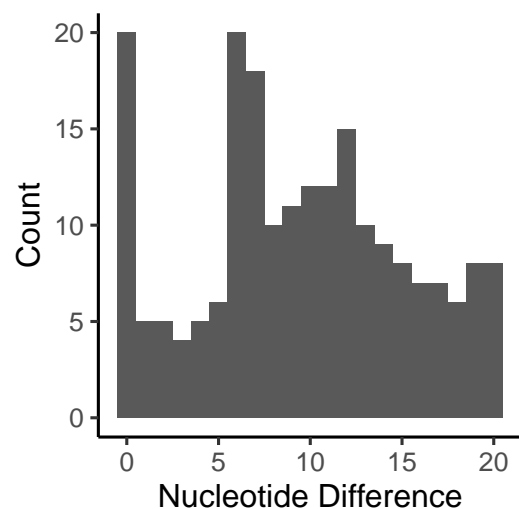
### IGHV3-64\*01

90 sequences assigned  
29 (32.2%) exact matches, in which:  
29 unique CDR3  
5 unique J



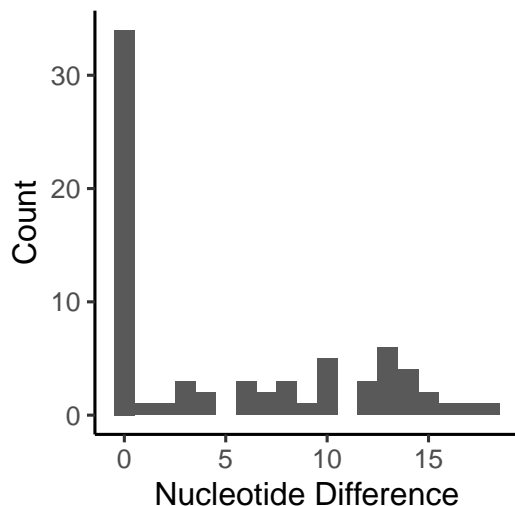
### IGHV3-72\*01

267 sequences assigned  
20 (7.5%) exact matches, in which:  
20 unique CDR3  
6 unique J



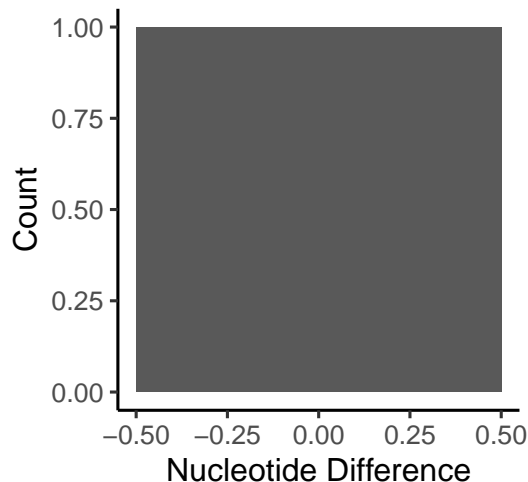
### IGHV3-73\*01

88 sequences assigned  
34 (38.6%) exact matches, in which:  
34 unique CDR3  
4 unique J



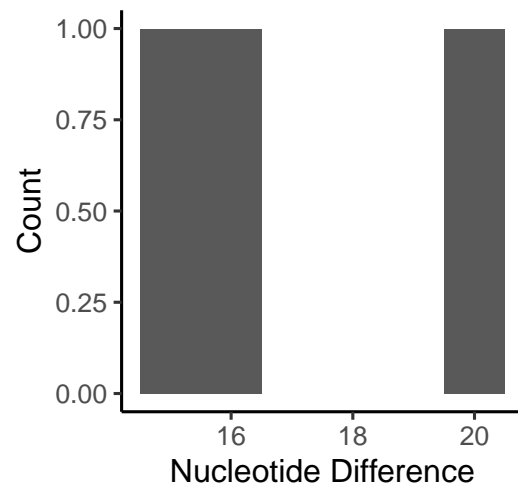
### IGHV3-64D\*06

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



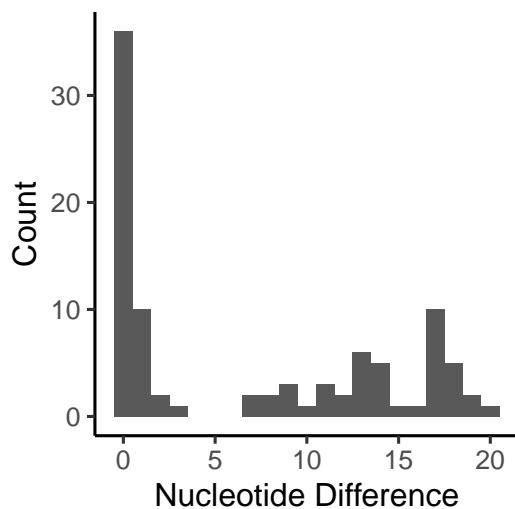
### IGHV4-28\*01

3 sequences assigned  
No exact matches.



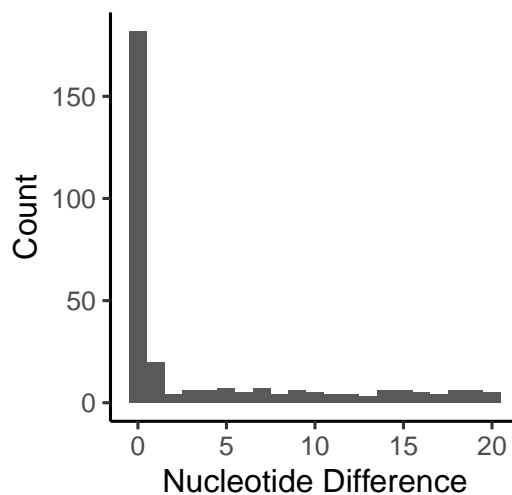
### IGHV3-73\*02

108 sequences assigned  
36 (33.3%) exact matches, in which:  
36 unique CDR3  
5 unique J



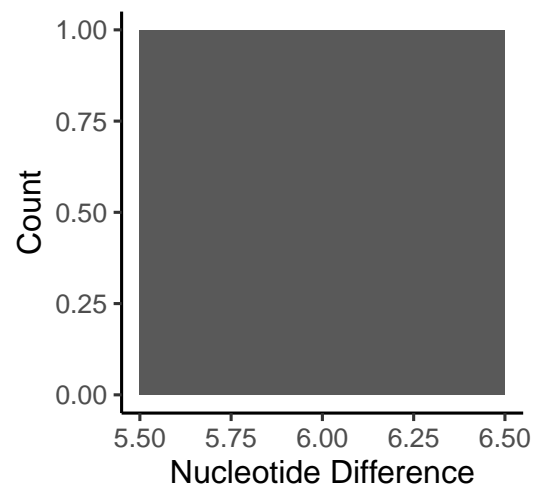
### IGHV4-4\*02

364 sequences assigned  
182 (50%) exact matches, in which:  
182 unique CDR3  
6 unique J



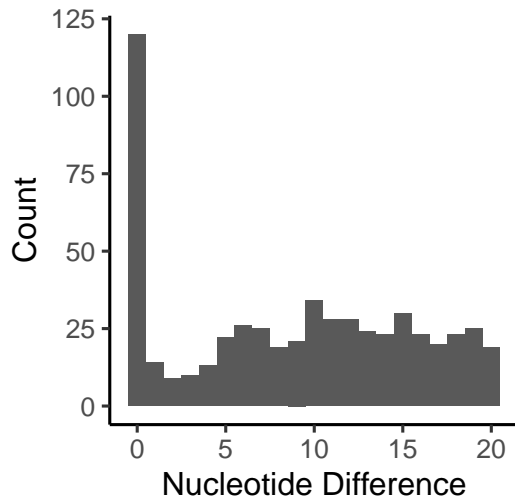
### IGHV4-28\*07

1 sequences assigned  
No exact matches.



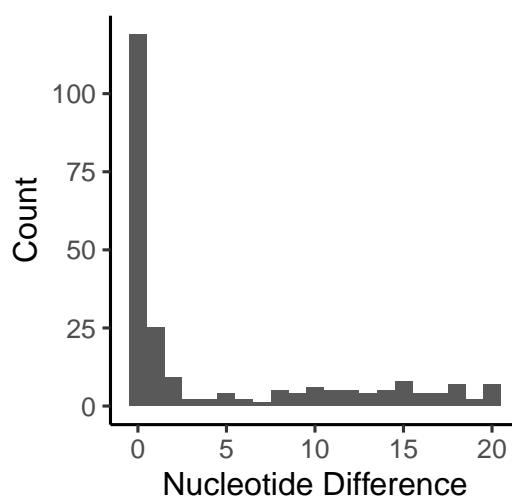
### IGHV3-74\*01

736 sequences assigned  
120 (16.3%) exact matches, in which:  
118 unique CDR3  
7 unique J



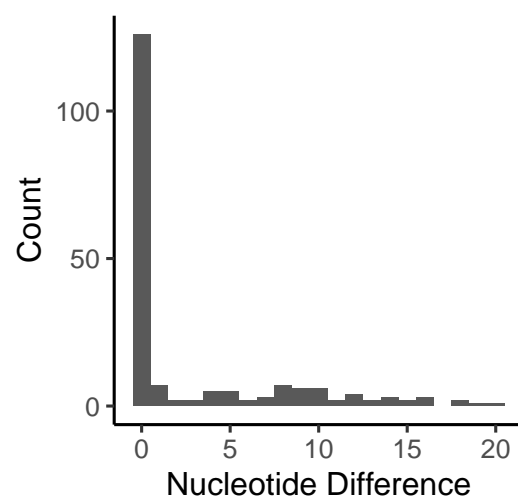
### IGHV4-4\*07

285 sequences assigned  
119 (41.8%) exact matches, in which:  
116 unique CDR3  
6 unique J



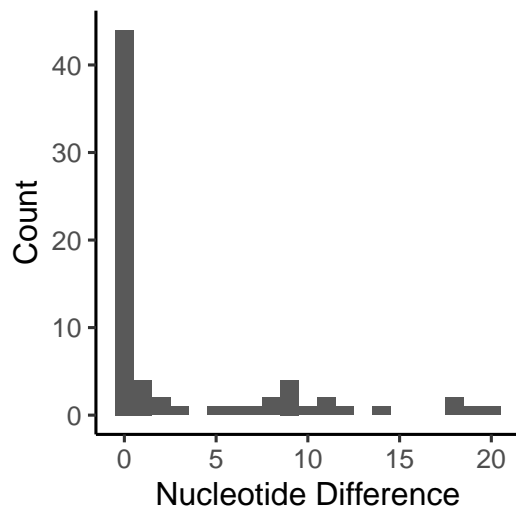
### IGHV4-30-4\*01

239 sequences assigned  
126 (52.7%) exact matches, in which:  
125 unique CDR3  
6 unique J



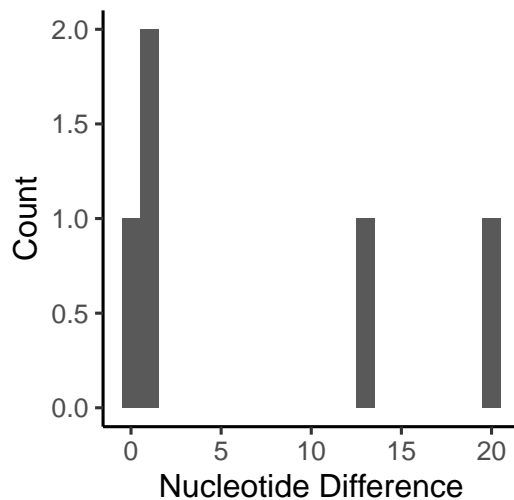
### IGHV4-30-2\*01

74 sequences assigned  
44 (59.5%) exact matches, in which:  
44 unique CDR3  
5 unique J



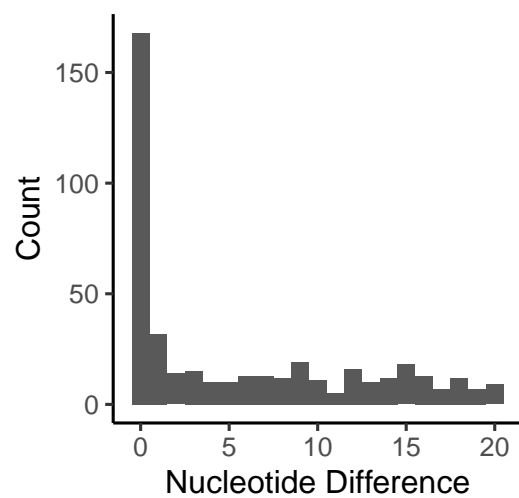
### IGHV4-38-2\*02

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



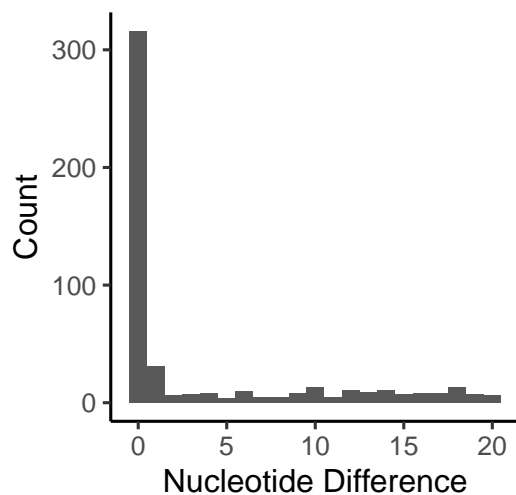
### IGHV4-59\*08

497 sequences assigned  
168 (33.8%) exact matches, in which:  
166 unique CDR3  
6 unique J



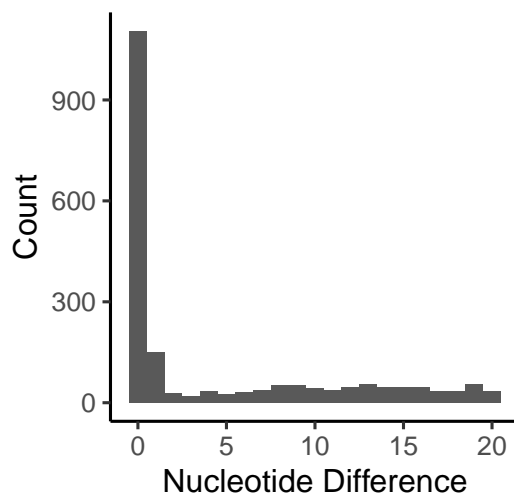
### IGHV4-31\*03

589 sequences assigned  
316 (53.7%) exact matches, in which:  
316 unique CDR3  
7 unique J



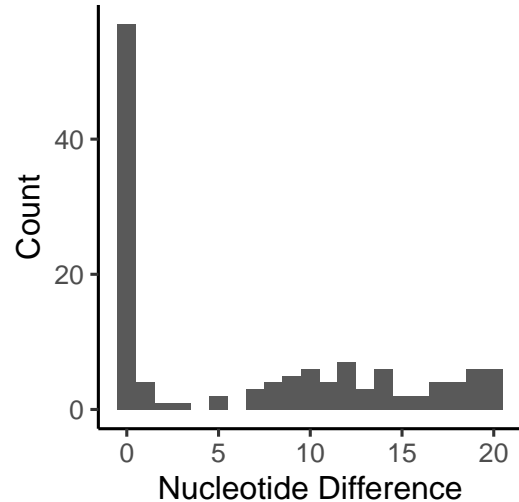
### IGHV4-39\*01

2414 sequences assigned  
1105 (45.8%) exact matches, in which:  
1102 unique CDR3  
7 unique J



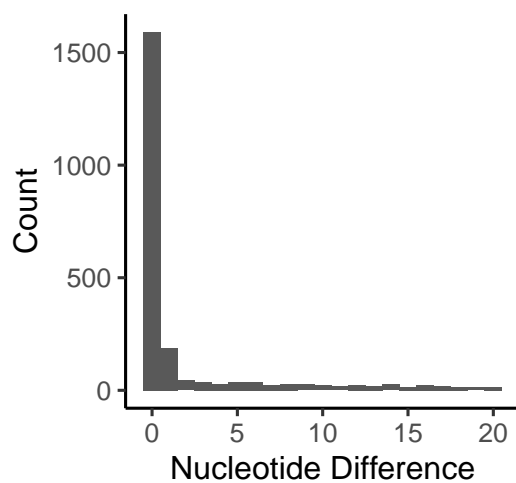
### IGHV4-61\*01

149 sequences assigned  
57 (38.3%) exact matches, in which:  
57 unique CDR3  
6 unique J



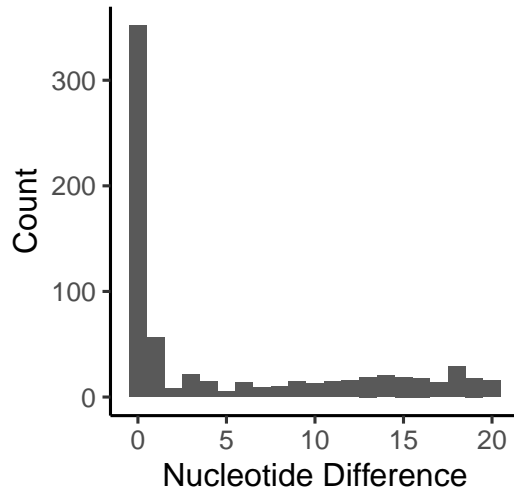
### IGHV4-34\*01

2404 sequences assigned  
1591 (66.2%) exact matches, in which:  
1579 unique CDR3  
7 unique J



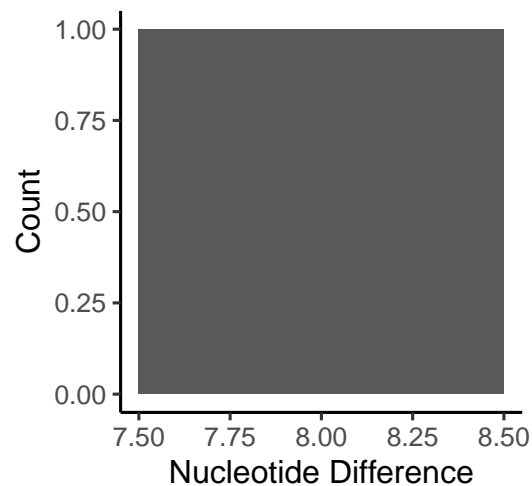
### IGHV4-59\*01

878 sequences assigned  
352 (40.1%) exact matches, in which:  
352 unique CDR3  
7 unique J



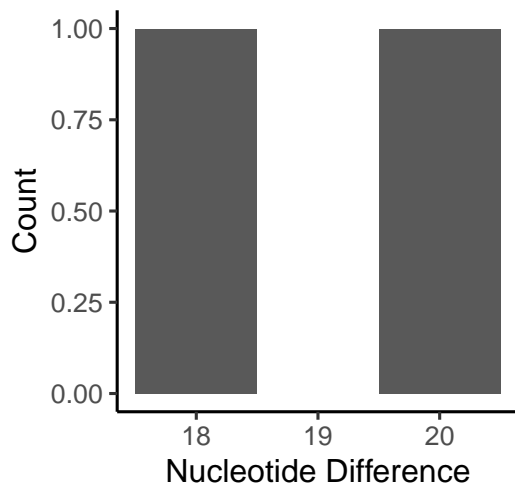
### IGHV1/OR15-1\*04

1 sequences assigned  
No exact matches.



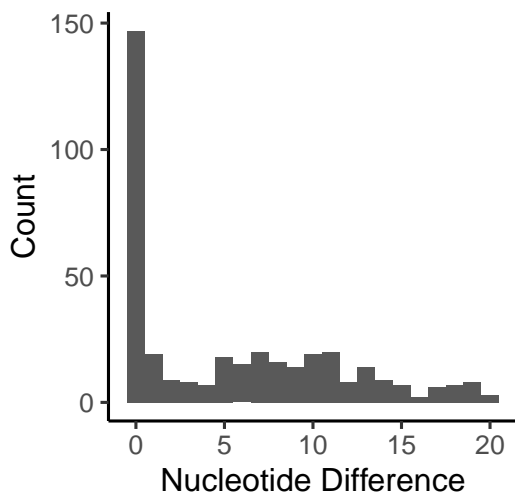
### IGHV4/OR15–8\*02

4 sequences assigned  
No exact matches.



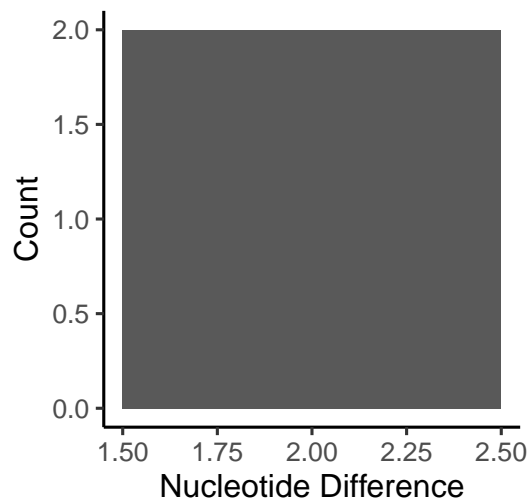
### IGHV6–1\*01

406 sequences assigned  
147 (36.2%) exact matches, in which:  
147 unique CDR3  
7 unique J



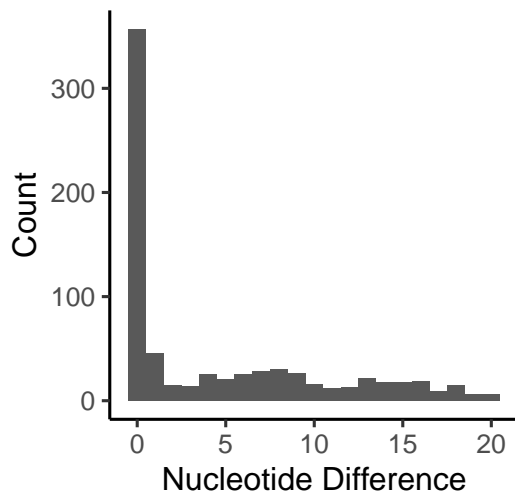
### IGHV3/OR16–12\*01

2 sequences assigned  
No exact matches.



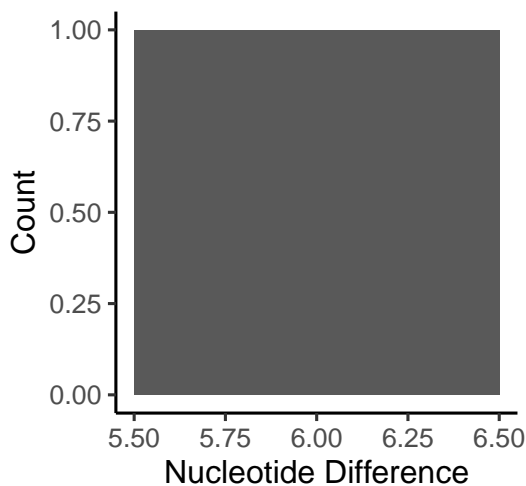
### IGHV5–51\*01

863 sequences assigned  
357 (41.4%) exact matches, in which:  
354 unique CDR3  
7 unique J



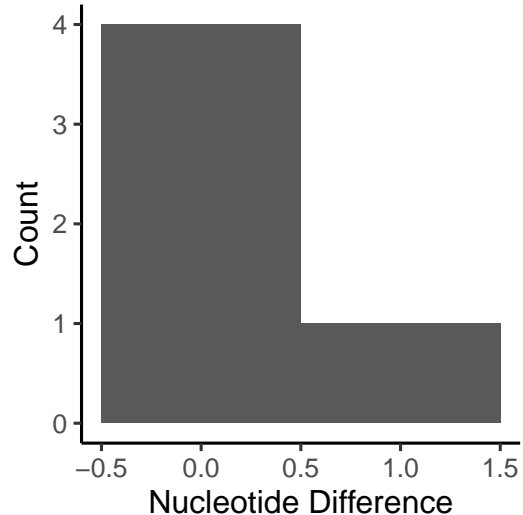
### IGHV3/OR16–8\*01

1 sequences assigned  
No exact matches.



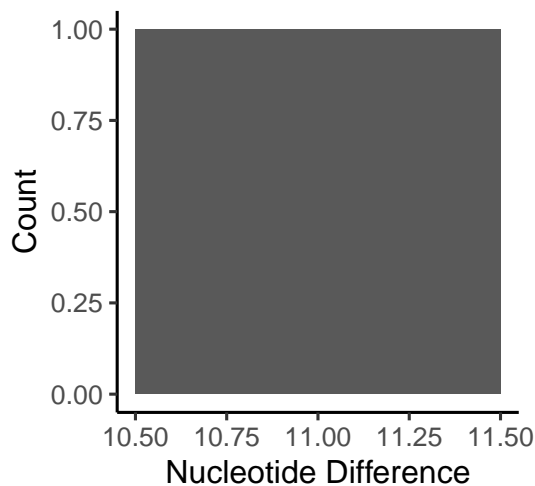
### IGHV7–4–1\*01

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



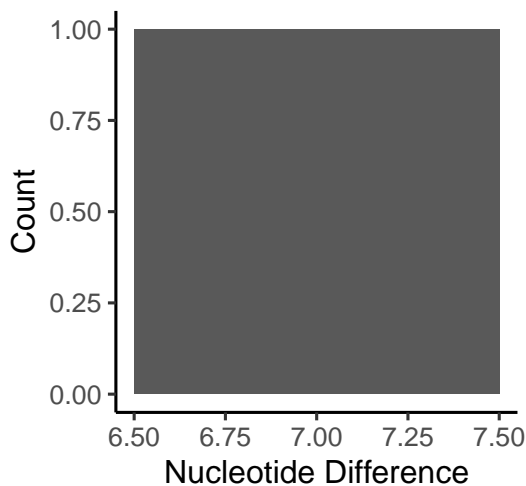
### IGHV5–78\*01

1 sequences assigned  
No exact matches.



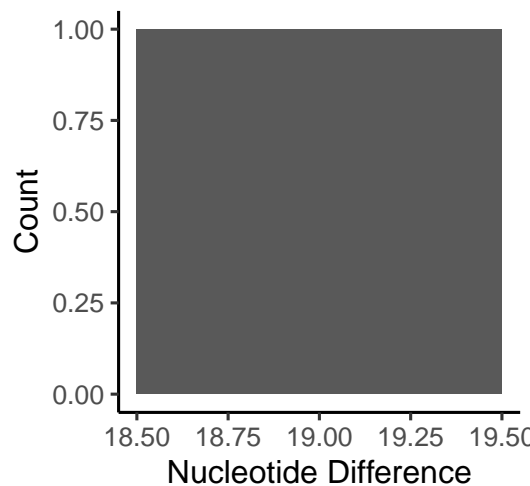
### IGHV3/OR16–9\*01

1 sequences assigned  
No exact matches.



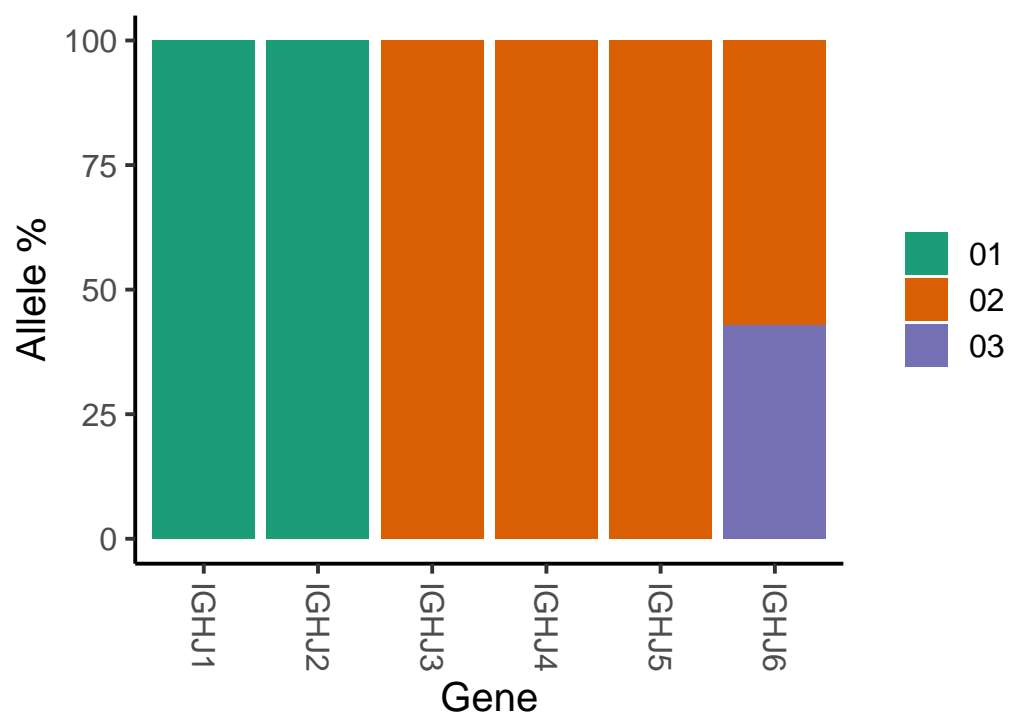
### IGHV7–4–1\*02

1 sequences assigned  
No exact matches.

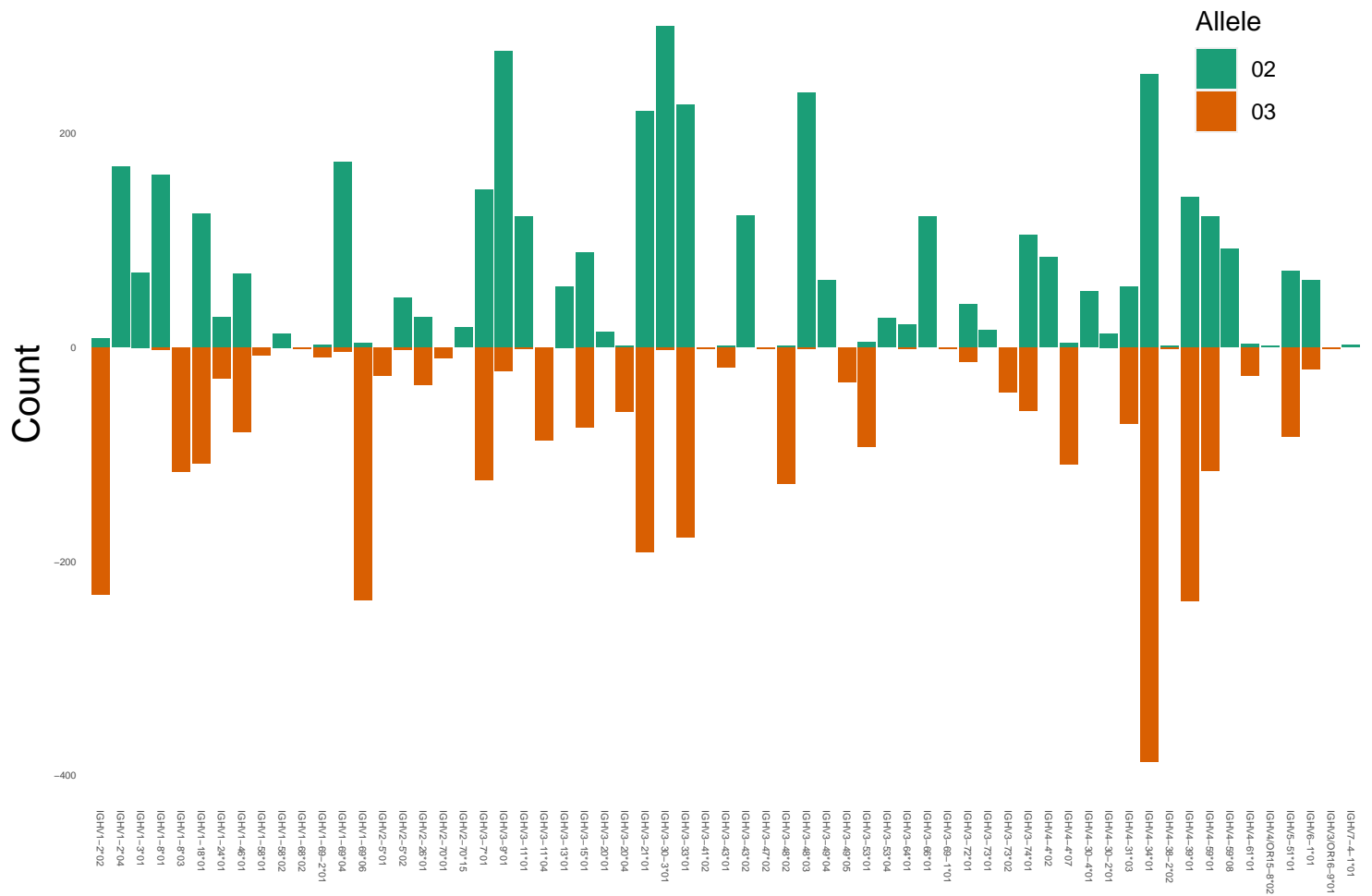




Allele Usage



## Sequence Count byIGHJ6 allele usage



Warning – no inferred sequences found.