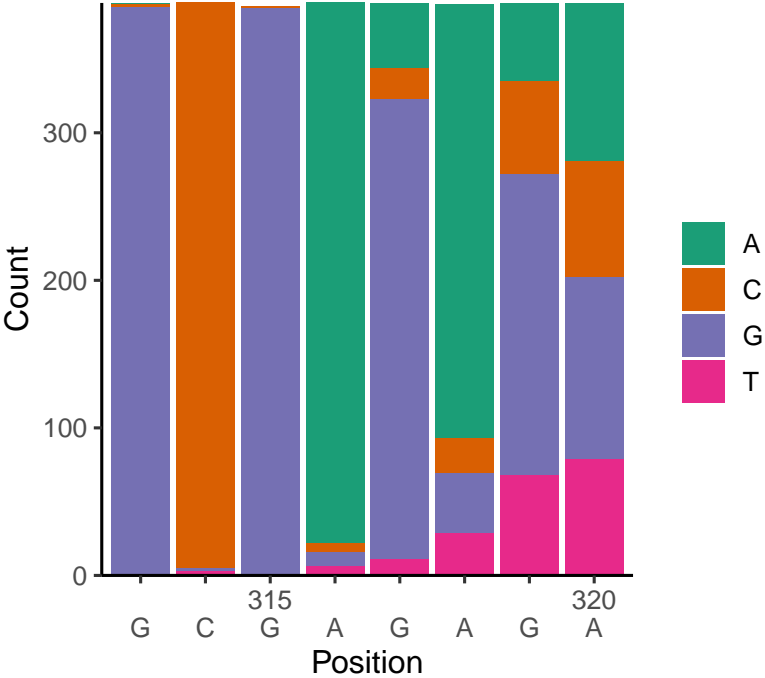


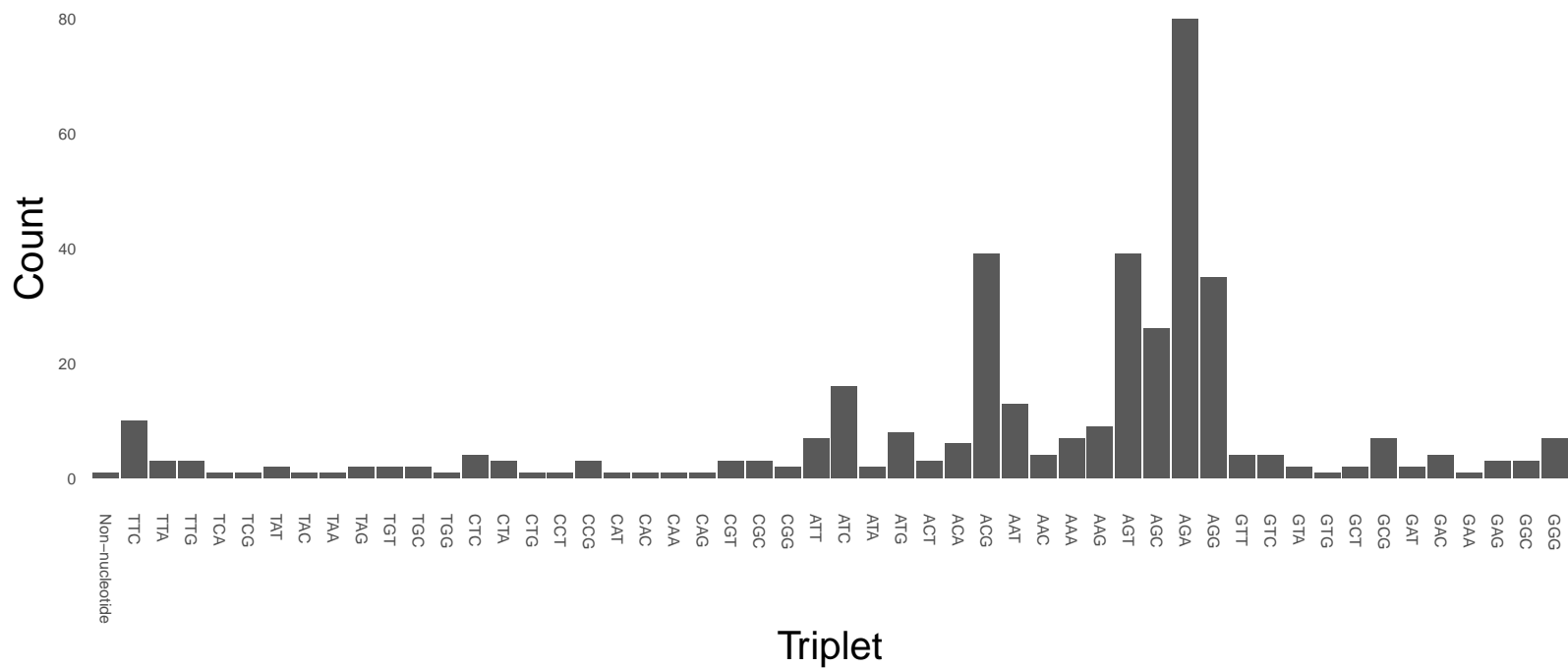
Gene IGHV4-4\*02\_C20T



Gene IGHV4-4\*02\_C20T

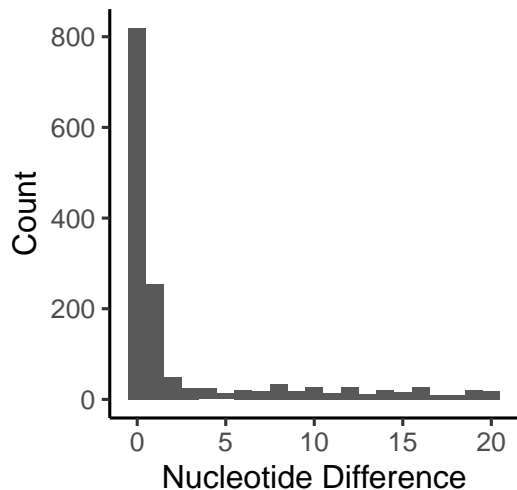


IGHV4-4\*02\_C20T- Final 3 nucleotides as a triplet



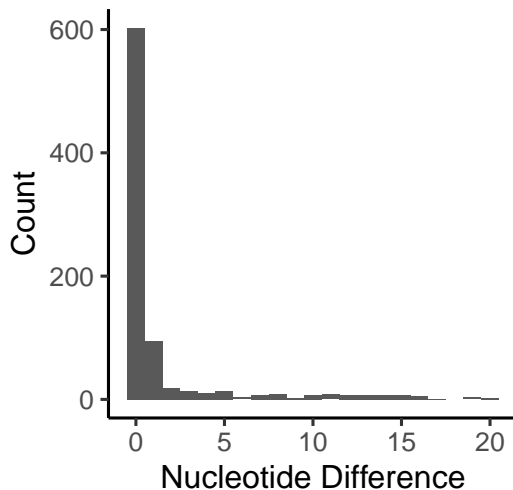
### IGHV1-2\*02

1822 sequences assigned  
820 (45%) exact matches, in which:  
808 unique CDR3  
6 unique J



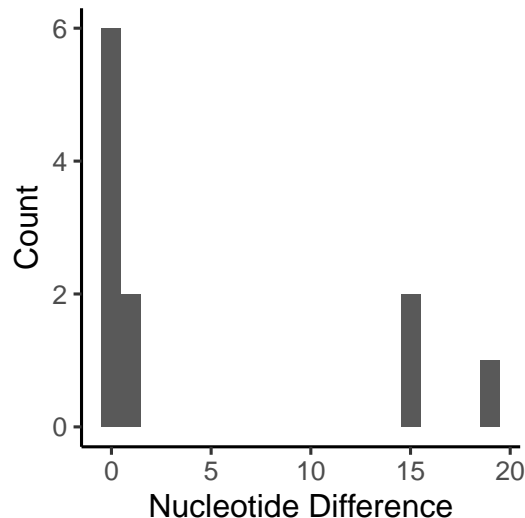
### IGHV1-8\*01

932 sequences assigned  
603 (64.7%) exact matches, in which:  
596 unique CDR3  
7 unique J



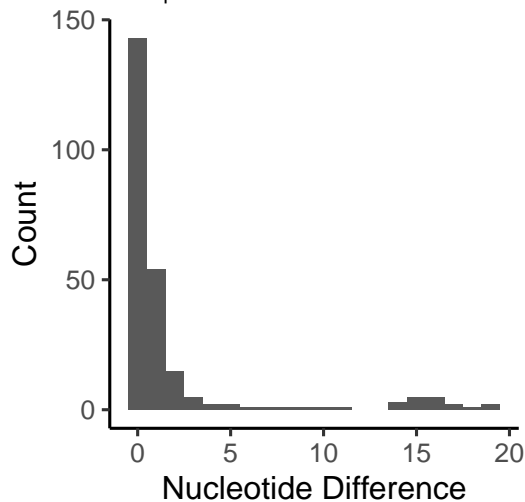
### IGHV1-45\*02

45 sequences assigned  
6 (13.3%) exact matches, in which:  
6 unique CDR3  
3 unique J



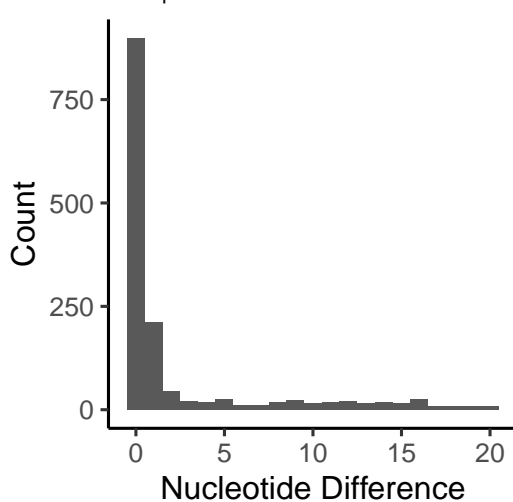
### IGHV1-2\*04

247 sequences assigned  
143 (57.9%) exact matches, in which:  
141 unique CDR3  
6 unique J



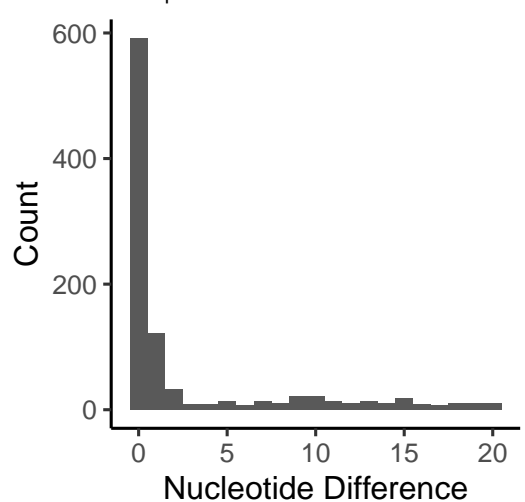
### IGHV1-18\*01

1633 sequences assigned  
899 (55.1%) exact matches, in which:  
890 unique CDR3  
7 unique J



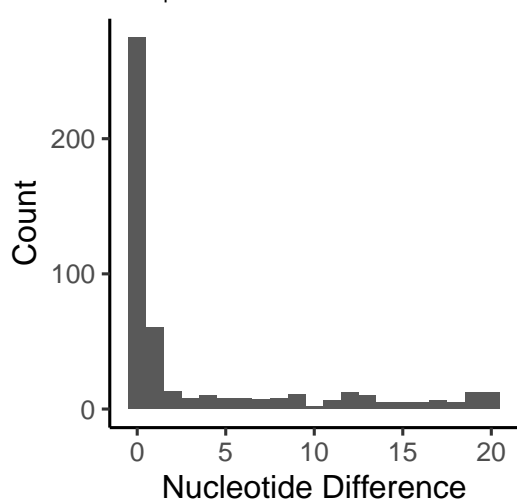
### IGHV1-46\*01

1194 sequences assigned  
592 (49.6%) exact matches, in which:  
583 unique CDR3  
7 unique J



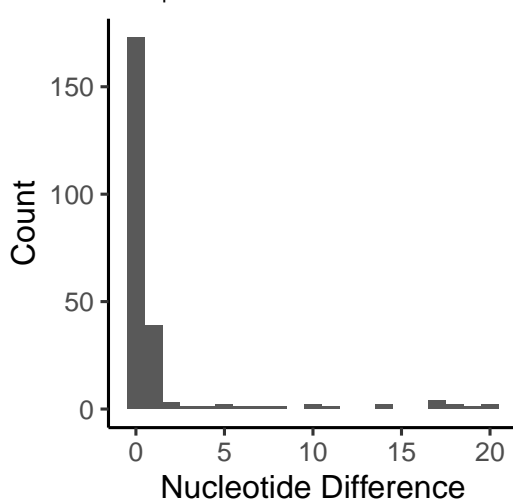
### IGHV1-3\*01

687 sequences assigned  
275 (40%) exact matches, in which:  
273 unique CDR3  
6 unique J



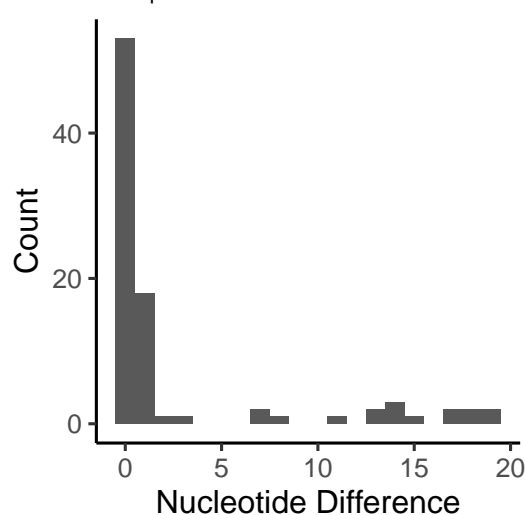
### IGHV1-24\*01

246 sequences assigned  
173 (70.3%) exact matches, in which:  
171 unique CDR3  
7 unique J



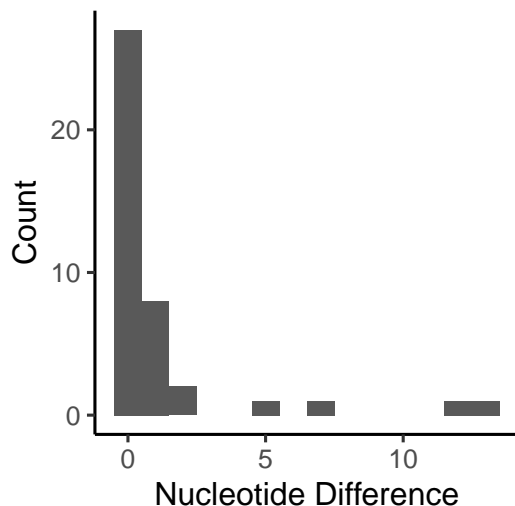
### IGHV1-58\*01

98 sequences assigned  
53 (54.1%) exact matches, in which:  
53 unique CDR3  
5 unique J



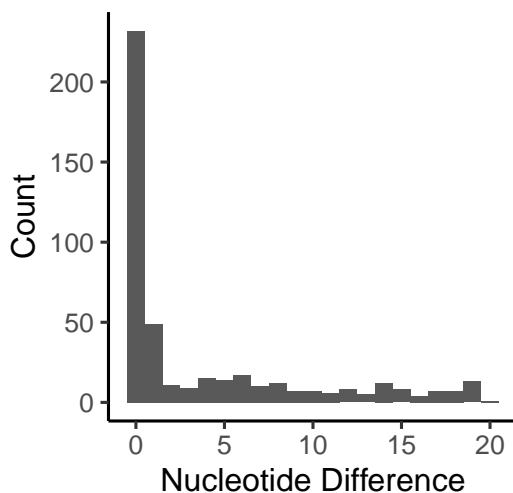
## IGHV1-58\*02

41 sequences assigned  
27 (65.9%) exact matches, in which:  
27 unique CDR3  
5 unique J



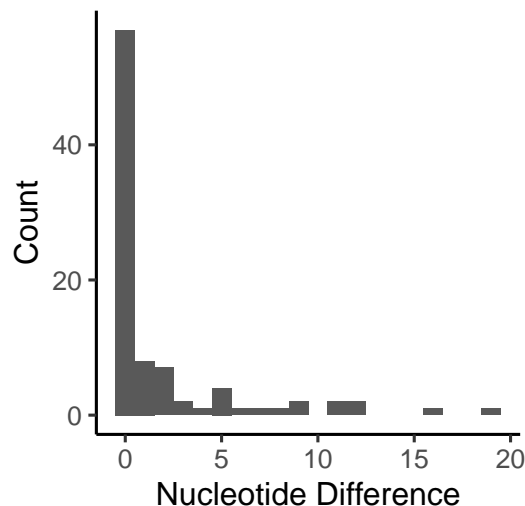
## IGHV2-5\*01

495 sequences assigned  
232 (46.9%) exact matches, in which:  
229 unique CDR3  
6 unique J



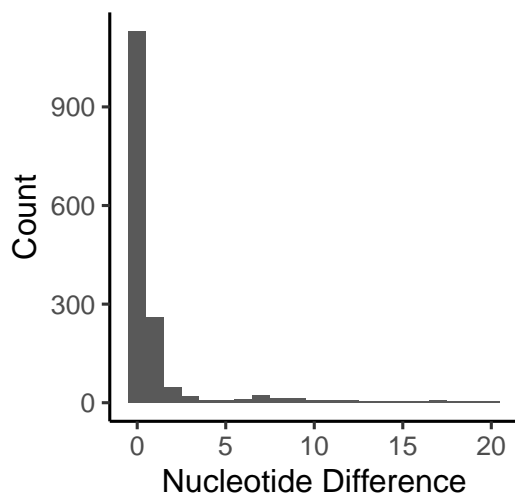
## IGHV2-70\*01

95 sequences assigned  
57 (60%) exact matches, in which:  
57 unique CDR3  
5 unique J



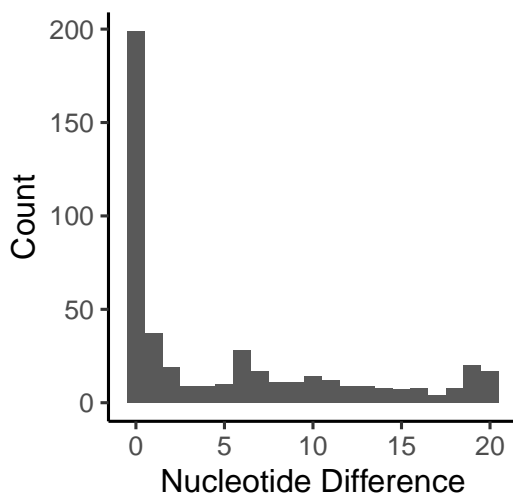
## IGHV1-69\*01

1760 sequences assigned  
1131 (64.3%) exact matches, in which:  
1116 unique CDR3  
7 unique J



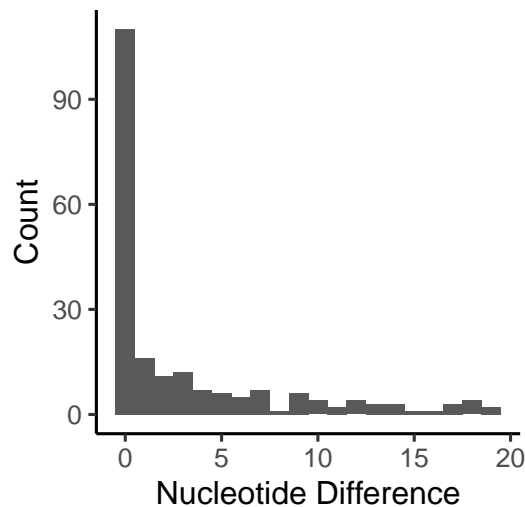
## IGHV2-5\*02

800 sequences assigned  
199 (24.9%) exact matches, in which:  
195 unique CDR3  
6 unique J



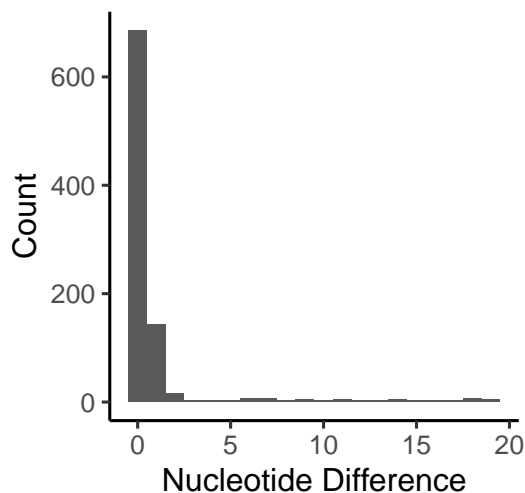
## IGHV2-70\*15

215 sequences assigned  
110 (51.2%) exact matches, in which:  
108 unique CDR3  
5 unique J



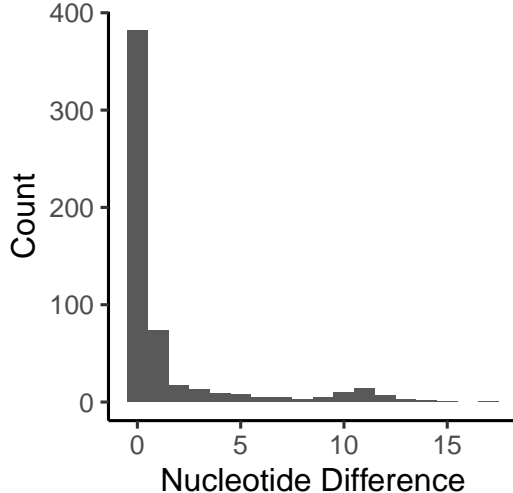
## IGHV1-69\*04

1157 sequences assigned  
686 (59.3%) exact matches, in which:  
678 unique CDR3  
6 unique J



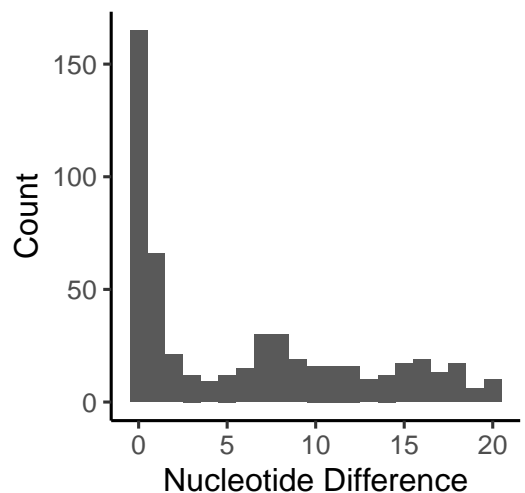
## IGHV2-26\*01

577 sequences assigned  
382 (66.2%) exact matches, in which:  
375 unique CDR3  
7 unique J



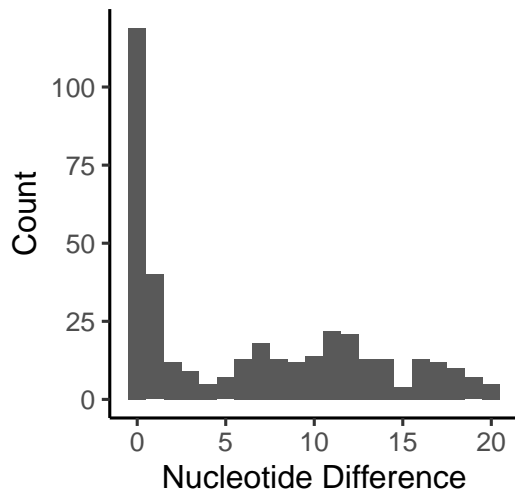
## IGHV3-7\*01

604 sequences assigned  
165 (27.3%) exact matches, in which:  
161 unique CDR3  
6 unique J



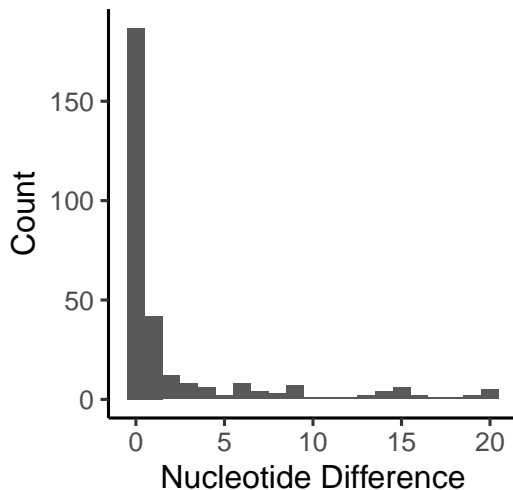
### IGHV3-7\*03

445 sequences assigned  
119 (26.7%) exact matches, in which:  
119 unique CDR3  
5 unique J



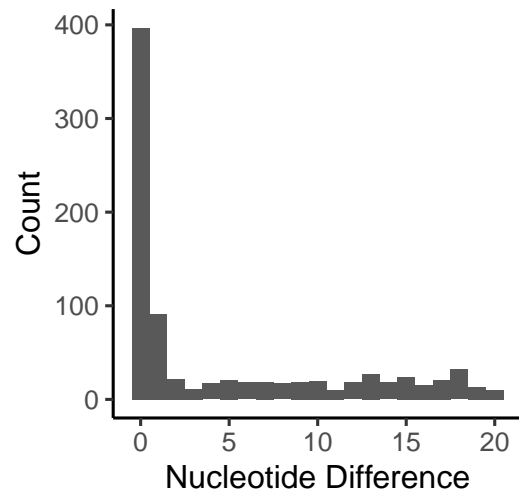
### IGHV3-11\*06

331 sequences assigned  
187 (56.5%) exact matches, in which:  
184 unique CDR3  
6 unique J



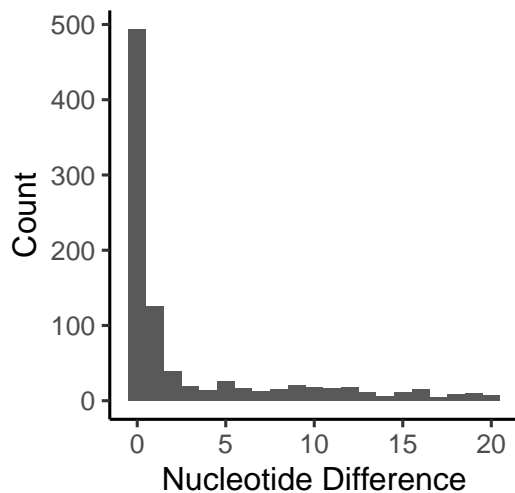
### IGHV3-15\*01

983 sequences assigned  
397 (40.4%) exact matches, in which:  
391 unique CDR3  
7 unique J



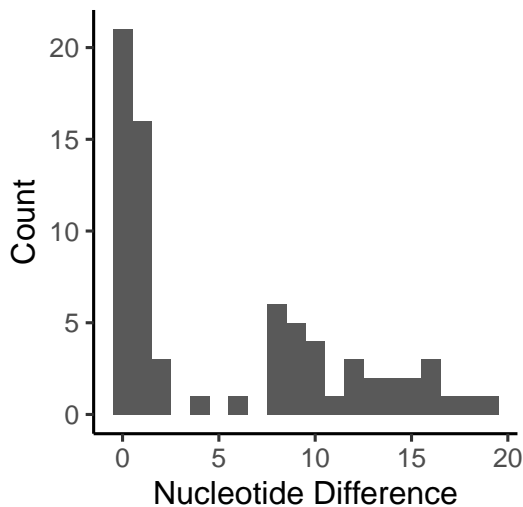
### IGHV3-9\*01

1031 sequences assigned  
494 (47.9%) exact matches, in which:  
488 unique CDR3  
6 unique J



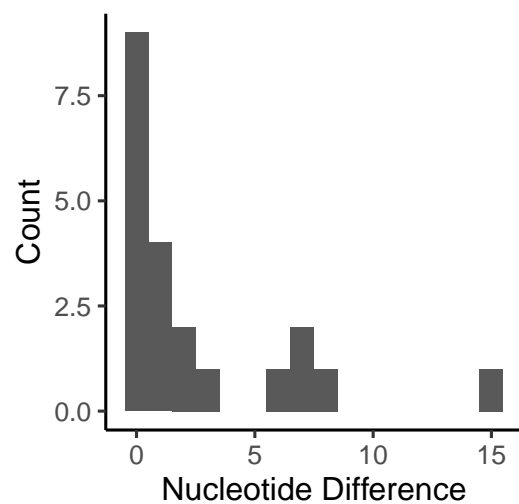
### IGHV3-13\*01

75 sequences assigned  
21 (28%) exact matches, in which:  
21 unique CDR3  
5 unique J



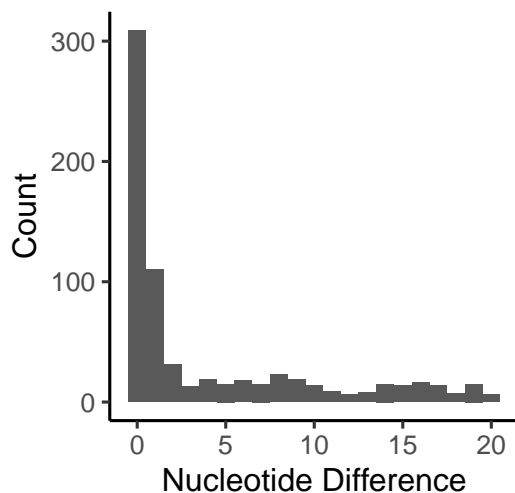
### IGHV3-20\*01

21 sequences assigned  
9 (42.9%) exact matches, in which:  
9 unique CDR3  
3 unique J



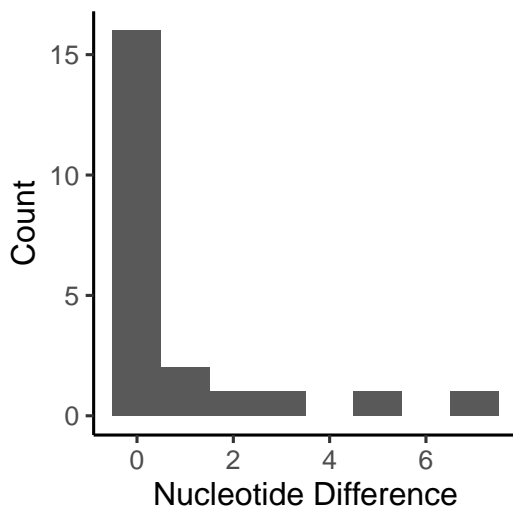
### IGHV3-11\*01

743 sequences assigned  
309 (41.6%) exact matches, in which:  
305 unique CDR3  
7 unique J



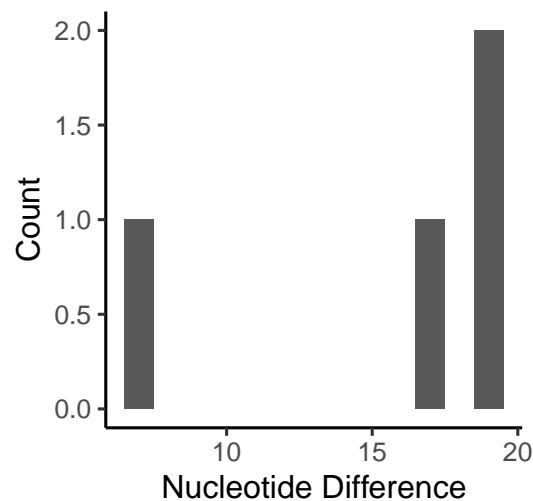
### IGHV3-13\*05

22 sequences assigned  
16 (72.7%) exact matches, in which:  
16 unique CDR3  
6 unique J



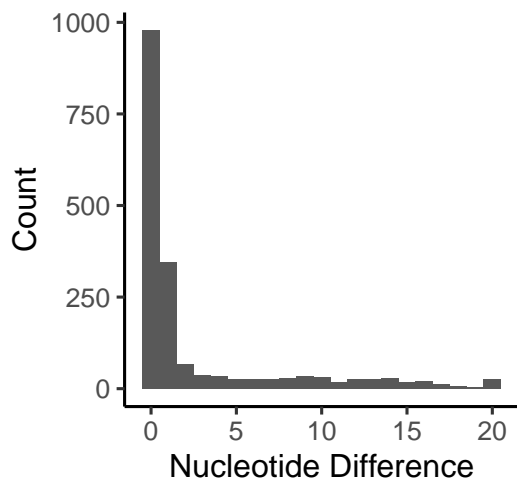
### IGHV3-20\*04

10 sequences assigned  
No exact matches.



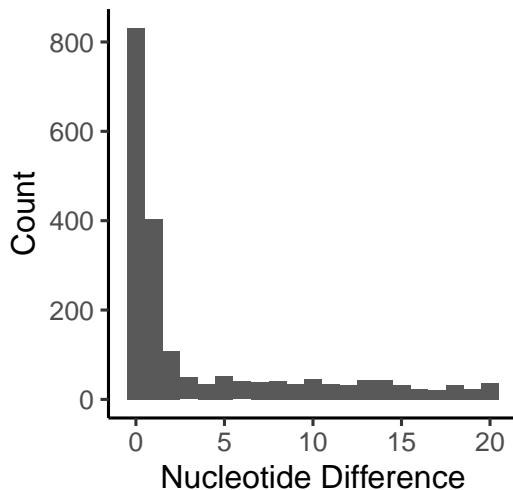
### IGHV3-21\*01

1954 sequences assigned  
978 (50.1%) exact matches, in which:  
960 unique CDR3  
7 unique J



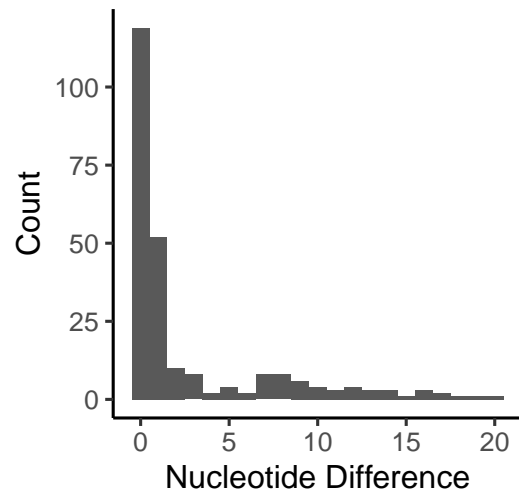
### IGHV3-30\*18

2522 sequences assigned  
832 (33%) exact matches, in which:  
829 unique CDR3  
7 unique J



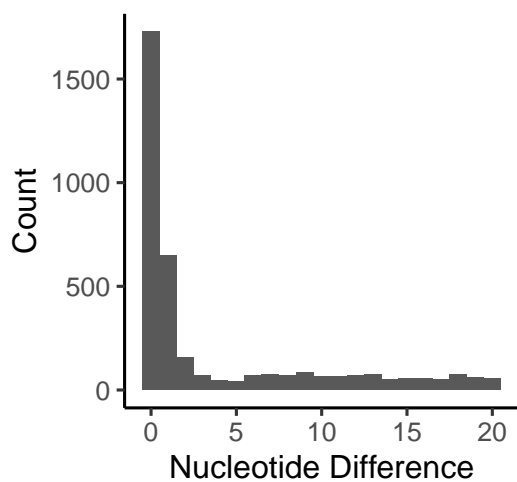
### IGHV3-43\*02

271 sequences assigned  
119 (43.9%) exact matches, in which:  
119 unique CDR3  
6 unique J



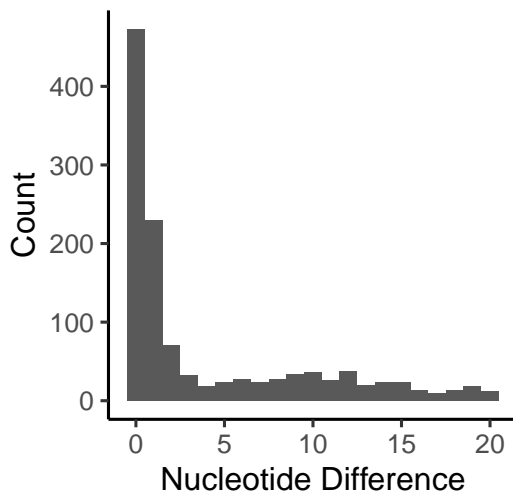
### IGHV3-23\*01

4362 sequences assigned  
1728 (39.6%) exact matches, in which:  
1709 unique CDR3  
7 unique J



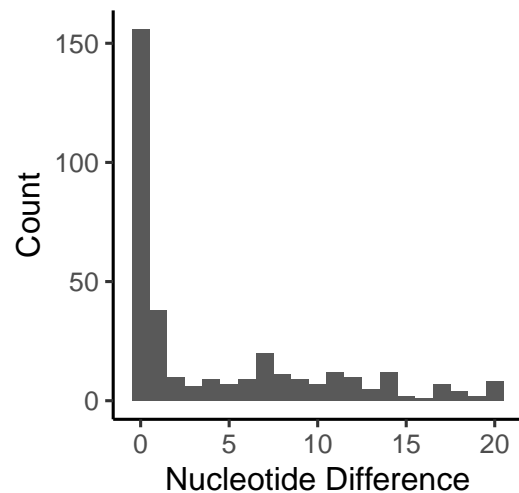
### IGHV3-33\*01

1412 sequences assigned  
473 (33.5%) exact matches, in which:  
472 unique CDR3  
7 unique J



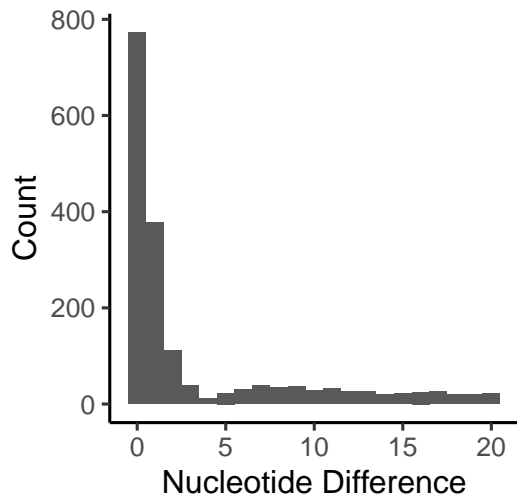
### IGHV3-48\*02

374 sequences assigned  
156 (41.7%) exact matches, in which:  
155 unique CDR3  
6 unique J



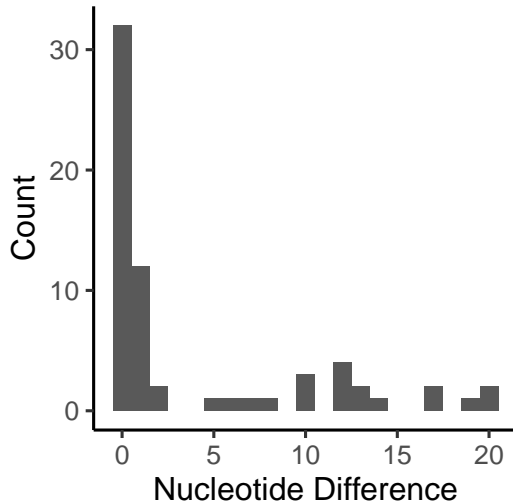
### IGHV3-30-3\*01

2808 sequences assigned  
773 (27.5%) exact matches, in which:  
764 unique CDR3  
7 unique J



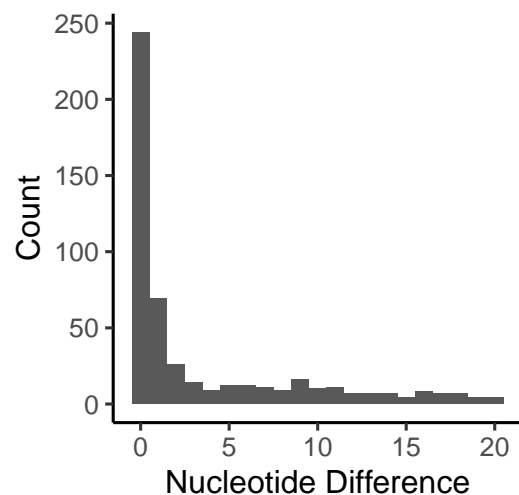
### IGHV3-43\*01

80 sequences assigned  
32 (40%) exact matches, in which:  
32 unique CDR3  
5 unique J



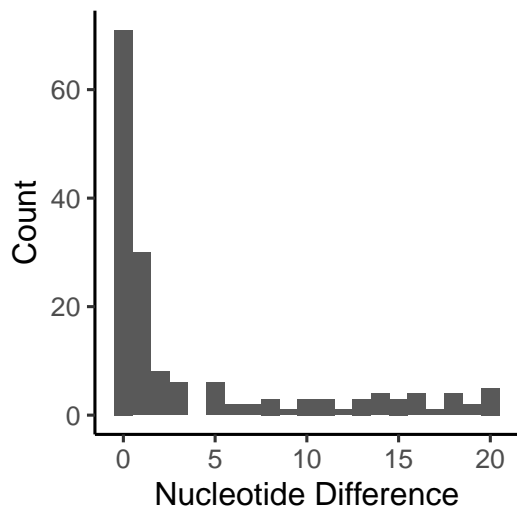
### IGHV3-48\*03

543 sequences assigned  
244 (44.9%) exact matches, in which:  
244 unique CDR3  
6 unique J



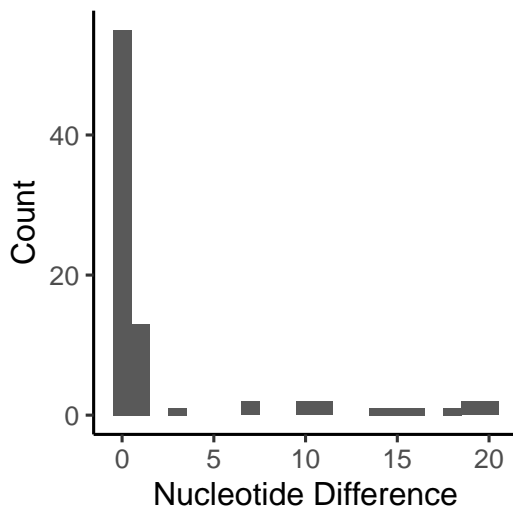
### IGHV3-49\*04

216 sequences assigned  
71 (32.9%) exact matches, in which:  
65 unique CDR3  
5 unique J



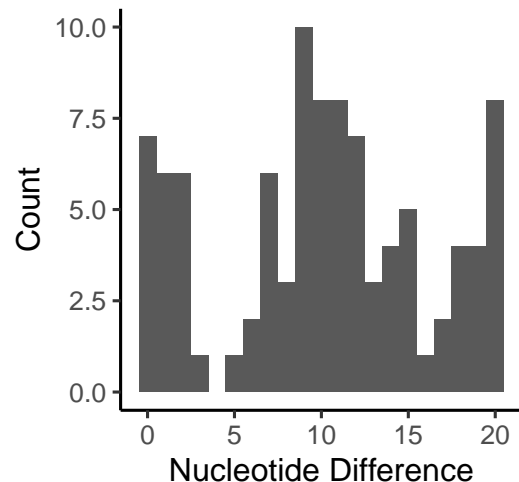
### IGHV3-53\*04

84 sequences assigned  
55 (65.5%) exact matches, in which:  
54 unique CDR3  
5 unique J



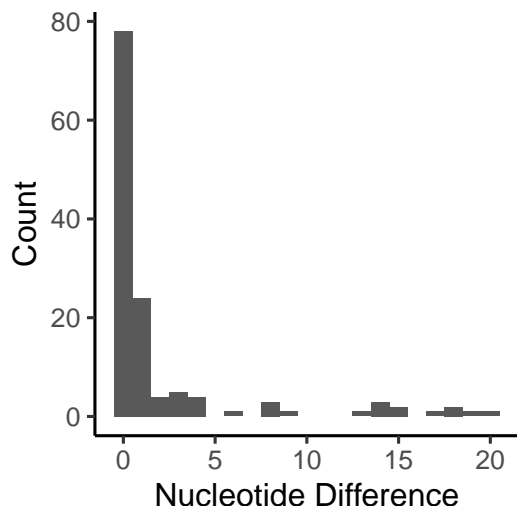
### IGHV3-72\*01

116 sequences assigned  
7 (6%) exact matches, in which:  
7 unique CDR3  
3 unique J



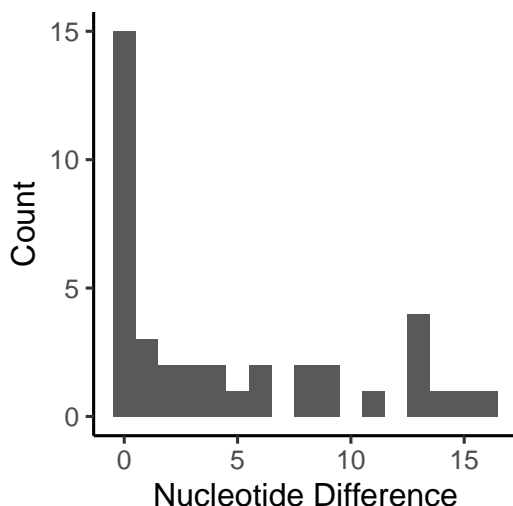
### IGHV3-49\*05

185 sequences assigned  
78 (42.2%) exact matches, in which:  
78 unique CDR3  
6 unique J



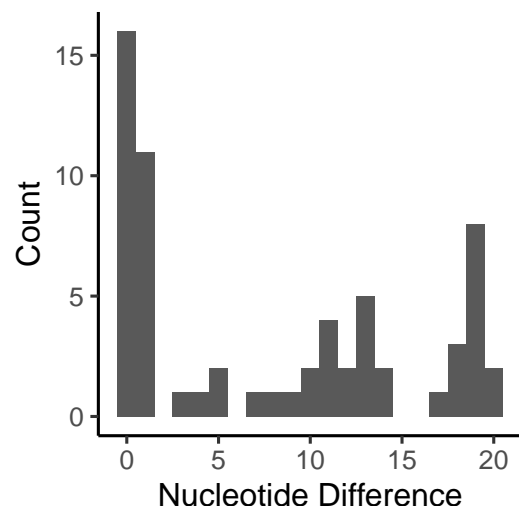
### IGHV3-64\*01

55 sequences assigned  
15 (27.3%) exact matches, in which:  
15 unique CDR3  
3 unique J



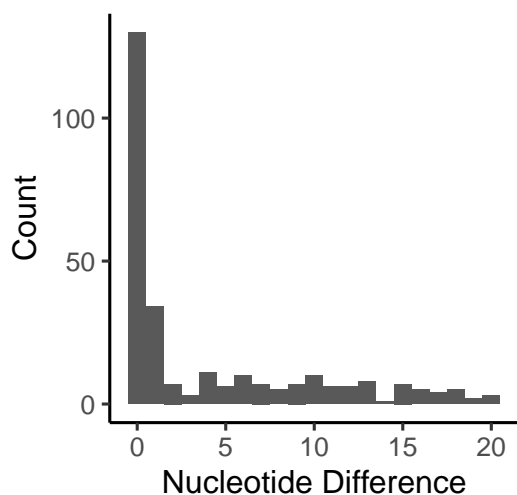
### IGHV3-73\*01

91 sequences assigned  
16 (17.6%) exact matches, in which:  
16 unique CDR3  
4 unique J



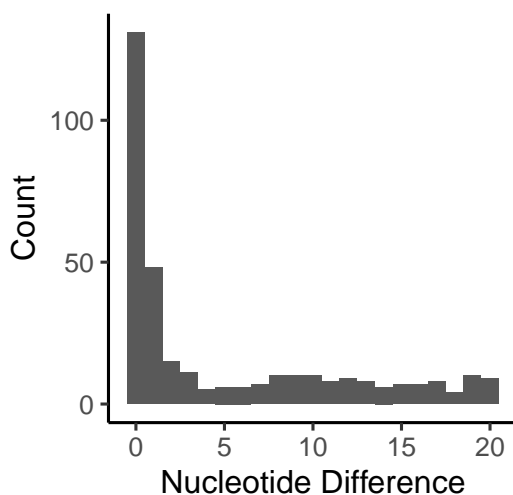
### IGHV3-53\*01

376 sequences assigned  
130 (34.6%) exact matches, in which:  
128 unique CDR3  
5 unique J



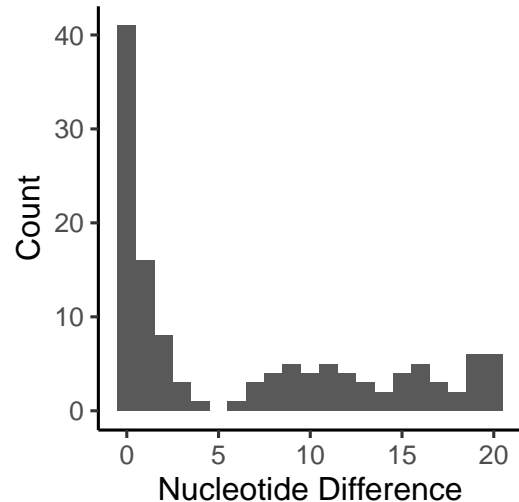
### IGHV3-66\*01

371 sequences assigned  
131 (35.3%) exact matches, in which:  
130 unique CDR3  
6 unique J



### IGHV3-73\*02

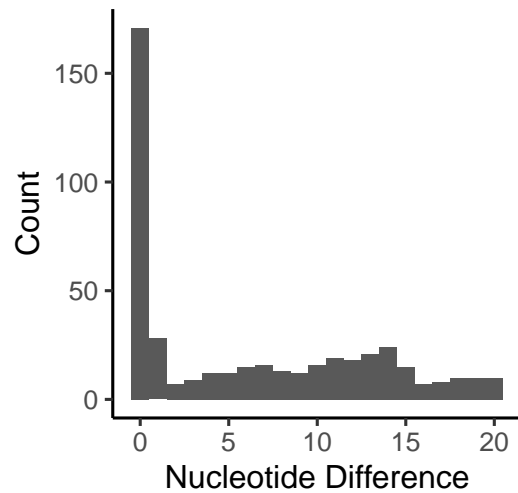
145 sequences assigned  
41 (28.3%) exact matches, in which:  
39 unique CDR3  
5 unique J





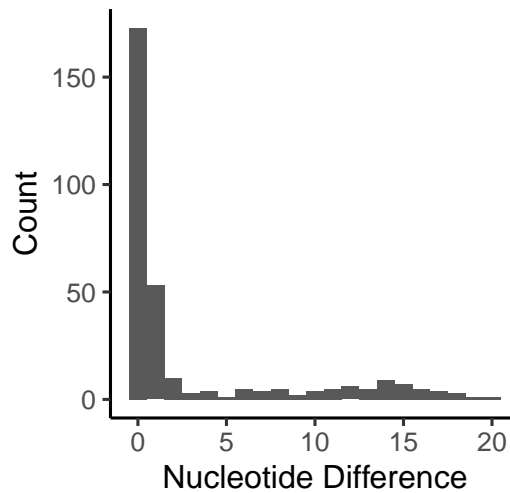
### IGHV3-74\*01

553 sequences assigned  
171 (30.9%) exact matches, in which:  
170 unique CDR3  
7 unique J



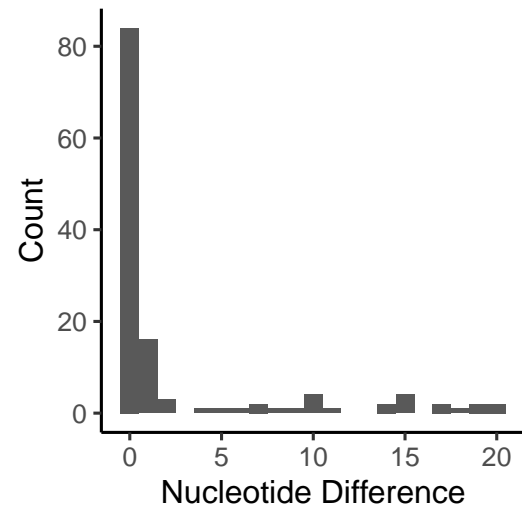
### IGHV4-4\*02\_C20T

388 sequences assigned  
173 (44.6%) exact matches, in which:  
170 unique CDR3  
6 unique J



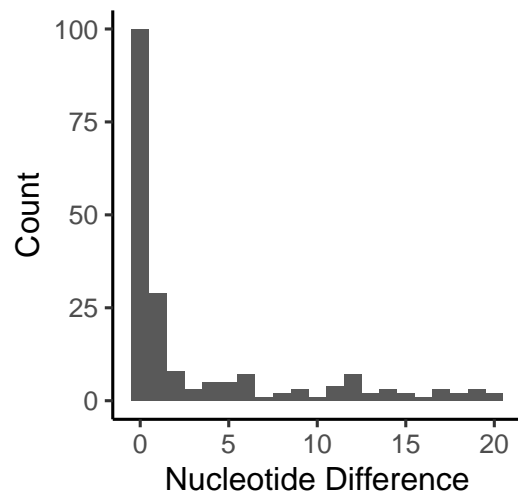
### IGHV4-30-2\*01

139 sequences assigned  
84 (60.4%) exact matches, in which:  
84 unique CDR3  
6 unique J



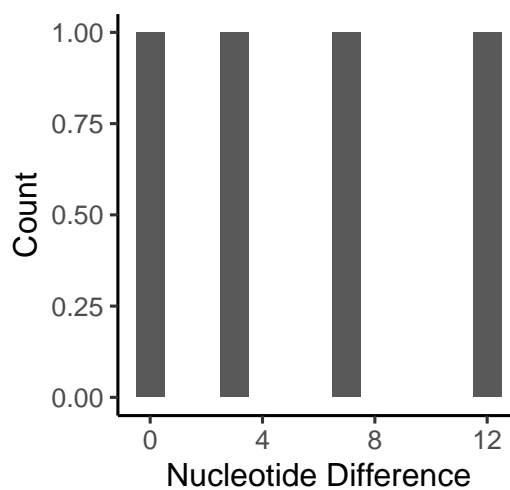
### IGHV3-64D\*06

217 sequences assigned  
100 (46.1%) exact matches, in which:  
100 unique CDR3  
6 unique J



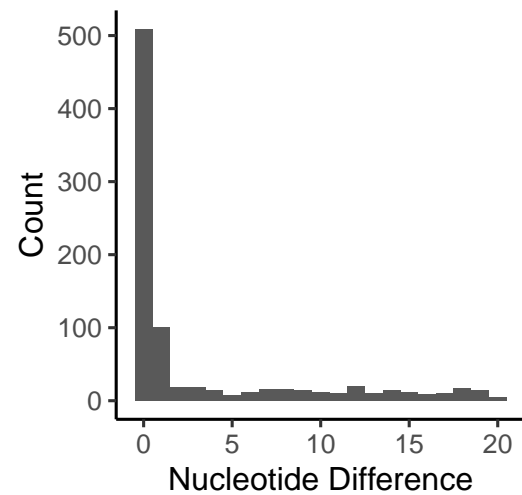
### IGHV4-28\*01

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



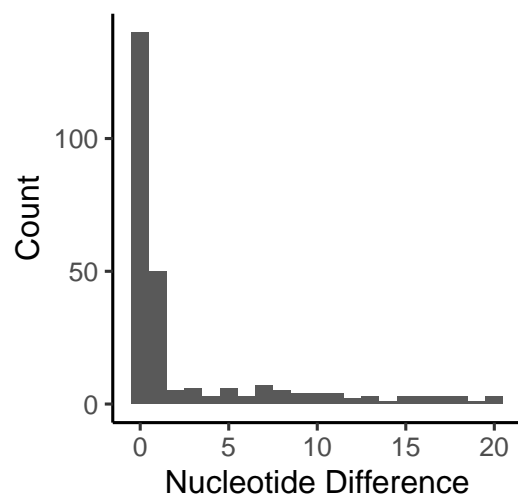
### IGHV4-31\*03

985 sequences assigned  
509 (51.7%) exact matches, in which:  
508 unique CDR3  
7 unique J



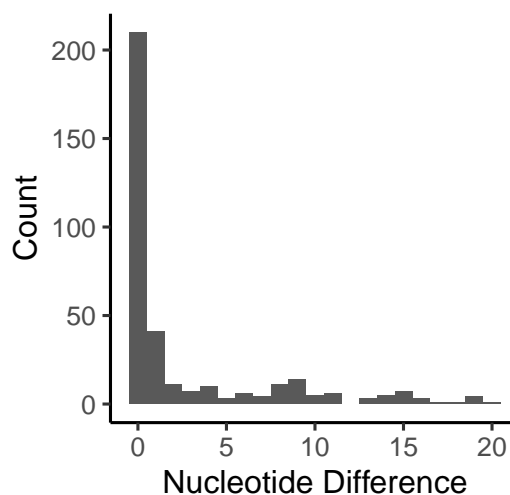
### IGHV4-4\*07

286 sequences assigned  
140 (49%) exact matches, in which:  
139 unique CDR3  
5 unique J



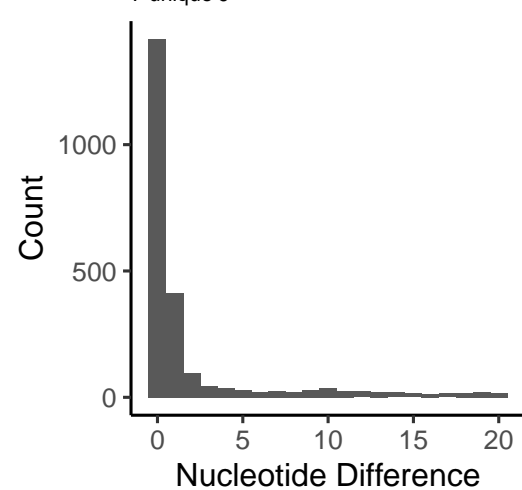
### IGHV4-30-4\*01

397 sequences assigned  
210 (52.9%) exact matches, in which:  
207 unique CDR3  
5 unique J



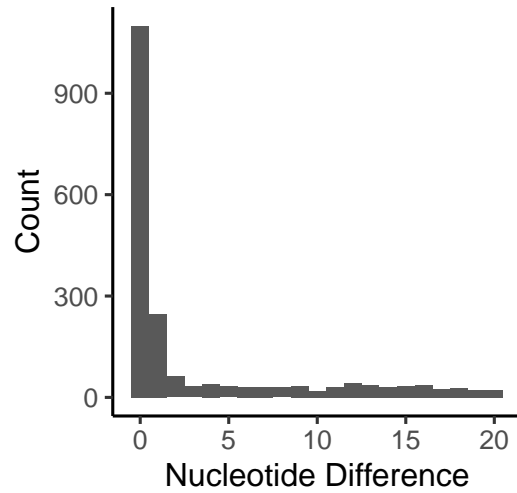
### IGHV4-34\*01

2663 sequences assigned  
1418 (53.2%) exact matches, in which:  
1390 unique CDR3  
7 unique J



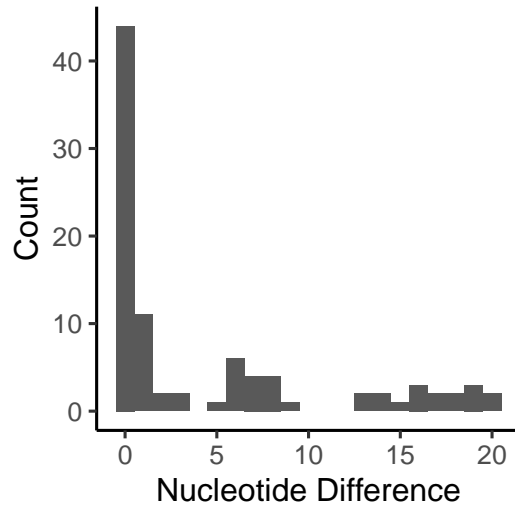
### IGHV4–39\*01

2355 sequences assigned  
1100 (46.7%) exact matches, in which:  
1088 unique CDR3  
7 unique J



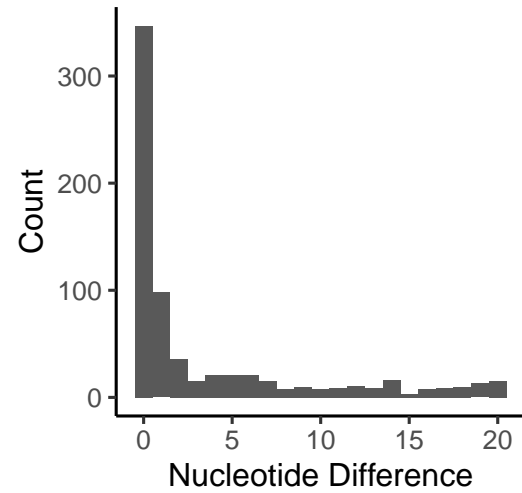
### IGHV4–61\*01

109 sequences assigned  
44 (40.4%) exact matches, in which:  
44 unique CDR3  
5 unique J



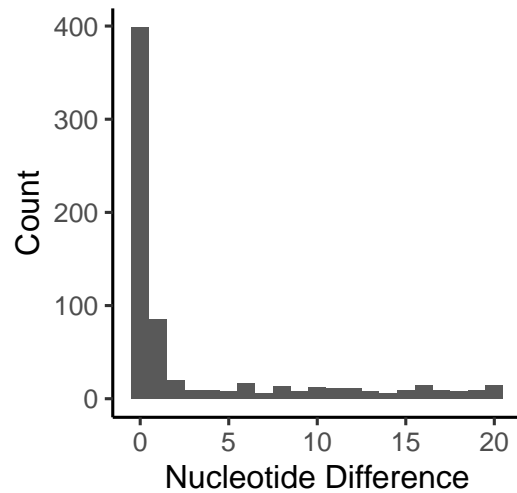
### IGHV5–51\*01

853 sequences assigned  
347 (40.7%) exact matches, in which:  
341 unique CDR3  
6 unique J



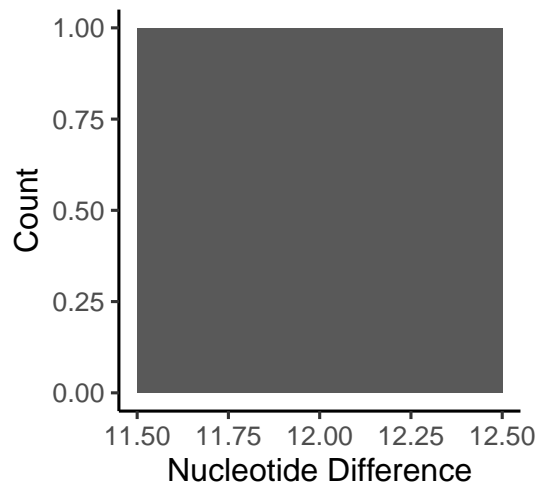
### IGHV4–59\*01

810 sequences assigned  
399 (49.3%) exact matches, in which:  
396 unique CDR3  
7 unique J



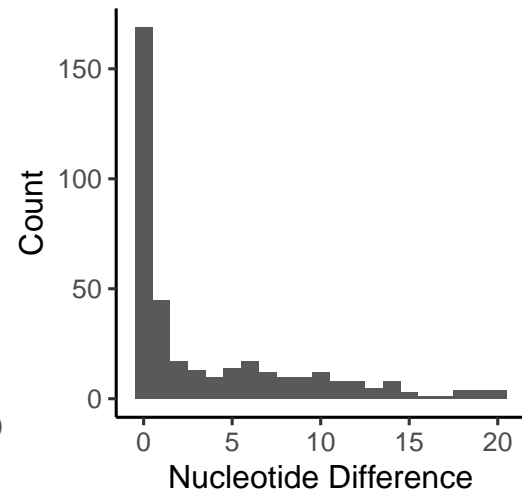
### IGHV1/OR15–9\*01

1 sequences assigned  
No exact matches.



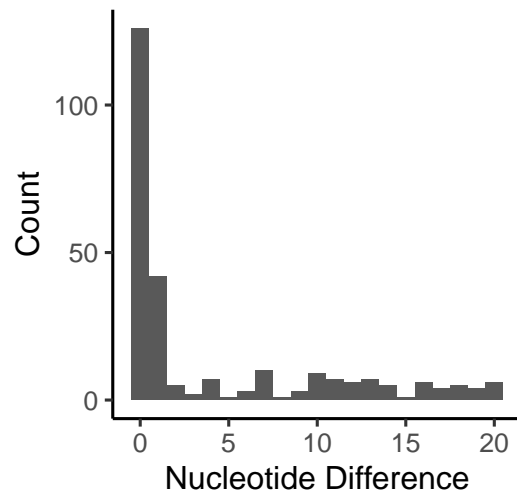
### IGHV6–1\*01

393 sequences assigned  
169 (43%) exact matches, in which:  
168 unique CDR3  
7 unique J



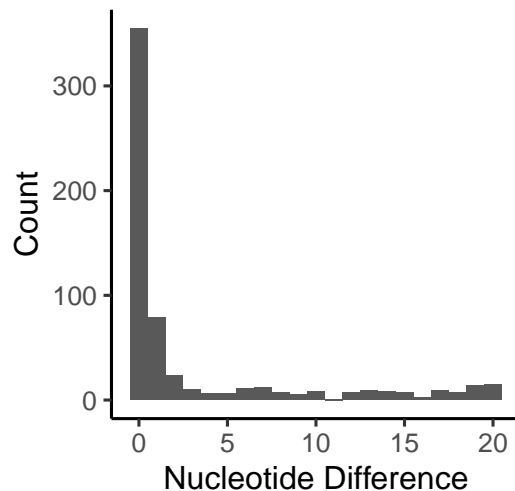
### IGHV4–59\*08

308 sequences assigned  
126 (40.9%) exact matches, in which:  
122 unique CDR3  
6 unique J



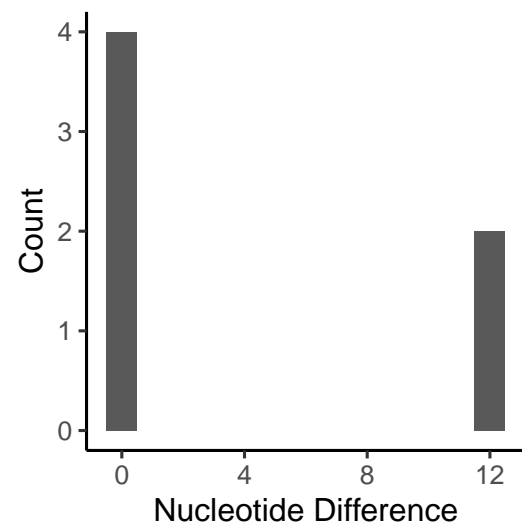
### IGHV5–10–1\*03

704 sequences assigned  
355 (50.4%) exact matches, in which:  
353 unique CDR3  
6 unique J

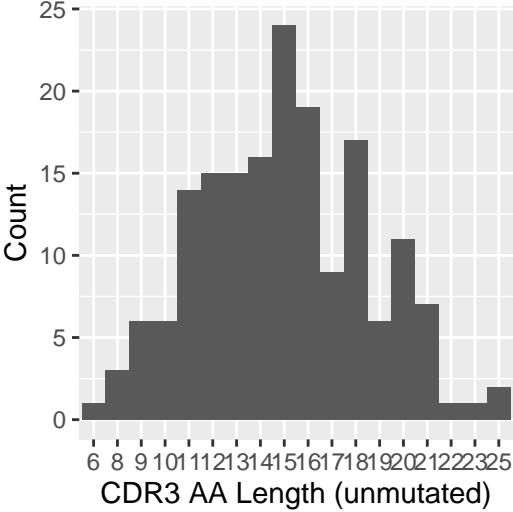


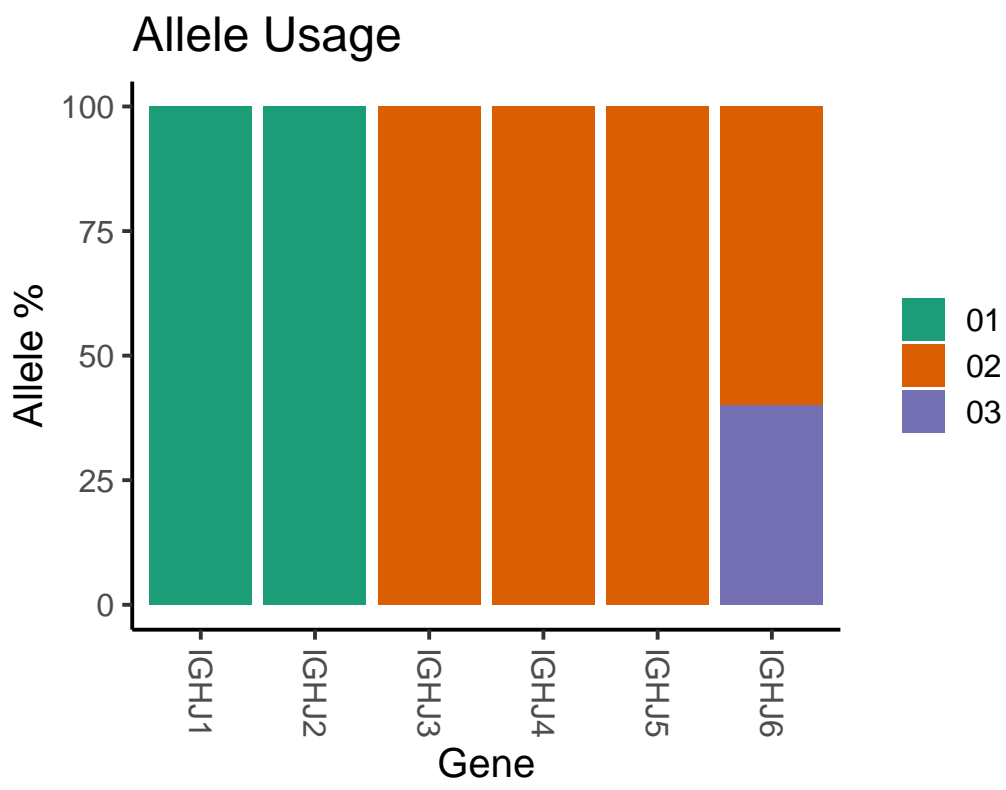
### IGHV7–4–1\*01

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



IGHV4-4\*02\_C20T





Sequence Count by IGHJ6 allele usage

