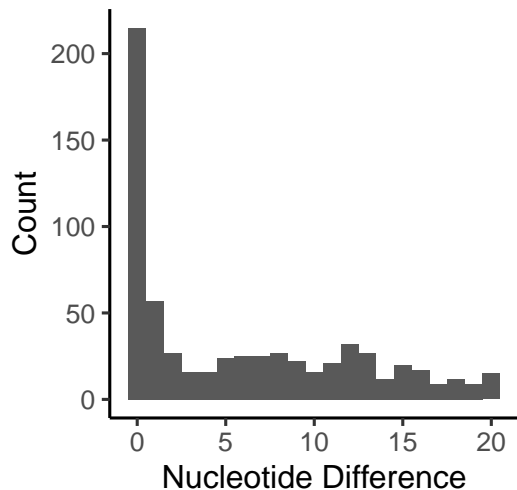


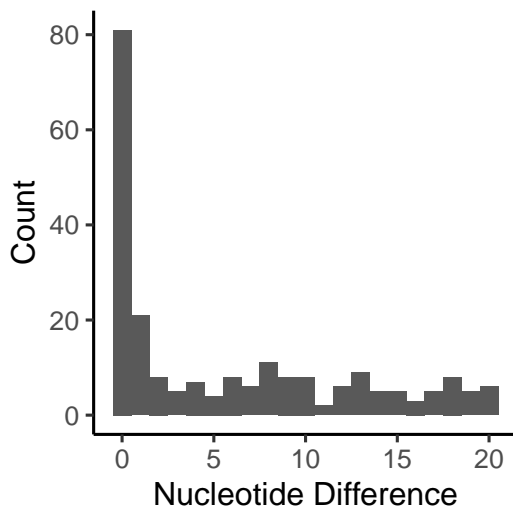
### IGHV1-2\*02

727 sequences assigned  
215 (29.6%) exact matches, in which:  
112 unique CDR3  
6 unique J



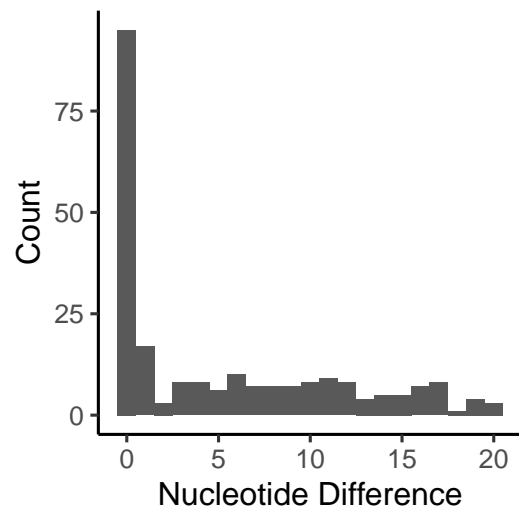
### IGHV1-18\*01

247 sequences assigned  
81 (32.8%) exact matches, in which:  
80 unique CDR3  
5 unique J



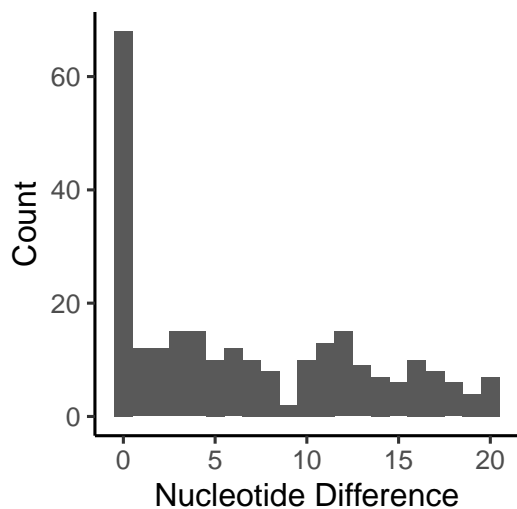
### IGHV1-46\*03

251 sequences assigned  
95 (37.8%) exact matches, in which:  
95 unique CDR3  
7 unique J



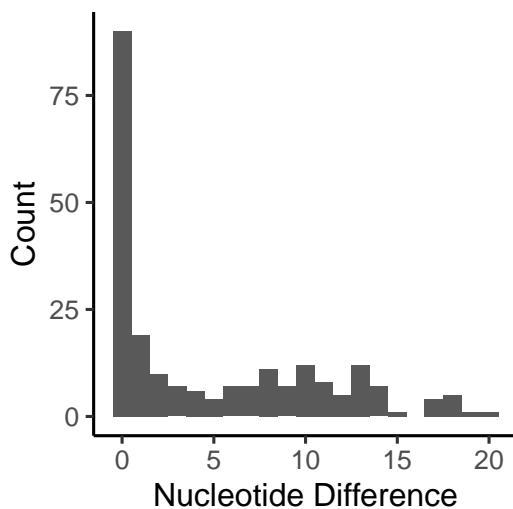
### IGHV1-3\*01

304 sequences assigned  
68 (22.4%) exact matches, in which:  
68 unique CDR3  
4 unique J



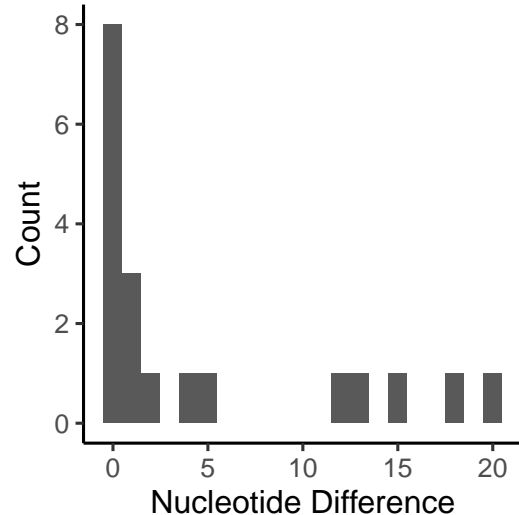
### IGHV1-18\*04

248 sequences assigned  
90 (36.3%) exact matches, in which:  
90 unique CDR3  
6 unique J



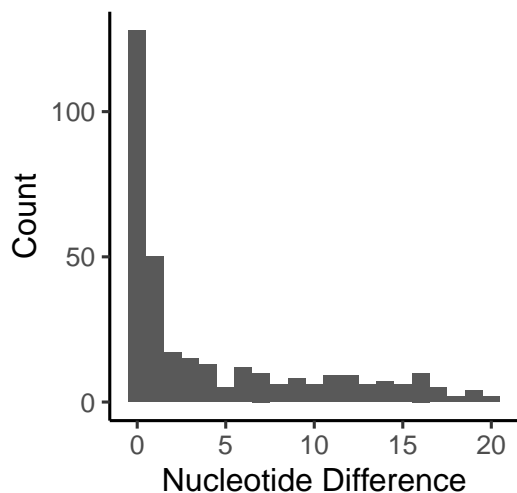
### IGHV1-58\*02

27 sequences assigned  
8 (29.6%) exact matches, in which:  
8 unique CDR3  
3 unique J



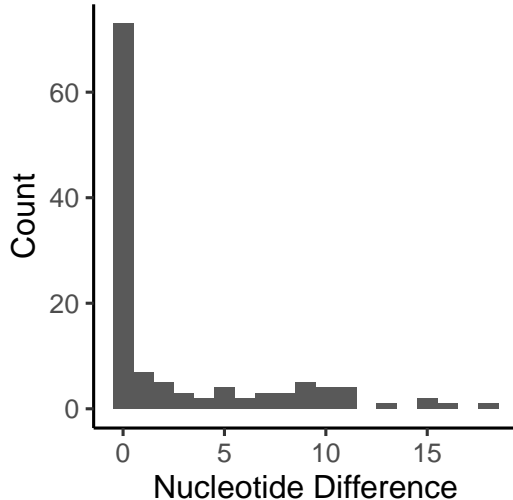
### IGHV1-8\*01

355 sequences assigned  
128 (36.1%) exact matches, in which:  
126 unique CDR3  
6 unique J



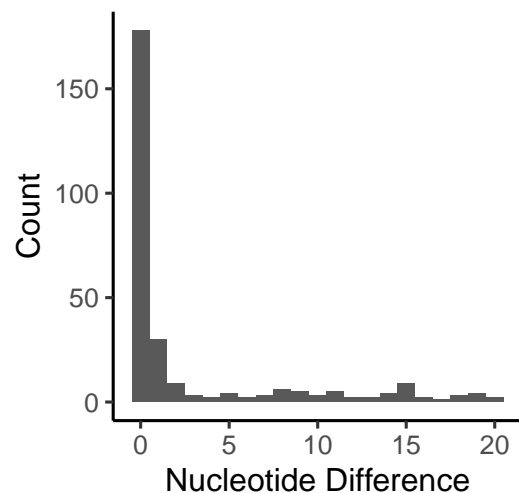
### IGHV1-24\*01

131 sequences assigned  
73 (55.7%) exact matches, in which:  
73 unique CDR3  
6 unique J



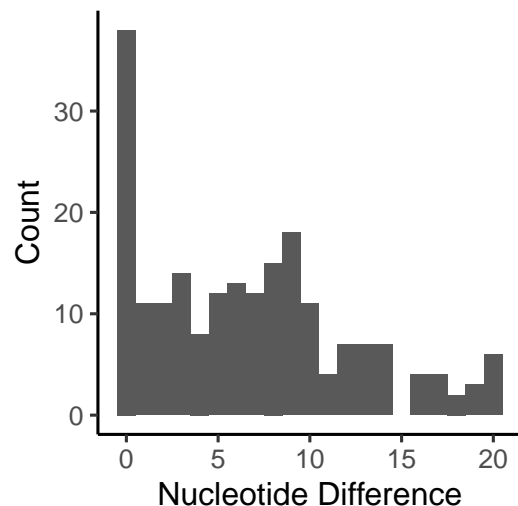
### IGHV1-69\*04

332 sequences assigned  
178 (53.6%) exact matches, in which:  
176 unique CDR3  
6 unique J



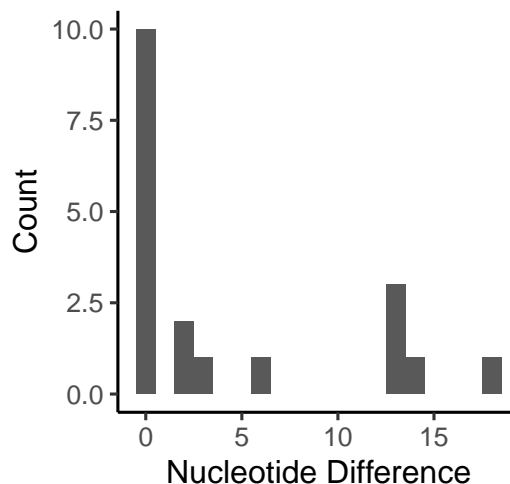
### IGHV2-5\*01

227 sequences assigned  
38 (16.7%) exact matches, in which:  
38 unique CDR3  
4 unique J



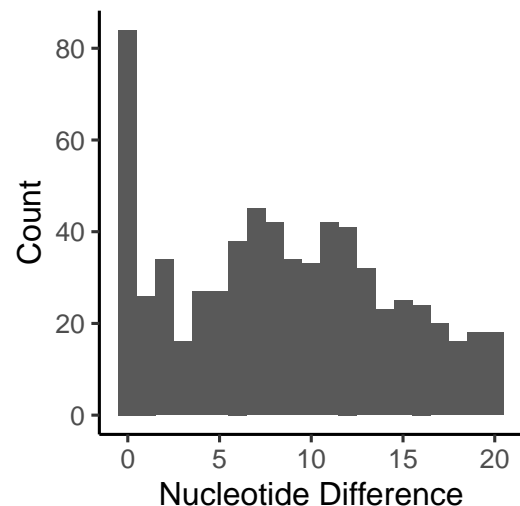
### IGHV2-70\*01

26 sequences assigned  
10 (38.5%) exact matches, in which:  
10 unique CDR3  
4 unique J



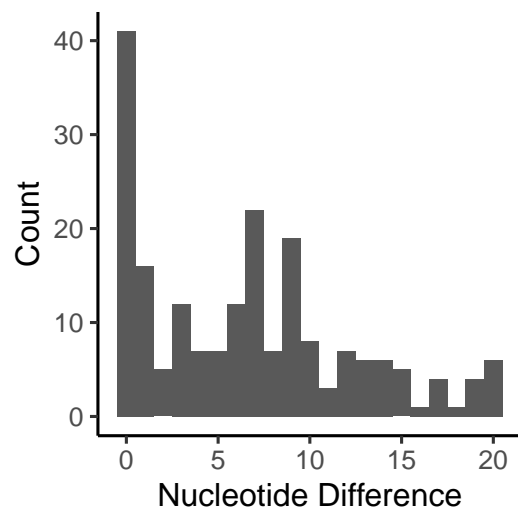
### IGHV3-7\*03

771 sequences assigned  
84 (10.9%) exact matches, in which:  
83 unique CDR3  
6 unique J



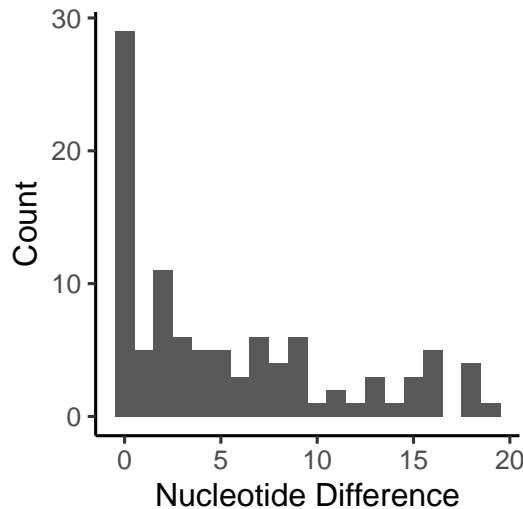
### IGHV2-5\*02

234 sequences assigned  
41 (17.5%) exact matches, in which:  
41 unique CDR3  
5 unique J



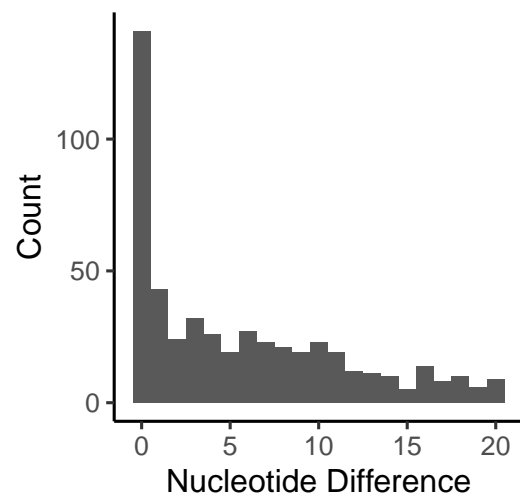
### IGHV2-70\*15

112 sequences assigned  
29 (25.9%) exact matches, in which:  
28 unique CDR3  
5 unique J



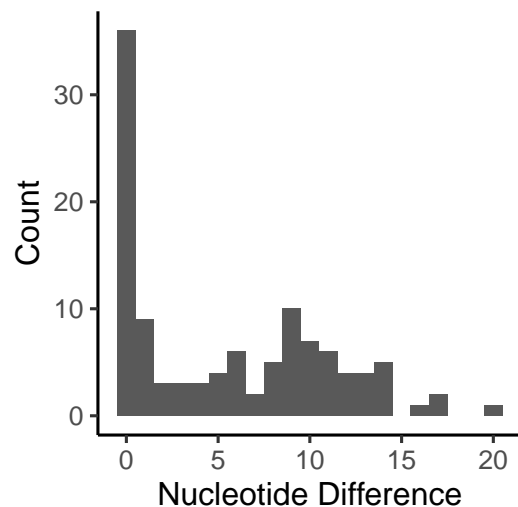
### IGHV3-9\*01

554 sequences assigned  
141 (25.5%) exact matches, in which:  
141 unique CDR3  
6 unique J



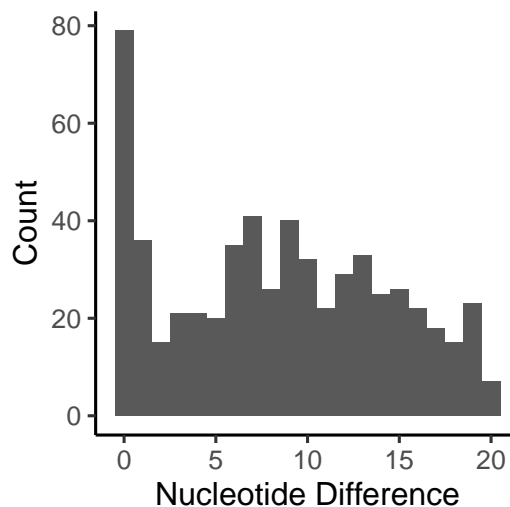
### IGHV2-26\*01

118 sequences assigned  
36 (30.5%) exact matches, in which:  
36 unique CDR3  
7 unique J



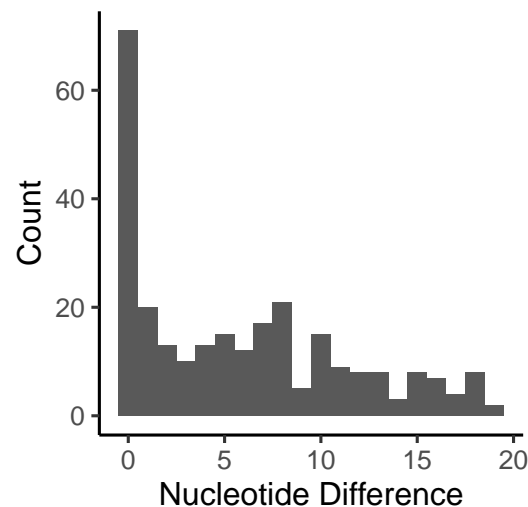
### IGHV3-7\*01

668 sequences assigned  
79 (11.8%) exact matches, in which:  
79 unique CDR3  
6 unique J



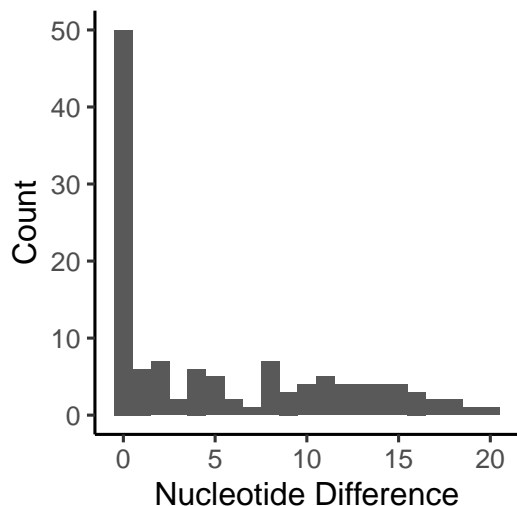
### IGHV3-11\*01

289 sequences assigned  
71 (24.6%) exact matches, in which:  
71 unique CDR3  
5 unique J



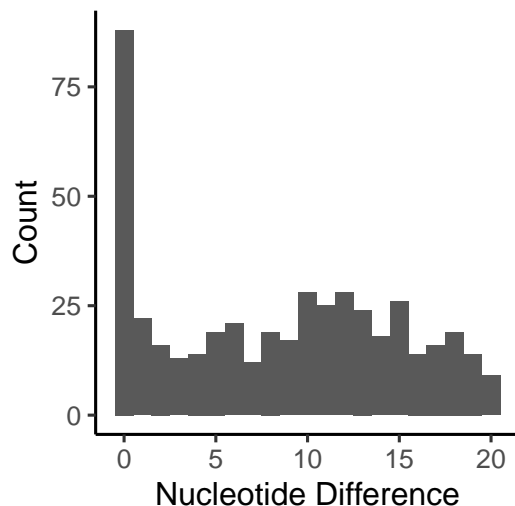
## IGHV3-11\*06

150 sequences assigned  
50 (33.3%) exact matches, in which:  
49 unique CDR3  
5 unique J



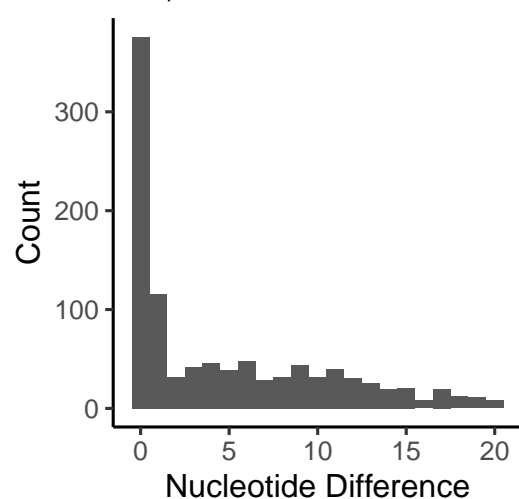
## IGHV3-15\*01

568 sequences assigned  
88 (15.5%) exact matches, in which:  
88 unique CDR3  
7 unique J



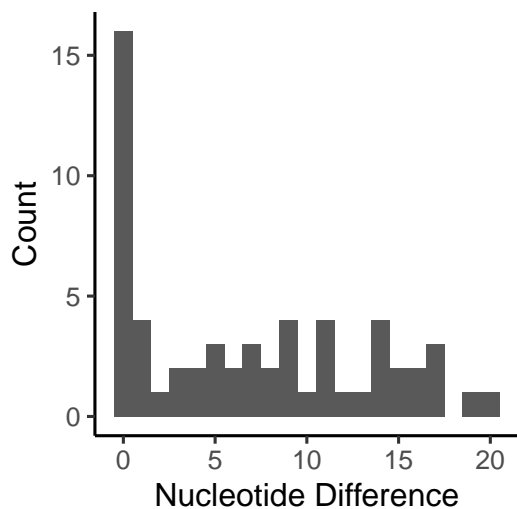
## IGHV3-21\*01

1115 sequences assigned  
376 (33.7%) exact matches, in which:  
372 unique CDR3  
6 unique J



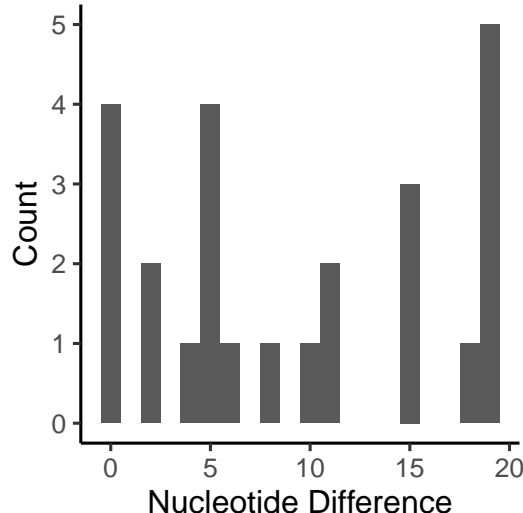
## IGHV3-13\*01

67 sequences assigned  
16 (23.9%) exact matches, in which:  
16 unique CDR3  
4 unique J



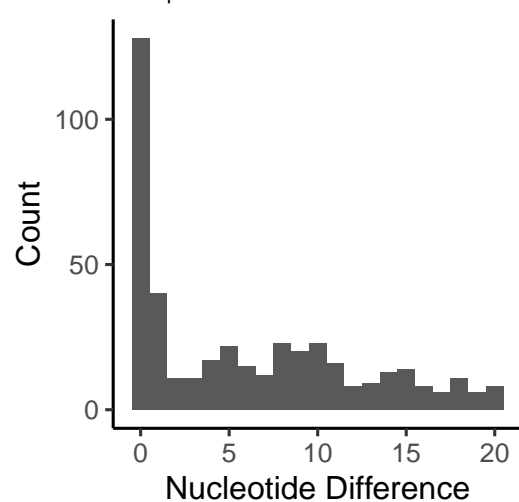
## IGHV3-20\*01

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



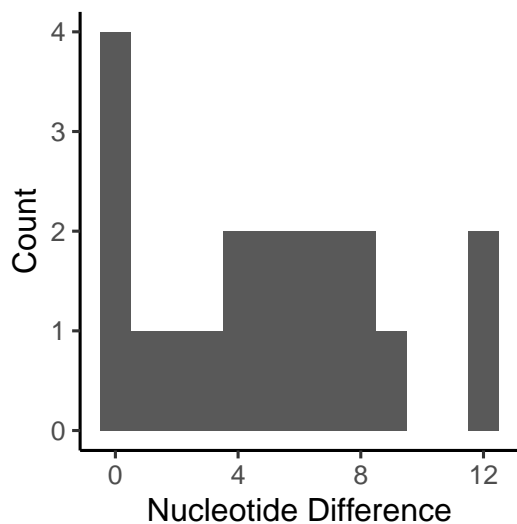
## IGHV3-30-3\*01

481 sequences assigned  
128 (26.6%) exact matches, in which:  
128 unique CDR3  
5 unique J



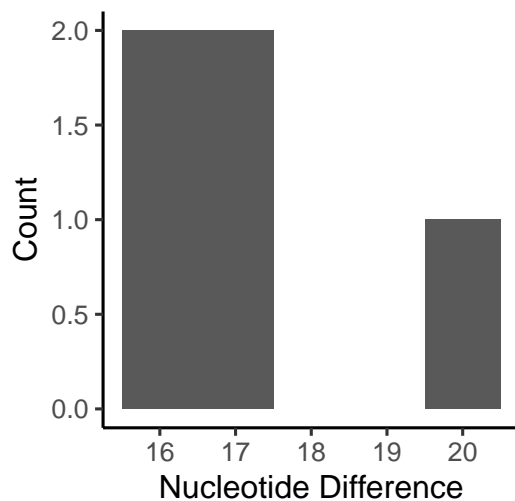
## IGHV3-13\*05

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



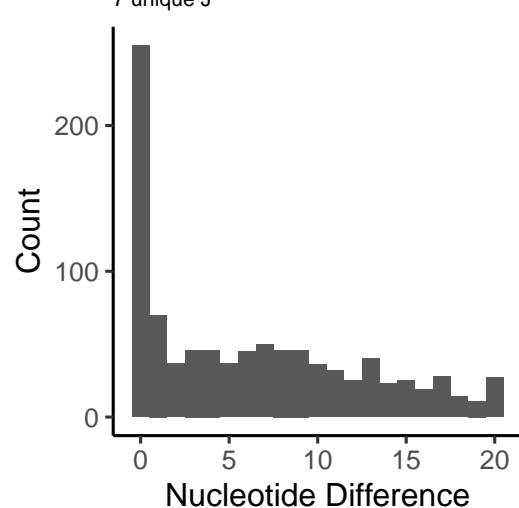
## IGHV3-20\*04

13 sequences assigned  
No exact matches.



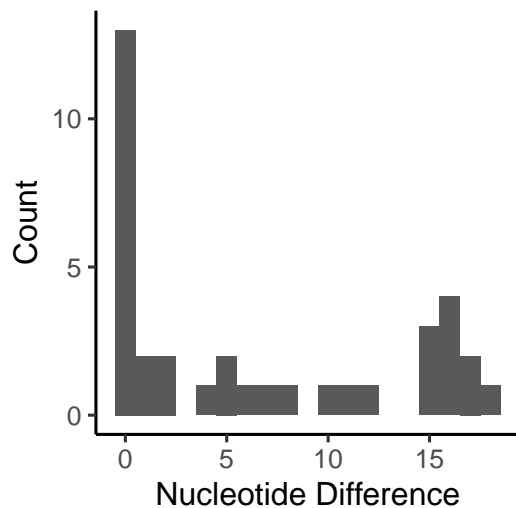
## IGHV3-33\*01

1066 sequences assigned  
255 (23.9%) exact matches, in which:  
252 unique CDR3  
7 unique J



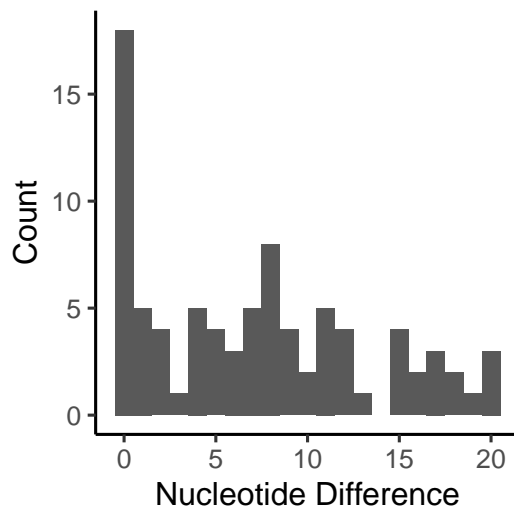
### IGHV3-43\*01

45 sequences assigned  
13 (28.9%) exact matches, in which:  
13 unique CDR3  
6 unique J



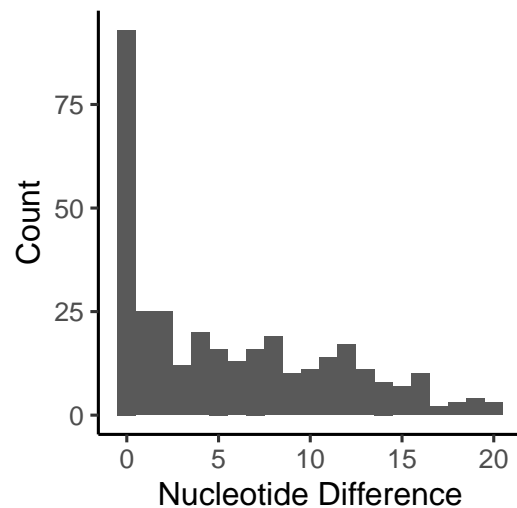
### IGHV3-53\*02

89 sequences assigned  
18 (20.2%) exact matches, in which:  
18 unique CDR3  
3 unique J



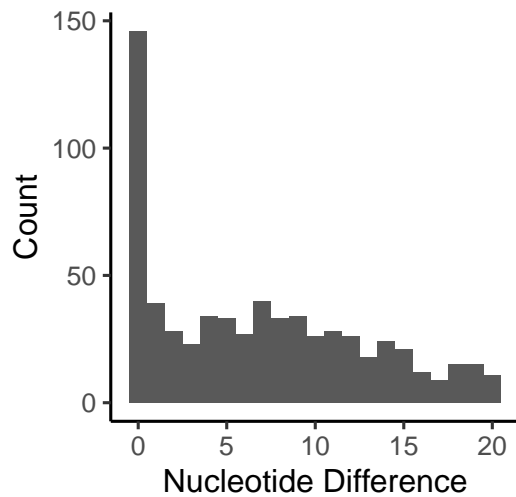
### IGHV3-66\*01

407 sequences assigned  
93 (22.9%) exact matches, in which:  
93 unique CDR3  
6 unique J



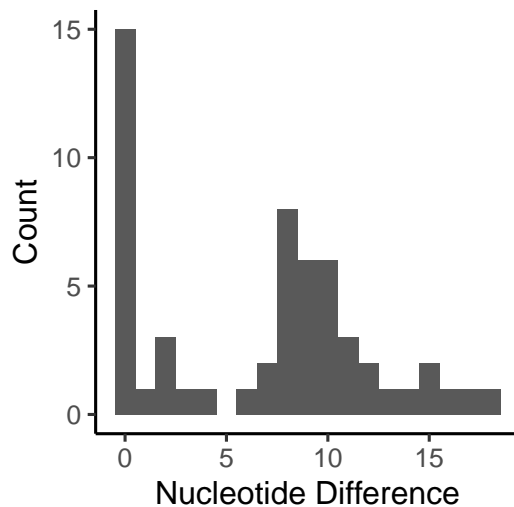
### IGHV3-48\*01

726 sequences assigned  
146 (20.1%) exact matches, in which:  
146 unique CDR3  
7 unique J



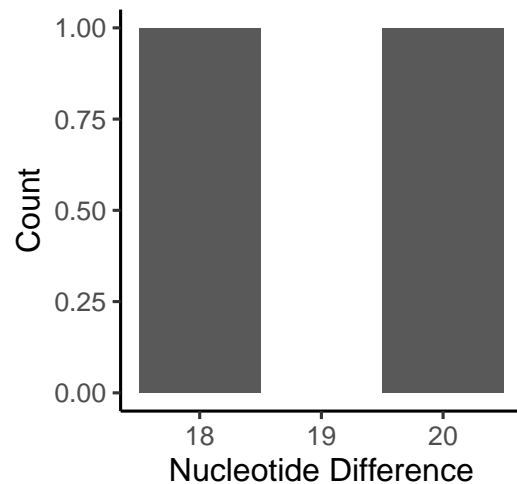
### IGHV3-64\*01

57 sequences assigned  
15 (26.3%) exact matches, in which:  
15 unique CDR3  
4 unique J



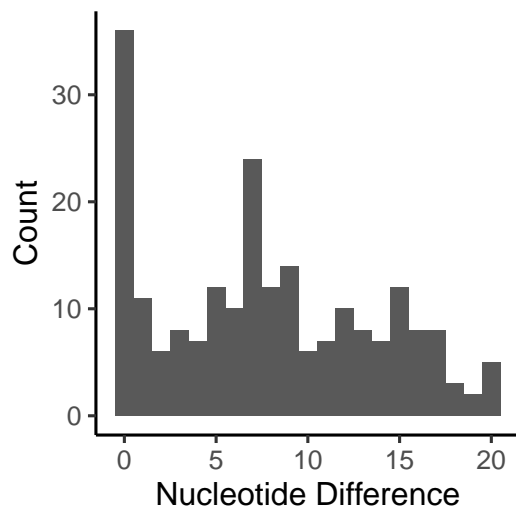
### IGHV3-69-1\*01

5 sequences assigned  
No exact matches.



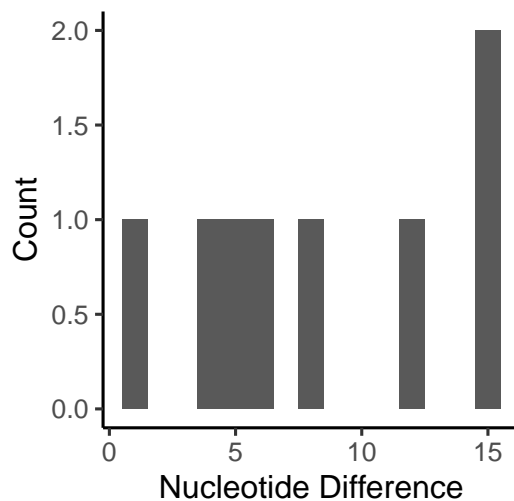
### IGHV3-49\*03

244 sequences assigned  
36 (14.8%) exact matches, in which:  
36 unique CDR3  
6 unique J



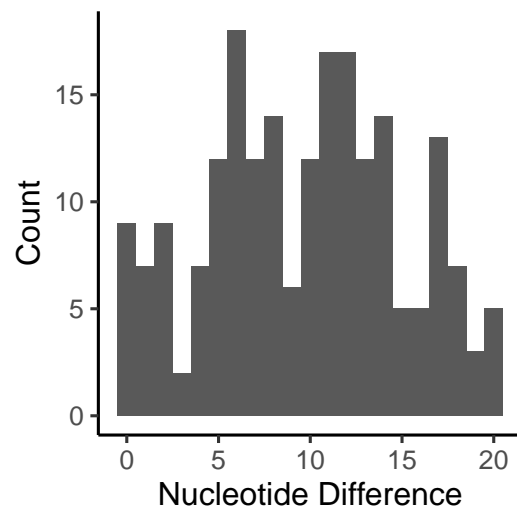
### IGHV3-64\*07

12 sequences assigned  
No exact matches.



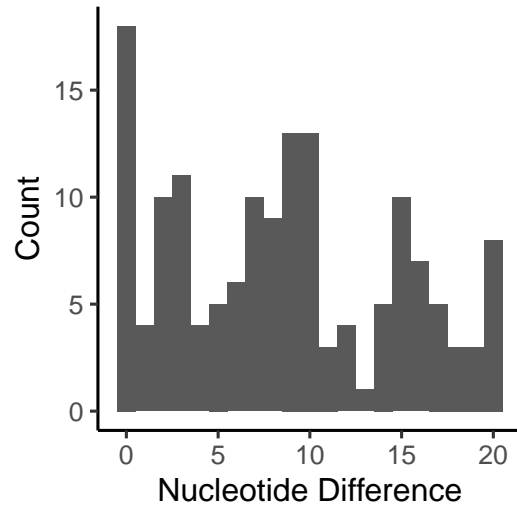
### IGHV3-72\*01

230 sequences assigned  
9 (3.9%) exact matches, in which:  
9 unique CDR3  
4 unique J



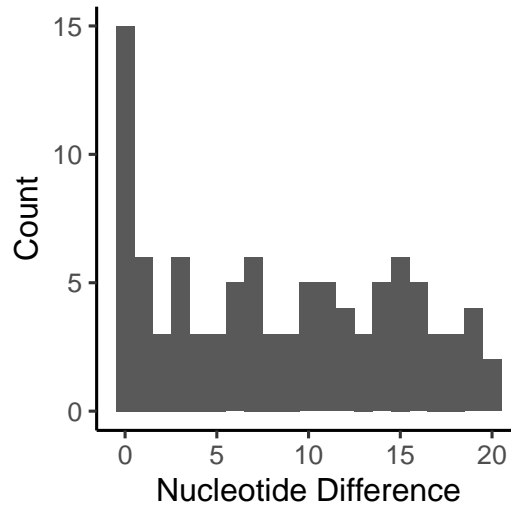
### IGHV3-73\*01

200 sequences assigned  
18 (9%) exact matches, in which:  
18 unique CDR3  
4 unique J



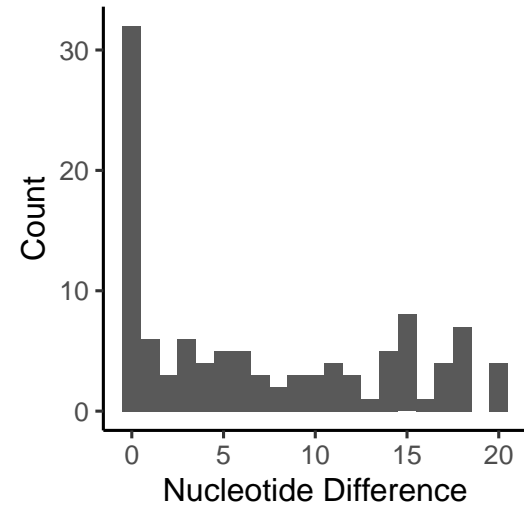
### IGHV3-64D\*06

105 sequences assigned  
15 (14.3%) exact matches, in which:  
15 unique CDR3  
3 unique J



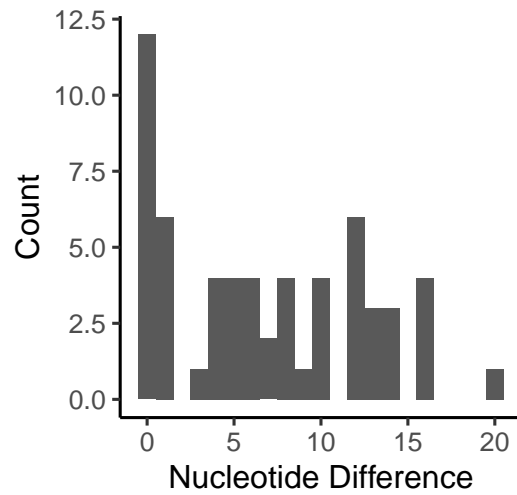
### IGHV4-30-4\*01

131 sequences assigned  
32 (24.4%) exact matches, in which:  
32 unique CDR3  
5 unique J



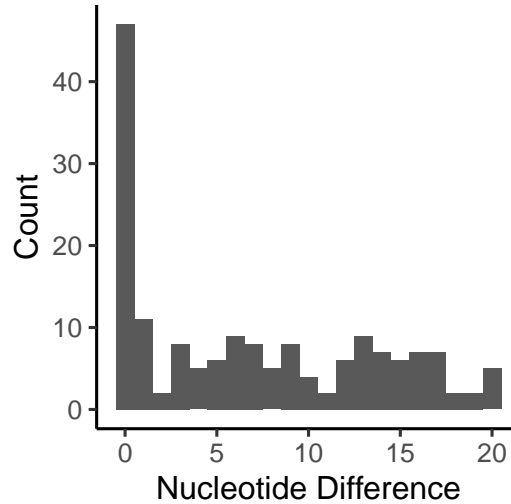
### IGHV3-73\*02

71 sequences assigned  
12 (16.9%) exact matches, in which:  
12 unique CDR3  
3 unique J



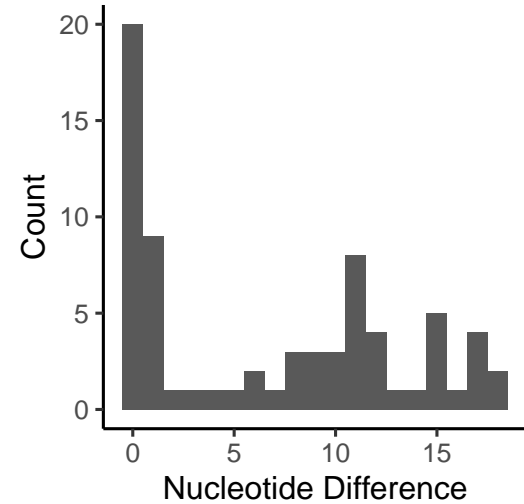
### IGHV4-4\*07

190 sequences assigned  
47 (24.7%) exact matches, in which:  
47 unique CDR3  
4 unique J



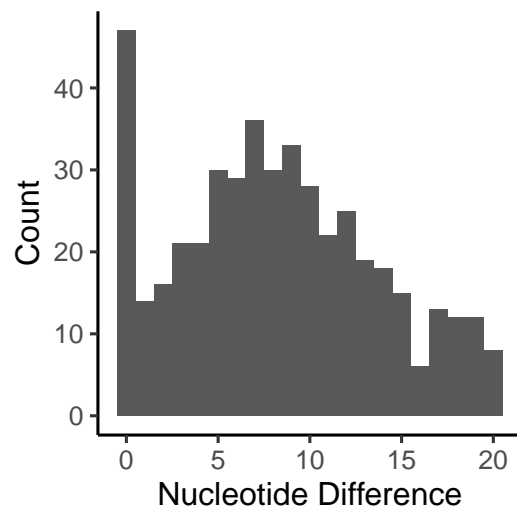
### IGHV4-30-2\*01

83 sequences assigned  
20 (24.1%) exact matches, in which:  
19 unique CDR3  
6 unique J



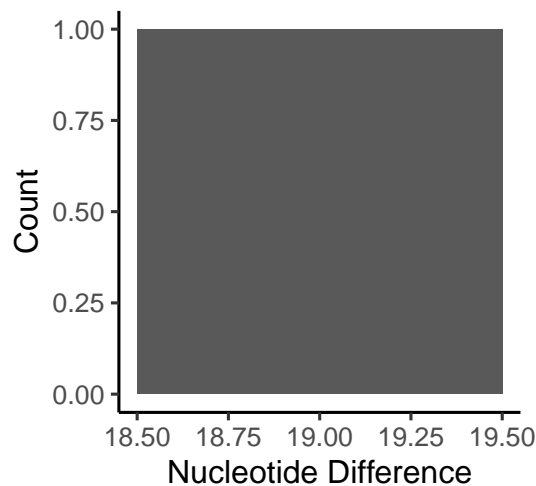
### IGHV3-74\*01

522 sequences assigned  
47 (9%) exact matches, in which:  
46 unique CDR3  
5 unique J



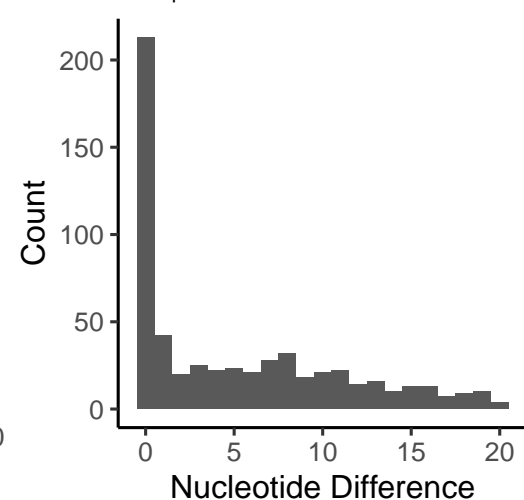
### IGHV4-28\*05

1 sequences assigned  
No exact matches.



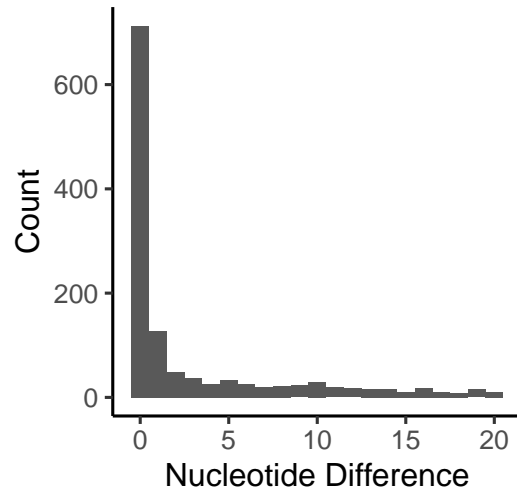
### IGHV4-31\*03

651 sequences assigned  
213 (32.7%) exact matches, in which:  
213 unique CDR3  
7 unique J



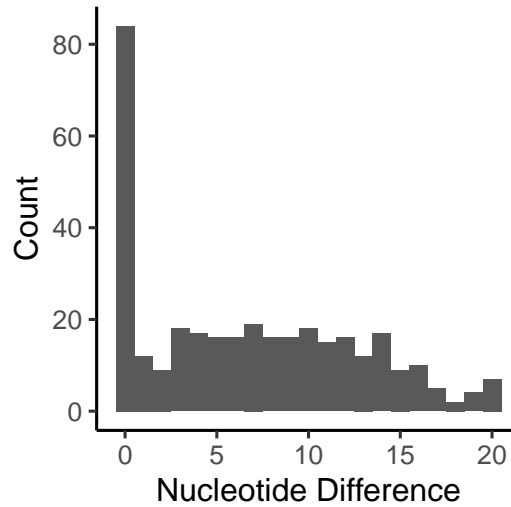
### IGHV4-34\*01

1362 sequences assigned  
713 (52.3%) exact matches, in which:  
705 unique CDR3  
7 unique J



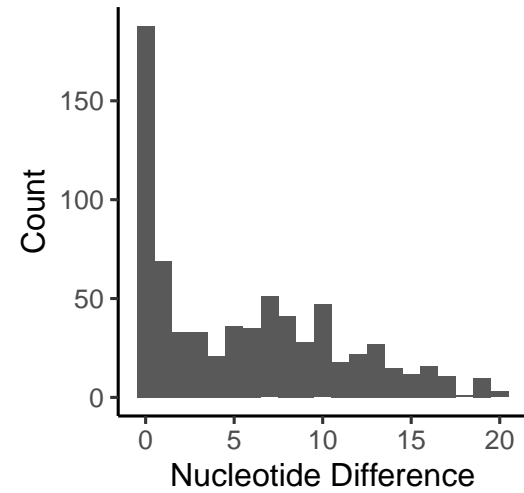
### IGHV4-59\*08

393 sequences assigned  
84 (21.4%) exact matches, in which:  
84 unique CDR3  
6 unique J



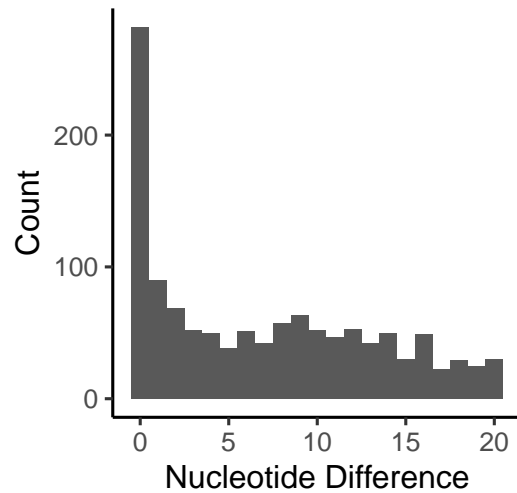
### IGHV5-51\*01\_C45G

775 sequences assigned  
188 (24.3%) exact matches, in which:  
186 unique CDR3  
7 unique J



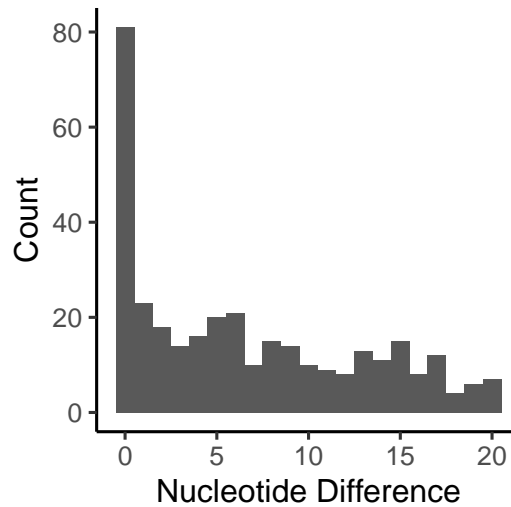
### IGHV4-39\*01

1374 sequences assigned  
282 (20.5%) exact matches, in which:  
280 unique CDR3  
7 unique J



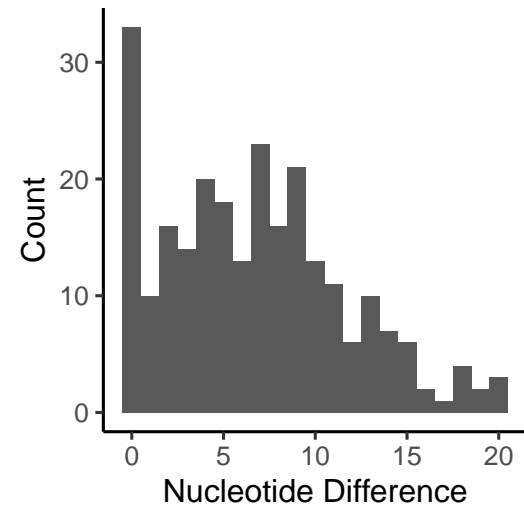
### IGHV4-61\*02\_A234G

380 sequences assigned  
81 (21.3%) exact matches, in which:  
79 unique CDR3  
6 unique J



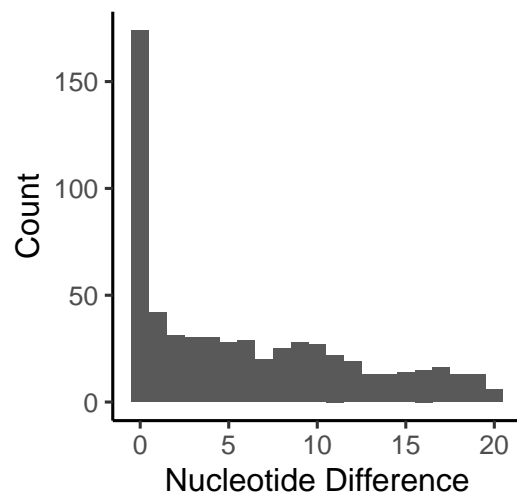
### IGHV6-1\*01

261 sequences assigned  
33 (12.6%) exact matches, in which:  
32 unique CDR3  
5 unique J



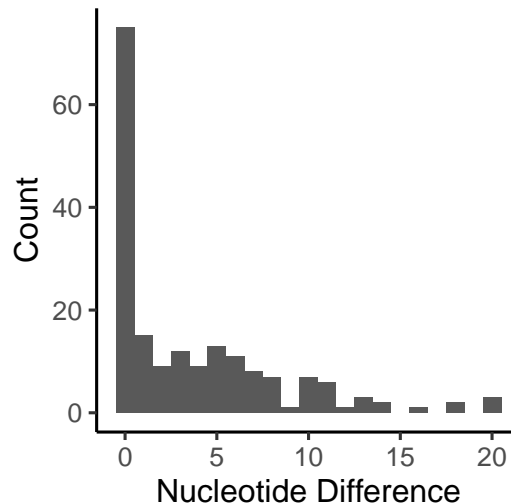
### IGHV4-59\*01

682 sequences assigned  
174 (25.5%) exact matches, in which:  
174 unique CDR3  
7 unique J



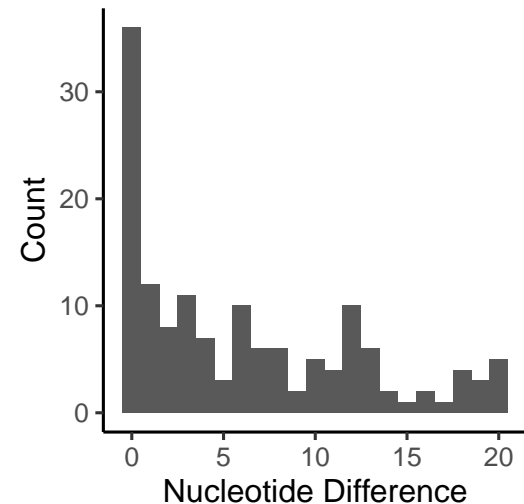
### IGHV5-10-1\*03

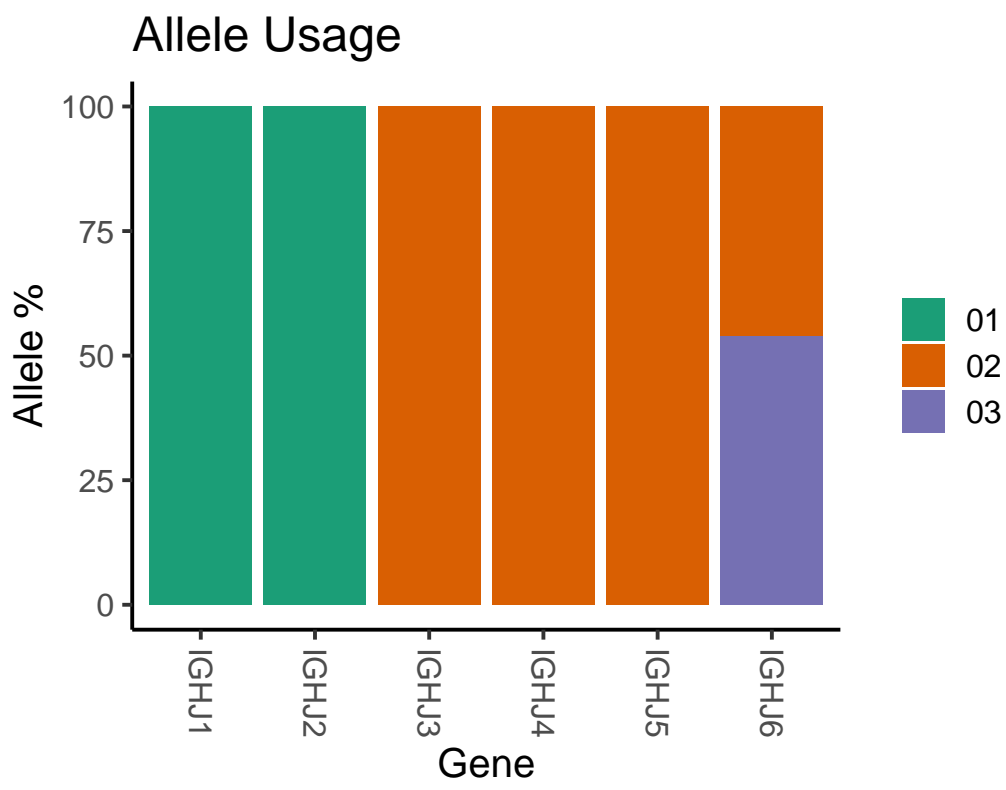
223 sequences assigned  
75 (33.6%) exact matches, in which:  
75 unique CDR3  
5 unique J



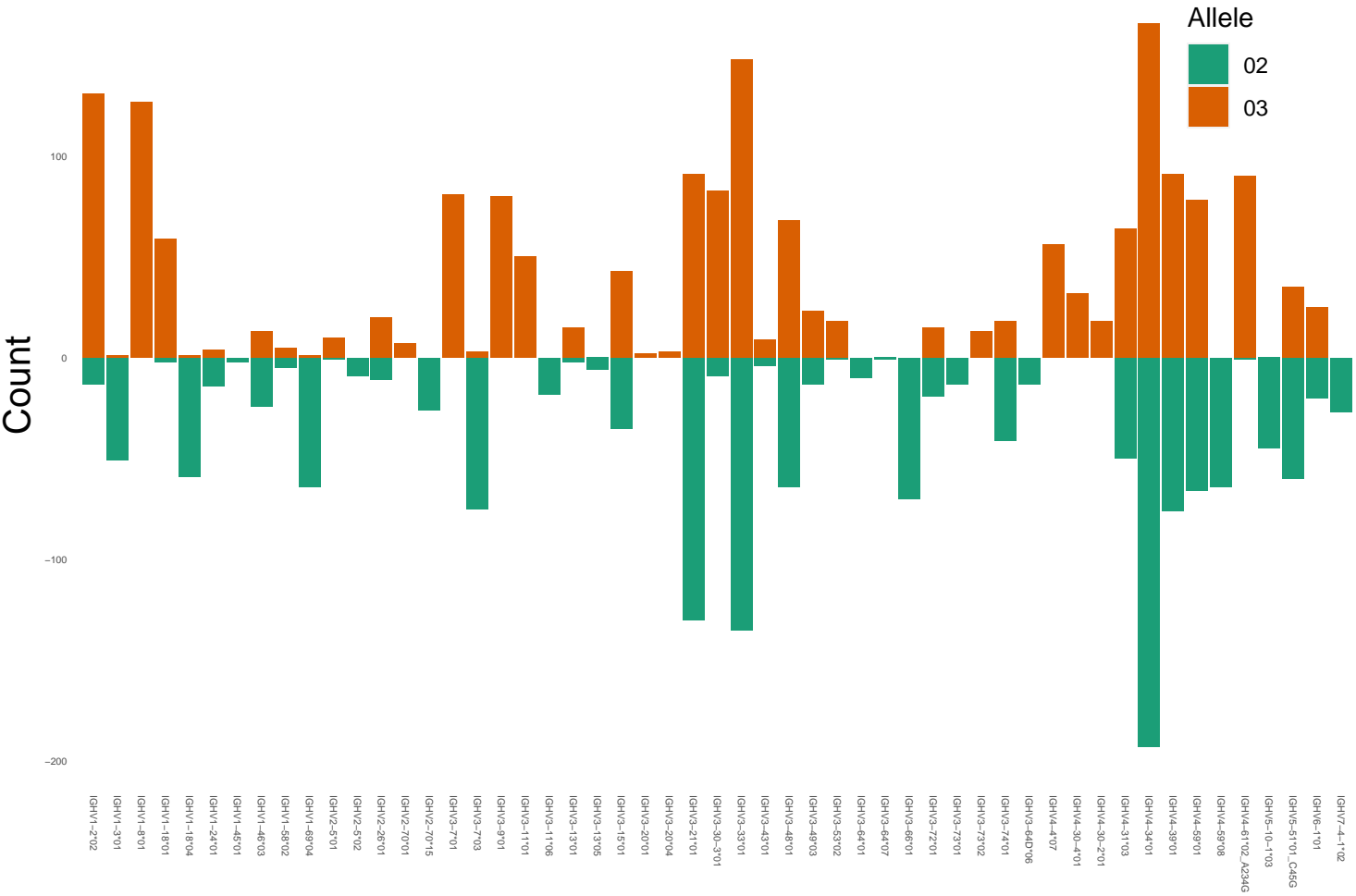
### IGHV7-4-1\*02

159 sequences assigned  
36 (22.6%) exact matches, in which:  
36 unique CDR3  
6 unique J





Sequence Count by IGHJ6 allele usage





Warning – no inferred sequences found.