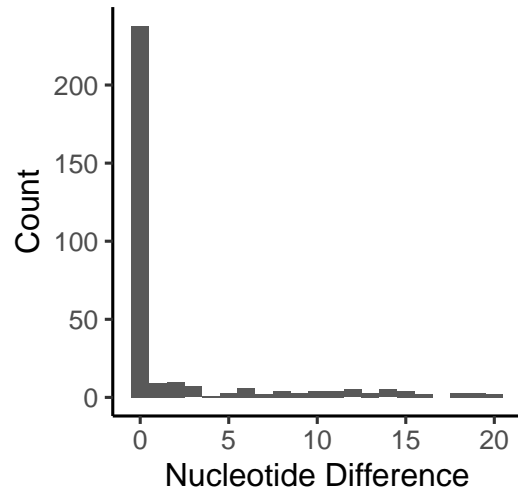


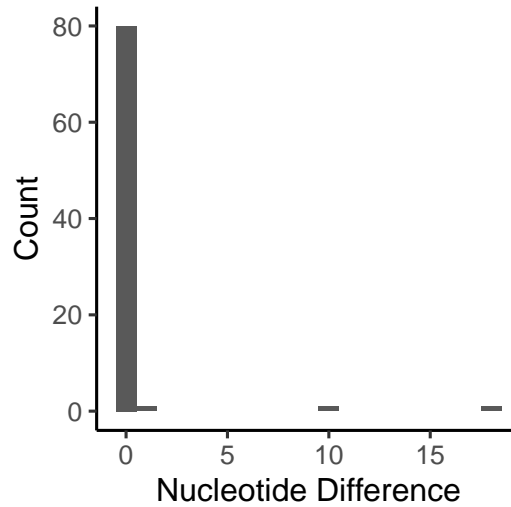
### IGHV1–2\*02

344 sequences assigned  
238 (69.2%) exact matches, in which:  
237 unique CDR3  
6 unique J



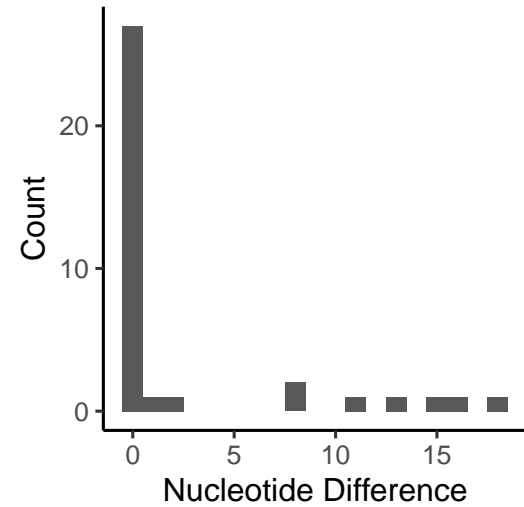
### IGHV1–24\*01

90 sequences assigned  
80 (88.9%) exact matches, in which:  
78 unique CDR3  
5 unique J



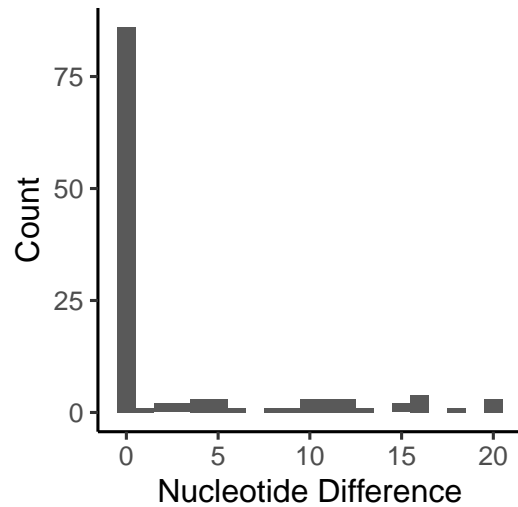
### IGHV1–58\*02

36 sequences assigned  
27 (75%) exact matches, in which:  
26 unique CDR3  
6 unique J



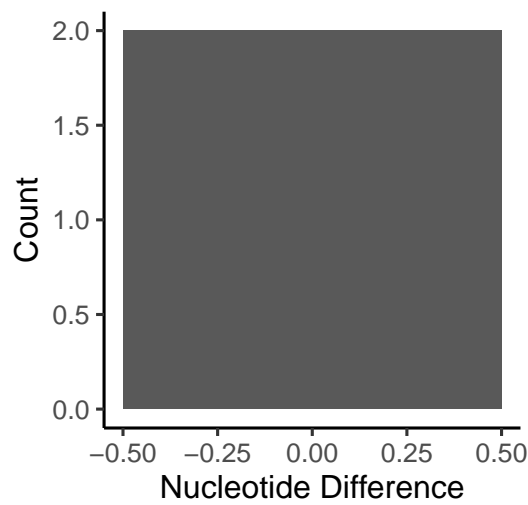
### IGHV1–3\*01\_05

131 sequences assigned  
86 (65.6%) exact matches, in which:  
85 unique CDR3  
6 unique J



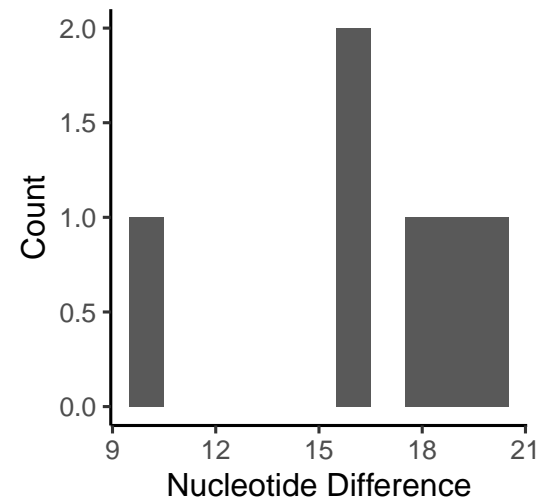
### IGHV1–45\*02

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



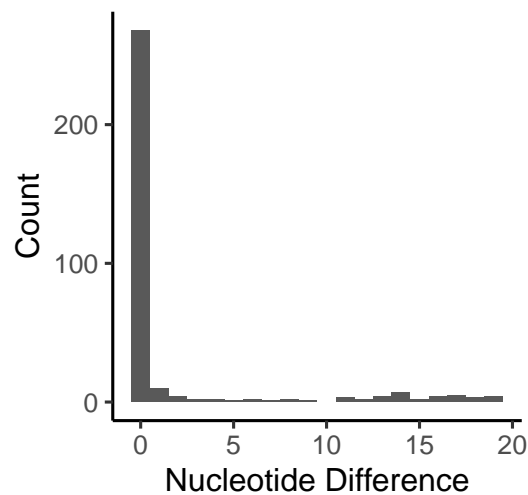
### IGHV1–69\*08

8 sequences assigned  
No exact matches.



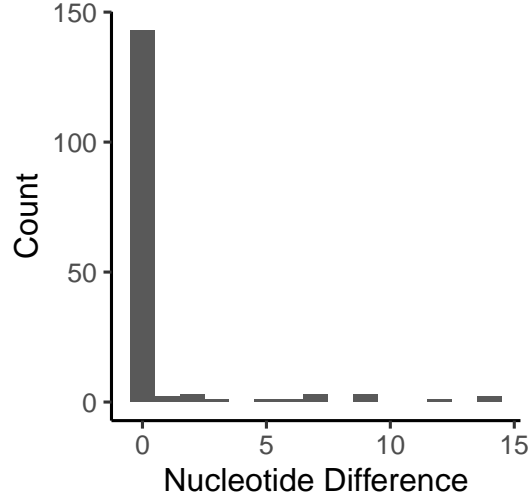
### IGHV1–18\*04

343 sequences assigned  
268 (78.1%) exact matches, in which:  
266 unique CDR3  
6 unique J



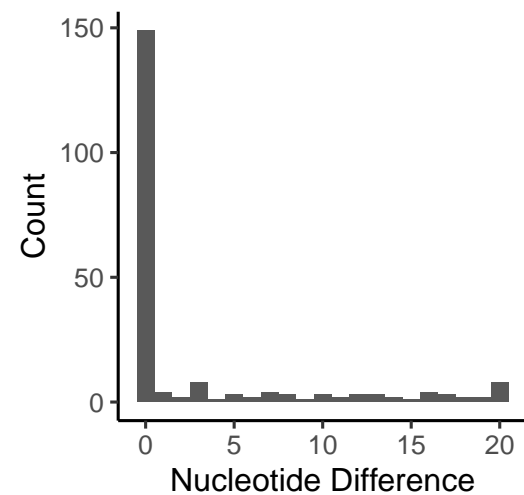
### IGHV1–46\*03

164 sequences assigned  
143 (87.2%) exact matches, in which:  
142 unique CDR3  
7 unique J



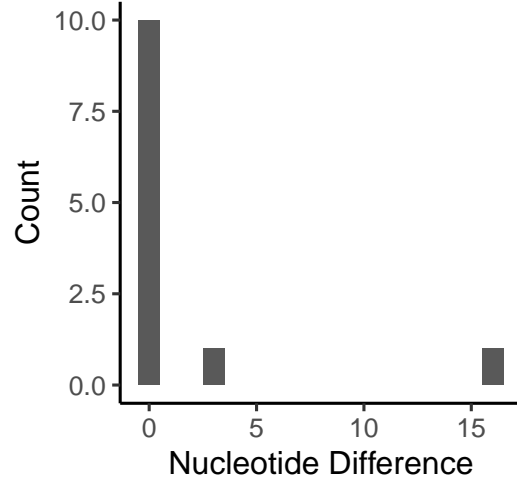
### IGHV2–5\*02

240 sequences assigned  
149 (62.1%) exact matches, in which:  
145 unique CDR3  
7 unique J



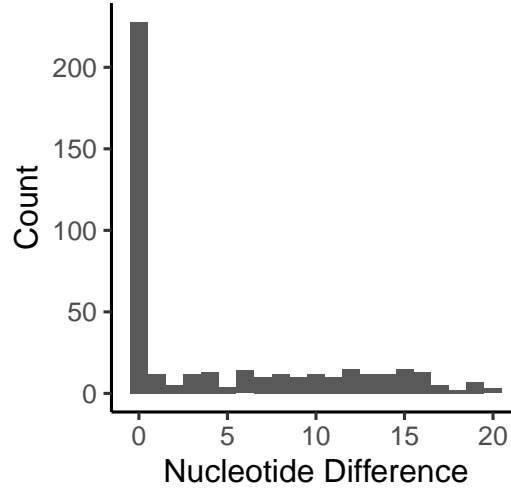
### IGHV2-26\*01

12 sequences assigned  
10 (83.3%) exact matches, in which:  
10 unique CDR3  
3 unique J



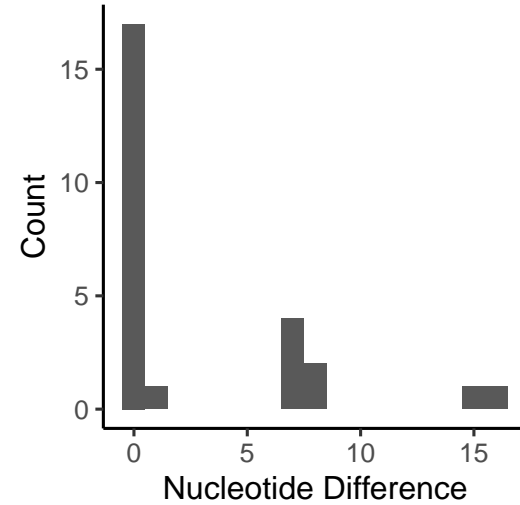
### IGHV3-7\*03

436 sequences assigned  
228 (52.3%) exact matches, in which:  
218 unique CDR3  
6 unique J



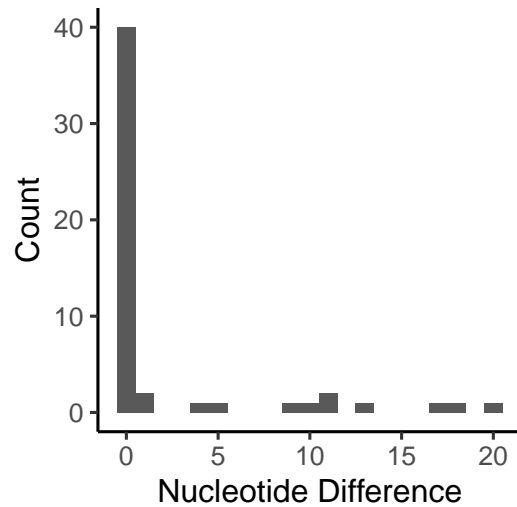
### IGHV3-13\*05

26 sequences assigned  
17 (65.4%) exact matches, in which:  
16 unique CDR3  
5 unique J



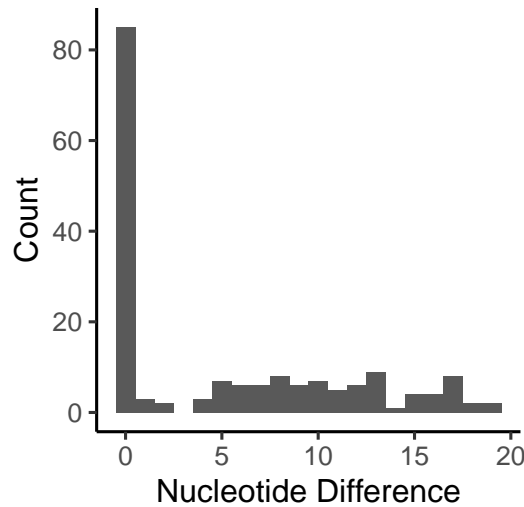
### IGHV2-70\*11\_15

52 sequences assigned  
40 (76.9%) exact matches, in which:  
40 unique CDR3  
4 unique J



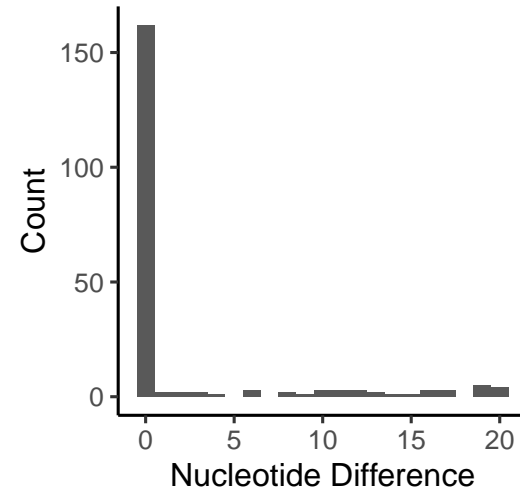
### IGHV3-7\*04

179 sequences assigned  
85 (47.5%) exact matches, in which:  
85 unique CDR3  
6 unique J



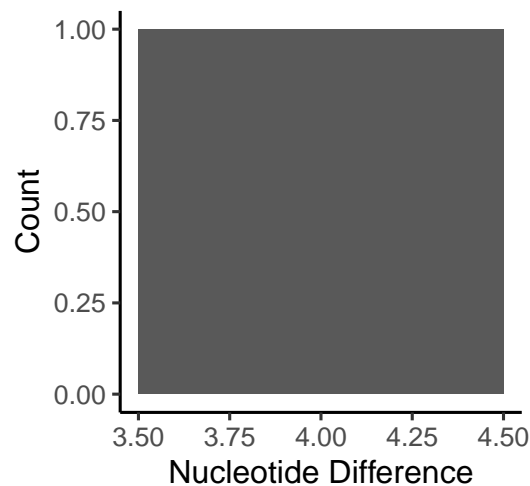
### IGHV3-15\*01\_02

237 sequences assigned  
162 (68.4%) exact matches, in which:  
158 unique CDR3  
6 unique J



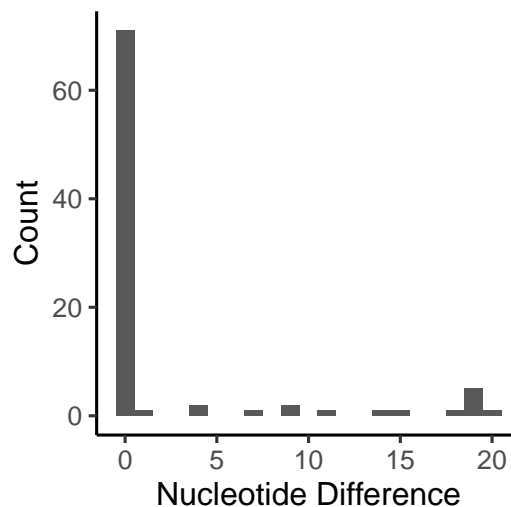
### IGHV2-70D\*04

1 sequences assigned  
No exact matches.



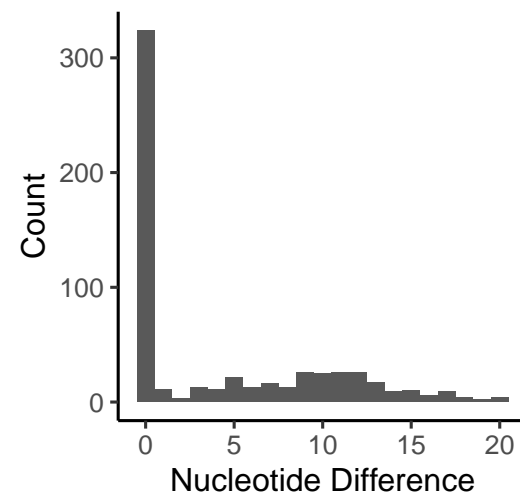
### IGHV3-11\*06

97 sequences assigned  
71 (73.2%) exact matches, in which:  
69 unique CDR3  
6 unique J



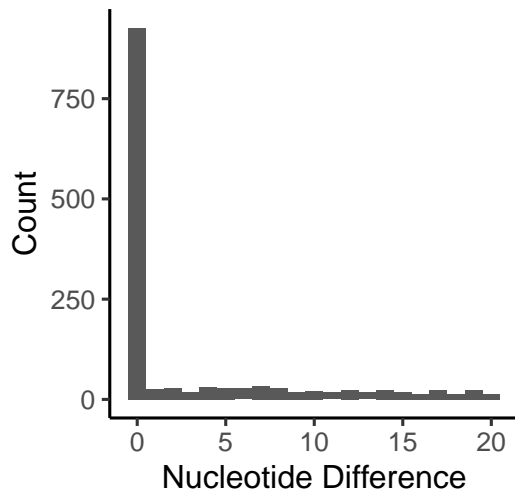
### IGHV3-21\*01\_02

615 sequences assigned  
324 (52.7%) exact matches, in which:  
307 unique CDR3  
7 unique J



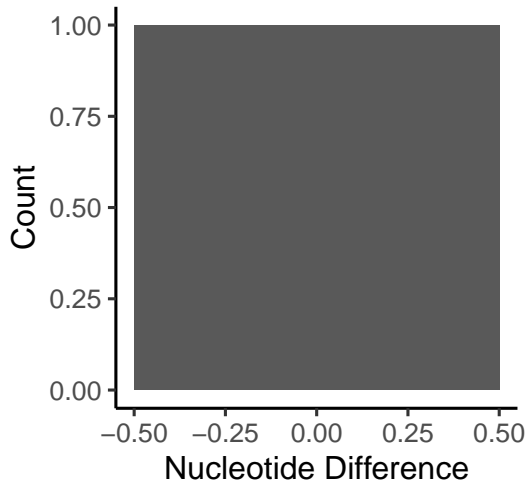
### IGHV3-23\*01\_04

1458 sequences assigned  
927 (63.6%) exact matches, in which:  
886 unique CDR3  
7 unique J



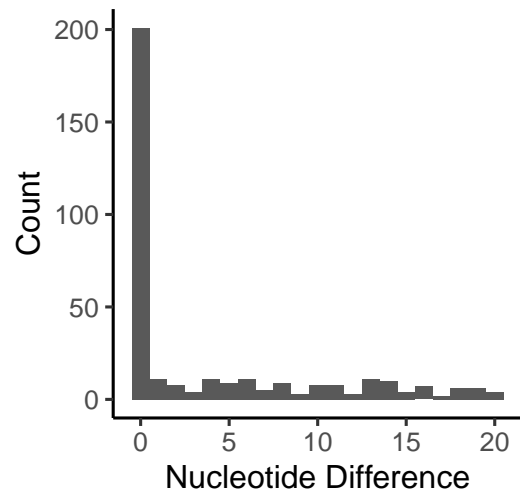
### IGHV3-38-3\*01

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



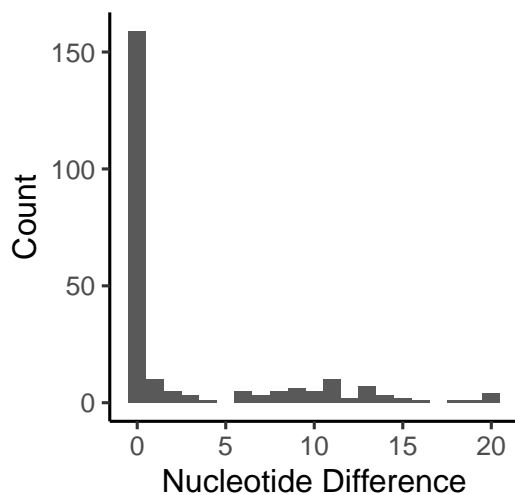
### IGHV3-48\*02

366 sequences assigned  
201 (54.9%) exact matches, in which:  
187 unique CDR3  
6 unique J



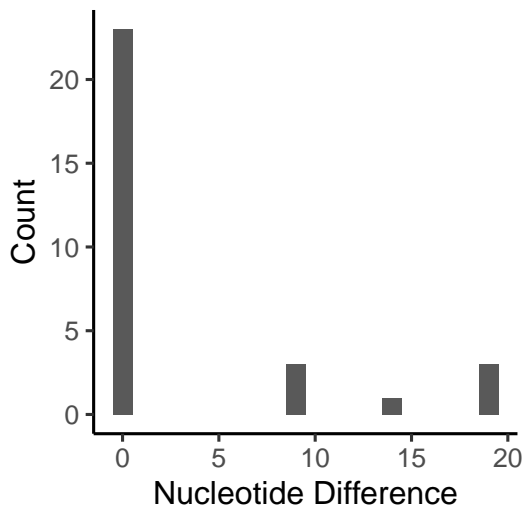
### IGHV3-33\*01

250 sequences assigned  
159 (63.6%) exact matches, in which:  
148 unique CDR3  
7 unique J



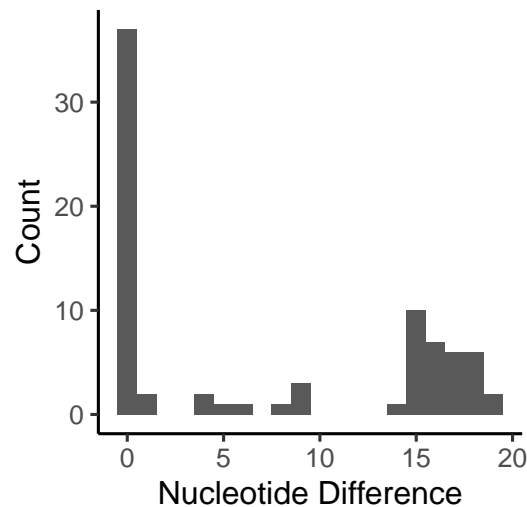
### IGHV3-43\*01

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



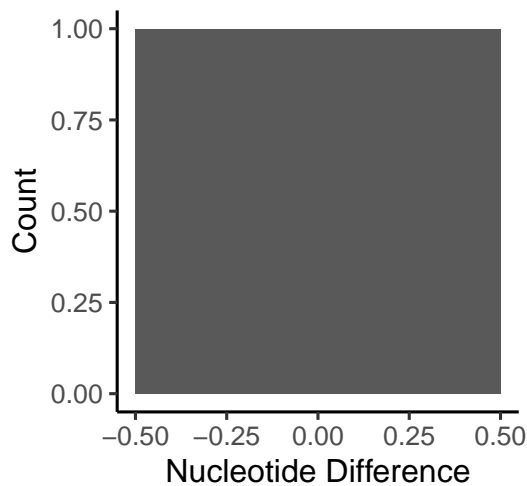
### IGHV3-49\*04

88 sequences assigned  
37 (42%) exact matches, in which:  
37 unique CDR3  
4 unique J



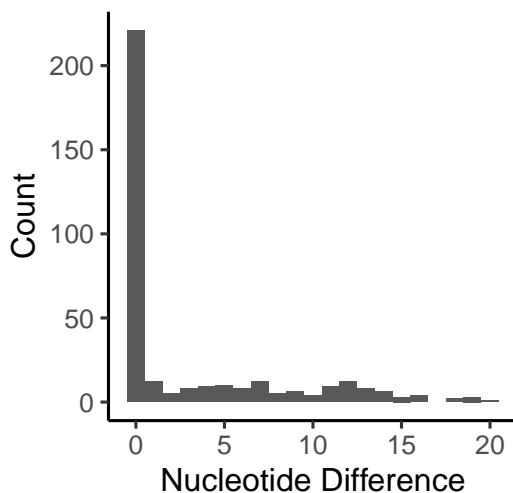
### IGHV3-35\*01

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



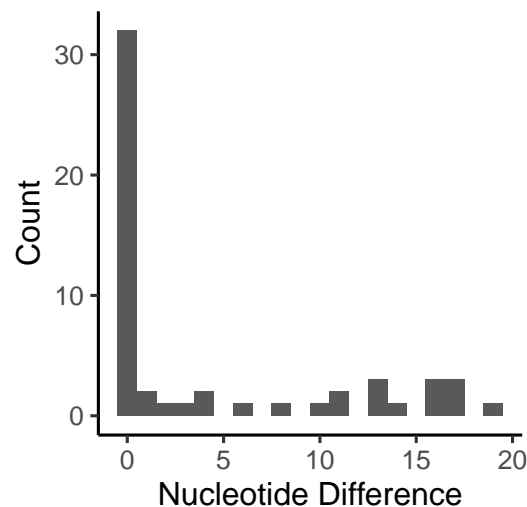
### IGHV3-48\*01

362 sequences assigned  
221 (61%) exact matches, in which:  
207 unique CDR3  
7 unique J



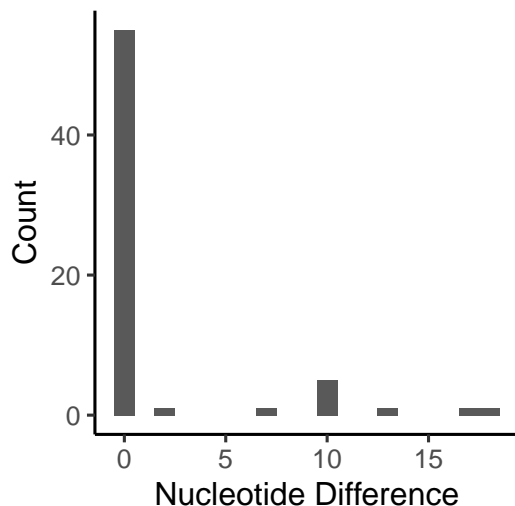
### IGHV3-49\*03\_05

57 sequences assigned  
32 (56.1%) exact matches, in which:  
32 unique CDR3  
5 unique J



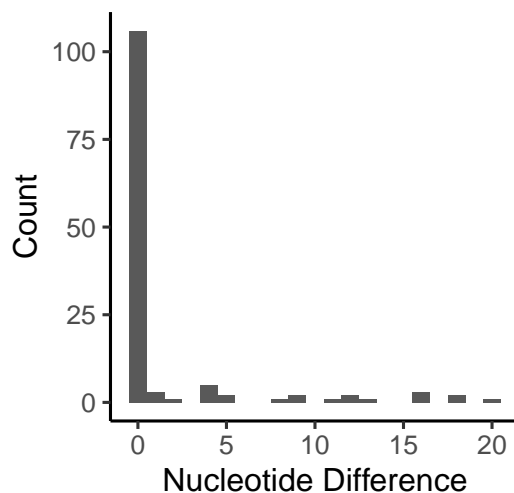
### IGHV3-53\*04

65 sequences assigned  
55 (84.6%) exact matches, in which:  
52 unique CDR3  
6 unique J



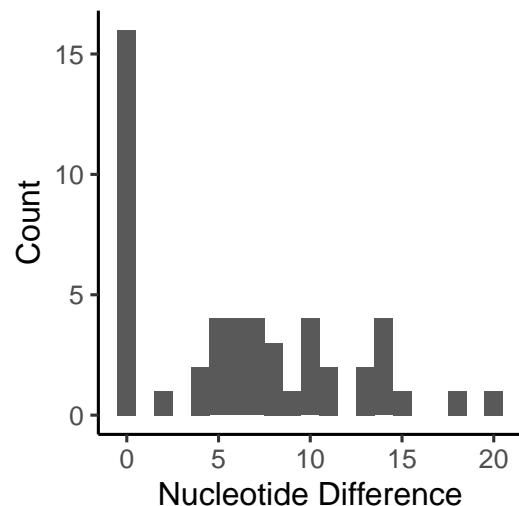
### IGHV3-66\*01

134 sequences assigned  
106 (79.1%) exact matches, in which:  
100 unique CDR3  
5 unique J



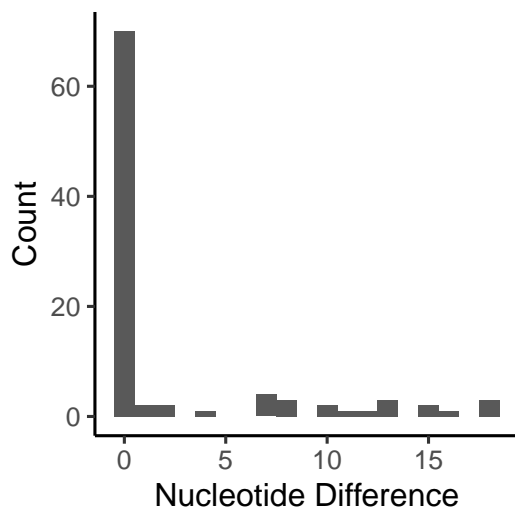
### IGHV3-72\*01

54 sequences assigned  
16 (29.6%) exact matches, in which:  
16 unique CDR3  
6 unique J



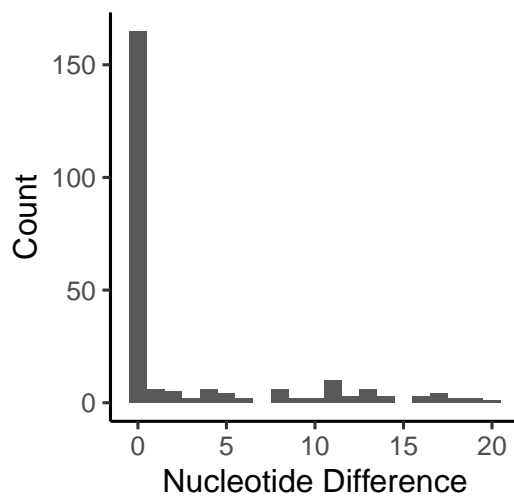
### IGHV3-53\*01\_02

107 sequences assigned  
70 (65.4%) exact matches, in which:  
70 unique CDR3  
5 unique J



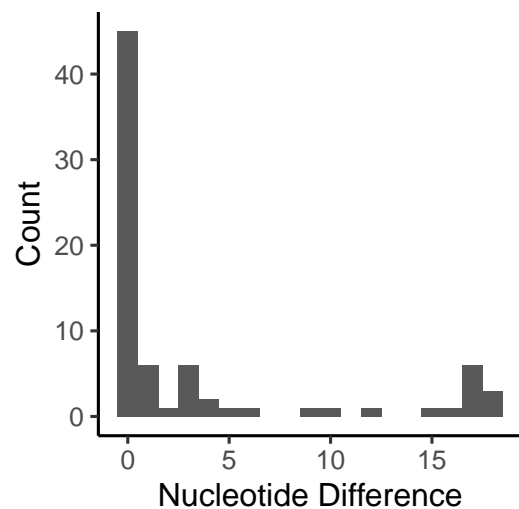
### IGHV3-66\*02

252 sequences assigned  
165 (65.5%) exact matches, in which:  
154 unique CDR3  
6 unique J



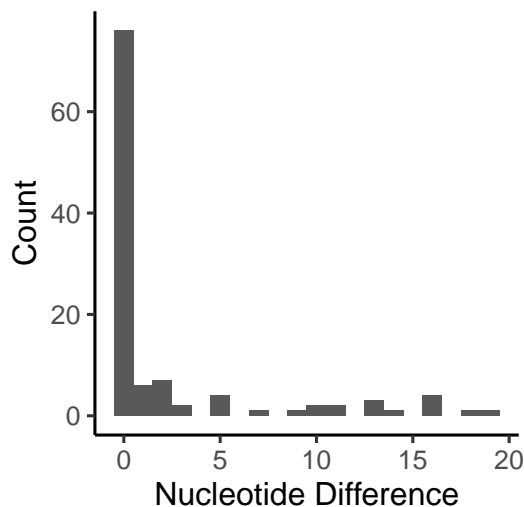
### IGHV3-73\*01\_02

81 sequences assigned  
45 (55.6%) exact matches, in which:  
39 unique CDR3  
7 unique J



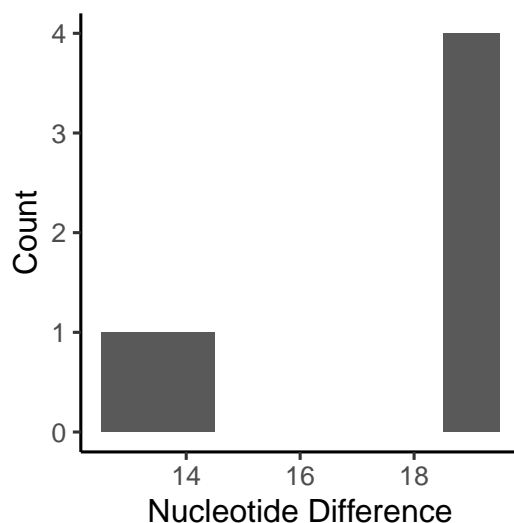
### IGHV3-64\*01

117 sequences assigned  
76 (65%) exact matches, in which:  
68 unique CDR3  
5 unique J



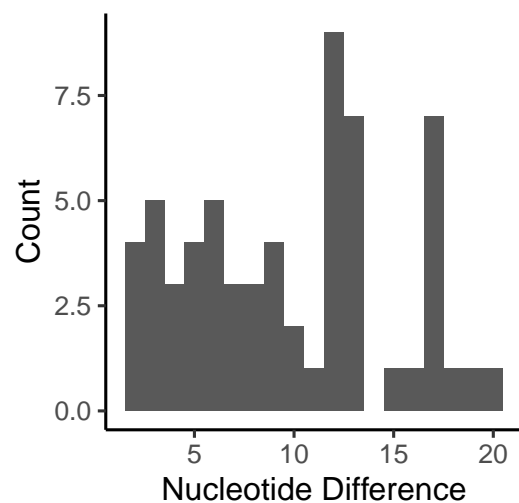
### IGHV3-69-1\*01

8 sequences assigned  
No exact matches.



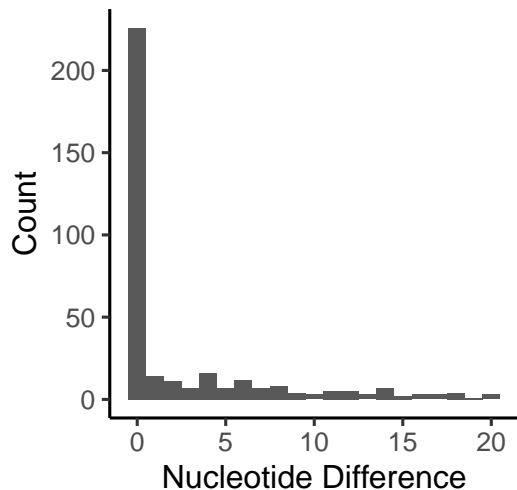
### IGHV3-74\*03

72 sequences assigned  
No exact matches.



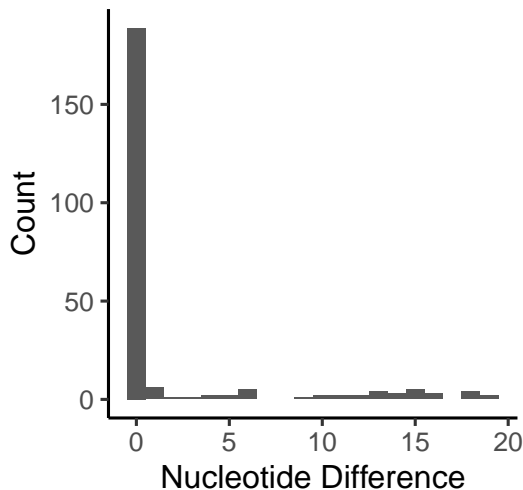
### IGHV3-74\*01\_02

376 sequences assigned  
226 (60.1%) exact matches, in which:  
205 unique CDR3  
7 unique J



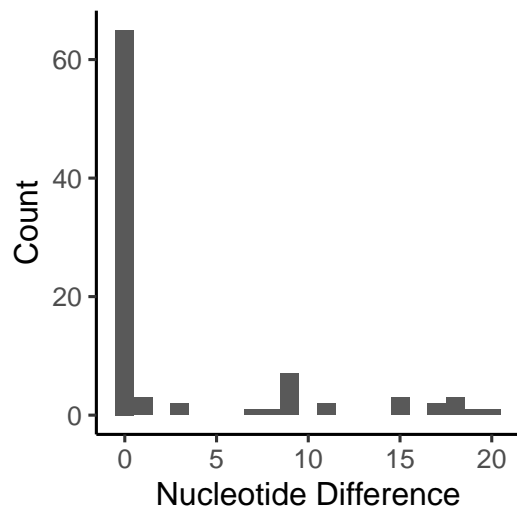
### IGHV4-4\*02\_03

251 sequences assigned  
189 (75.3%) exact matches, in which:  
180 unique CDR3  
6 unique J



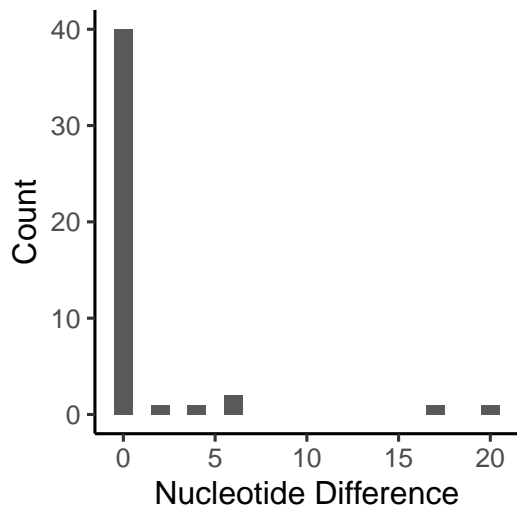
### IGHV4-30-4\*07

99 sequences assigned  
65 (65.7%) exact matches, in which:  
65 unique CDR3  
5 unique J



### IGHV3-43D\*03

47 sequences assigned  
40 (85.1%) exact matches, in which:  
39 unique CDR3  
5 unique J



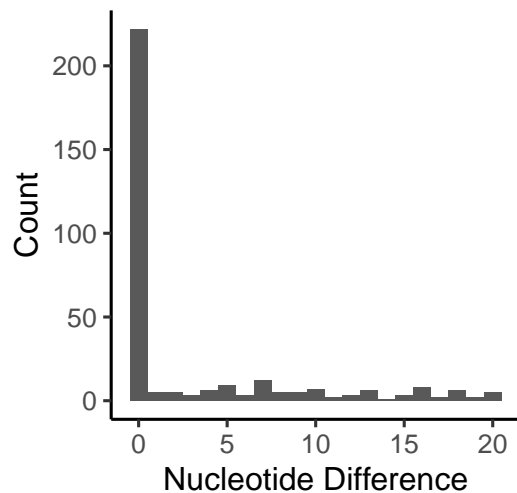
### IGHV4-28\*01\_07

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



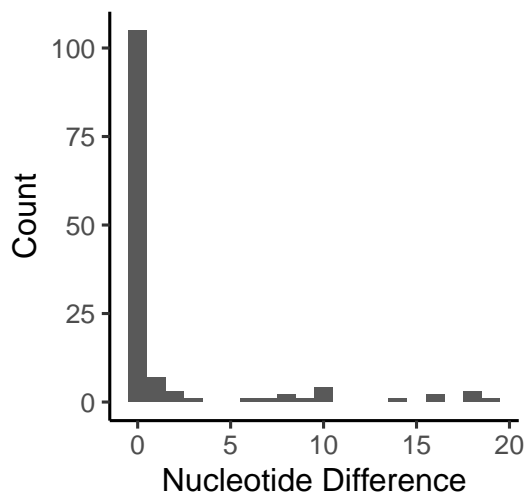
### IGHV4-31\*02

346 sequences assigned  
222 (64.2%) exact matches, in which:  
215 unique CDR3  
5 unique J



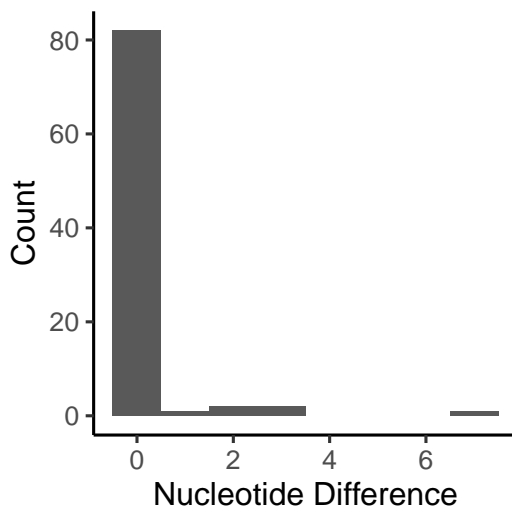
### IGHV3-64D\*06

144 sequences assigned  
105 (72.9%) exact matches, in which:  
103 unique CDR3  
6 unique J



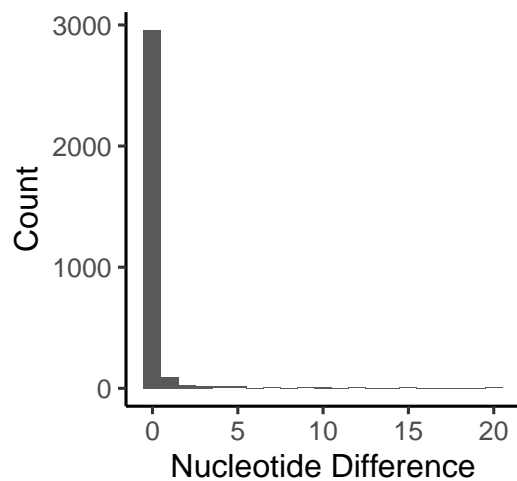
### IGHV4-30-2\*01

88 sequences assigned  
82 (93.2%) exact matches, in which:  
78 unique CDR3  
6 unique J



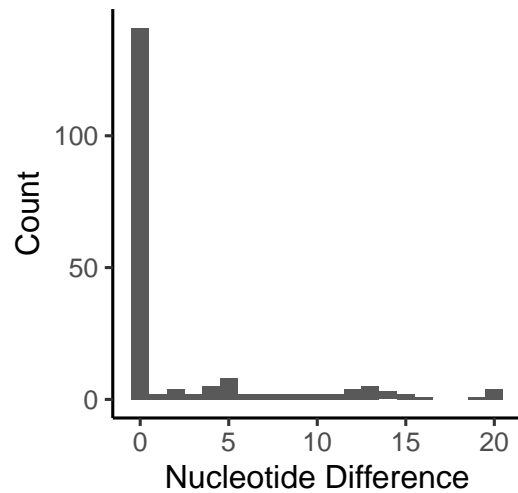
### IGHV4-34\*01\_02

3239 sequences assigned  
2958 (91.3%) exact matches, in which:  
2814 unique CDR3  
7 unique J



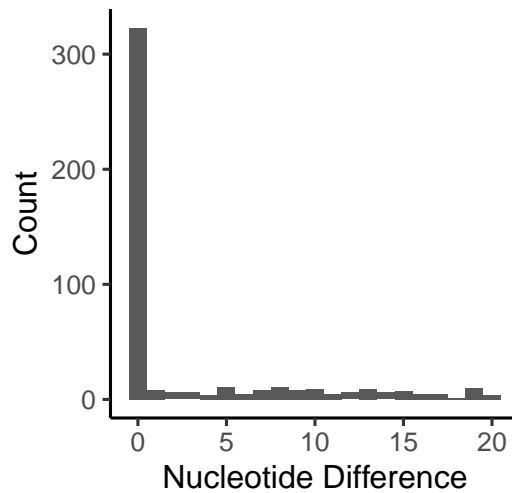
### IGHV4-38-2\*02

213 sequences assigned  
141 (66.2%) exact matches, in which:  
136 unique CDR3  
6 unique J



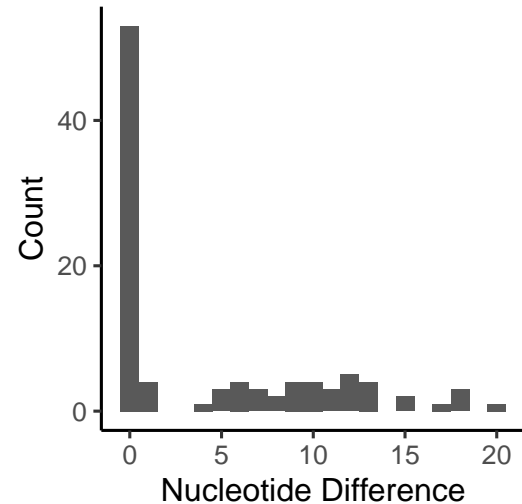
### IGHV4-61\*02

504 sequences assigned  
323 (64.1%) exact matches, in which:  
314 unique CDR3  
6 unique J



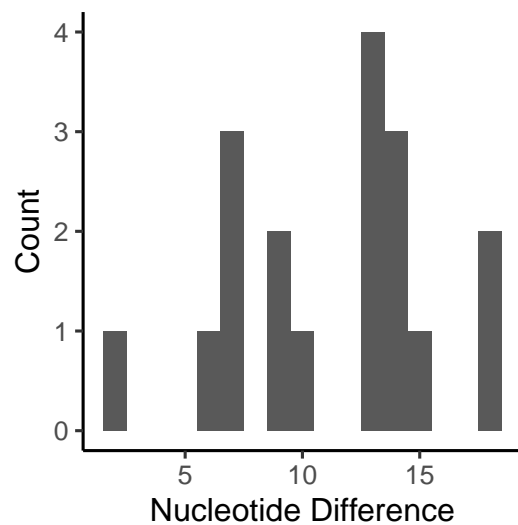
### IGHV7-4-1\*02

109 sequences assigned  
53 (48.6%) exact matches, in which:  
53 unique CDR3  
5 unique J



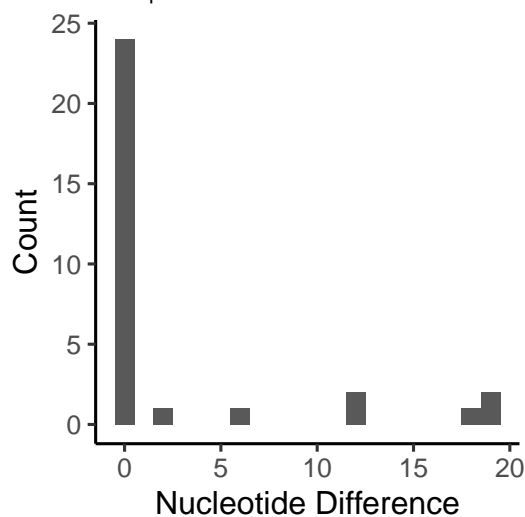
### IGHV4-39\*02

31 sequences assigned  
No exact matches.



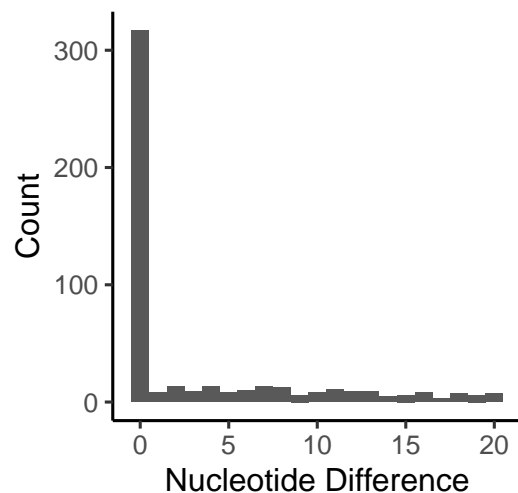
### IGHV5-10-1\*01\_03

34 sequences assigned  
24 (70.6%) exact matches, in which:  
24 unique CDR3  
4 unique J



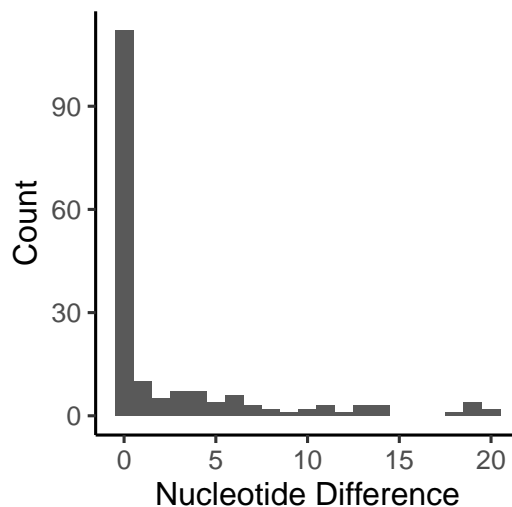
### IGHV4-59\*08

528 sequences assigned  
317 (60%) exact matches, in which:  
306 unique CDR3  
6 unique J

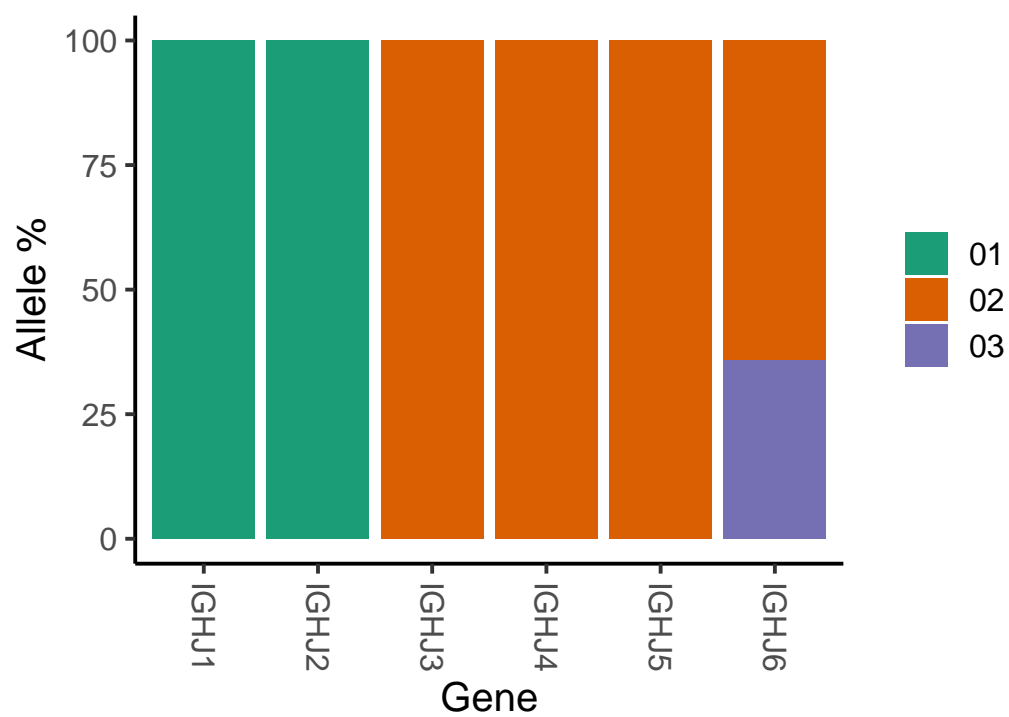


### IGHV6-1\*01\_02

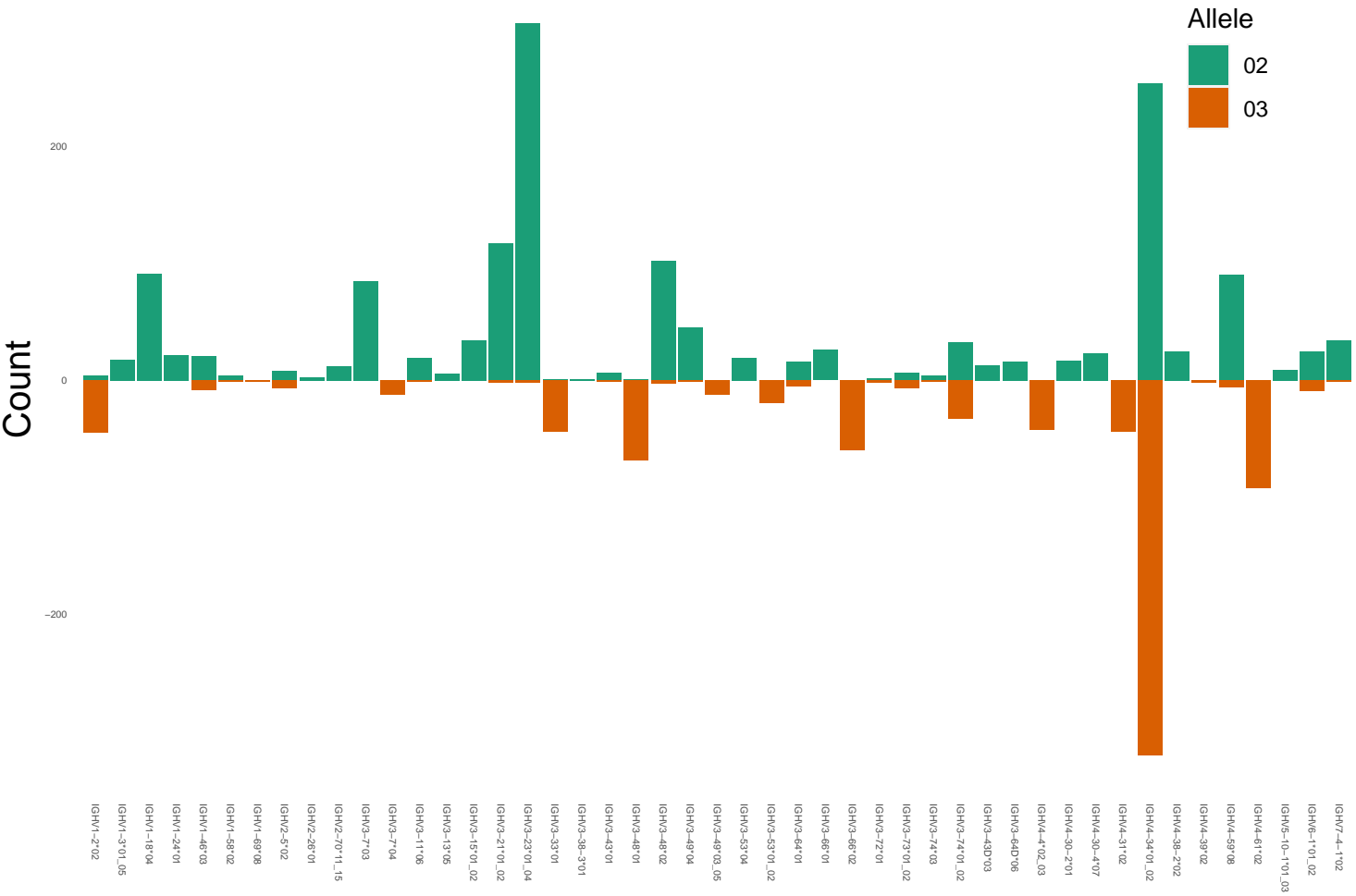
182 sequences assigned  
112 (61.5%) exact matches, in which:  
111 unique CDR3  
6 unique J



Allele Usage



Sequence Count byIGHJ6 allele usage





Warning – no inferred sequences found.