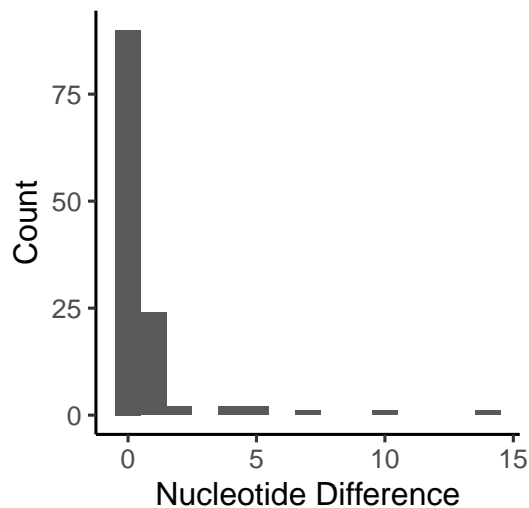


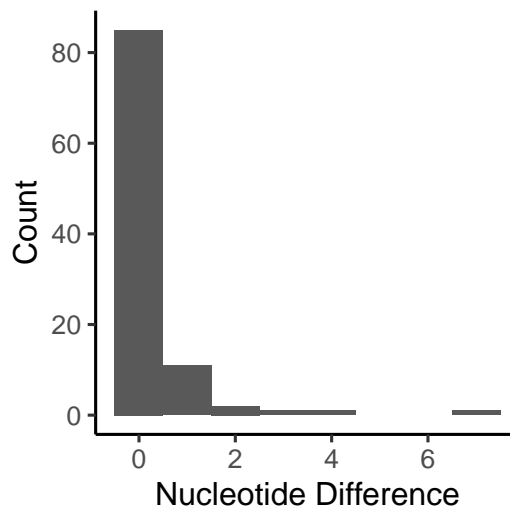
### IGHV1-2\*02

126 sequences assigned  
90 (71.4%) exact matches, in which:  
90 unique CDR3  
5 unique J



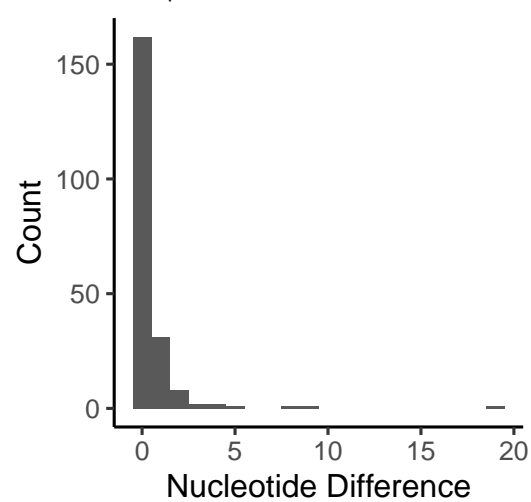
### IGHV1-8\*01

104 sequences assigned  
85 (81.7%) exact matches, in which:  
84 unique CDR3  
5 unique J



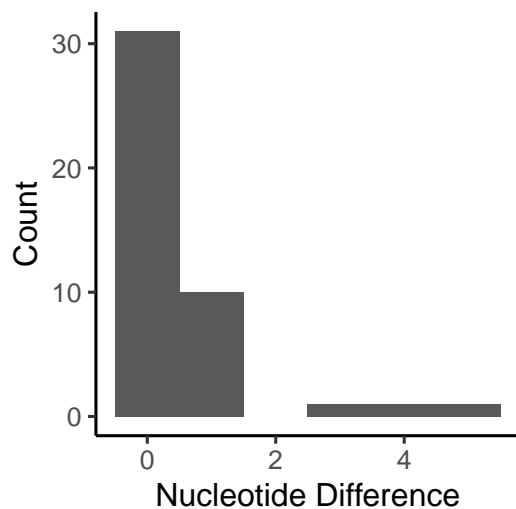
### IGHV1-46\*01

209 sequences assigned  
162 (77.5%) exact matches, in which:  
161 unique CDR3  
7 unique J



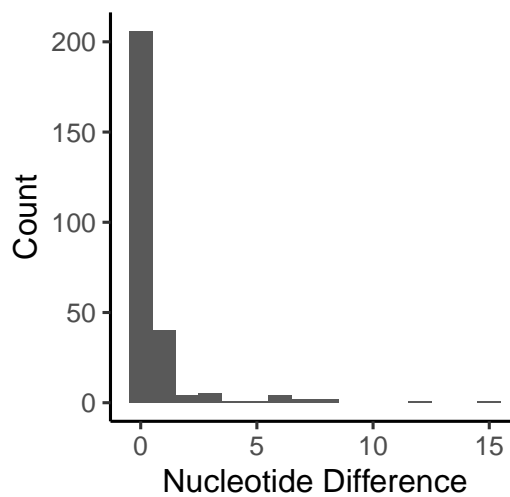
### IGHV1-2\*04

44 sequences assigned  
31 (70.5%) exact matches, in which:  
31 unique CDR3  
4 unique J



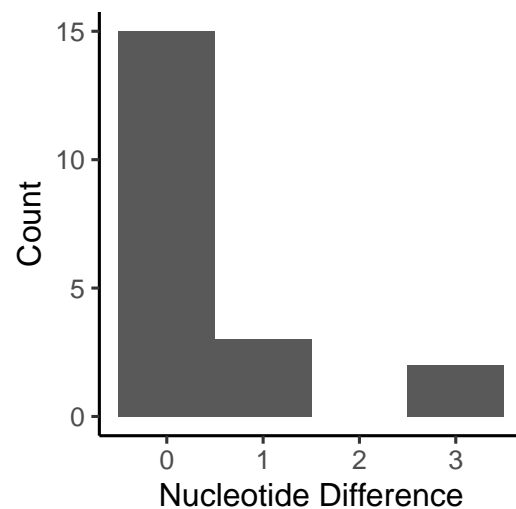
### IGHV1-18\*01

267 sequences assigned  
206 (77.2%) exact matches, in which:  
205 unique CDR3  
6 unique J



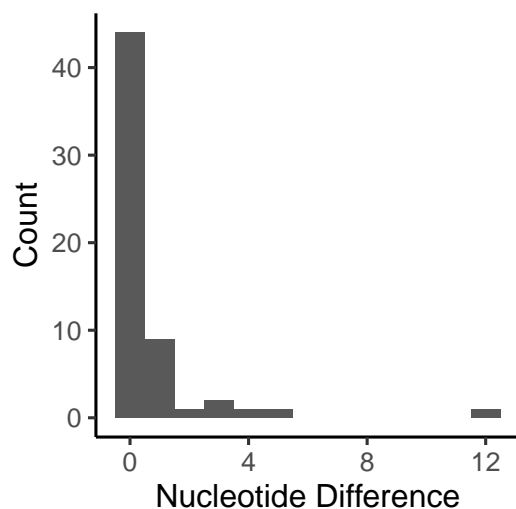
### IGHV1-58\*02

20 sequences assigned  
15 (75%) exact matches, in which:  
15 unique CDR3  
6 unique J



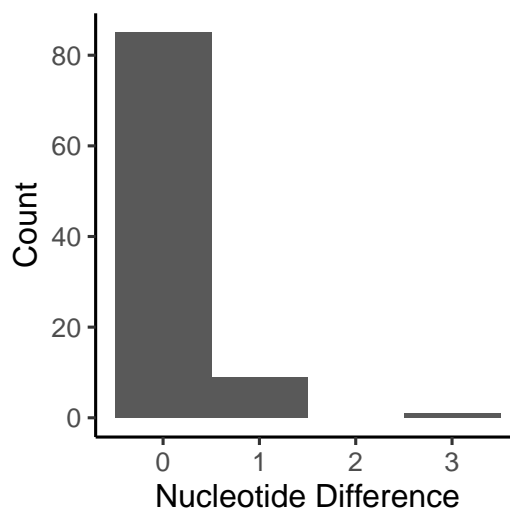
### IGHV1-3\*01

59 sequences assigned  
44 (74.6%) exact matches, in which:  
44 unique CDR3  
5 unique J



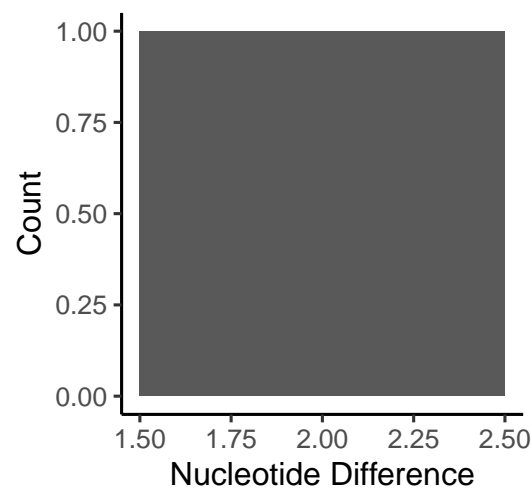
### IGHV1-24\*01

95 sequences assigned  
85 (89.5%) exact matches, in which:  
85 unique CDR3  
7 unique J



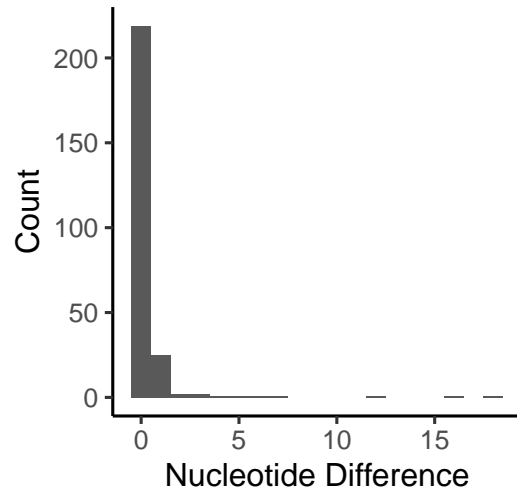
### IGHV1-69-2\*01

1 sequences assigned  
No exact matches.



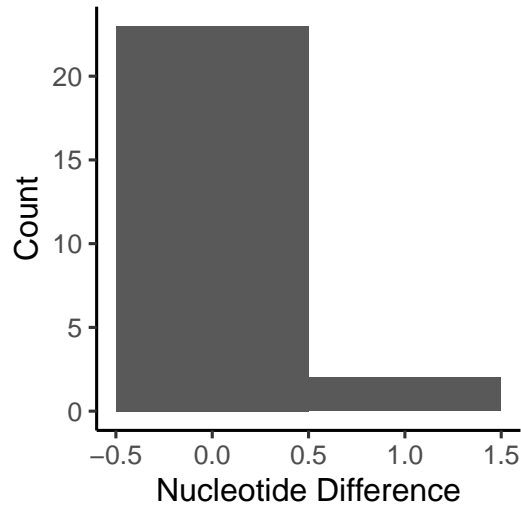
### IGHV1–69\*04

255 sequences assigned  
219 (85.9%) exact matches, in which:  
217 unique CDR3  
7 unique J



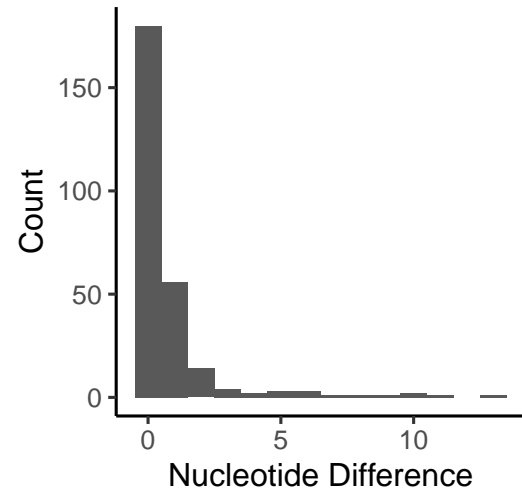
### IGHV2–70\*15

25 sequences assigned  
23 (92%) exact matches, in which:  
23 unique CDR3  
6 unique J



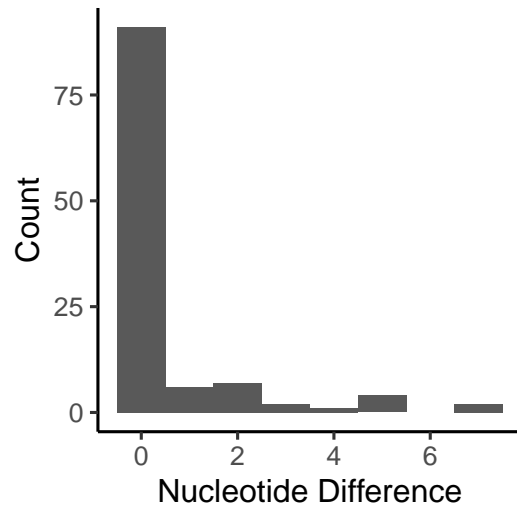
### IGHV3–9\*01

269 sequences assigned  
180 (66.9%) exact matches, in which:  
180 unique CDR3  
6 unique J



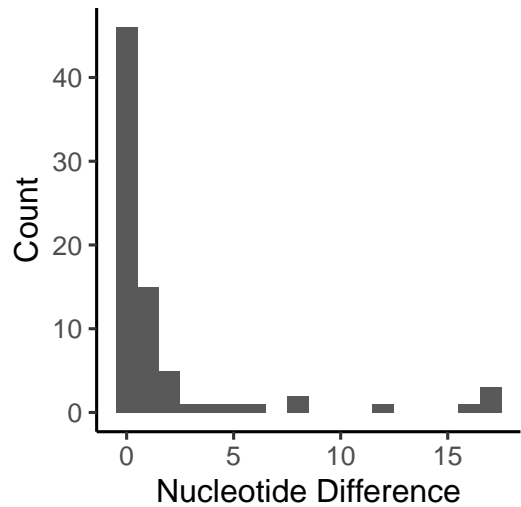
### IGHV2–5\*02

113 sequences assigned  
91 (80.5%) exact matches, in which:  
91 unique CDR3  
6 unique J



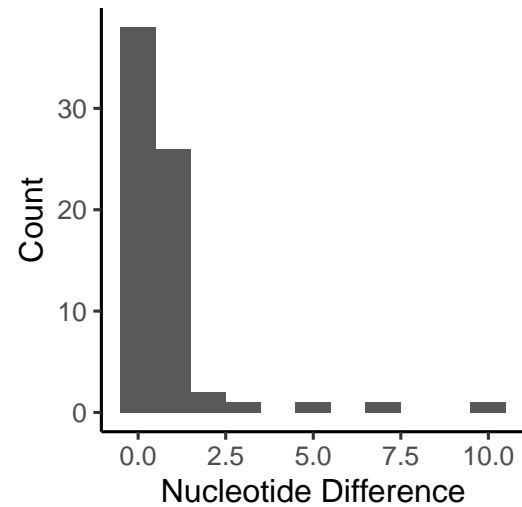
### IGHV3–7\*01

77 sequences assigned  
46 (59.7%) exact matches, in which:  
46 unique CDR3  
6 unique J



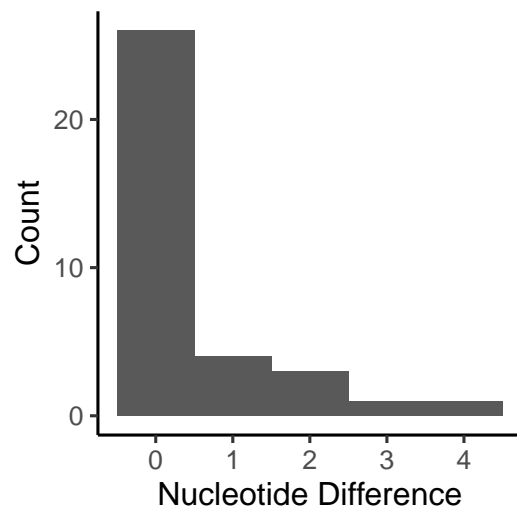
### IGHV3–11\*01

70 sequences assigned  
38 (54.3%) exact matches, in which:  
38 unique CDR3  
6 unique J



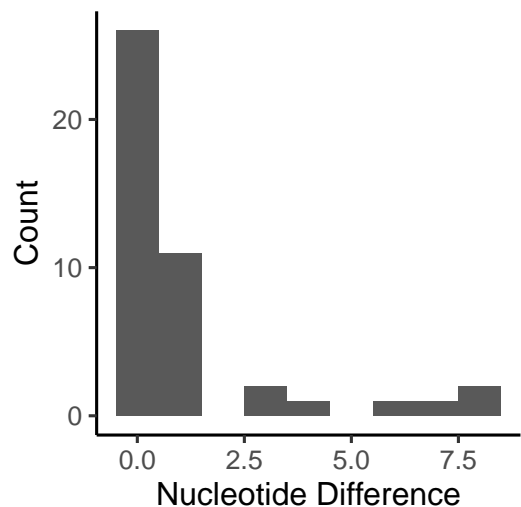
### IGHV2–26\*01

35 sequences assigned  
26 (74.3%) exact matches, in which:  
26 unique CDR3  
5 unique J



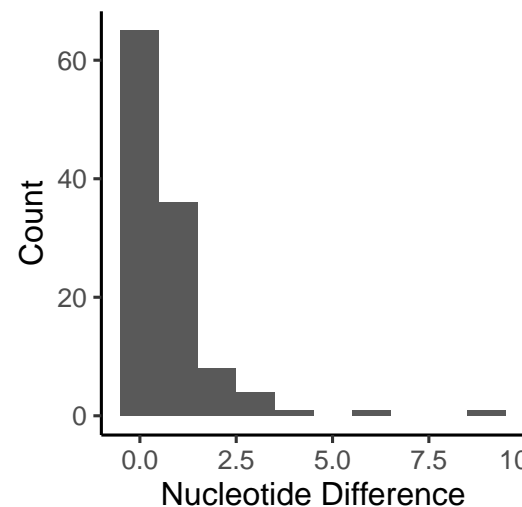
### IGHV3–7\*04

44 sequences assigned  
26 (59.1%) exact matches, in which:  
26 unique CDR3  
4 unique J



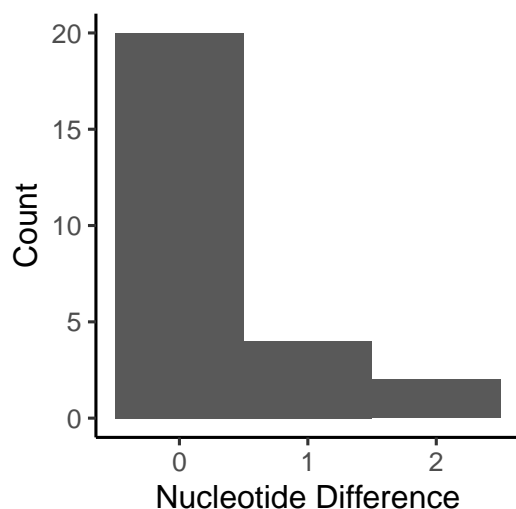
### IGHV3–11\*05

116 sequences assigned  
65 (56%) exact matches, in which:  
64 unique CDR3  
5 unique J



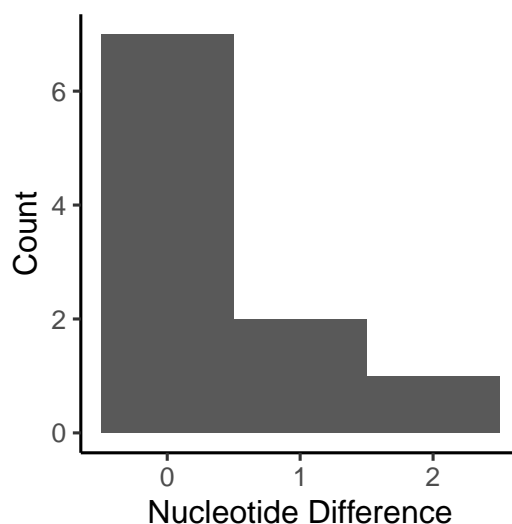
### IGHV3-13\*01

26 sequences assigned  
20 (76.9%) exact matches, in which:  
20 unique CDR3  
5 unique J



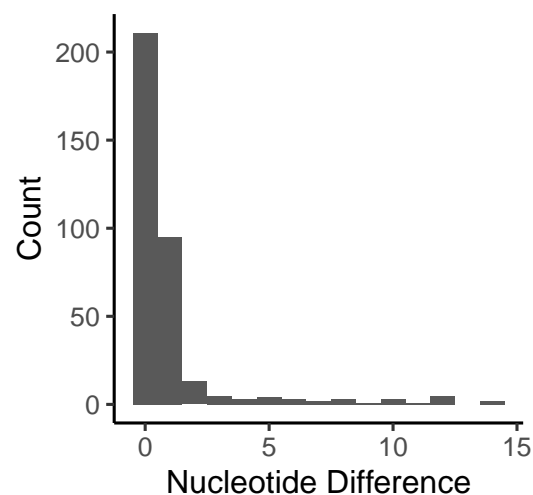
### IGHV3-20\*01

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



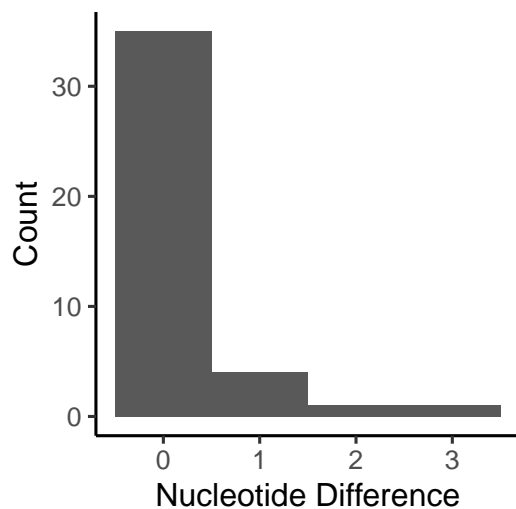
### IGHV3-30-3\*01

352 sequences assigned  
211 (59.9%) exact matches, in which:  
210 unique CDR3  
6 unique J



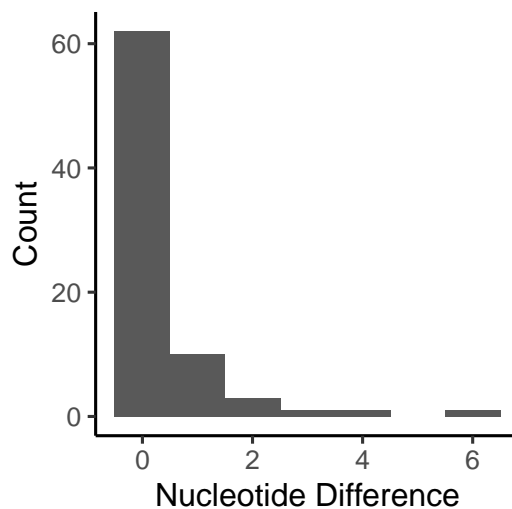
### IGHV3-13\*04

41 sequences assigned  
35 (85.4%) exact matches, in which:  
35 unique CDR3  
4 unique J



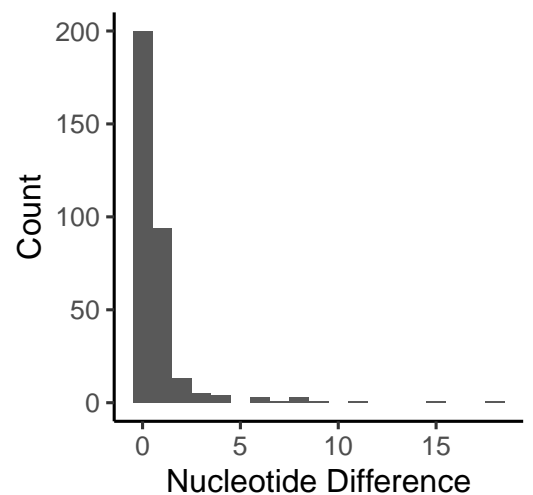
### IGHV3-20\*04

78 sequences assigned  
62 (79.5%) exact matches, in which:  
60 unique CDR3  
5 unique J



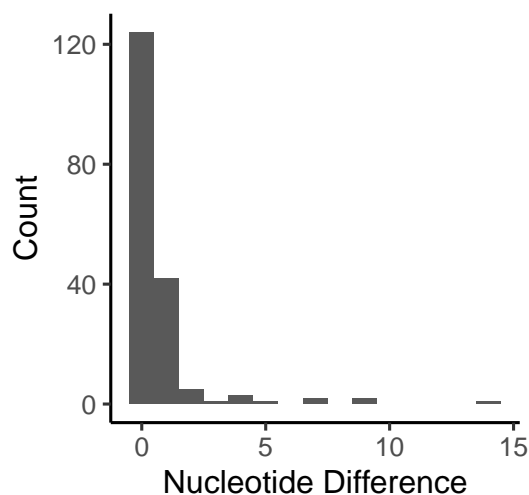
### IGHV3-33\*01

327 sequences assigned  
200 (61.2%) exact matches, in which:  
198 unique CDR3  
7 unique J



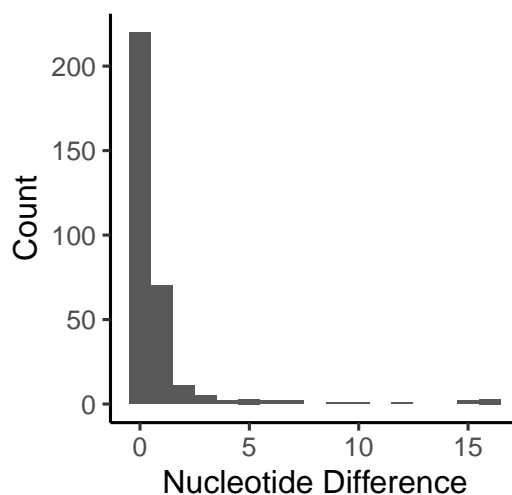
### IGHV3-15\*01

181 sequences assigned  
124 (68.5%) exact matches, in which:  
124 unique CDR3  
6 unique J



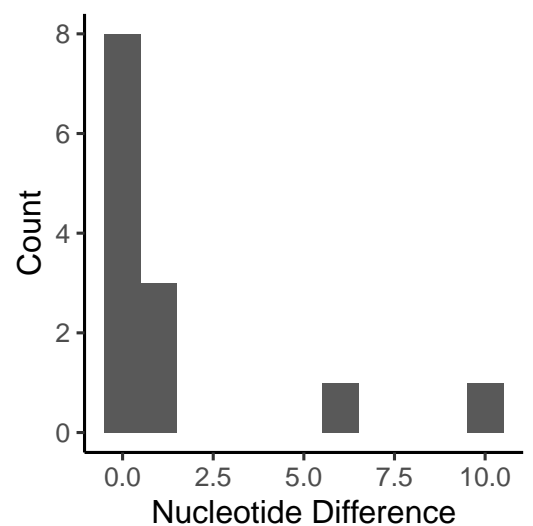
### IGHV3-21\*01

323 sequences assigned  
220 (68.1%) exact matches, in which:  
219 unique CDR3  
6 unique J



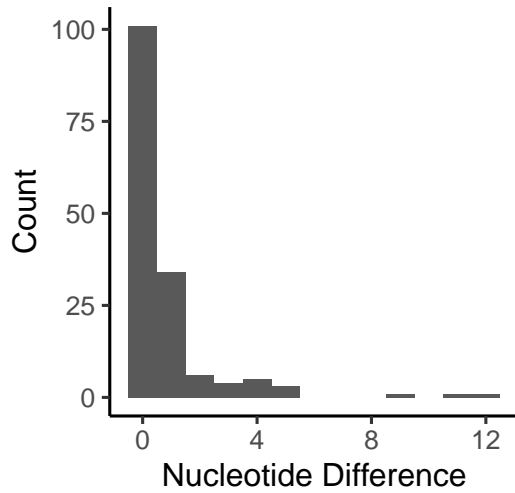
### IGHV3-43\*01

13 sequences assigned  
8 (61.5%) exact matches, in which:  
8 unique CDR3  
3 unique J



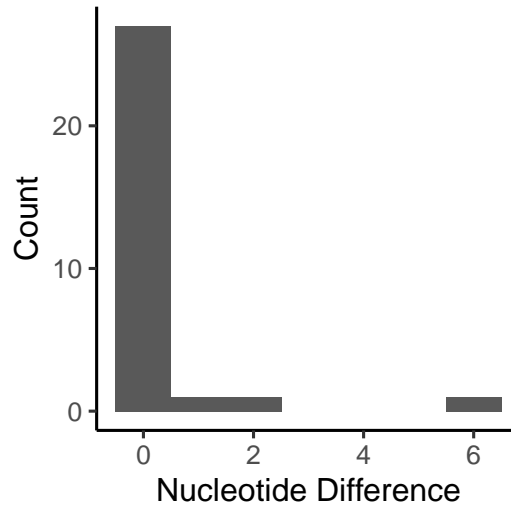
### IGHV3-48\*01

156 sequences assigned  
101 (64.7%) exact matches, in which:  
100 unique CDR3  
6 unique J



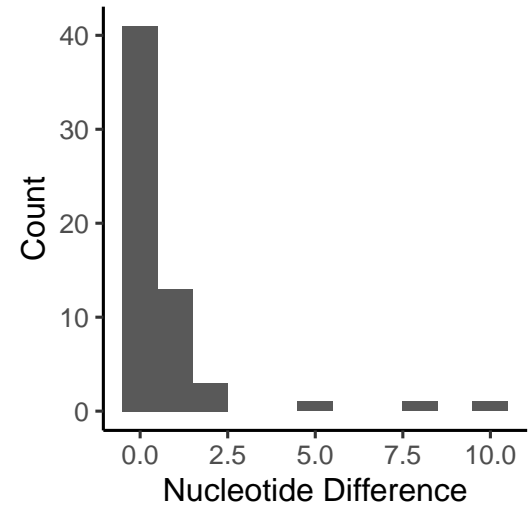
### IGHV3-64\*01

30 sequences assigned  
27 (90%) exact matches, in which:  
27 unique CDR3  
5 unique J



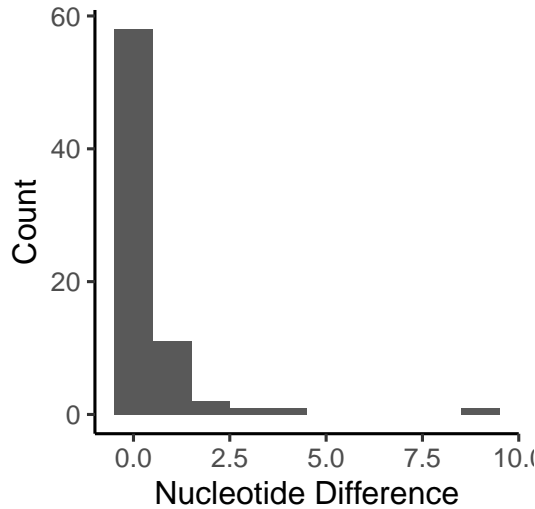
### IGHV3-73\*01

60 sequences assigned  
41 (68.3%) exact matches, in which:  
41 unique CDR3  
6 unique J



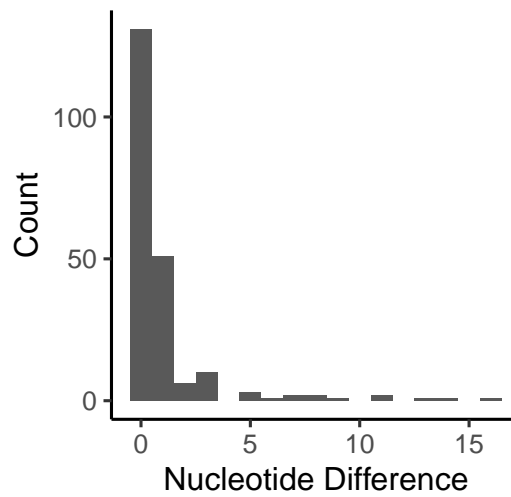
### IGHV3-49\*03

75 sequences assigned  
58 (77.3%) exact matches, in which:  
56 unique CDR3  
6 unique J



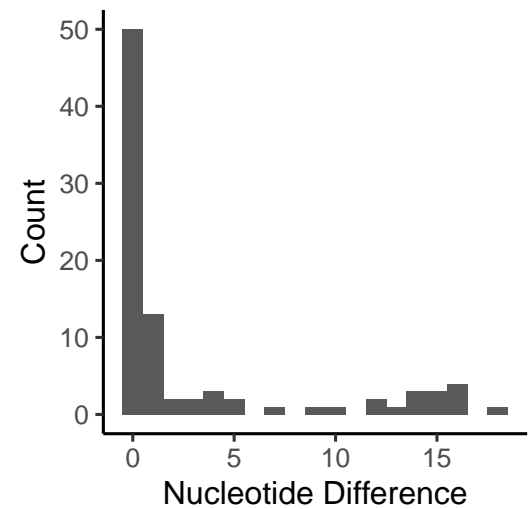
### IGHV3-66\*01

212 sequences assigned  
131 (61.8%) exact matches, in which:  
128 unique CDR3  
7 unique J



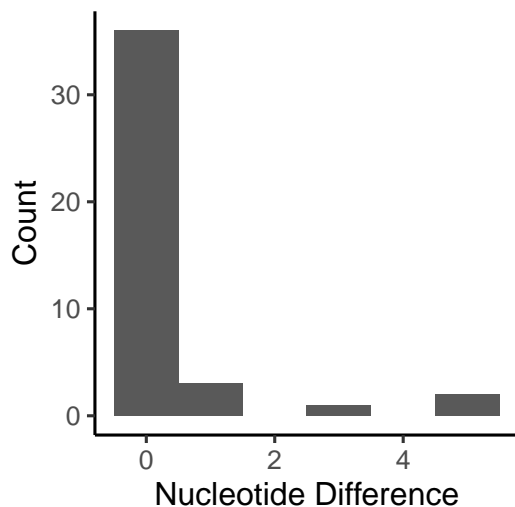
### IGHV3-74\*01

89 sequences assigned  
50 (56.2%) exact matches, in which:  
50 unique CDR3  
5 unique J



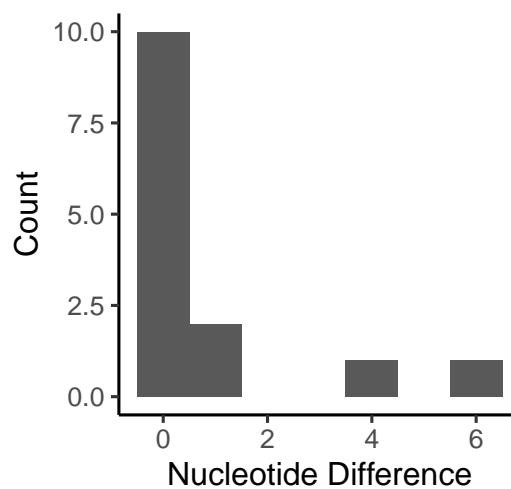
### IGHV3-53\*02

42 sequences assigned  
36 (85.7%) exact matches, in which:  
36 unique CDR3  
6 unique J



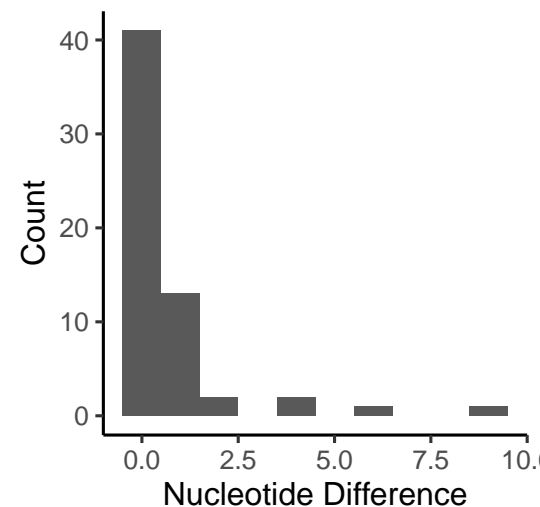
### IGHV3-72\*01

14 sequences assigned  
10 (71.4%) exact matches, in which:  
10 unique CDR3  
5 unique J



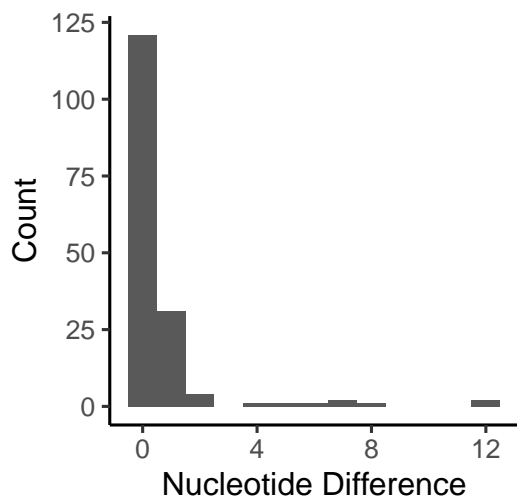
### IGHV3-64D\*06

62 sequences assigned  
41 (66.1%) exact matches, in which:  
40 unique CDR3  
4 unique J



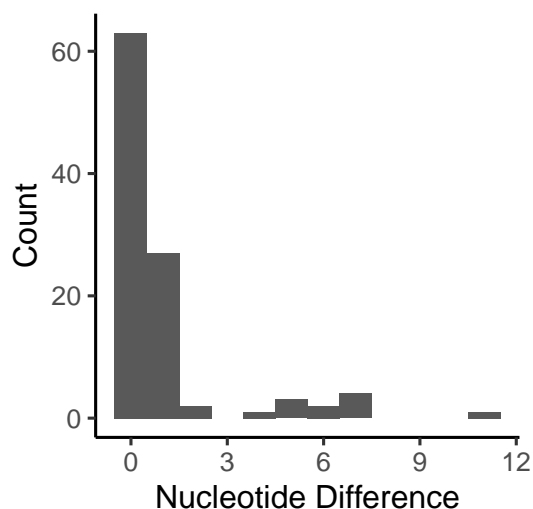
### IGHV4-4\*02

164 sequences assigned  
121 (73.8%) exact matches, in which:  
120 unique CDR3  
6 unique J



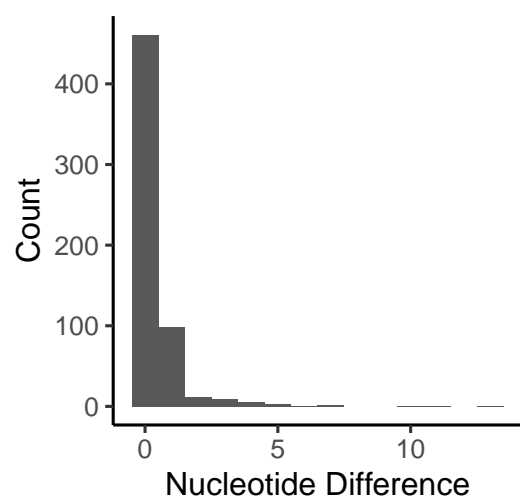
### IGHV4-30-4\*01

103 sequences assigned  
63 (61.2%) exact matches, in which:  
62 unique CDR3  
5 unique J



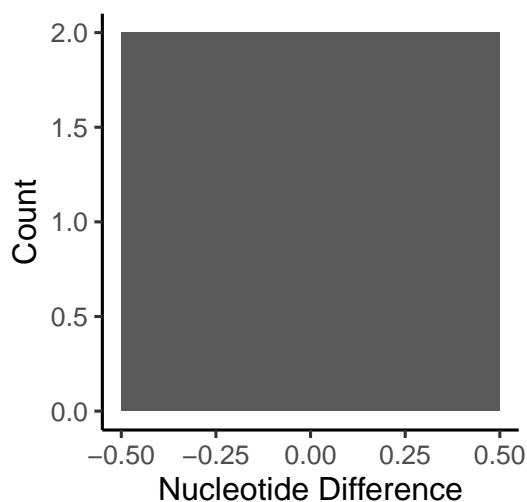
### IGHV4-34\*01

595 sequences assigned  
461 (77.5%) exact matches, in which:  
454 unique CDR3  
7 unique J



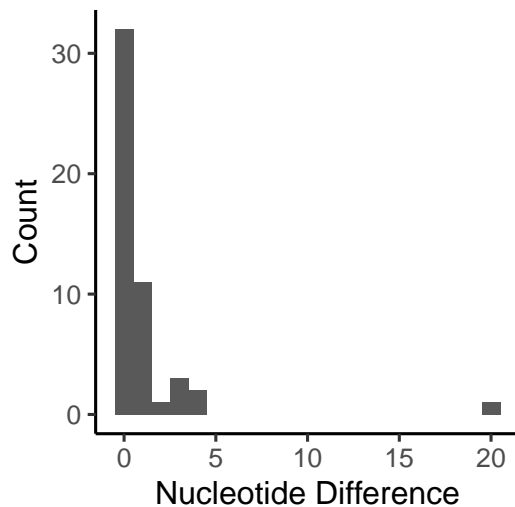
### IGHV4-28\*01

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



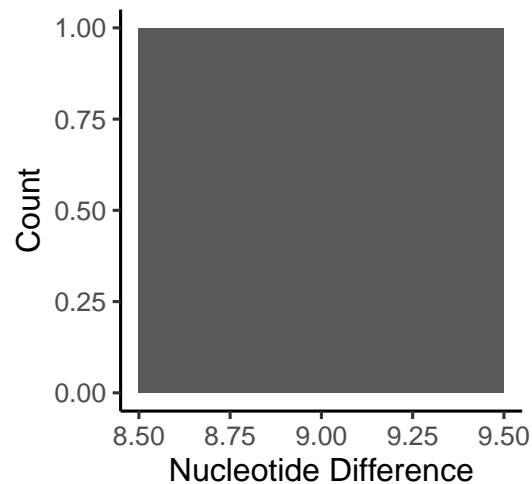
### IGHV4-30-2\*01

50 sequences assigned  
32 (64%) exact matches, in which:  
32 unique CDR3  
5 unique J



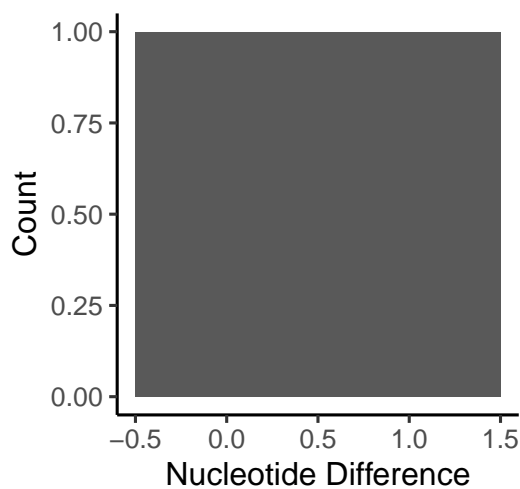
### IGHV4-38-2\*02

1 sequences assigned  
No exact matches.



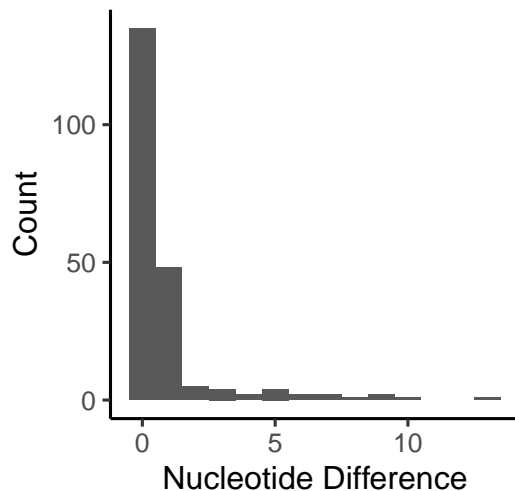
### IGHV4-28\*03

2 sequences assigned  
1 (50%) exact matches, in which:  
1 unique CDR3  
1 unique J



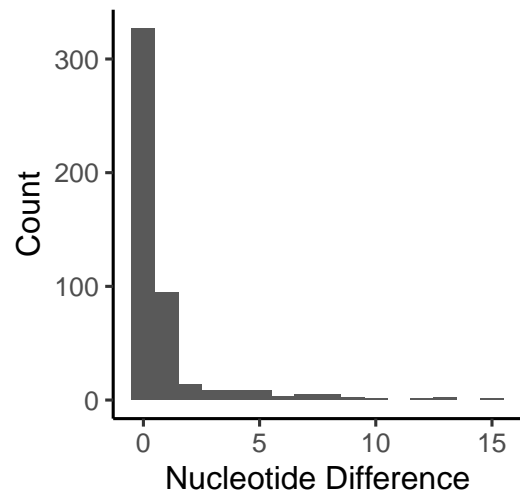
### IGHV4-31\*03

207 sequences assigned  
135 (65.2%) exact matches, in which:  
135 unique CDR3  
7 unique J



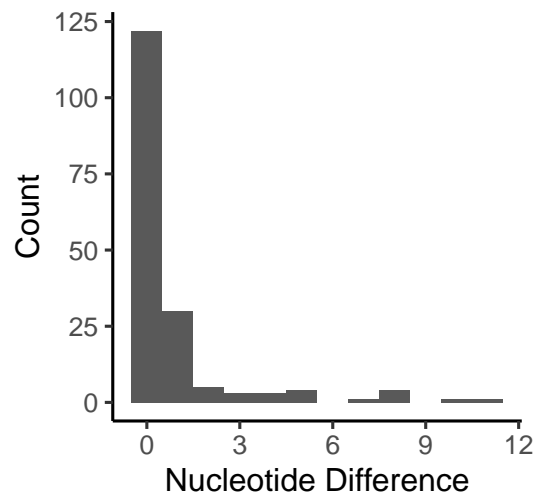
### IGHV4-39\*01

481 sequences assigned  
327 (68%) exact matches, in which:  
324 unique CDR3  
7 unique J



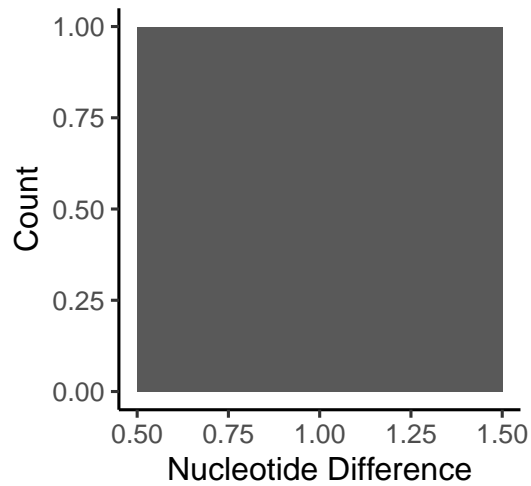
### IGHV4–59\*01

174 sequences assigned  
122 (70.1%) exact matches, in which:  
121 unique CDR3  
7 unique J



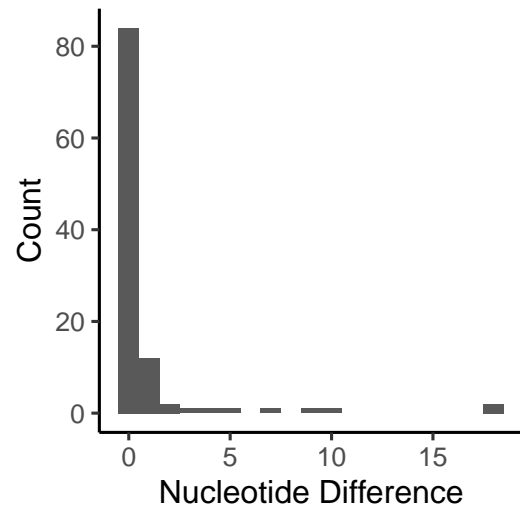
### IGHV4–61\*10

1 sequences assigned  
No exact matches.



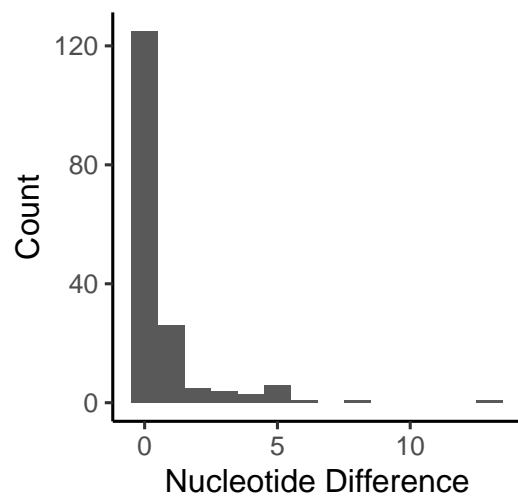
### IGHV5–51\*03

106 sequences assigned  
84 (79.2%) exact matches, in which:  
84 unique CDR3  
7 unique J



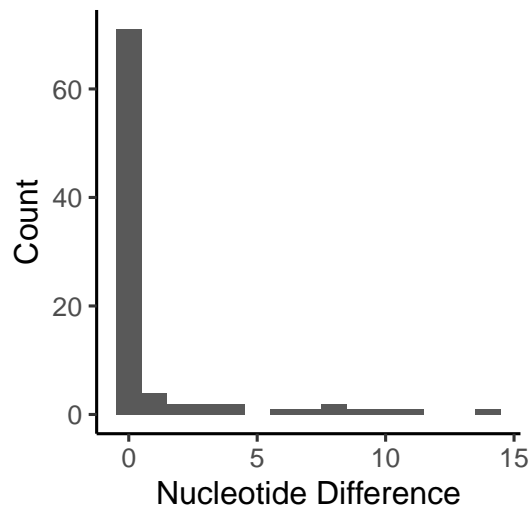
### IGHV4–59\*08

172 sequences assigned  
125 (72.7%) exact matches, in which:  
124 unique CDR3  
7 unique J



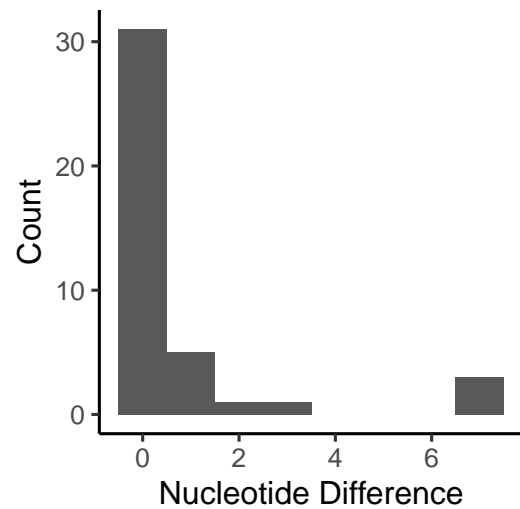
### IGHV5–10–1\*01

89 sequences assigned  
71 (79.8%) exact matches, in which:  
71 unique CDR3  
6 unique J



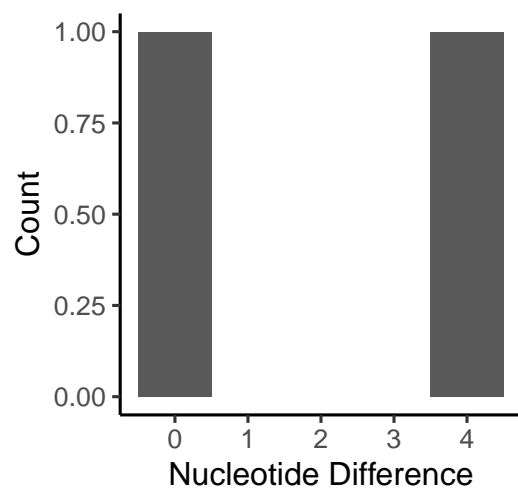
### IGHV6–1\*01

41 sequences assigned  
31 (75.6%) exact matches, in which:  
31 unique CDR3  
6 unique J



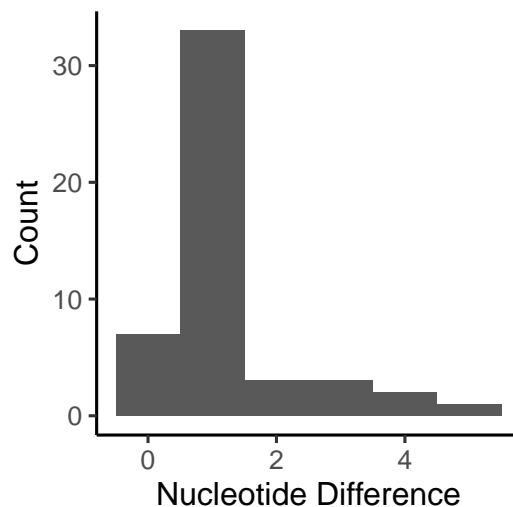
### IGHV4–61\*07

2 sequences assigned  
1 (50%) exact matches, in which:  
1 unique CDR3  
1 unique J



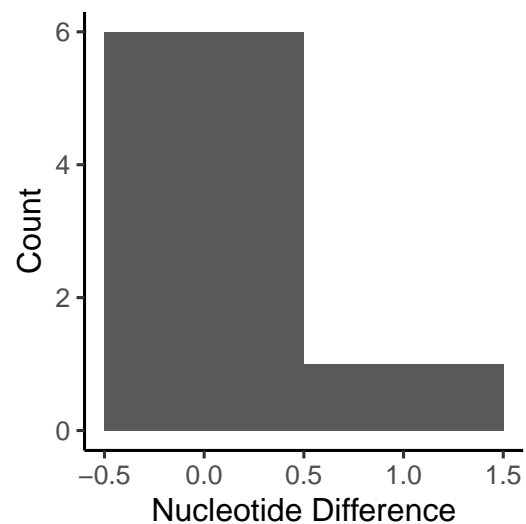
### IGHV5–51\*01

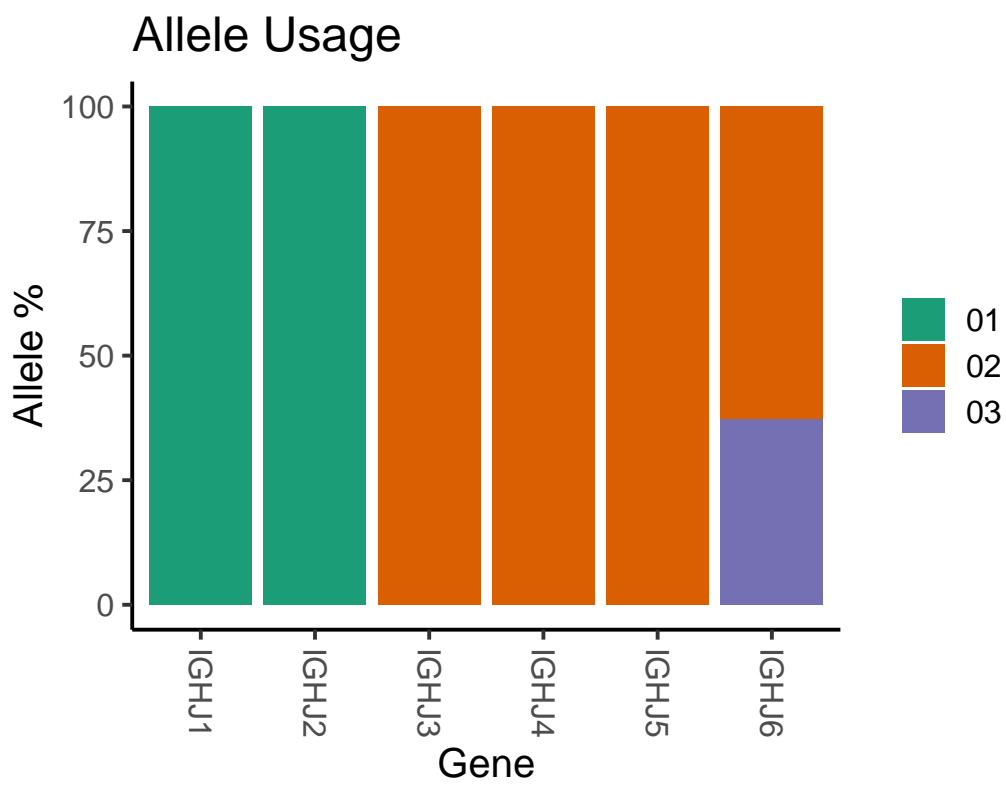
49 sequences assigned  
7 (14.3%) exact matches, in which:  
7 unique CDR3  
4 unique J



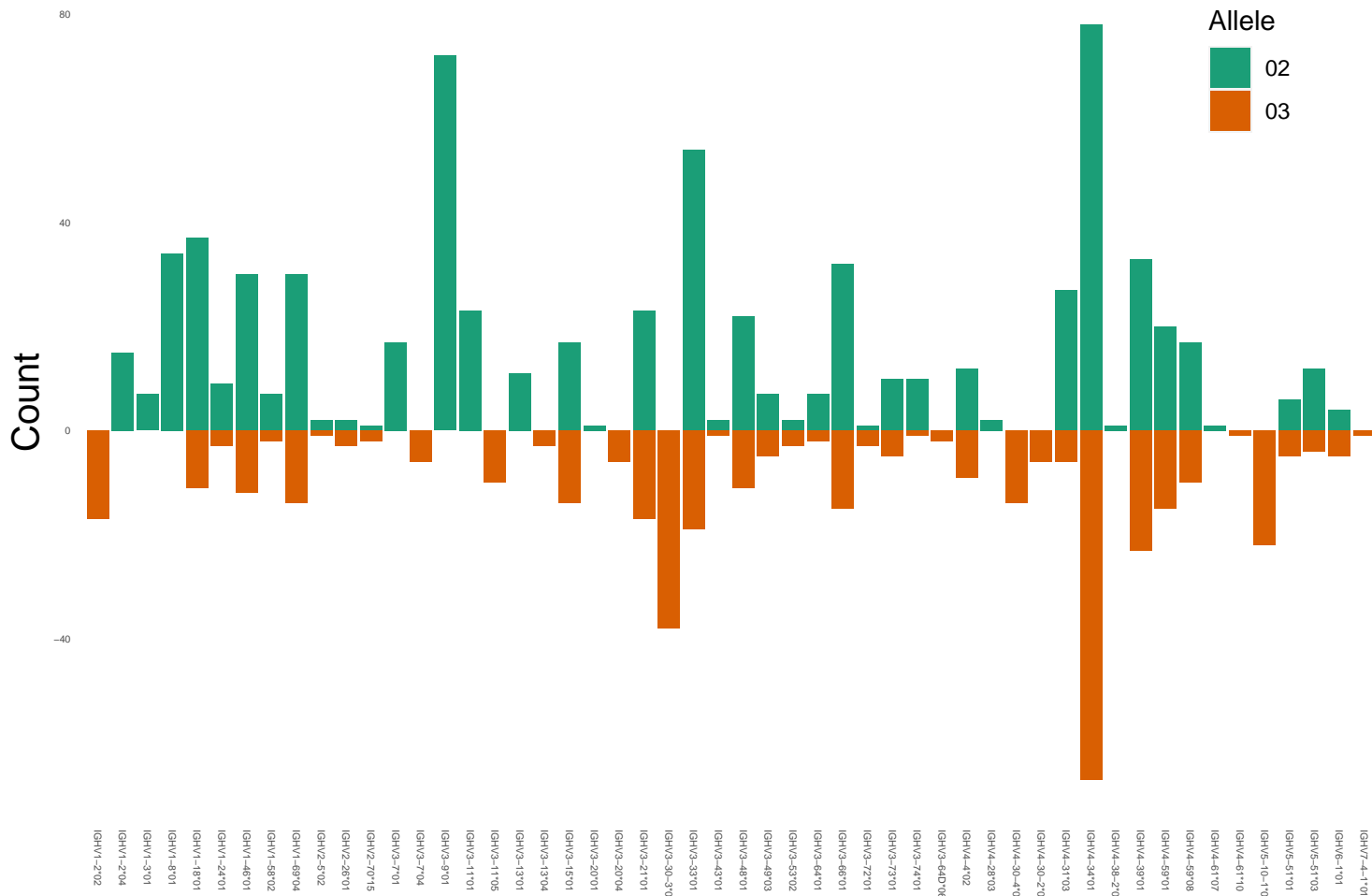
### IGHV7–4–1\*01

7 sequences assigned  
6 (85.7%) exact matches, in which:  
6 unique CDR3  
4 unique J





Sequence Count by IGHJ6 allele usage





Warning – no inferred sequences found.