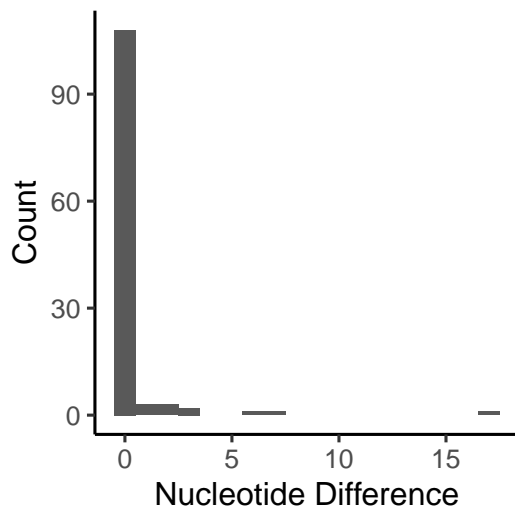


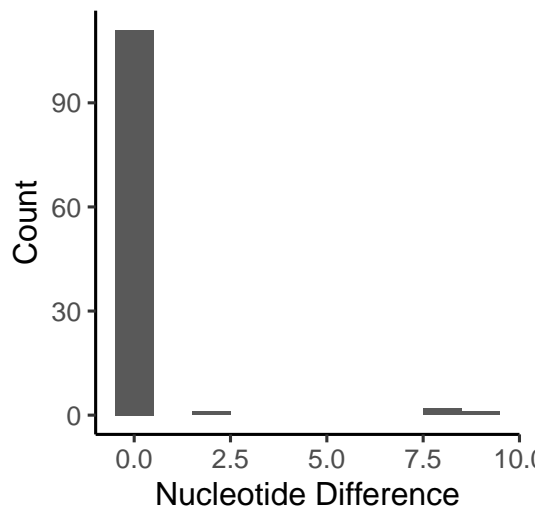
### IGHV1-2\*04

120 sequences assigned  
108 (90%) exact matches, in which:  
108 unique CDR3  
7 unique J



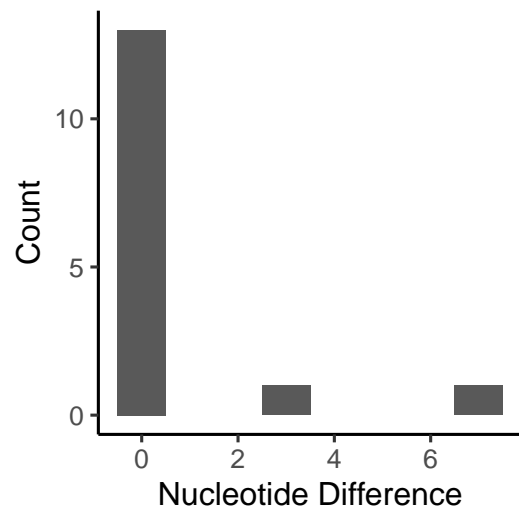
### IGHV1-24\*01

115 sequences assigned  
111 (96.5%) exact matches, in which:  
111 unique CDR3  
7 unique J



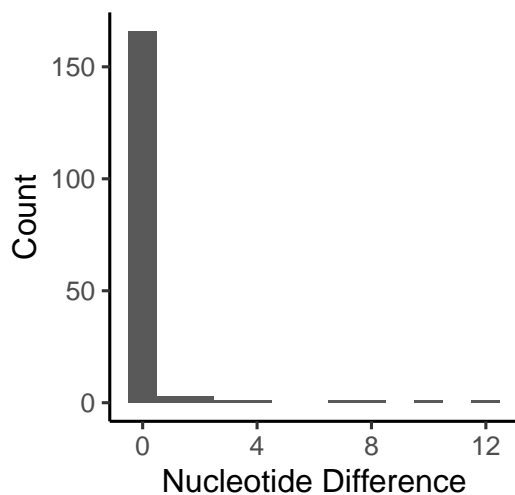
### IGHV1-58\*01

15 sequences assigned  
13 (86.7%) exact matches, in which:  
13 unique CDR3  
4 unique J



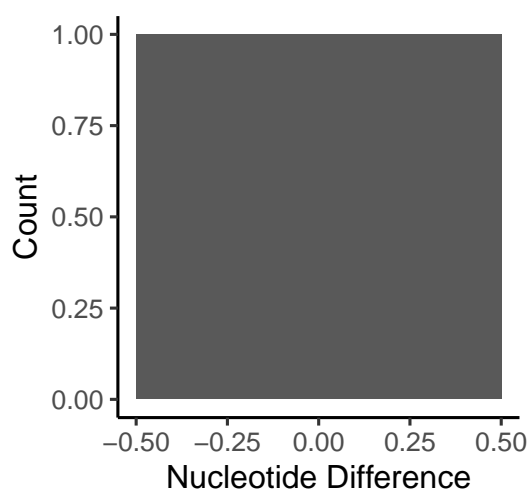
### IGHV1-3\*01

178 sequences assigned  
166 (93.3%) exact matches, in which:  
166 unique CDR3  
7 unique J



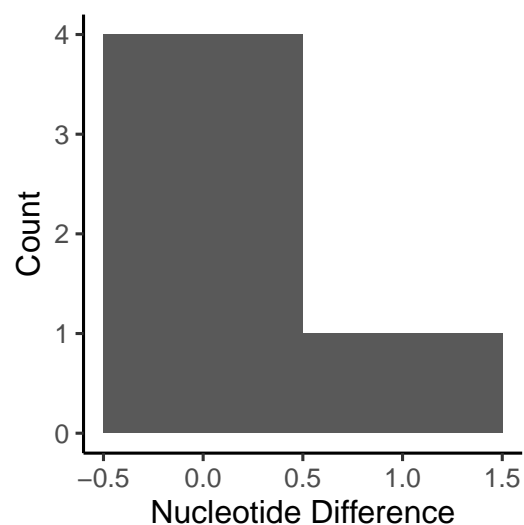
### IGHV1-45\*02

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



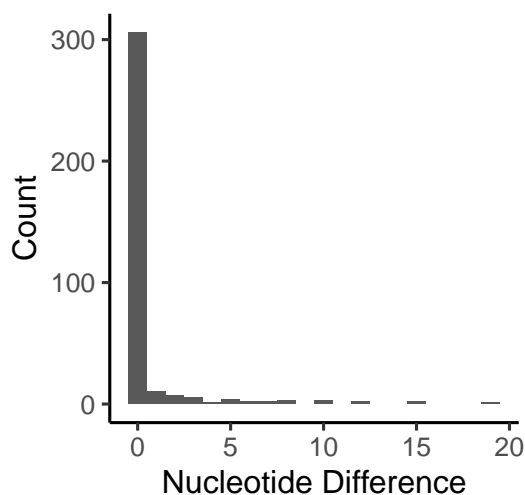
### IGHV1-58\*02

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



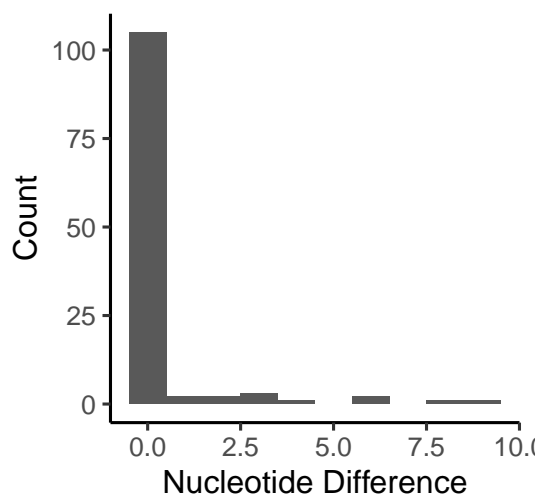
### IGHV1-18\*04

349 sequences assigned  
306 (87.7%) exact matches, in which:  
305 unique CDR3  
7 unique J



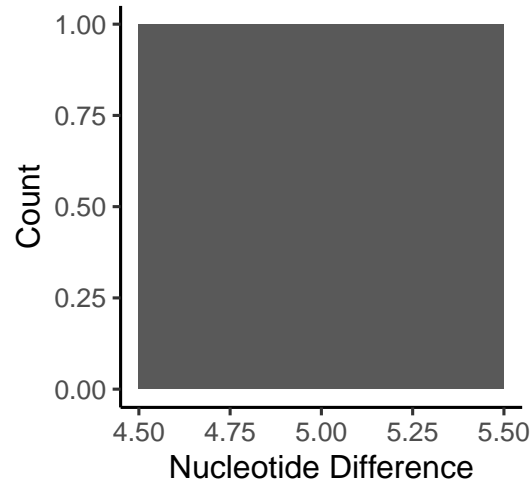
### IGHV1-46\*01

117 sequences assigned  
105 (89.7%) exact matches, in which:  
105 unique CDR3  
7 unique J



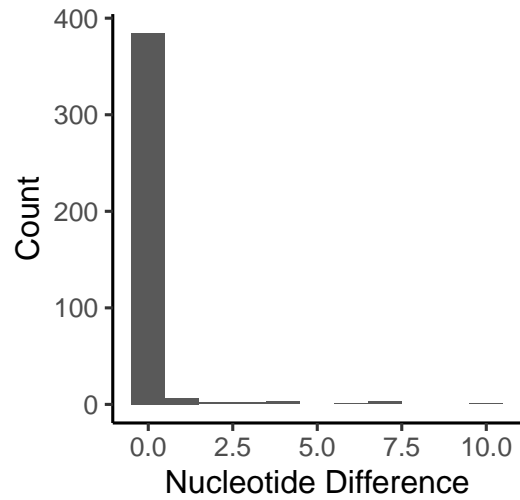
### IGHV1-68\*02

1 sequences assigned  
No exact matches.



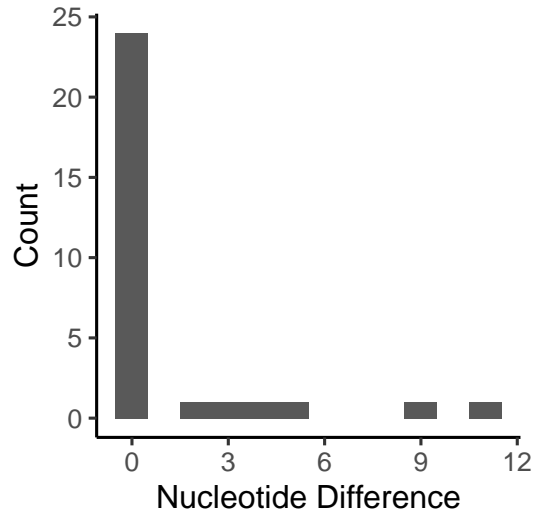
### IGHV1–69\*01

404 sequences assigned  
385 (95.3%) exact matches, in which:  
385 unique CDR3  
7 unique J



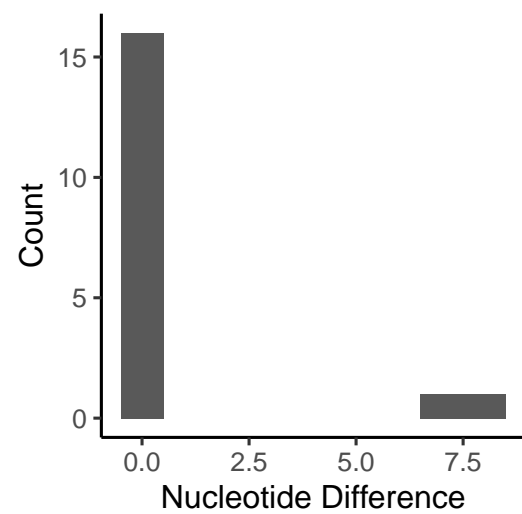
### IGHV2–5\*02

30 sequences assigned  
24 (80%) exact matches, in which:  
24 unique CDR3  
4 unique J



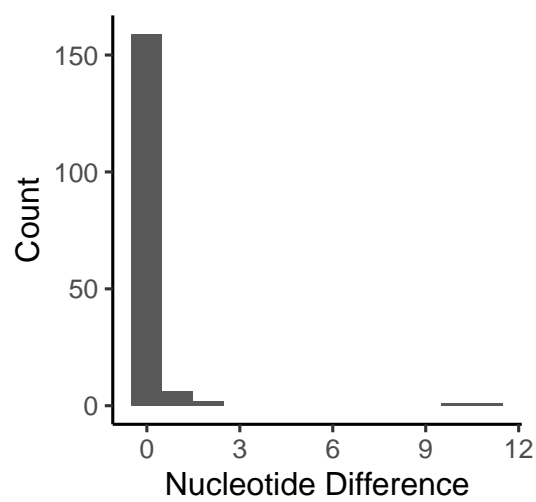
### IGHV2–70\*15

18 sequences assigned  
16 (88.9%) exact matches, in which:  
16 unique CDR3  
5 unique J



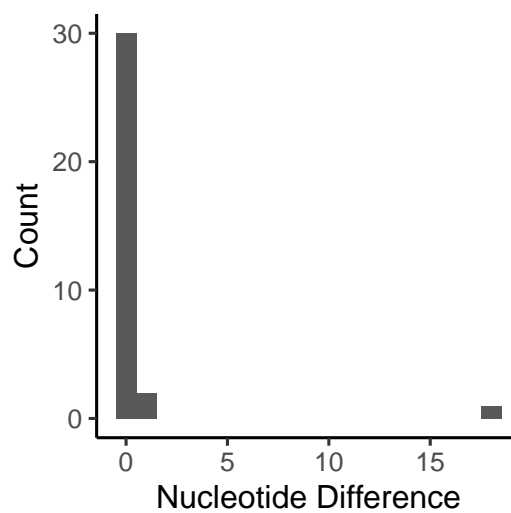
### IGHV1–69\*04

169 sequences assigned  
159 (94.1%) exact matches, in which:  
159 unique CDR3  
6 unique J



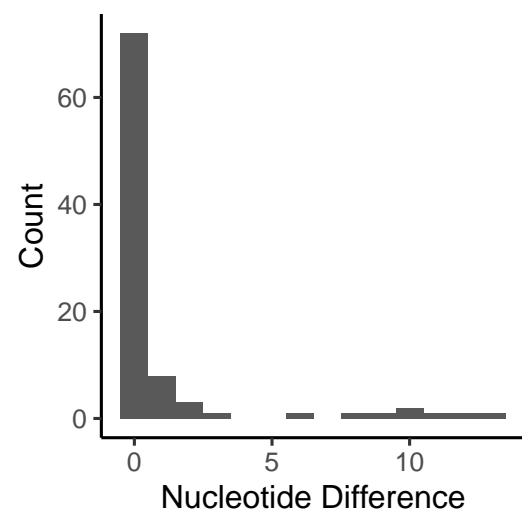
### IGHV2–26\*01

33 sequences assigned  
30 (90.9%) exact matches, in which:  
30 unique CDR3  
6 unique J



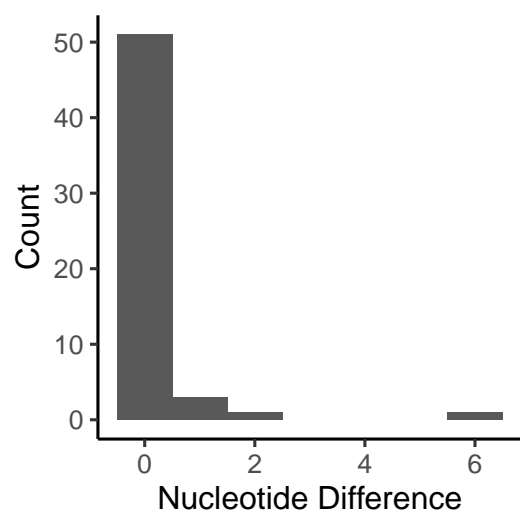
### IGHV3–7\*03

94 sequences assigned  
72 (76.6%) exact matches, in which:  
72 unique CDR3  
6 unique J



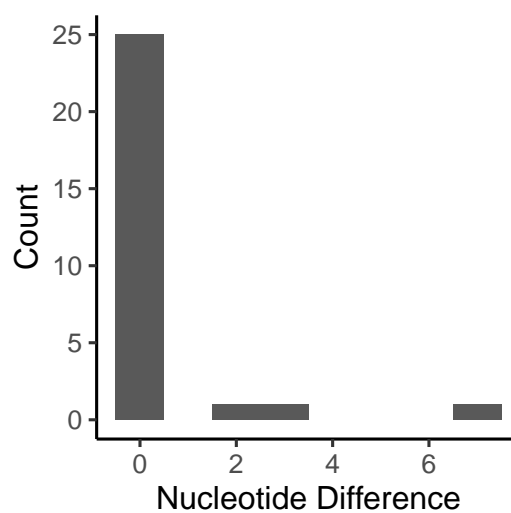
### IGHV2–5\*01

56 sequences assigned  
51 (91.1%) exact matches, in which:  
51 unique CDR3  
5 unique J



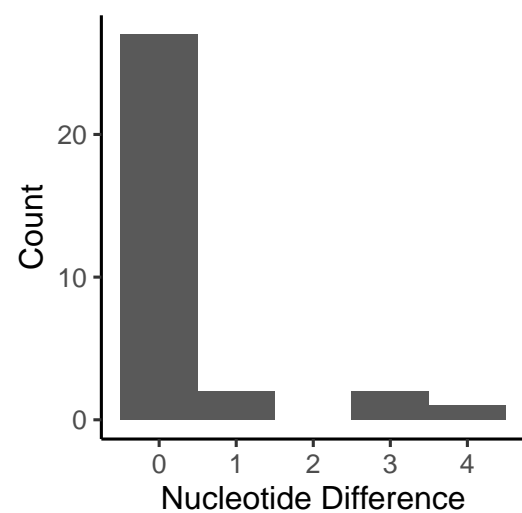
### IGHV2–70\*01

28 sequences assigned  
25 (89.3%) exact matches, in which:  
25 unique CDR3  
5 unique J



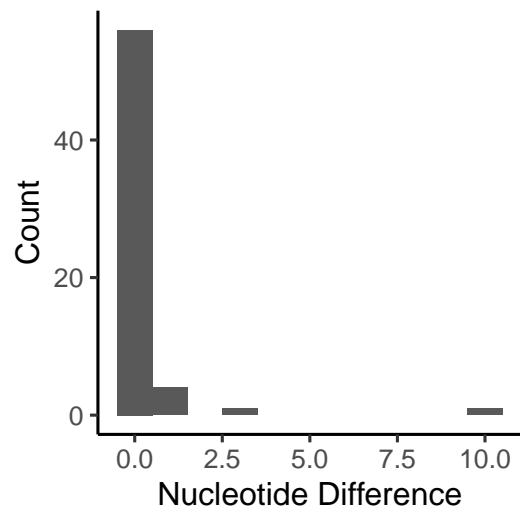
### IGHV3–7\*05

33 sequences assigned  
27 (81.8%) exact matches, in which:  
27 unique CDR3  
5 unique J



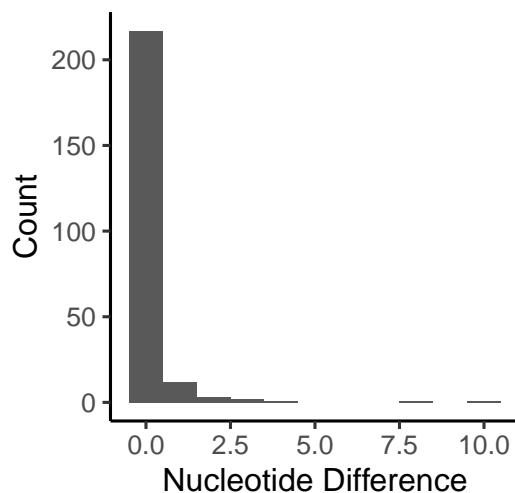
### IGHV3-11\*06

62 sequences assigned  
56 (90.3%) exact matches, in which:  
56 unique CDR3  
6 unique J



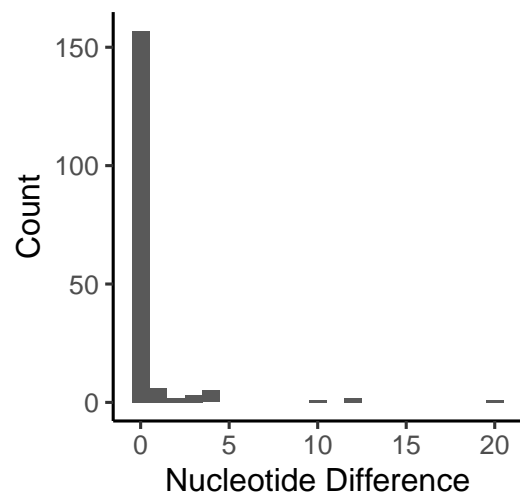
### IGHV3-21\*01

238 sequences assigned  
217 (91.2%) exact matches, in which:  
217 unique CDR3  
7 unique J



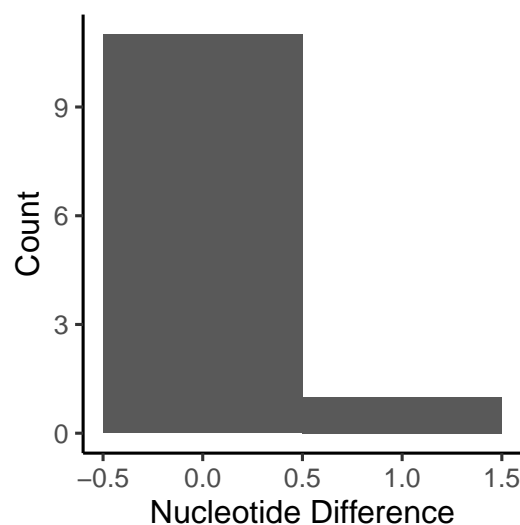
### IGHV3-30\*18

177 sequences assigned  
157 (88.7%) exact matches, in which:  
157 unique CDR3  
7 unique J



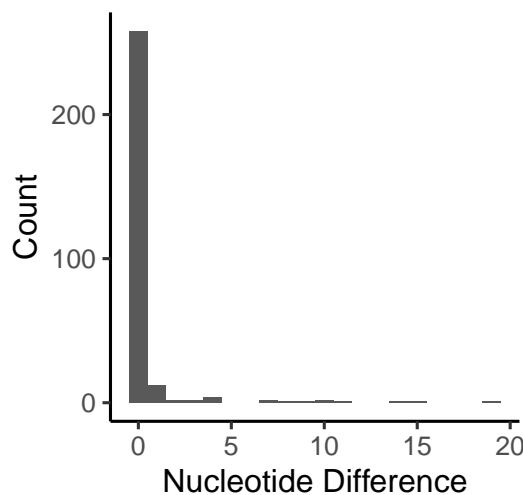
### IGHV3-13\*05

12 sequences assigned  
11 (91.7%) exact matches, in which:  
11 unique CDR3  
5 unique J



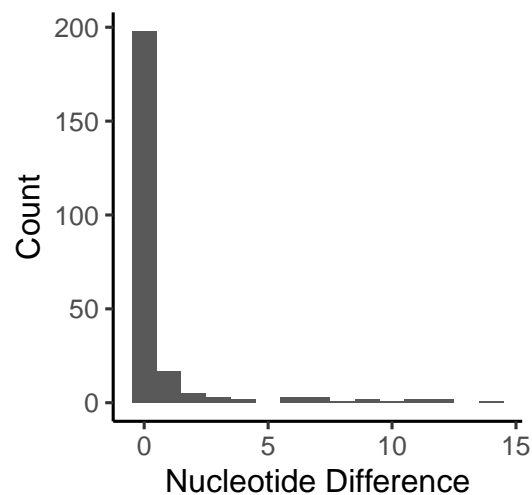
### IGHV3-23\*01

288 sequences assigned  
258 (89.6%) exact matches, in which:  
258 unique CDR3  
7 unique J



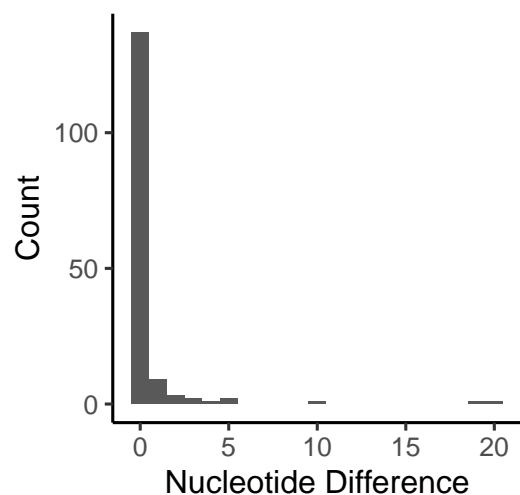
### IGHV3-33\*01

241 sequences assigned  
198 (82.2%) exact matches, in which:  
198 unique CDR3  
7 unique J



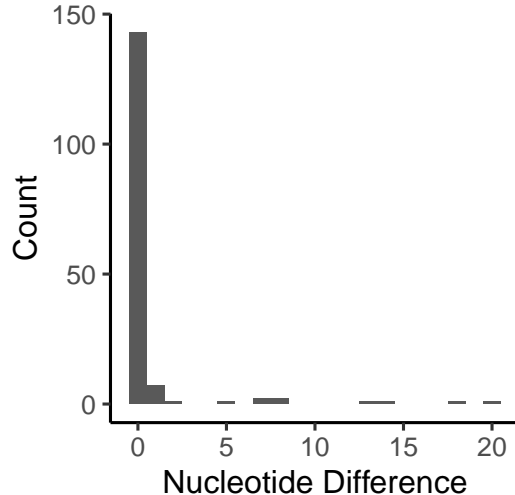
### IGHV3-15\*01

157 sequences assigned  
137 (87.3%) exact matches, in which:  
137 unique CDR3  
7 unique J



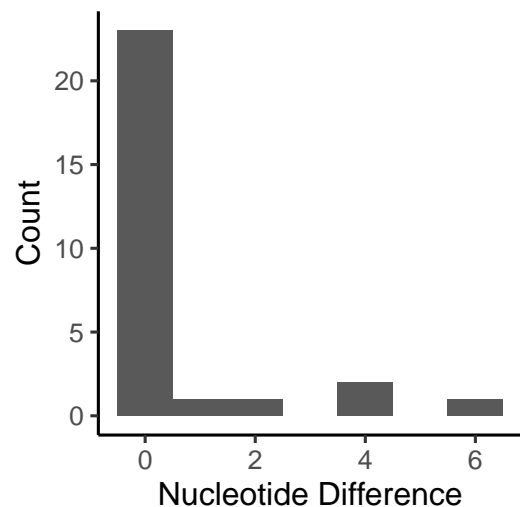
### IGHV3-23\*04

162 sequences assigned  
143 (88.3%) exact matches, in which:  
143 unique CDR3  
7 unique J



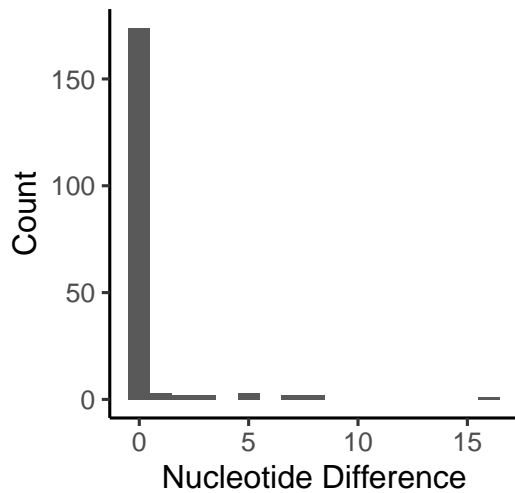
### IGHV3-43\*01

28 sequences assigned  
23 (82.1%) exact matches, in which:  
23 unique CDR3  
5 unique J



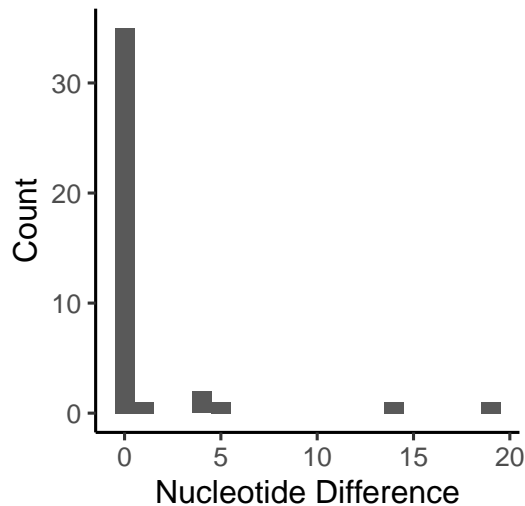
### IGHV3-48\*03

189 sequences assigned  
174 (92.1%) exact matches, in which:  
174 unique CDR3  
6 unique J



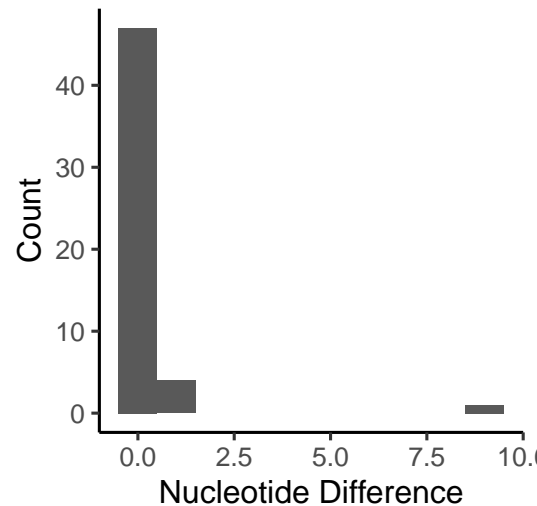
### IGHV3-49\*04

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



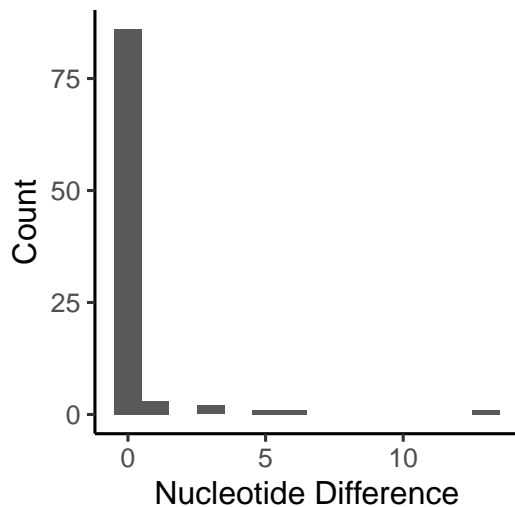
### IGHV3-66\*01

52 sequences assigned  
47 (90.4%) exact matches, in which:  
47 unique CDR3  
5 unique J



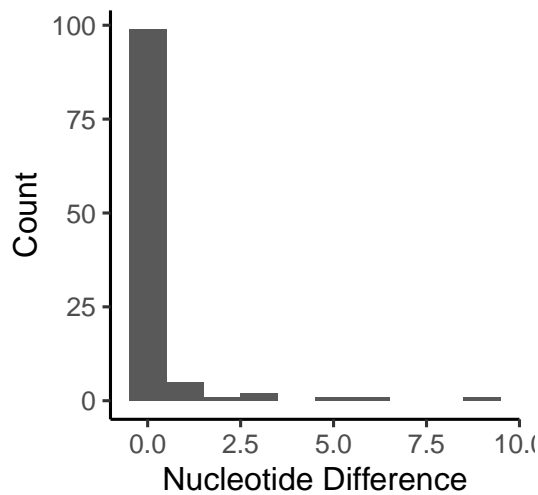
### IGHV3-48\*04

94 sequences assigned  
86 (91.5%) exact matches, in which:  
86 unique CDR3  
7 unique J



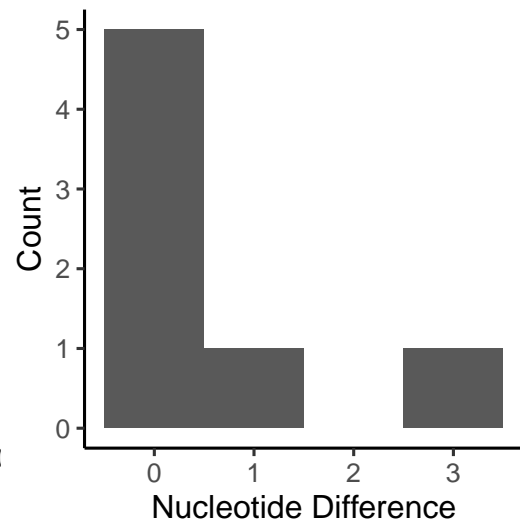
### IGHV3-53\*04

110 sequences assigned  
99 (90%) exact matches, in which:  
99 unique CDR3  
7 unique J



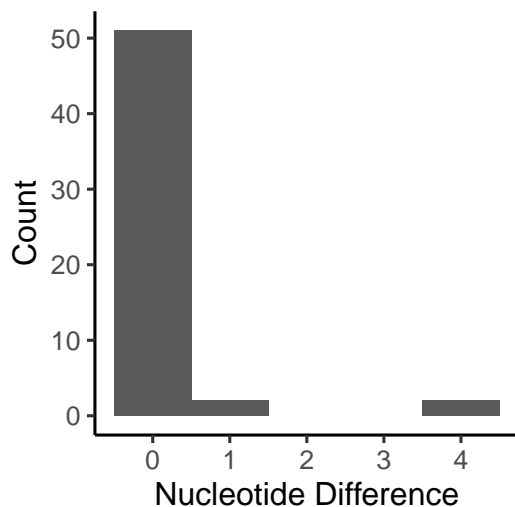
### IGHV3-72\*01

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



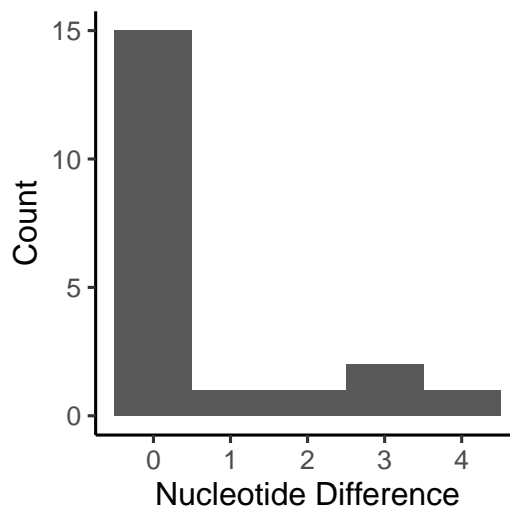
### IGHV3-49\*03

55 sequences assigned  
51 (92.7%) exact matches, in which:  
51 unique CDR3  
6 unique J



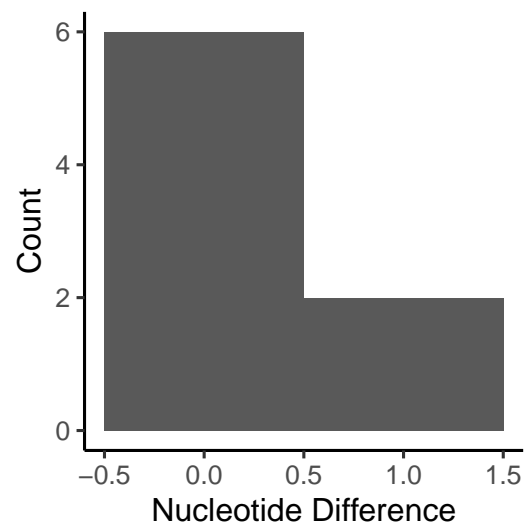
### IGHV3-64\*01

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



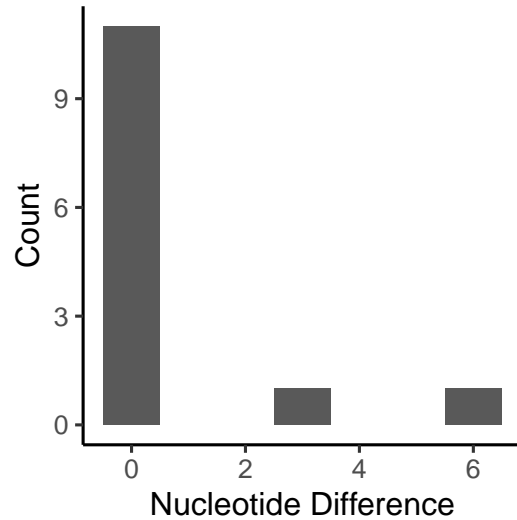
### IGHV3-73\*01

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



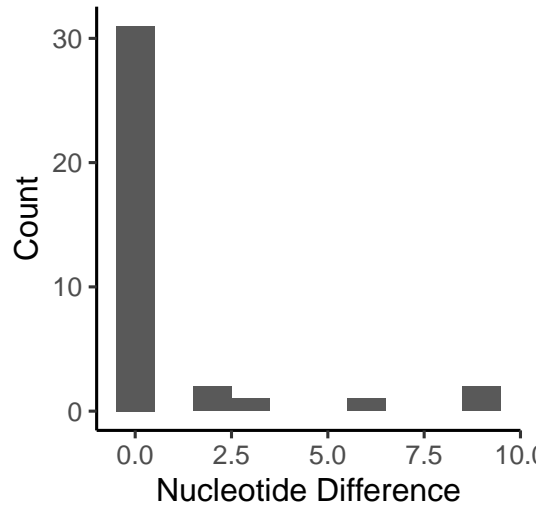
### IGHV3-73\*02

16 sequences assigned  
11 (68.8%) exact matches, in which:  
11 unique CDR3  
4 unique J



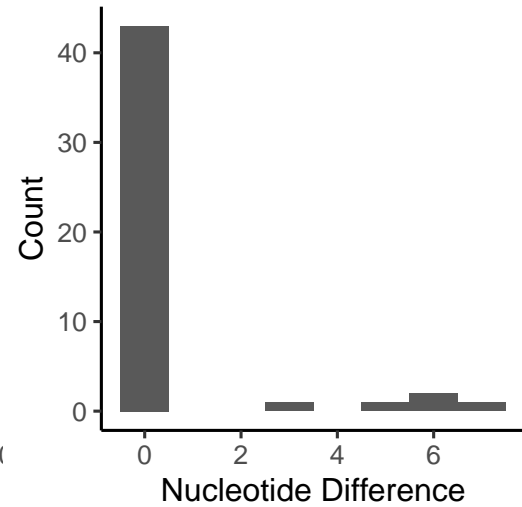
### IGHV3-64D\*08

37 sequences assigned  
31 (83.8%) exact matches, in which:  
31 unique CDR3  
6 unique J



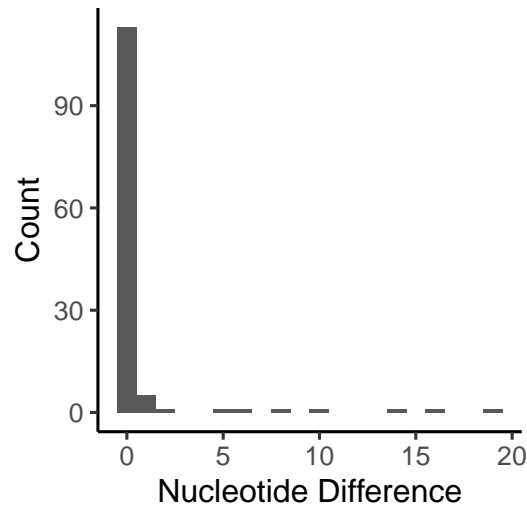
### IGHV4-31\*03

50 sequences assigned  
43 (86%) exact matches, in which:  
43 unique CDR3  
5 unique J



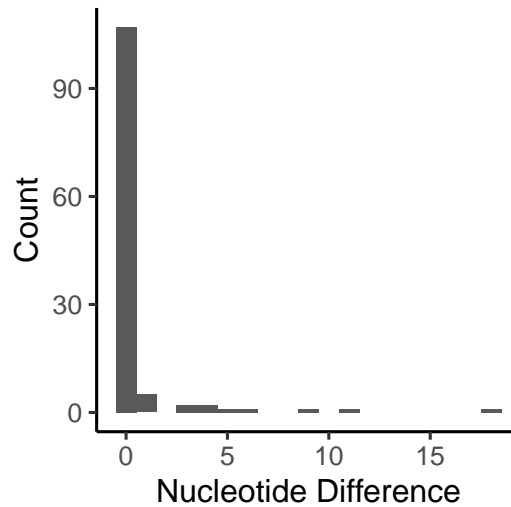
### IGHV3-74\*01

126 sequences assigned  
113 (89.7%) exact matches, in which:  
113 unique CDR3  
7 unique J



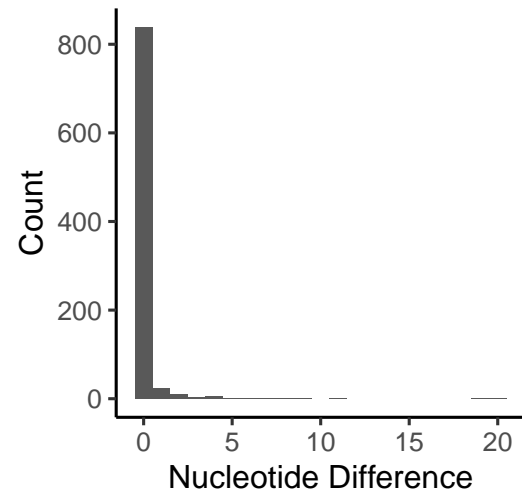
### IGHV4-4\*02

121 sequences assigned  
107 (88.4%) exact matches, in which:  
107 unique CDR3  
7 unique J



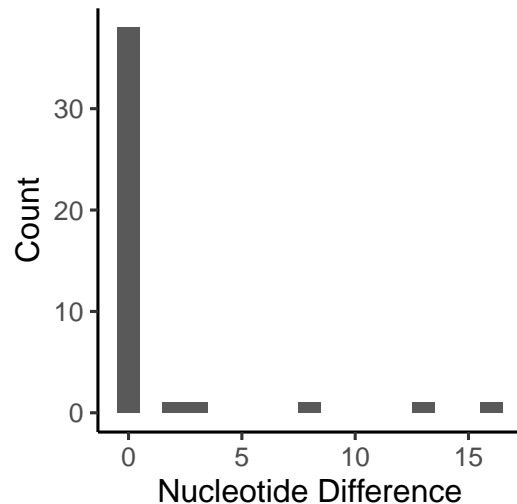
### IGHV4-34\*01

895 sequences assigned  
839 (93.7%) exact matches, in which:  
839 unique CDR3  
7 unique J



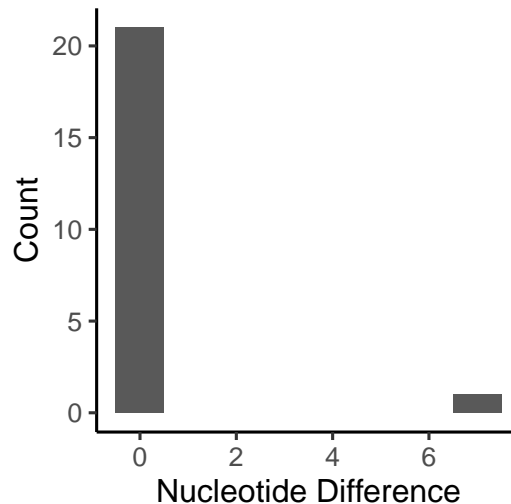
### IGHV3-64D\*06

43 sequences assigned  
38 (88.4%) exact matches, in which:  
38 unique CDR3  
5 unique J



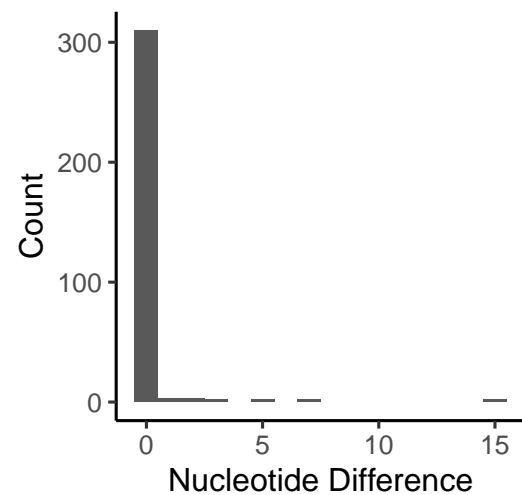
### IGHV4-30-2\*01

23 sequences assigned  
21 (91.3%) exact matches, in which:  
21 unique CDR3  
4 unique J



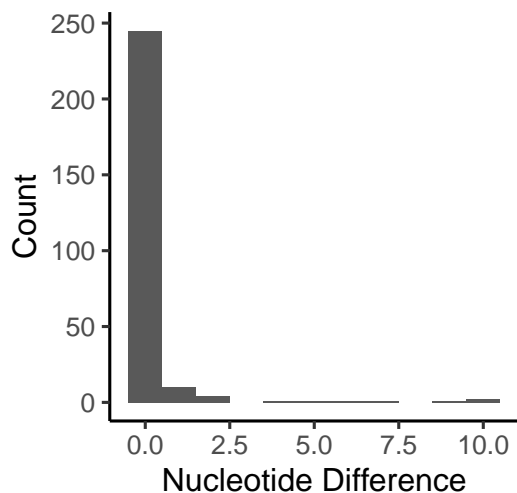
### IGHV4-39\*01

325 sequences assigned  
310 (95.4%) exact matches, in which:  
309 unique CDR3  
7 unique J



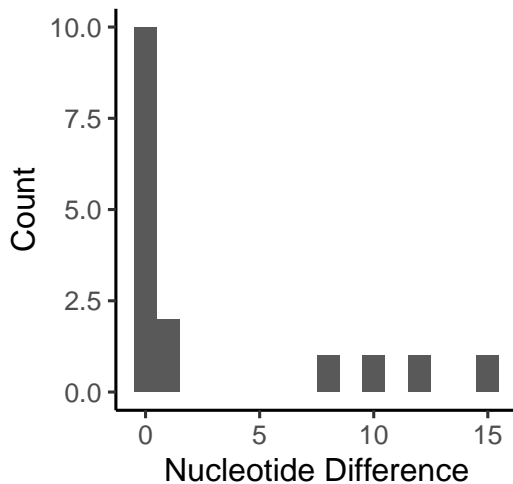
### IGHV4–39\*07

266 sequences assigned  
245 (92.1%) exact matches, in which:  
245 unique CDR3  
6 unique J



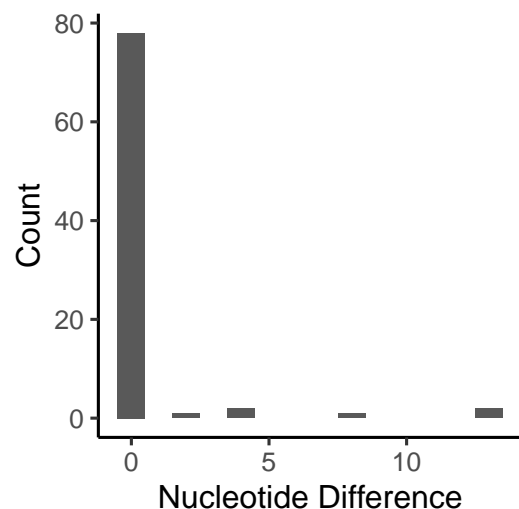
### IGHV4–61\*01

16 sequences assigned  
10 (62.5%) exact matches, in which:  
10 unique CDR3  
3 unique J



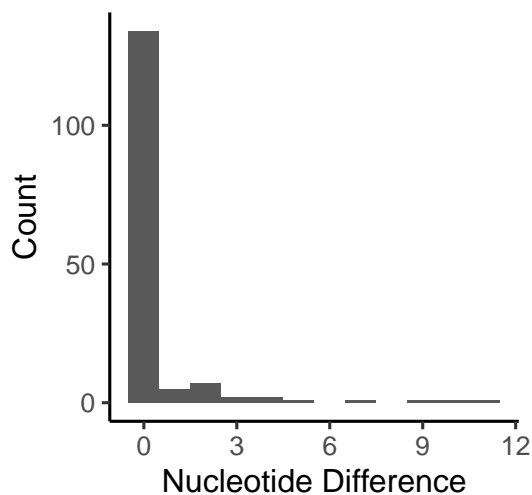
### IGHV6–1\*01

84 sequences assigned  
78 (92.9%) exact matches, in which:  
78 unique CDR3  
6 unique J



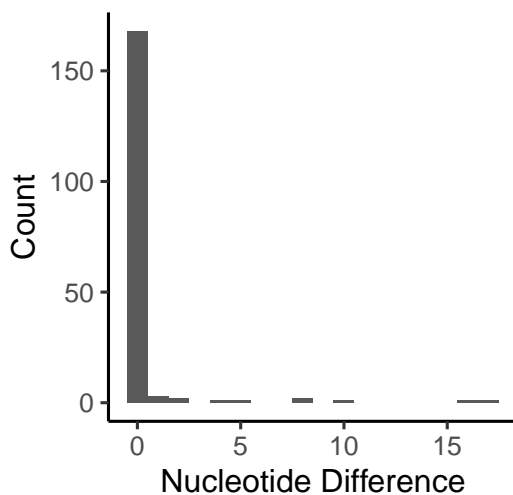
### IGHV4–59\*01

156 sequences assigned  
134 (85.9%) exact matches, in which:  
134 unique CDR3  
7 unique J



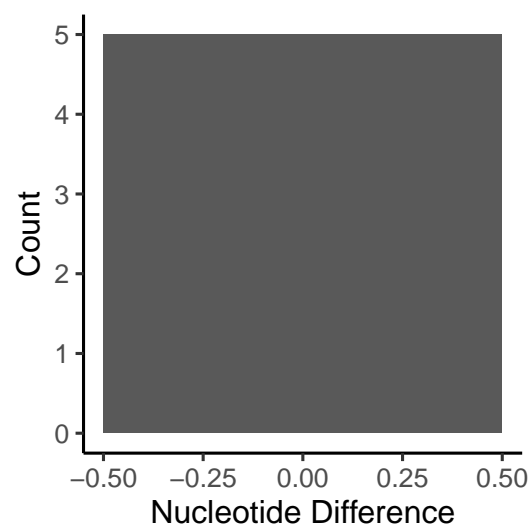
### IGHV5–10–1\*03

180 sequences assigned  
168 (93.3%) exact matches, in which:  
168 unique CDR3  
7 unique J



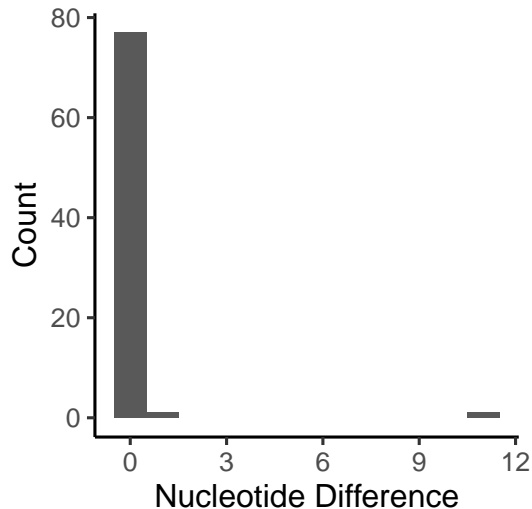
### IGHV7–4–1\*01

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



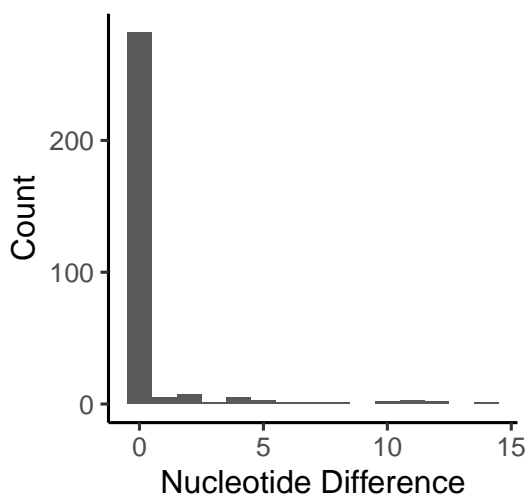
### IGHV4–59\*08

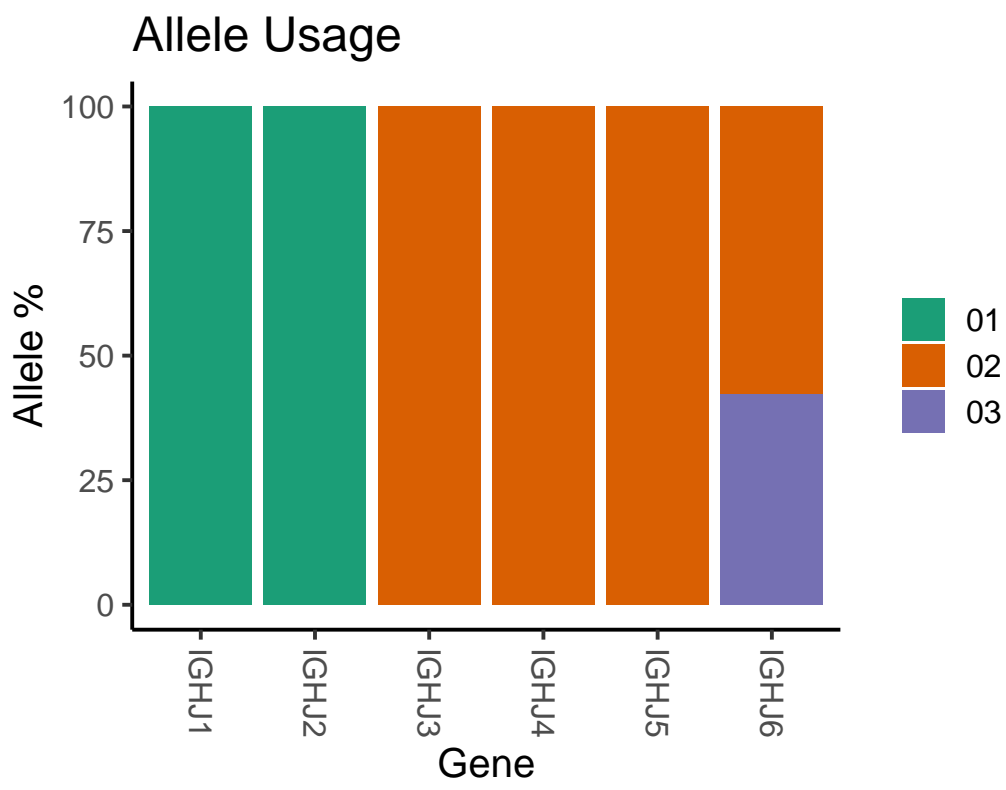
79 sequences assigned  
77 (97.5%) exact matches, in which:  
77 unique CDR3  
6 unique J



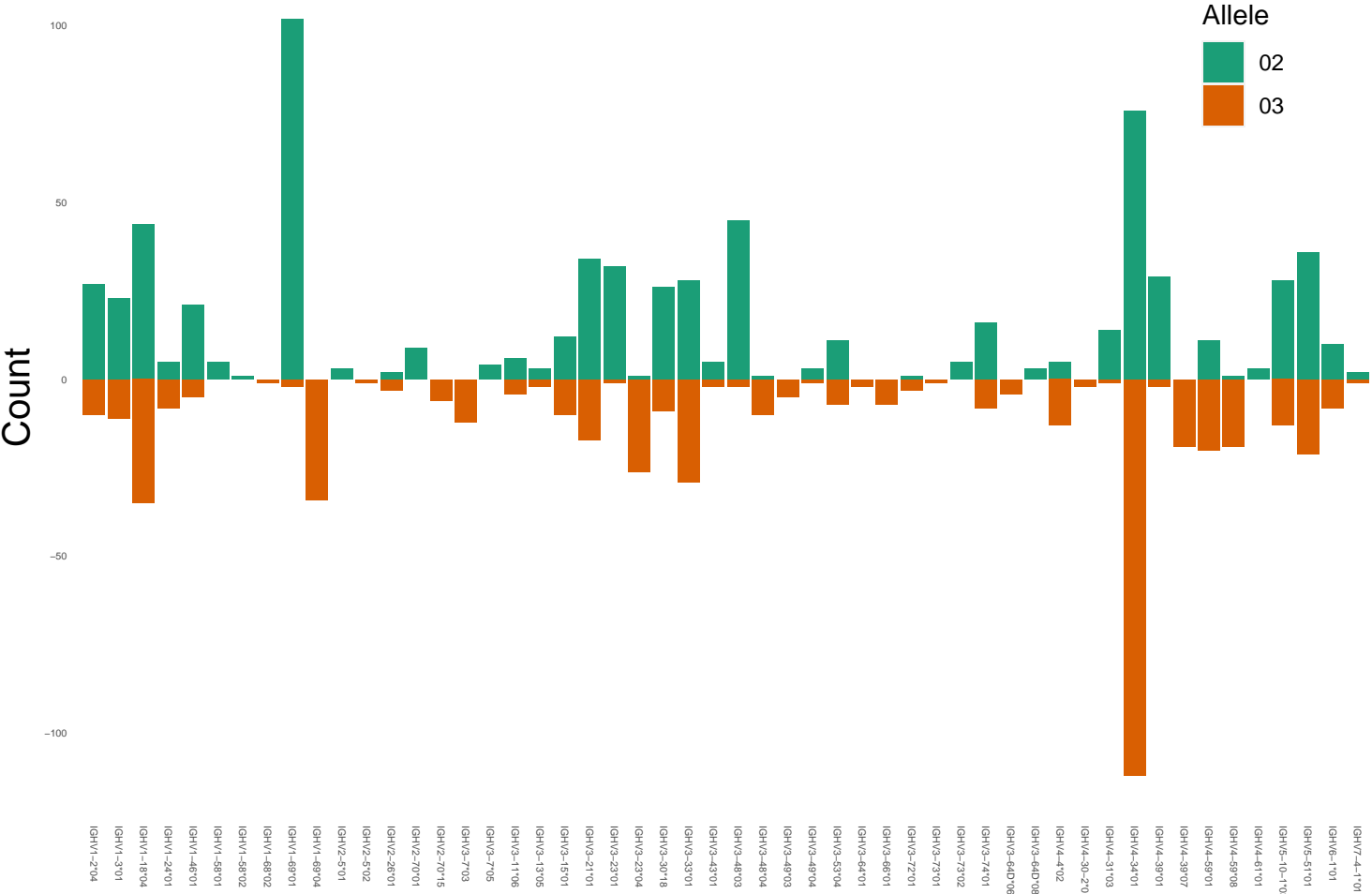
### IGHV5–51\*01

315 sequences assigned  
282 (89.5%) exact matches, in which:  
282 unique CDR3  
7 unique J





Sequence Count by IGHJ6 allele usage





Warning – no inferred sequences found.