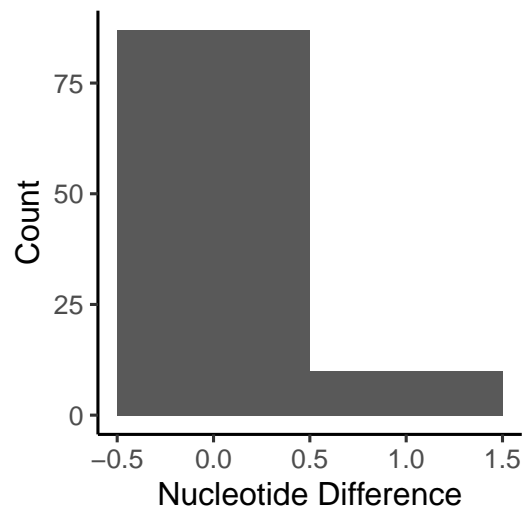


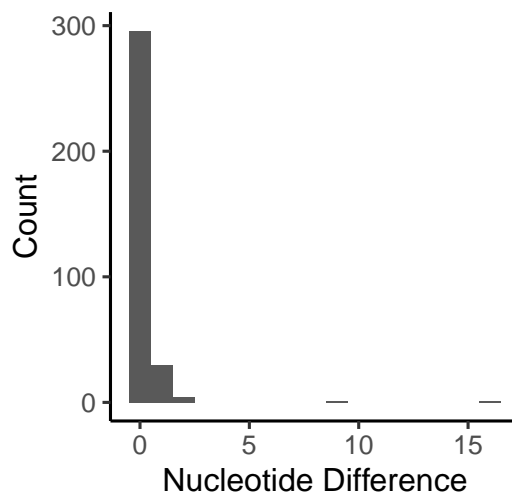
### IGHV1-2\*04

97 sequences assigned  
87 (89.7%) exact matches, in which:  
85 unique CDR3  
6 unique J



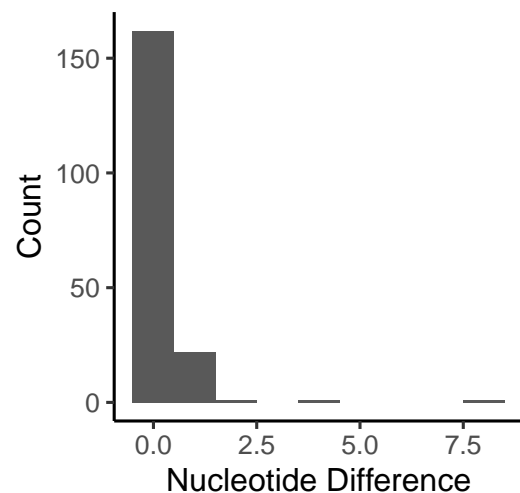
### IGHV1-8\*01

332 sequences assigned  
296 (89.2%) exact matches, in which:  
290 unique CDR3  
7 unique J



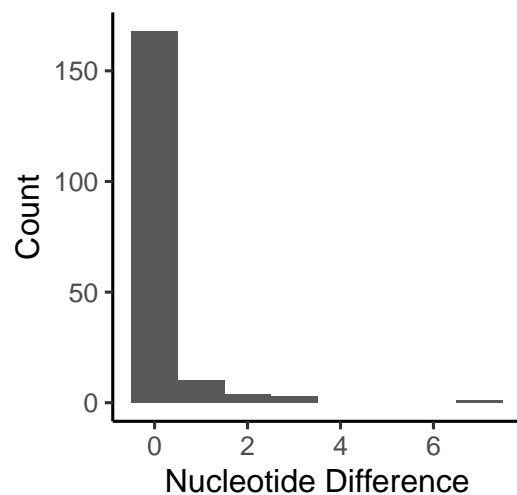
### IGHV1-46\*01

187 sequences assigned  
162 (86.6%) exact matches, in which:  
159 unique CDR3  
7 unique J



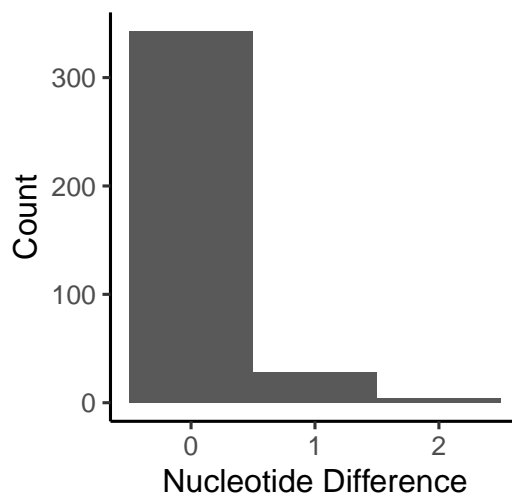
### IGHV1-2\*06

186 sequences assigned  
168 (90.3%) exact matches, in which:  
161 unique CDR3  
7 unique J



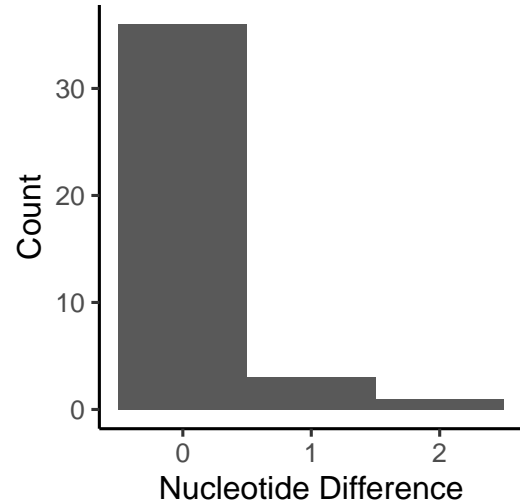
### IGHV1-18\*01

375 sequences assigned  
343 (91.5%) exact matches, in which:  
339 unique CDR3  
7 unique J



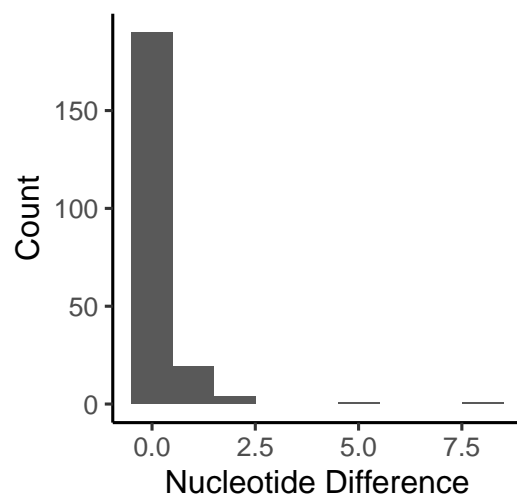
### IGHV1-58\*01

40 sequences assigned  
36 (90%) exact matches, in which:  
35 unique CDR3  
7 unique J



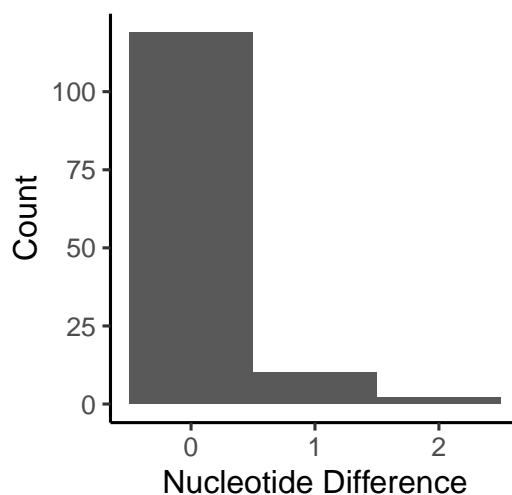
### IGHV1-3\*01

215 sequences assigned  
190 (88.4%) exact matches, in which:  
188 unique CDR3  
7 unique J



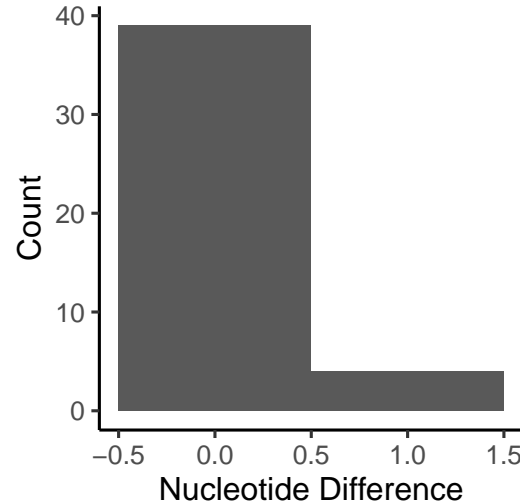
### IGHV1-24\*01

131 sequences assigned  
119 (90.8%) exact matches, in which:  
118 unique CDR3  
7 unique J



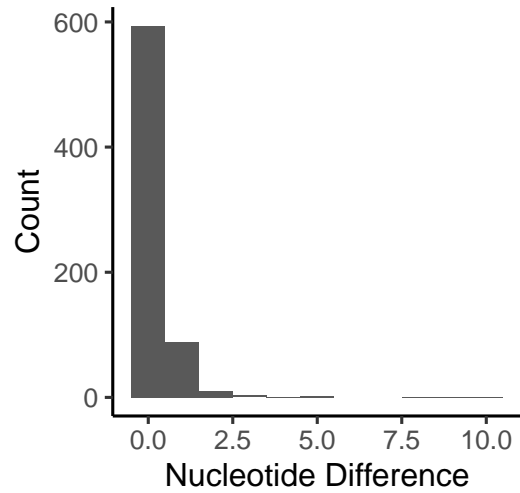
### IGHV1-69-2\*01

43 sequences assigned  
39 (90.7%) exact matches, in which:  
39 unique CDR3  
5 unique J



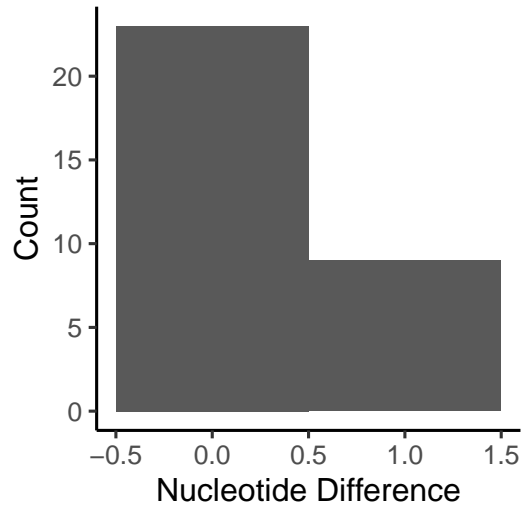
### IGHV1–69\*06

701 sequences assigned  
594 (84.7%) exact matches, in which:  
583 unique CDR3  
7 unique J



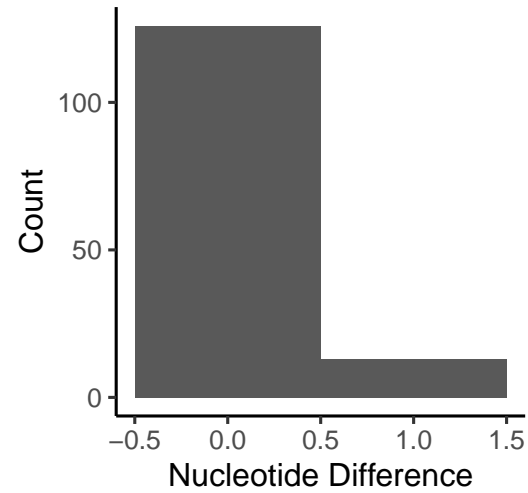
### IGHV2–70\*01

32 sequences assigned  
23 (71.9%) exact matches, in which:  
23 unique CDR3  
6 unique J



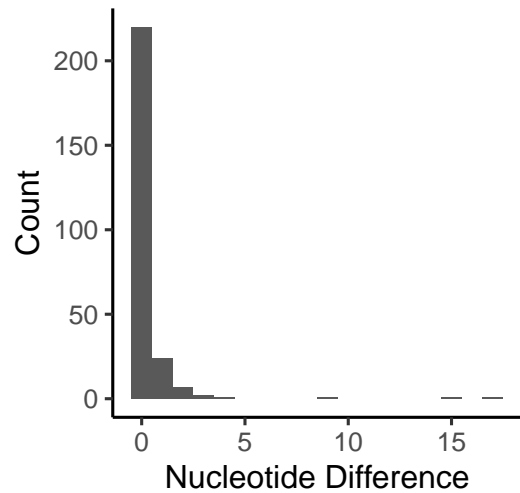
### IGHV3–11\*01

139 sequences assigned  
126 (90.6%) exact matches, in which:  
124 unique CDR3  
6 unique J



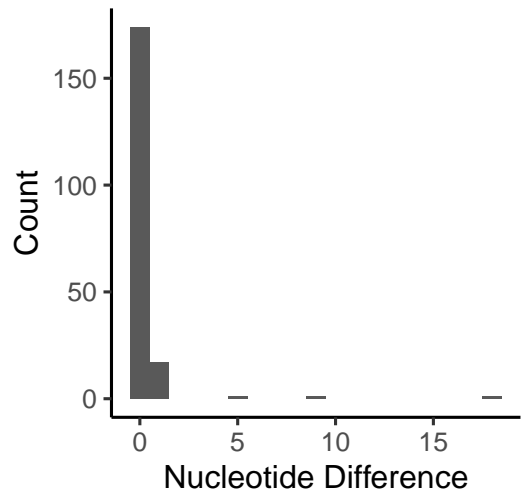
### IGHV2–5\*02

257 sequences assigned  
220 (85.6%) exact matches, in which:  
219 unique CDR3  
7 unique J



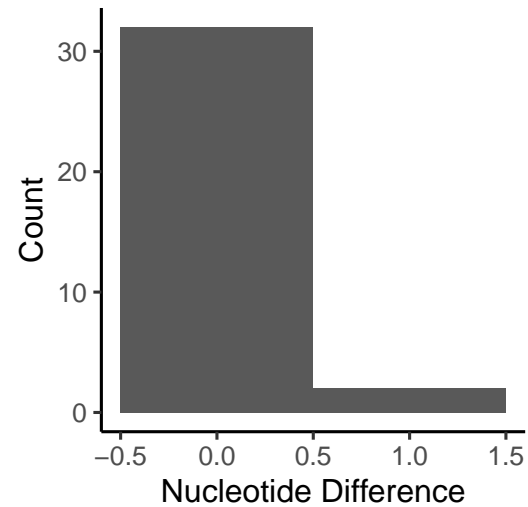
### IGHV3–7\*01

194 sequences assigned  
174 (89.7%) exact matches, in which:  
171 unique CDR3  
7 unique J



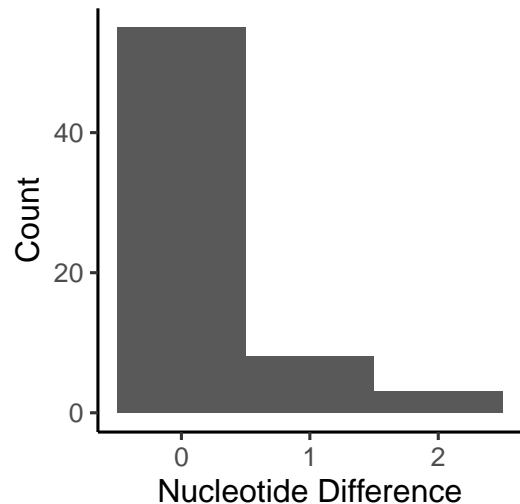
### IGHV3–13\*01

34 sequences assigned  
32 (94.1%) exact matches, in which:  
31 unique CDR3  
6 unique J



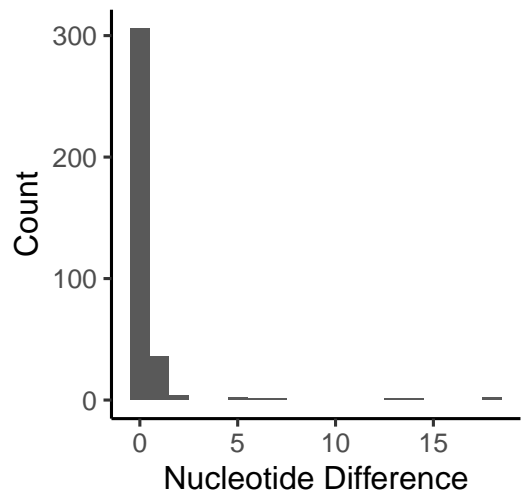
### IGHV2–26\*01

66 sequences assigned  
55 (83.3%) exact matches, in which:  
54 unique CDR3  
6 unique J



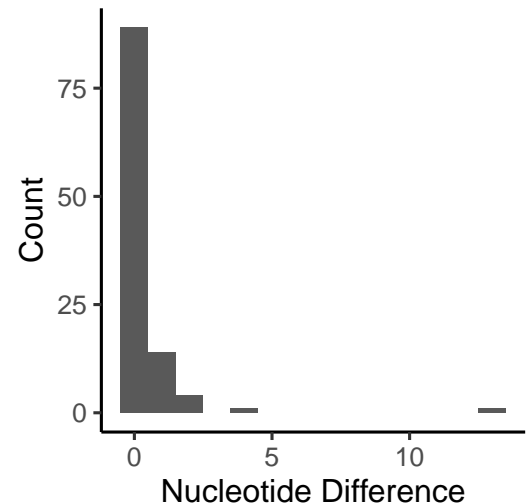
### IGHV3–9\*01

354 sequences assigned  
306 (86.4%) exact matches, in which:  
290 unique CDR3  
7 unique J



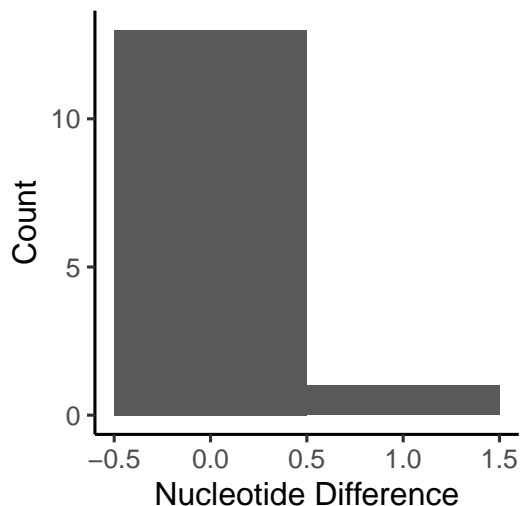
### IGHV3–15\*01

109 sequences assigned  
89 (81.7%) exact matches, in which:  
89 unique CDR3  
6 unique J



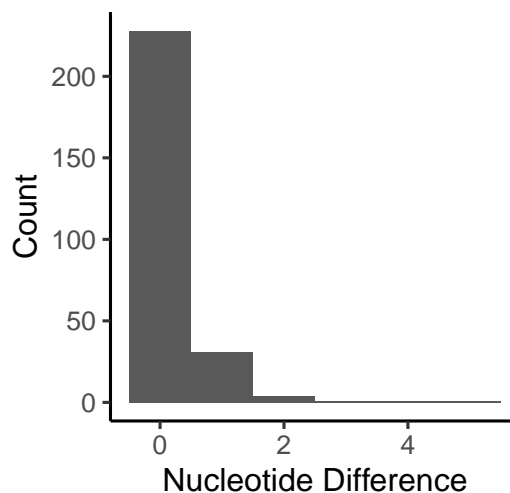
### IGHV3-20\*01

14 sequences assigned  
13 (92.9%) exact matches, in which:  
13 unique CDR3  
6 unique J



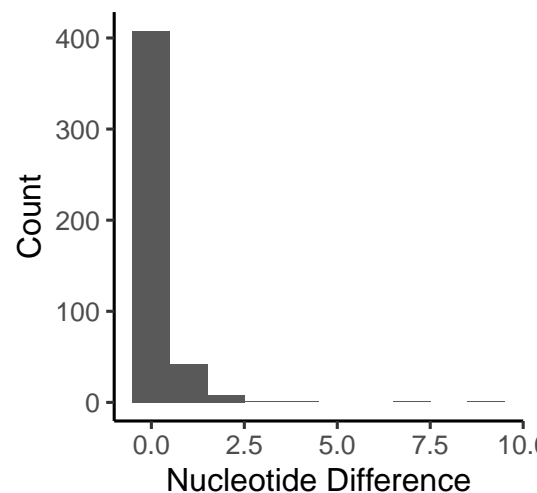
### IGHV3-30-3\*01

266 sequences assigned  
228 (85.7%) exact matches, in which:  
221 unique CDR3  
6 unique J



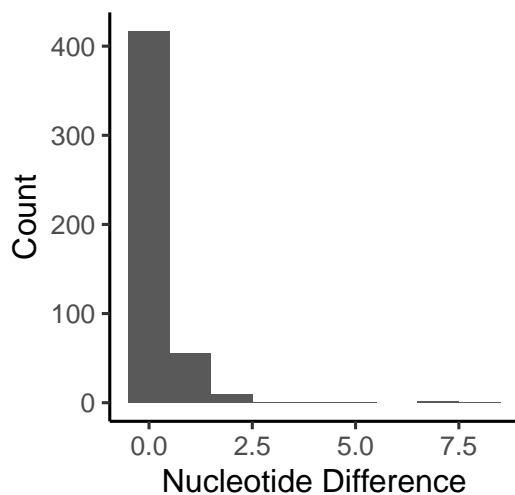
### IGHV3-48\*03

462 sequences assigned  
408 (88.3%) exact matches, in which:  
401 unique CDR3  
7 unique J



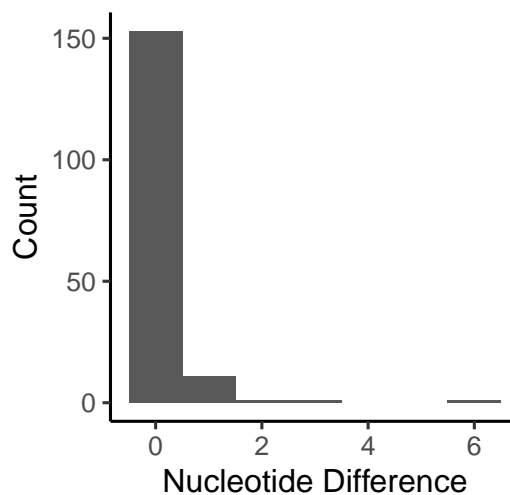
### IGHV3-21\*01

490 sequences assigned  
417 (85.1%) exact matches, in which:  
406 unique CDR3  
7 unique J



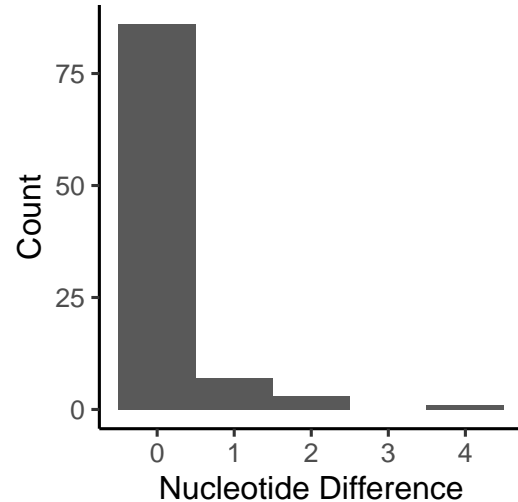
### IGHV3-33\*01

168 sequences assigned  
153 (91.1%) exact matches, in which:  
147 unique CDR3  
7 unique J



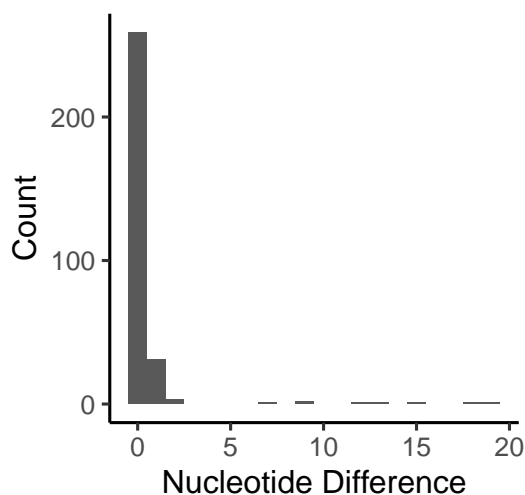
### IGHV3-49\*04

98 sequences assigned  
86 (87.8%) exact matches, in which:  
84 unique CDR3  
7 unique J



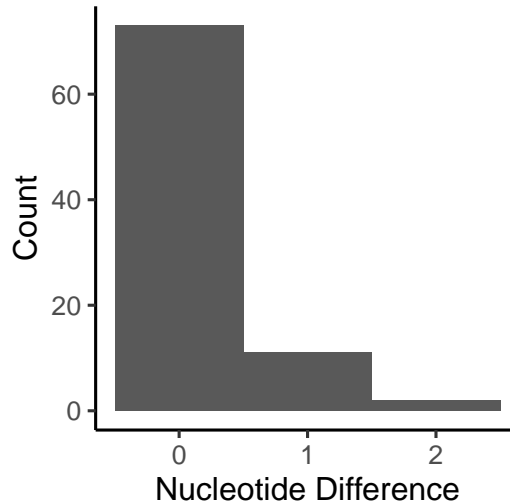
### IGHV3-23\*04

301 sequences assigned  
259 (86%) exact matches, in which:  
247 unique CDR3  
6 unique J



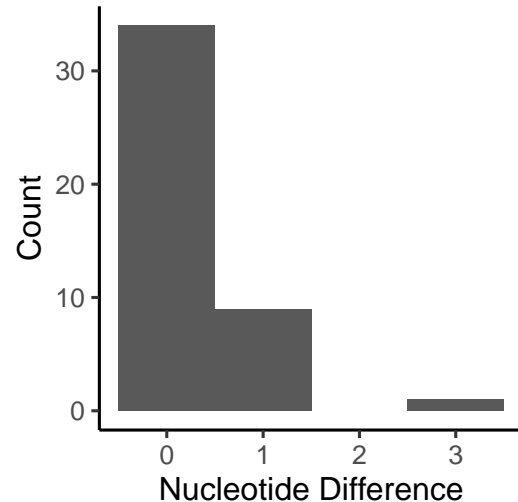
### IGHV3-43\*02

86 sequences assigned  
73 (84.9%) exact matches, in which:  
72 unique CDR3  
6 unique J



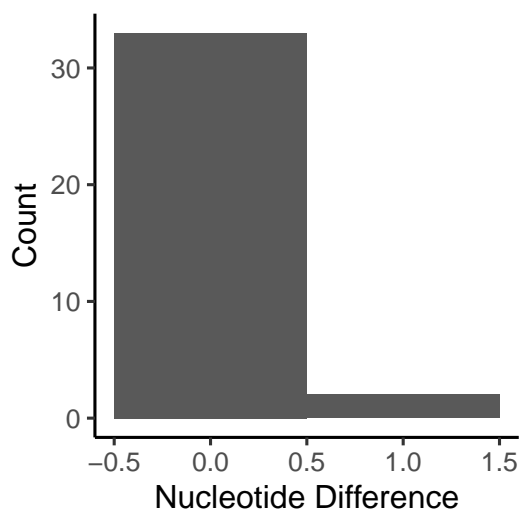
### IGHV3-53\*02

44 sequences assigned  
34 (77.3%) exact matches, in which:  
32 unique CDR3  
5 unique J



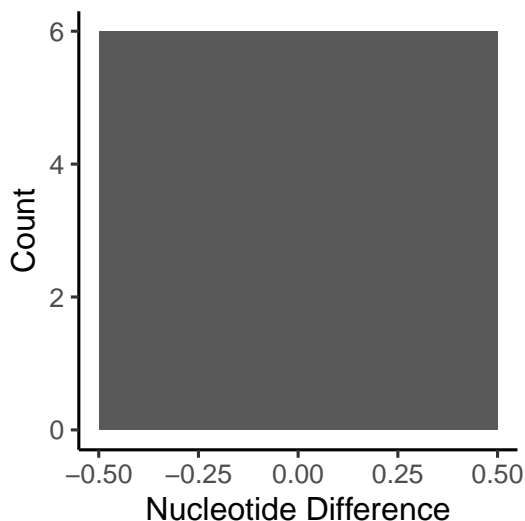
### IGHV3-53\*04

35 sequences assigned  
33 (94.3%) exact matches, in which:  
33 unique CDR3  
4 unique J



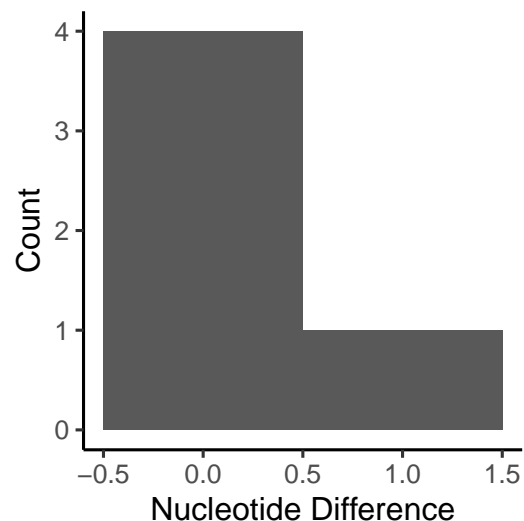
### IGHV3-72\*01

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



### IGHV3-43D\*04

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



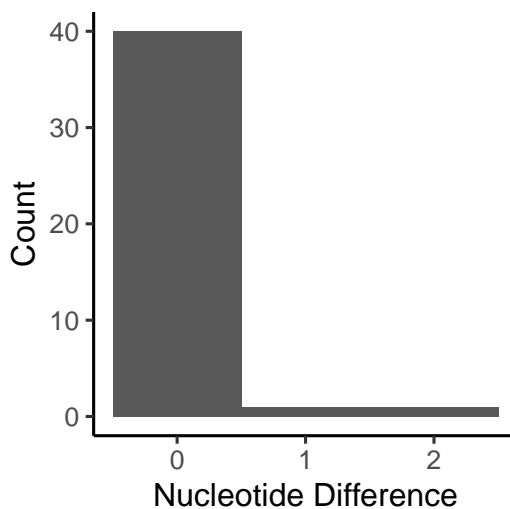
### IGHV3-64\*02

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



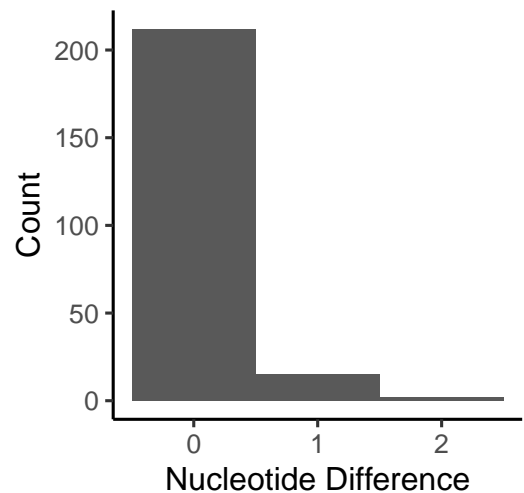
### IGHV3-73\*02

42 sequences assigned  
40 (95.2%) exact matches, in which:  
38 unique CDR3  
7 unique J



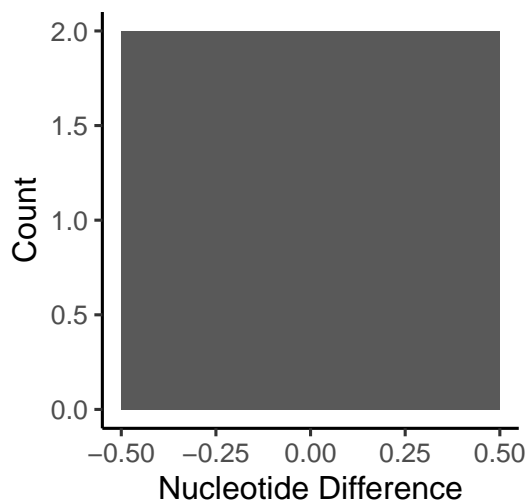
### IGHV4-4\*02

229 sequences assigned  
212 (92.6%) exact matches, in which:  
212 unique CDR3  
7 unique J



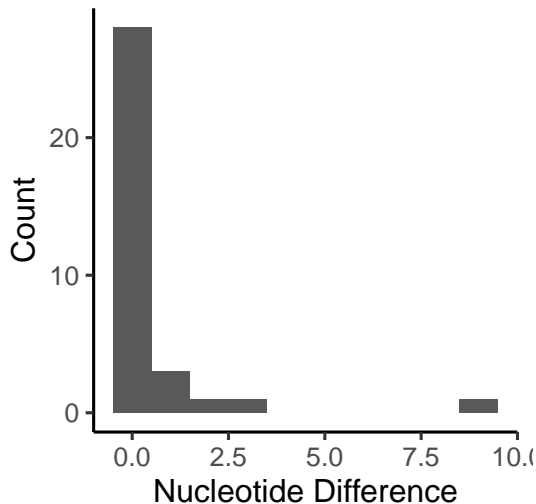
### IGHV3-66\*03

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



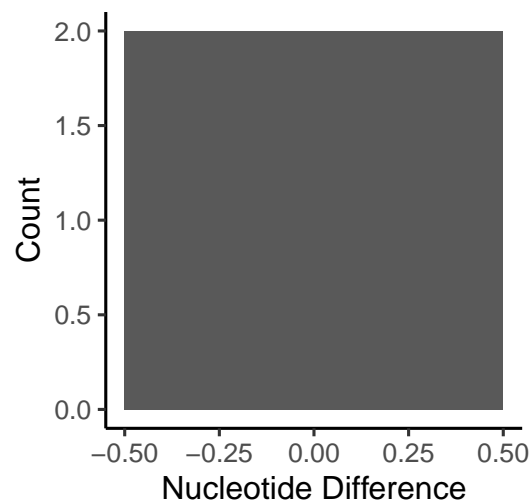
### IGHV3-74\*01

35 sequences assigned  
28 (80%) exact matches, in which:  
28 unique CDR3  
5 unique J



### IGHV4-28\*01

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



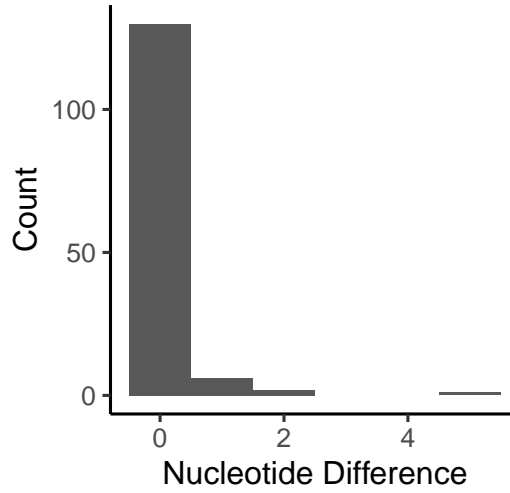
### IGHV4-28\*02

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



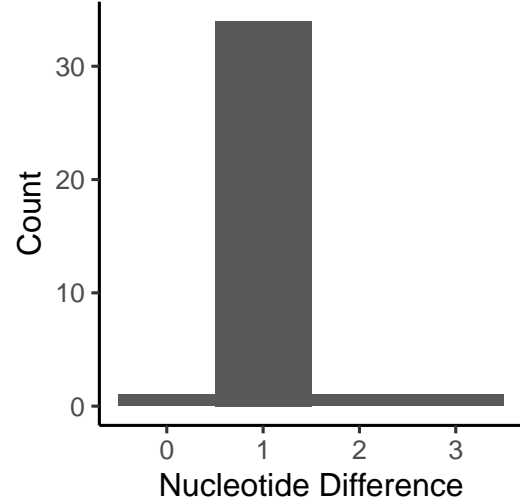
### IGHV4-31\*03

139 sequences assigned  
130 (93.5%) exact matches, in which:  
127 unique CDR3  
6 unique J



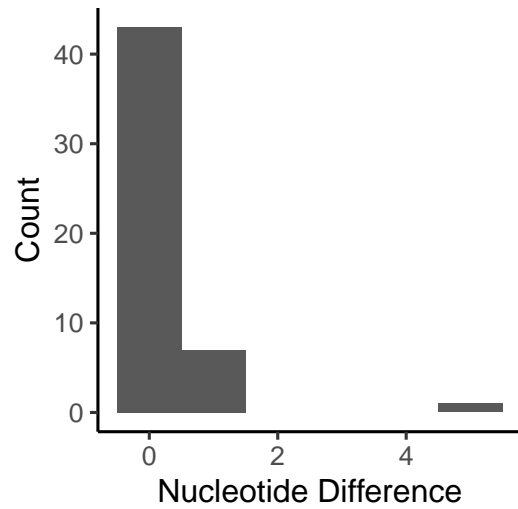
### IGHV4-38-2\*02

37 sequences assigned  
1 (2.7%) exact matches, in which:  
1 unique CDR3  
1 unique J



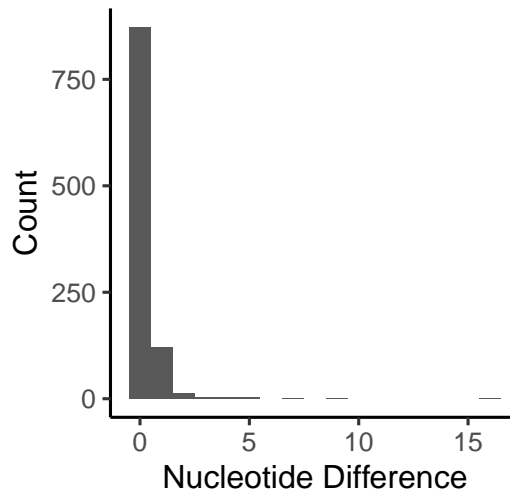
### IGHV4-30-2\*01

51 sequences assigned  
43 (84.3%) exact matches, in which:  
42 unique CDR3  
5 unique J



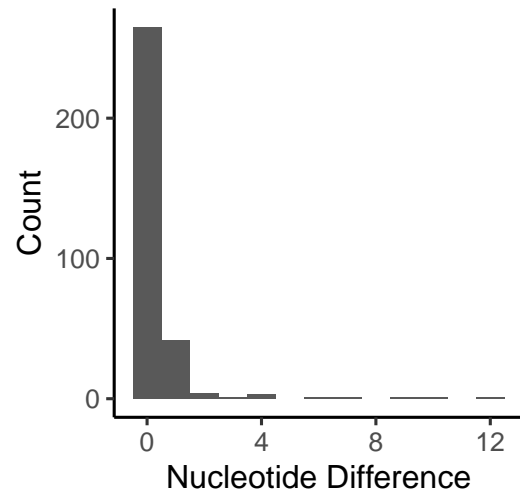
### IGHV4-34\*01

1020 sequences assigned  
873 (85.6%) exact matches, in which:  
838 unique CDR3  
7 unique J



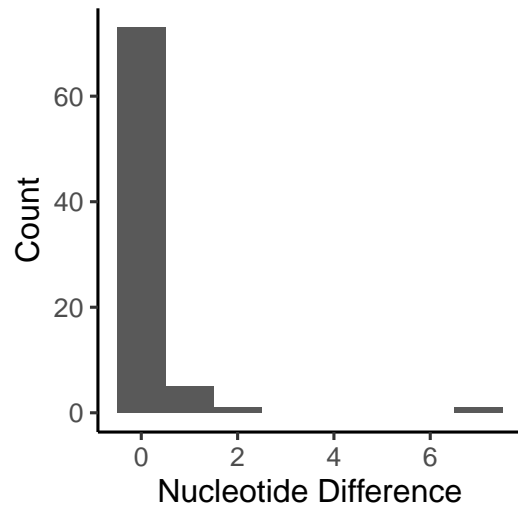
### IGHV4-39\*01

321 sequences assigned  
265 (82.6%) exact matches, in which:  
260 unique CDR3  
6 unique J



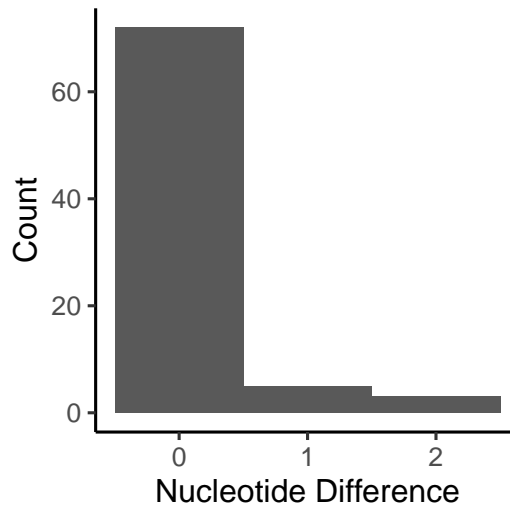
### IGHV4-30-4\*01

80 sequences assigned  
73 (91.2%) exact matches, in which:  
72 unique CDR3  
5 unique J



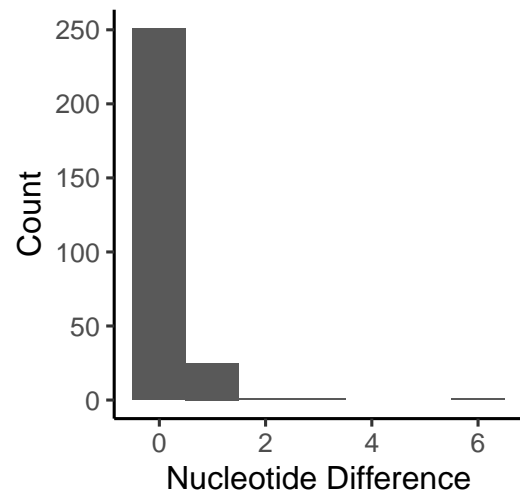
### IGHV4-38-2\*01

80 sequences assigned  
72 (90%) exact matches, in which:  
69 unique CDR3  
6 unique J



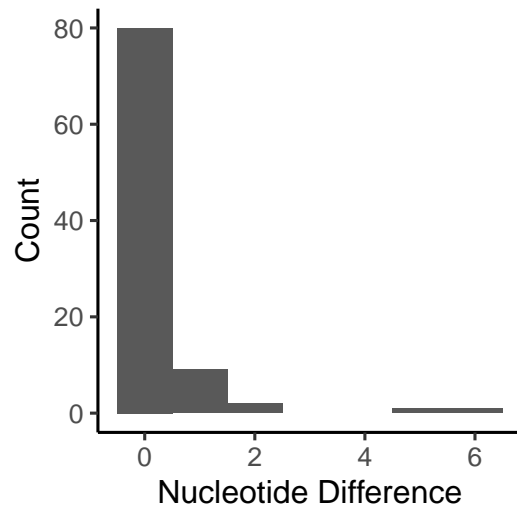
### IGHV4-59\*01

279 sequences assigned  
251 (90%) exact matches, in which:  
250 unique CDR3  
7 unique J



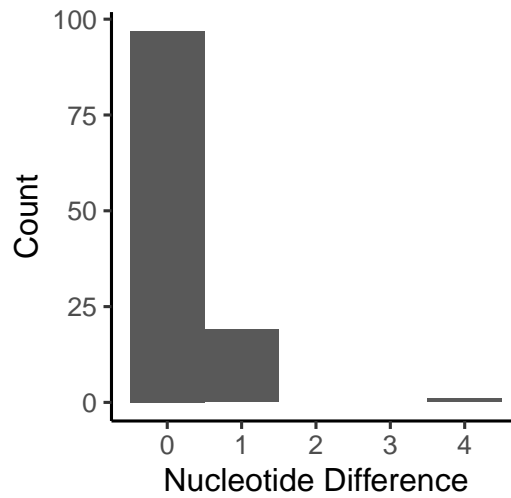
## IGHV4-61\*01

93 sequences assigned  
80 (86%) exact matches, in which:  
79 unique CDR3  
6 unique J



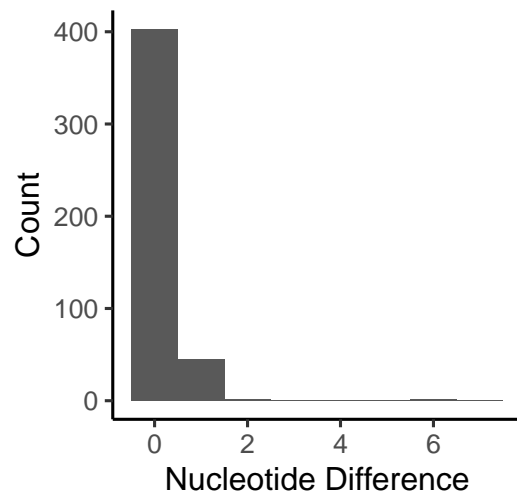
## IGHV7-4-1\*02

117 sequences assigned  
97 (82.9%) exact matches, in which:  
96 unique CDR3  
6 unique J



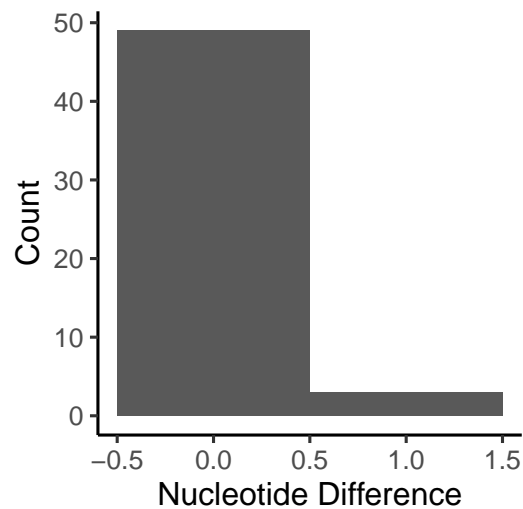
## IGHV5-51\*01

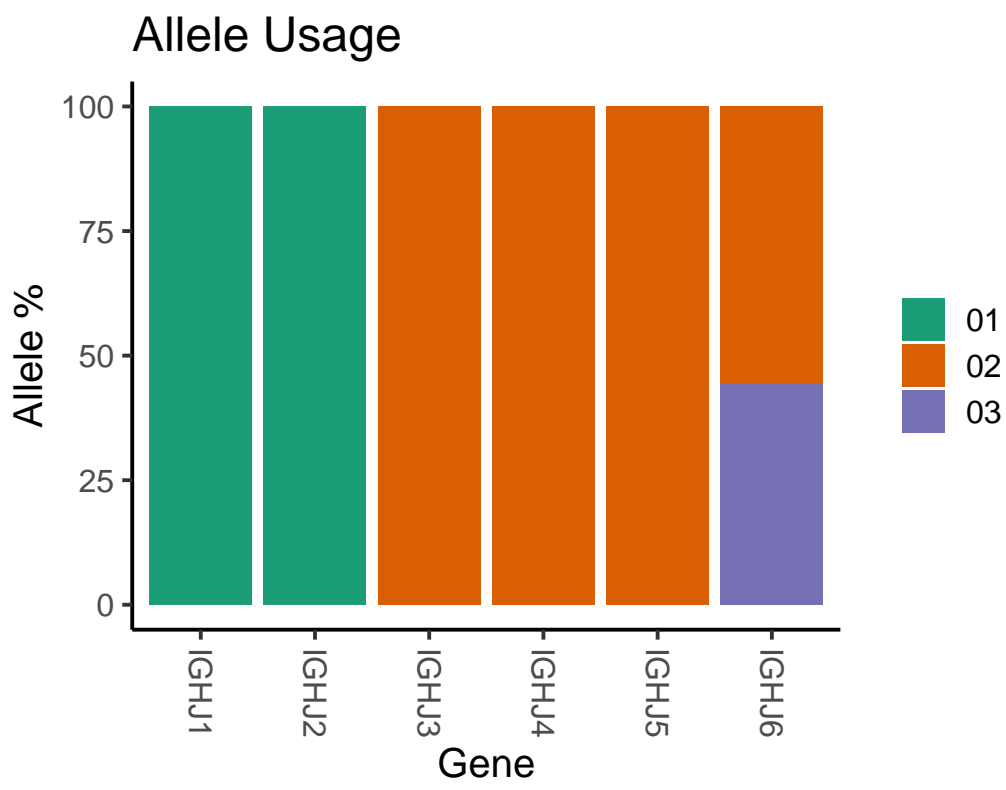
457 sequences assigned  
403 (88.2%) exact matches, in which:  
394 unique CDR3  
7 unique J



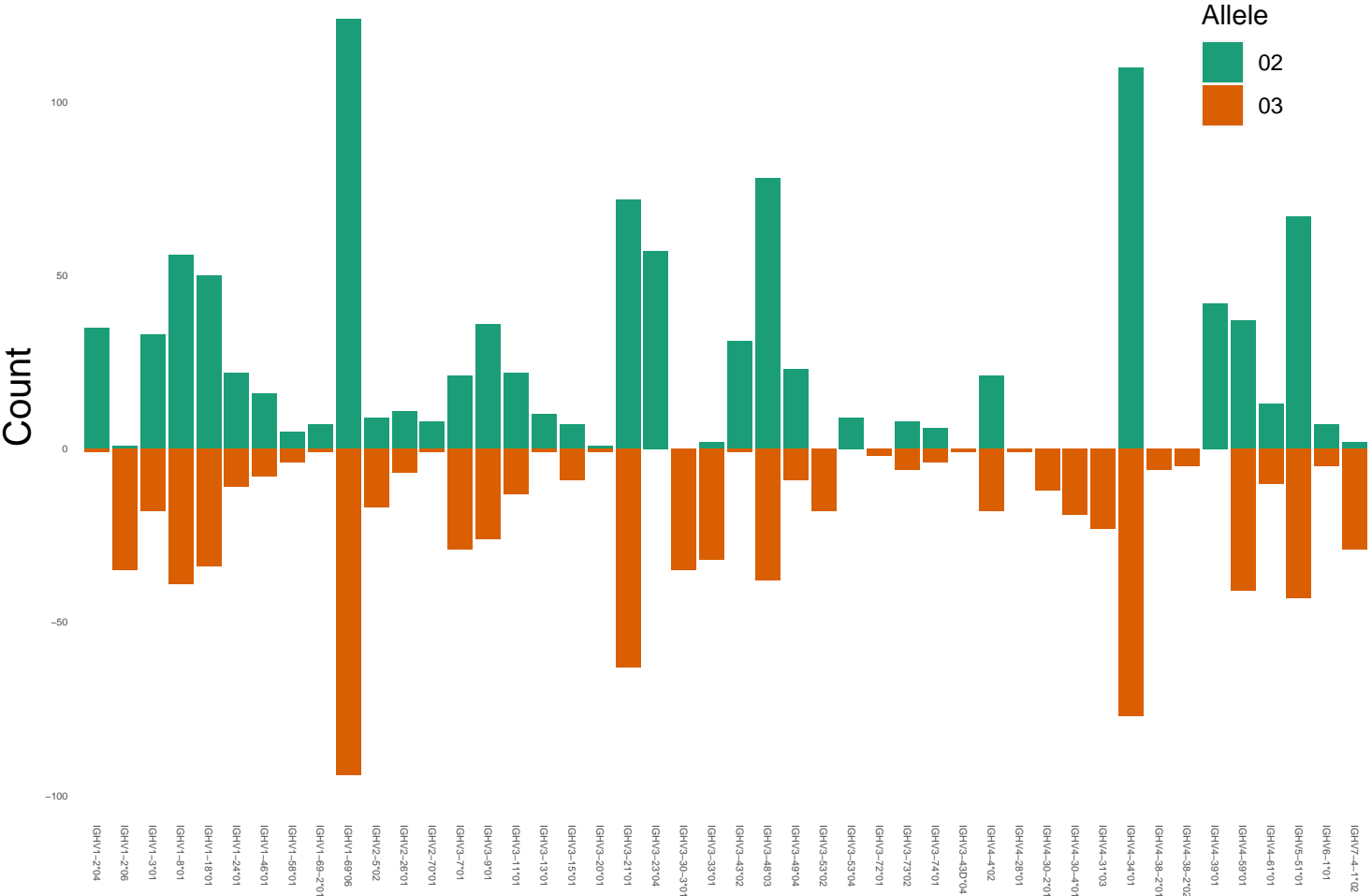
## IGHV6-1\*01

52 sequences assigned  
49 (94.2%) exact matches, in which:  
49 unique CDR3  
7 unique J





Sequence Count by IGHJ6 allele usage





Warning – no inferred sequences found.