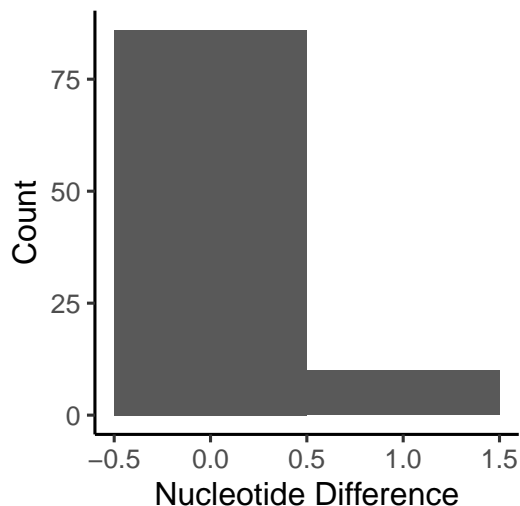


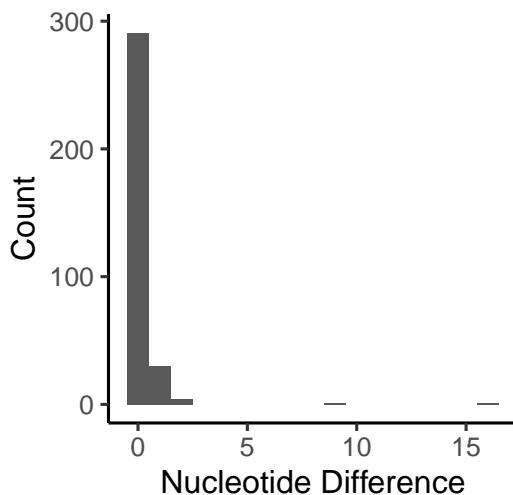
### IGHV1-2\*04

96 sequences assigned  
86 (89.6%) exact matches, in which:  
84 unique CDR3  
6 unique J



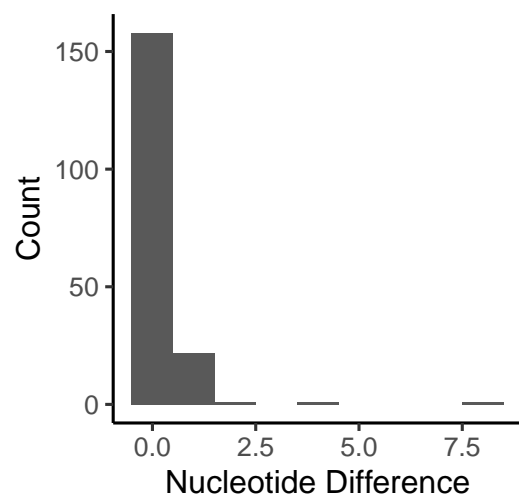
### IGHV1-8\*01

327 sequences assigned  
291 (89%) exact matches, in which:  
290 unique CDR3  
7 unique J



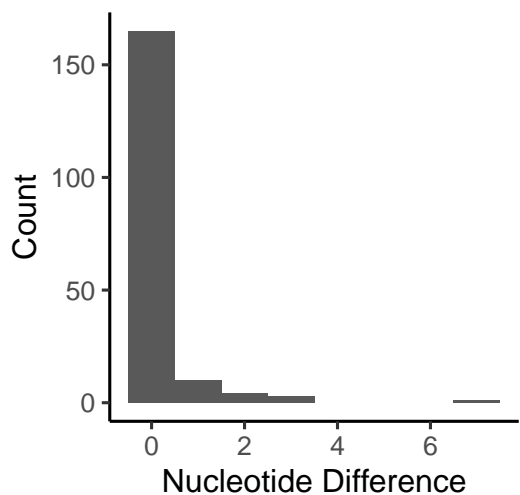
### IGHV1-46\*01

183 sequences assigned  
158 (86.3%) exact matches, in which:  
158 unique CDR3  
7 unique J



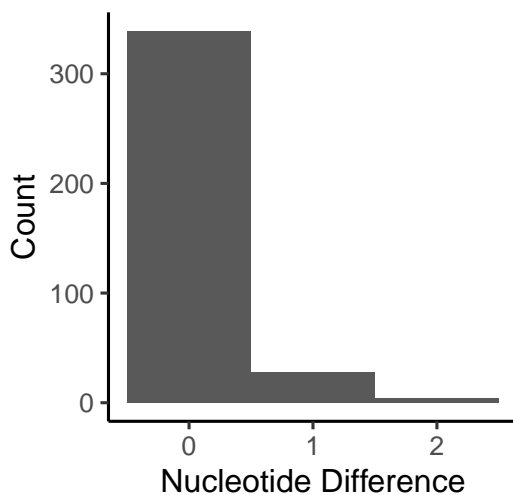
### IGHV1-2\*06

183 sequences assigned  
165 (90.2%) exact matches, in which:  
160 unique CDR3  
7 unique J



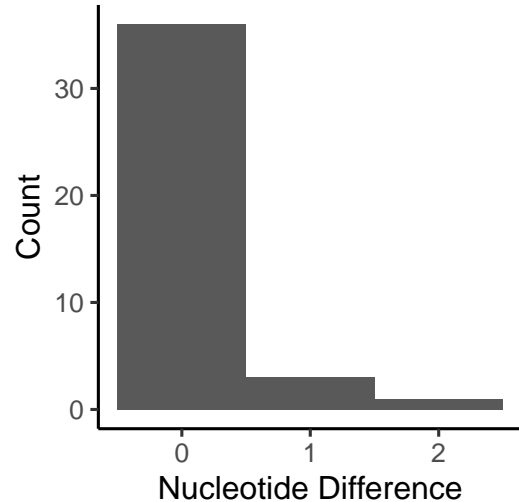
### IGHV1-18\*01

371 sequences assigned  
339 (91.4%) exact matches, in which:  
338 unique CDR3  
7 unique J



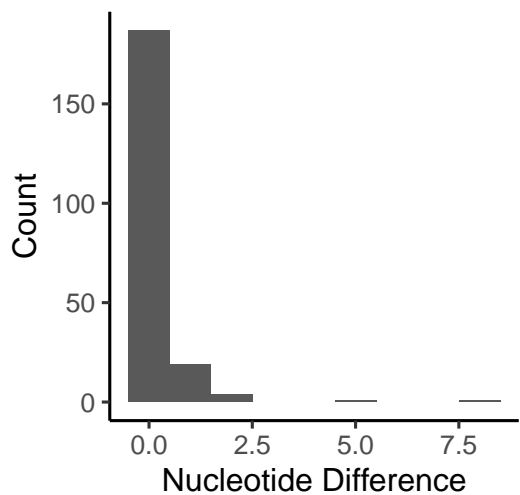
### IGHV1-58\*01

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



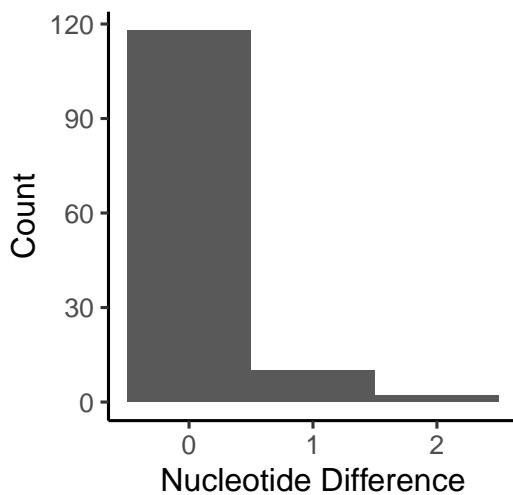
### IGHV1-3\*01

212 sequences assigned  
187 (88.2%) exact matches, in which:  
187 unique CDR3  
7 unique J



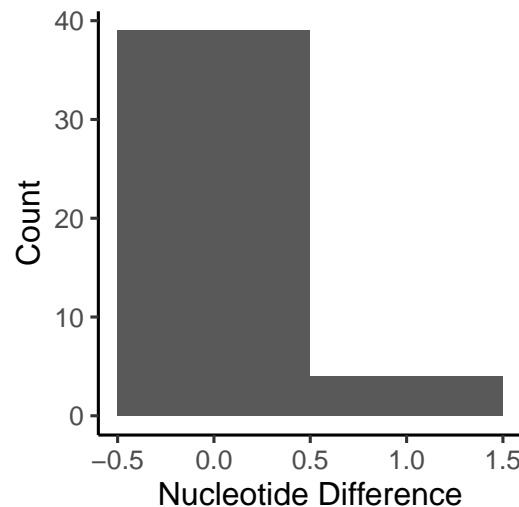
### IGHV1-24\*01

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



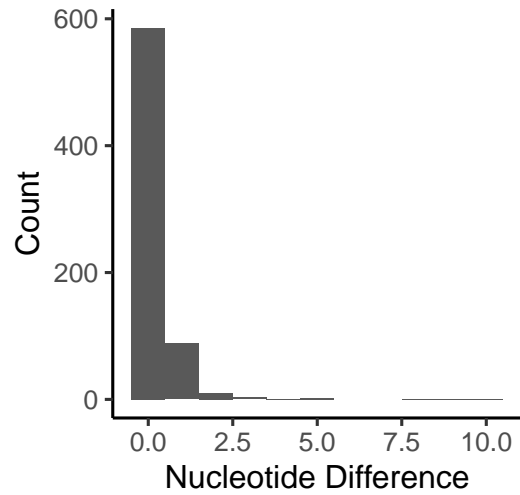
### IGHV1-69-2\*01

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



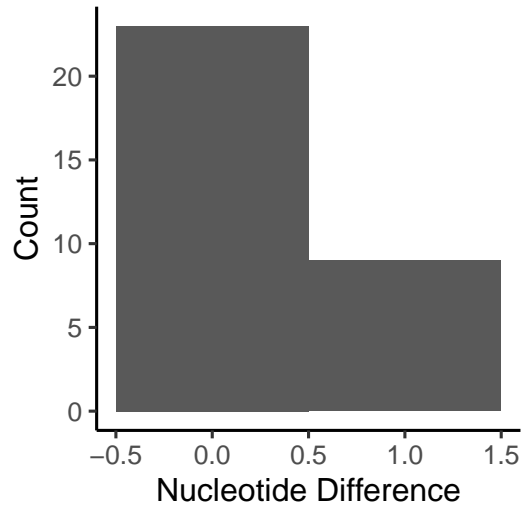
### IGHV1–69\*06

693 sequences assigned  
586 (84.6%) exact matches, in which:  
580 unique CDR3  
7 unique J



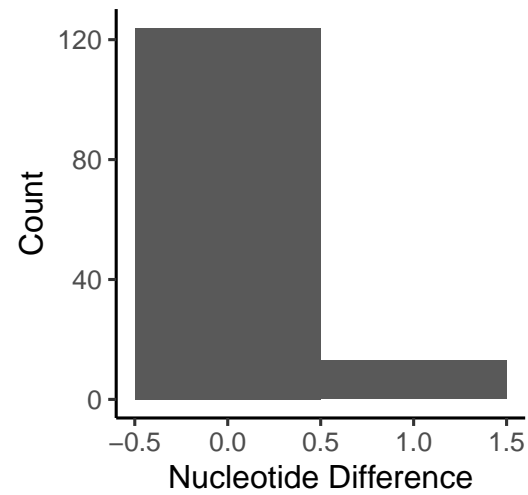
### IGHV2–70\*01

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



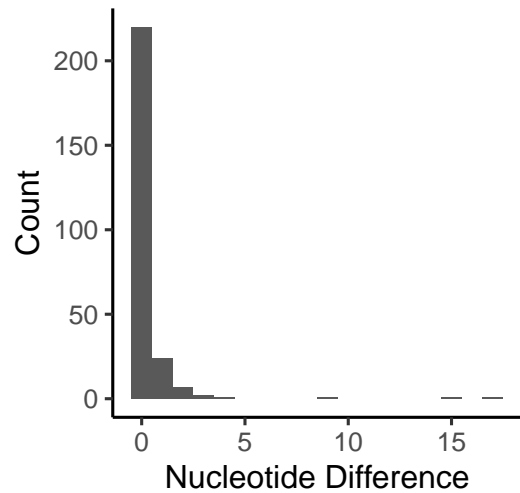
### IGHV3–11\*01

137 sequences assigned  
124 (90.5%) exact matches, in which:  
124 unique CDR3  
6 unique J



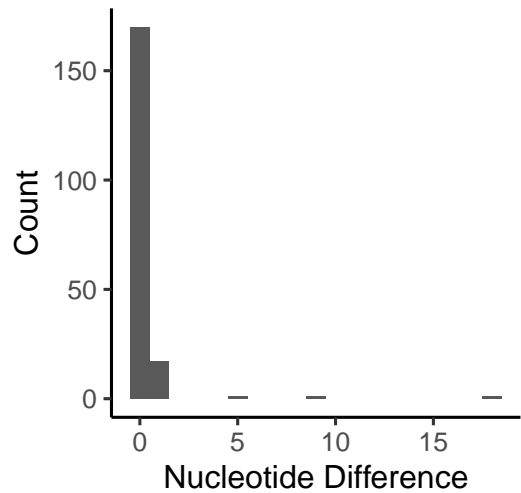
### IGHV2–5\*02

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



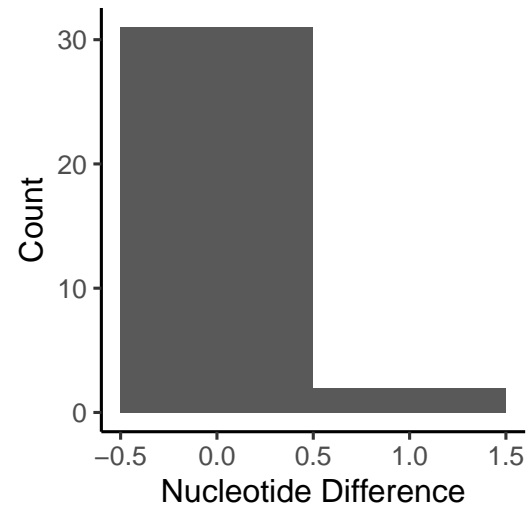
### IGHV3–7\*01

190 sequences assigned  
170 (89.5%) exact matches, in which:  
169 unique CDR3  
7 unique J



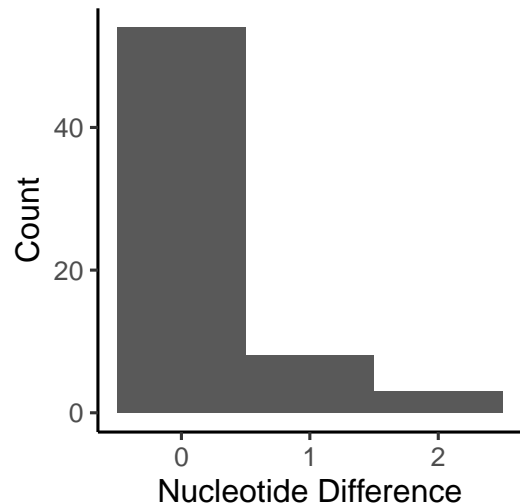
### IGHV3–13\*01

33 sequences assigned  
31 (93.9%) exact matches, in which:  
31 unique CDR3  
6 unique J



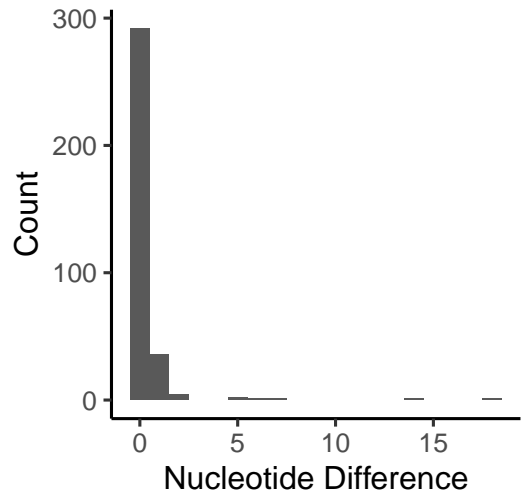
### IGHV2–26\*01

65 sequences assigned  
54 (83.1%) exact matches, in which:  
54 unique CDR3  
6 unique J



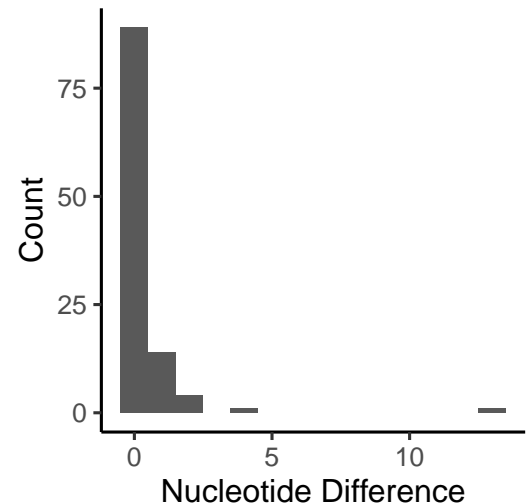
### IGHV3–9\*01

338 sequences assigned  
292 (86.4%) exact matches, in which:  
288 unique CDR3  
7 unique J



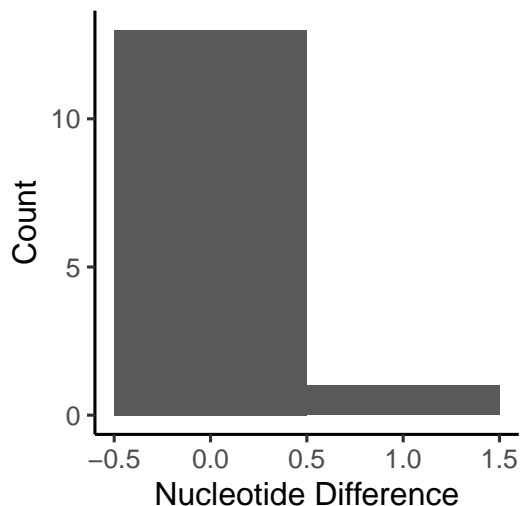
### IGHV3–15\*01

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



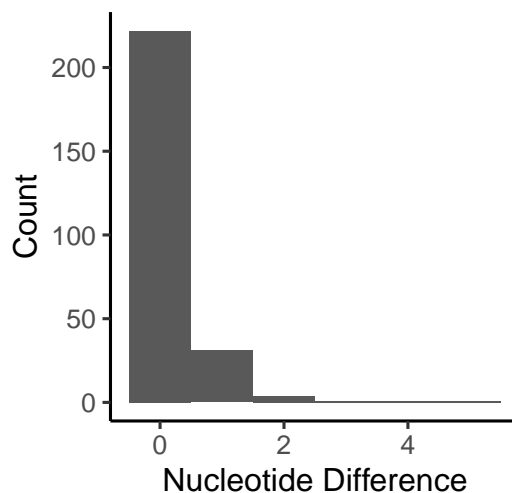
### IGHV3-20\*01

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



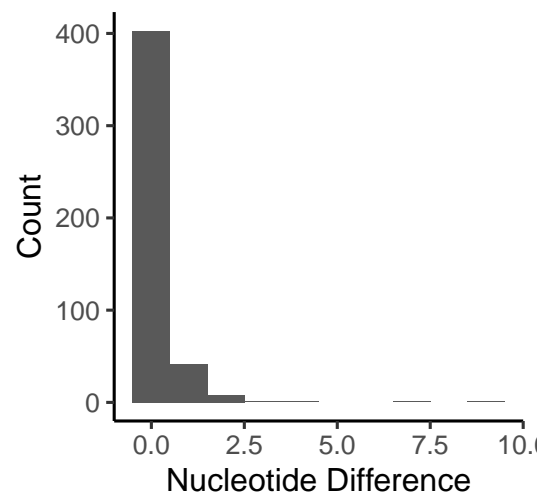
### IGHV3-30-3\*01

260 sequences assigned  
222 (85.4%) exact matches, in which:  
220 unique CDR3  
6 unique J



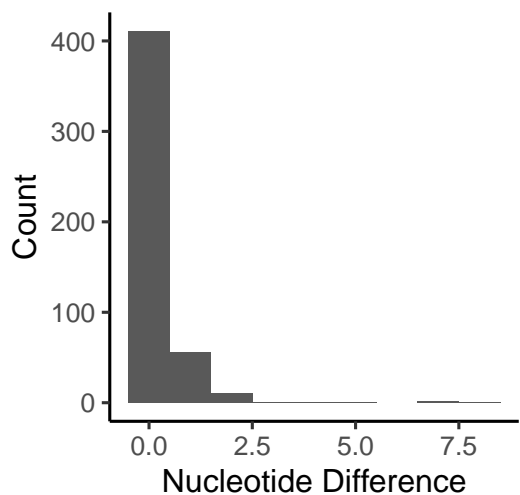
### IGHV3-48\*03

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



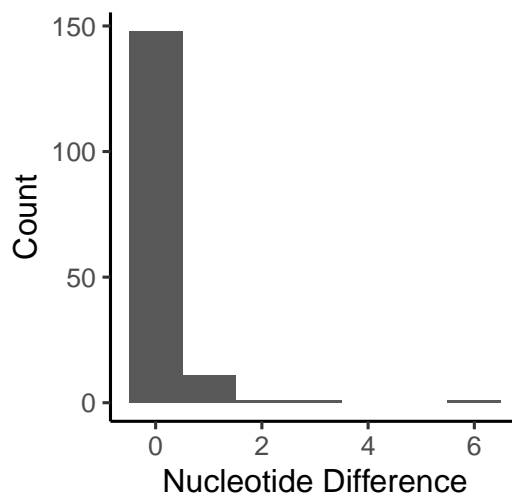
### IGHV3-21\*01

484 sequences assigned  
411 (84.9%) exact matches, in which:  
406 unique CDR3  
7 unique J



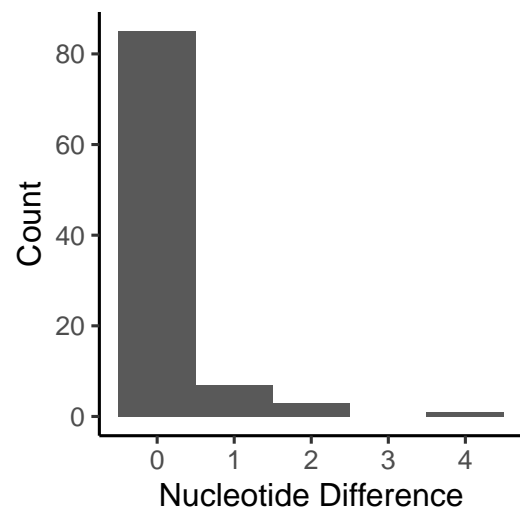
### IGHV3-33\*01

163 sequences assigned  
148 (90.8%) exact matches, in which:  
146 unique CDR3  
7 unique J



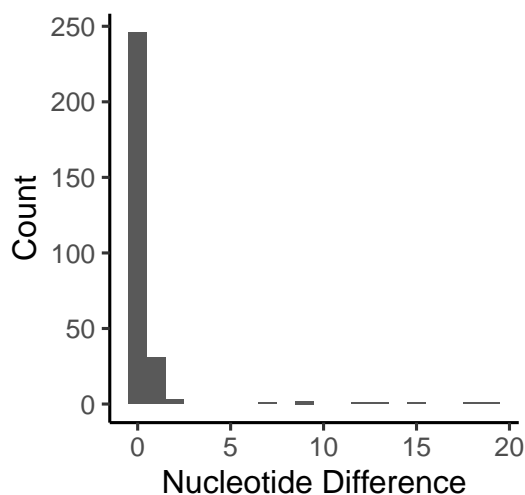
### IGHV3-49\*04

97 sequences assigned  
85 (87.6%) exact matches, in which:  
83 unique CDR3  
7 unique J



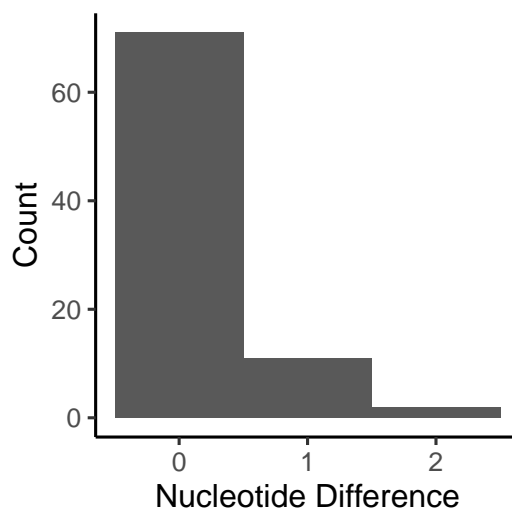
### IGHV3-23\*04

288 sequences assigned  
246 (85.4%) exact matches, in which:  
243 unique CDR3  
6 unique J



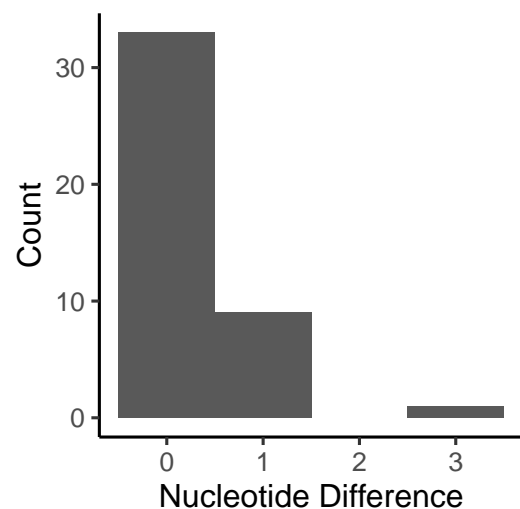
### IGHV3-43\*02

84 sequences assigned  
71 (84.5%) exact matches, in which:  
71 unique CDR3  
6 unique J



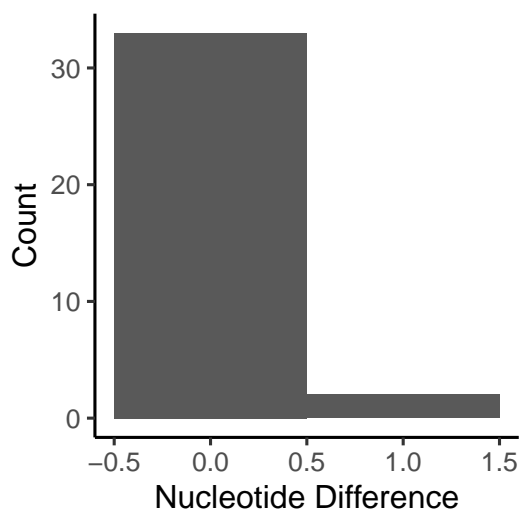
### IGHV3-53\*02

43 sequences assigned  
33 (76.7%) exact matches, in which:  
32 unique CDR3  
5 unique J



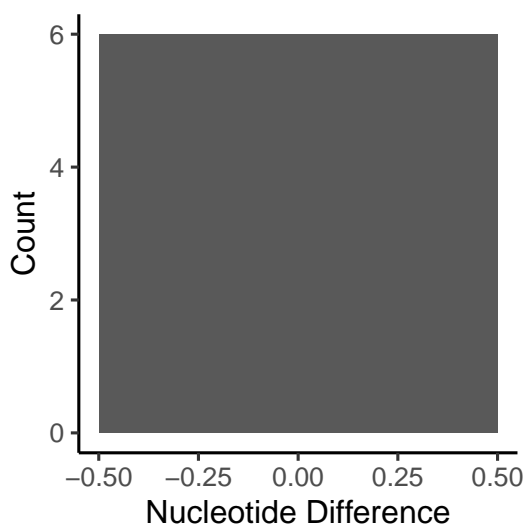
### IGHV3-53\*04

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



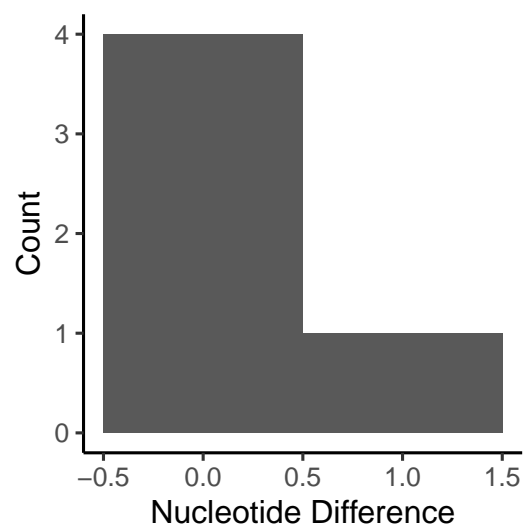
### IGHV3-72\*01

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



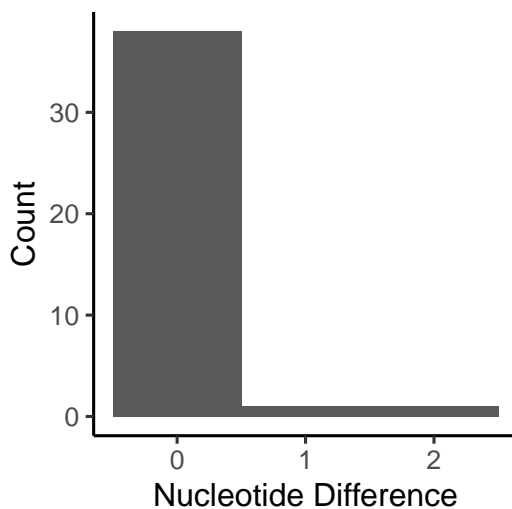
### IGHV3-64\*02

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



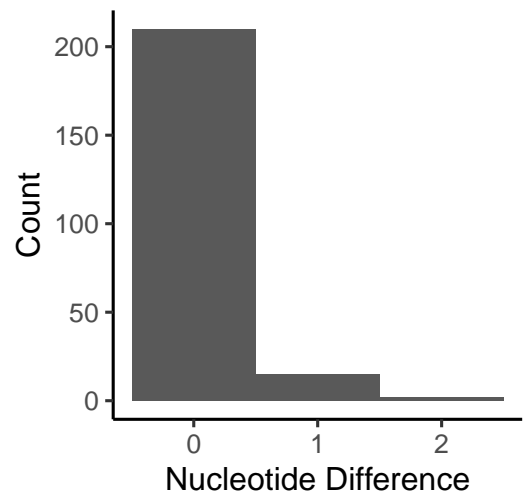
### IGHV3-73\*02

40 sequences assigned  
38 (95%) exact matches, in which:  
37 unique CDR3  
7 unique J



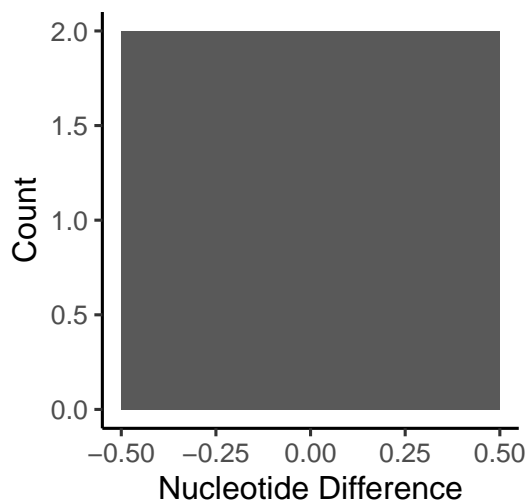
### IGHV4-4\*02

227 sequences assigned  
210 (92.5%) exact matches, in which:  
210 unique CDR3  
7 unique J



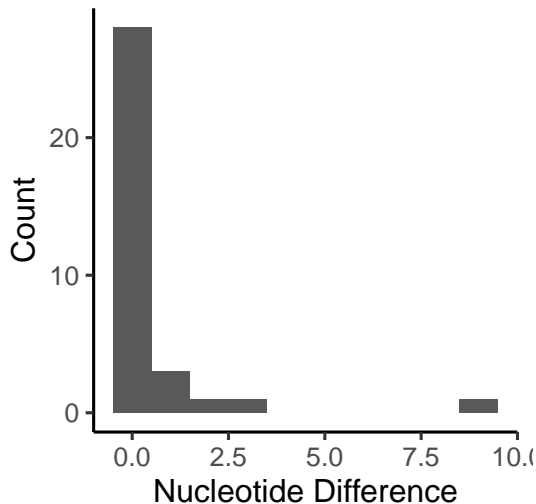
### IGHV3-66\*03

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



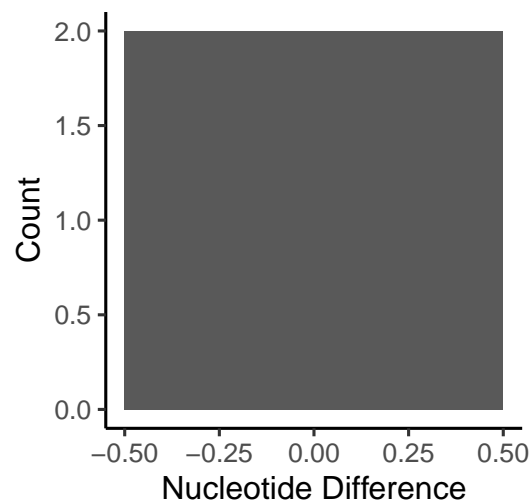
### IGHV3-74\*01

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



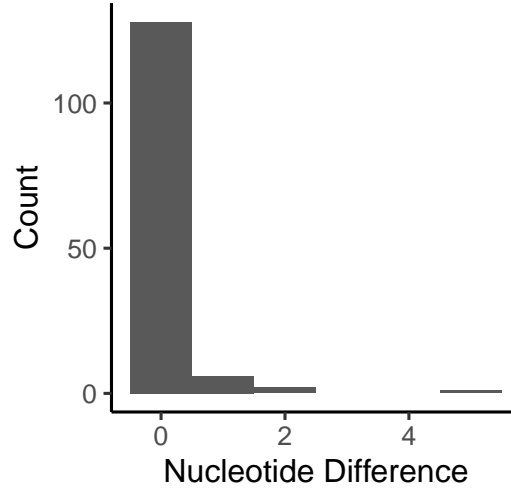
### IGHV4-28\*02

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



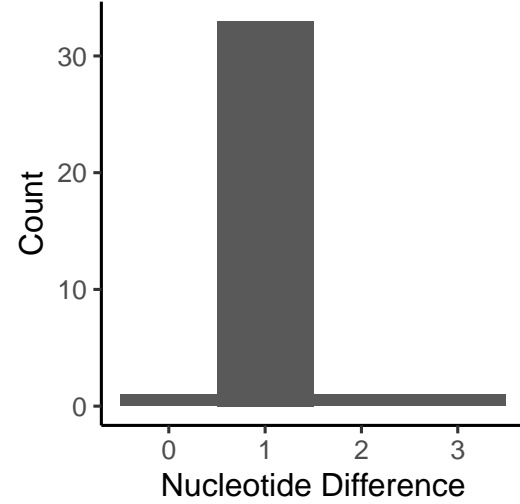
### IGHV4-31\*03

137 sequences assigned  
128 (93.4%) exact matches, in which:  
127 unique CDR3  
6 unique J



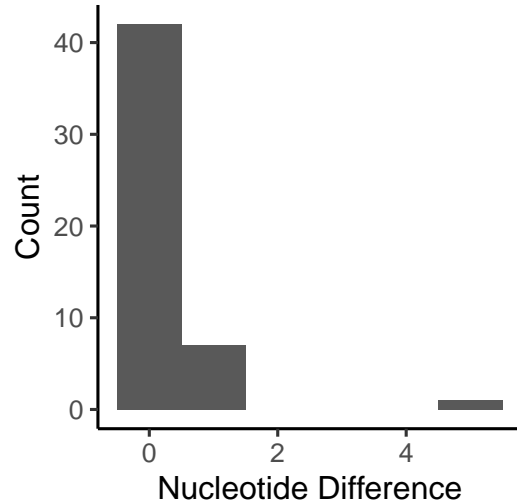
### IGHV4-38-2\*02

36 sequences assigned  
1 (2.8%) exact matches, in which:  
1 unique CDR3  
1 unique J



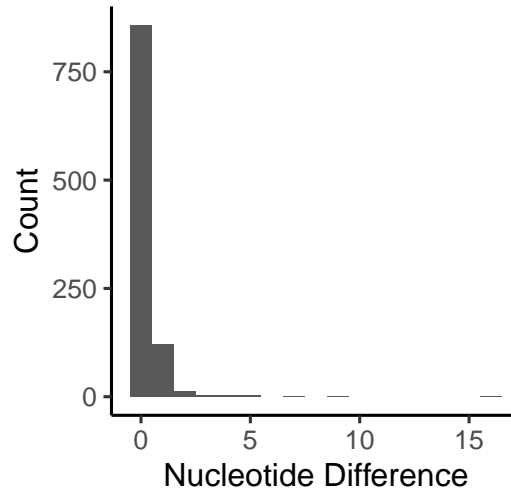
### IGHV4-30-2\*01

50 sequences assigned  
42 (84%) exact matches, in which:  
42 unique CDR3  
5 unique J



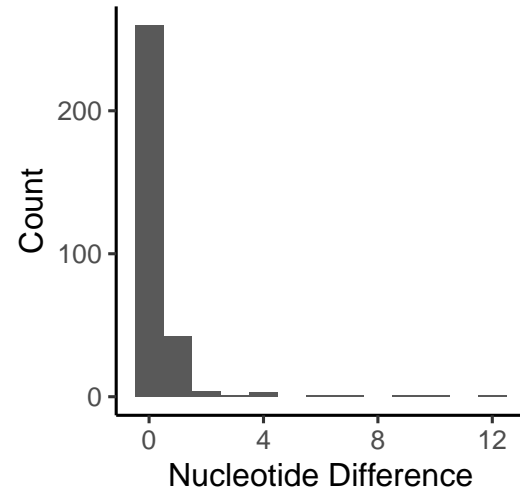
### IGHV4-34\*01

1006 sequences assigned  
858 (85.3%) exact matches, in which:  
836 unique CDR3  
7 unique J



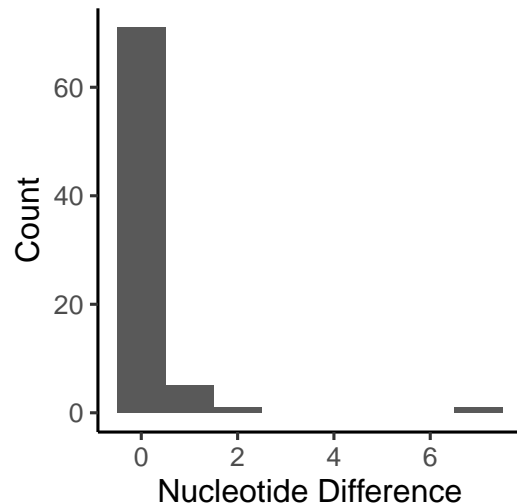
### IGHV4-39\*01

316 sequences assigned  
260 (82.3%) exact matches, in which:  
259 unique CDR3  
6 unique J



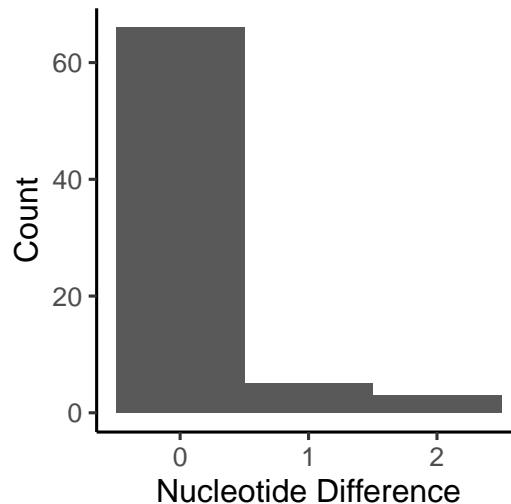
### IGHV4-30-4\*01

78 sequences assigned  
71 (91%) exact matches, in which:  
71 unique CDR3  
5 unique J



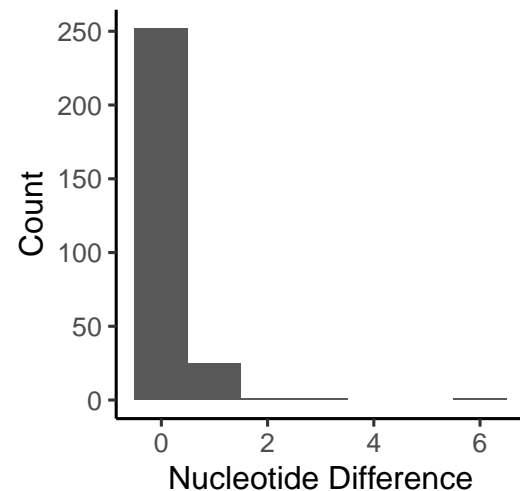
### IGHV4-38-2\*01

74 sequences assigned  
66 (89.2%) exact matches, in which:  
66 unique CDR3  
6 unique J



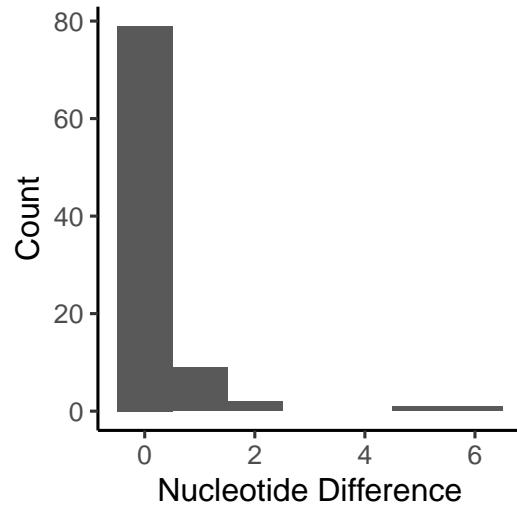
### IGHV4-59\*01

280 sequences assigned  
252 (90%) exact matches, in which:  
251 unique CDR3  
7 unique J



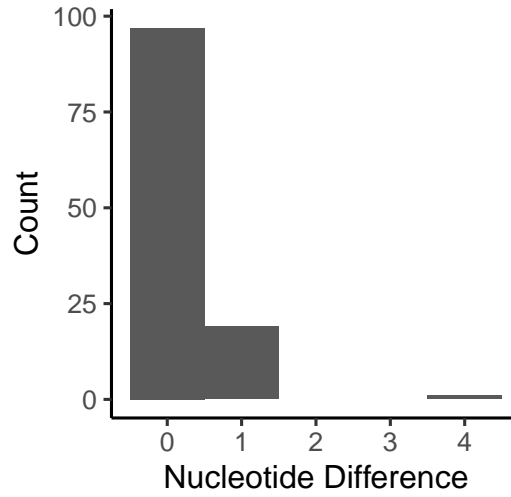
## IGHV4-61\*01

92 sequences assigned  
79 (85.9%) exact matches, in which:  
79 unique CDR3  
6 unique J



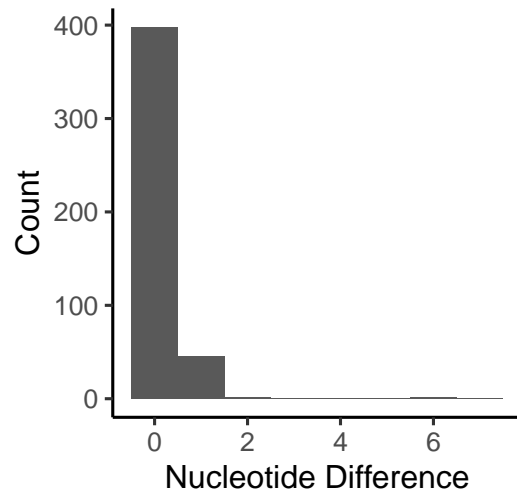
## IGHV7-4-1\*02

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



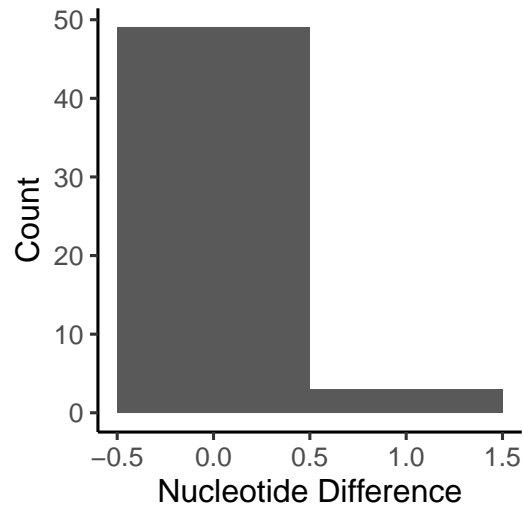
## IGHV5-51\*01

452 sequences assigned  
398 (88.1%) exact matches, in which:  
393 unique CDR3  
7 unique J

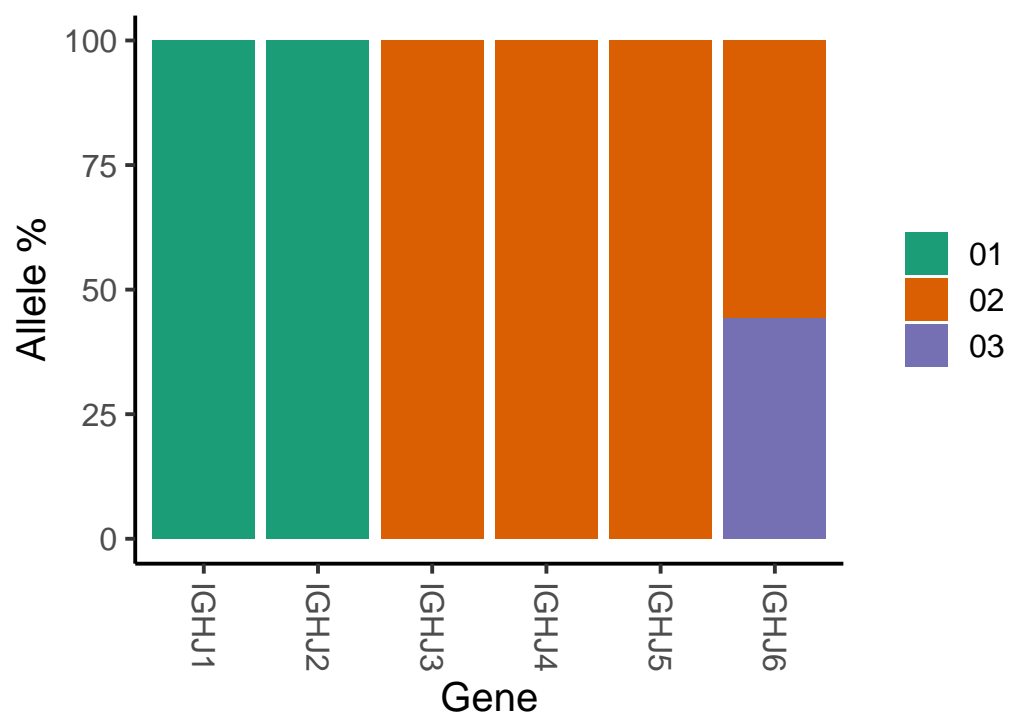


## IGHV6-1\*01

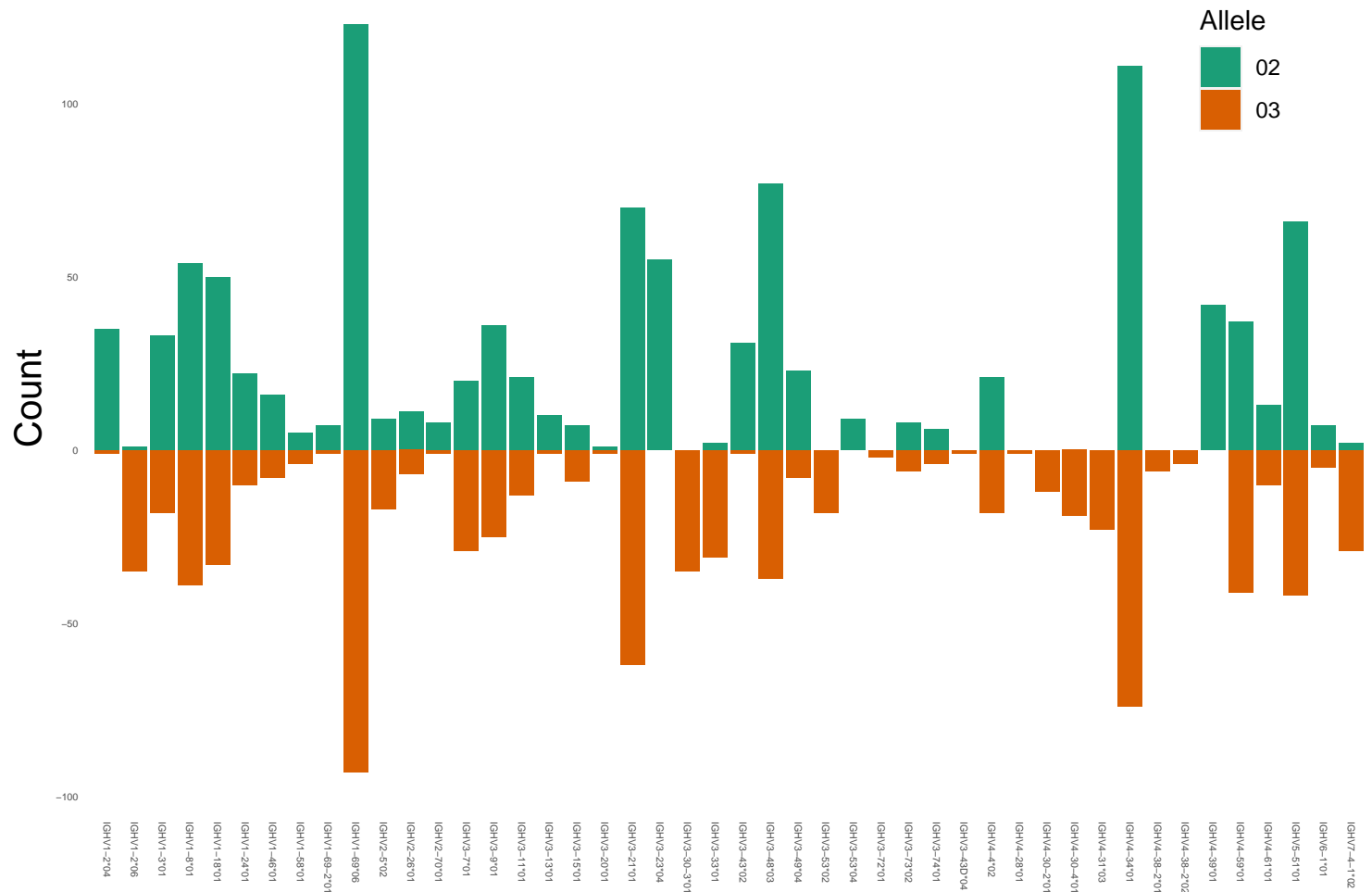
52 sequences assigned  
49 (94.2%) exact matches, in which:  
49 unique CDR3  
7 unique J



Allele Usage



## Sequence Count byIGHJ6 allele usage





Warning – no inferred sequences found.