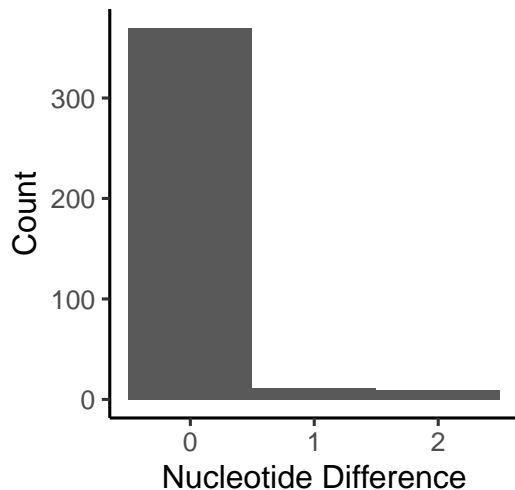


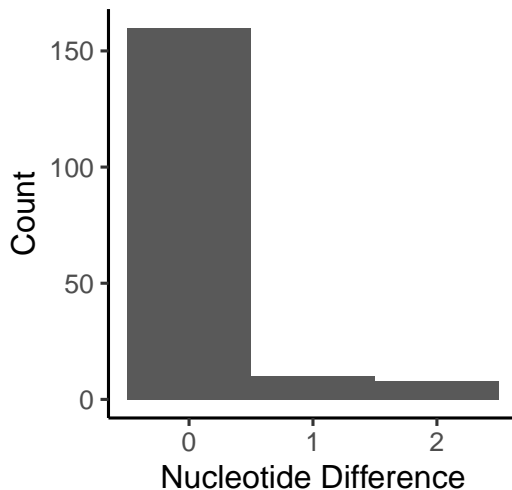
### IGHV1-2\*02

390 sequences assigned  
370 (94.9%) exact matches, in which:  
368 unique CDR3  
7 unique J



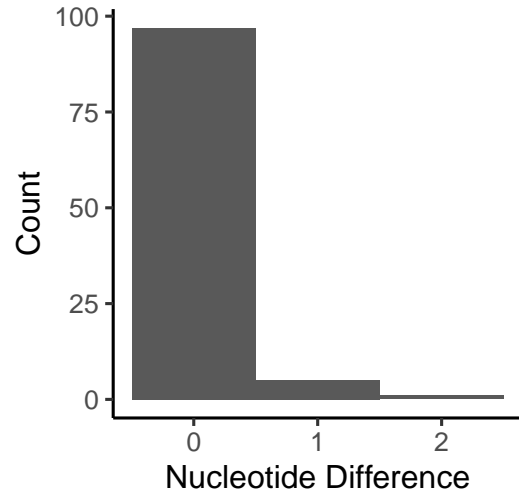
### IGHV1-8\*01

178 sequences assigned  
160 (89.9%) exact matches, in which:  
160 unique CDR3  
6 unique J



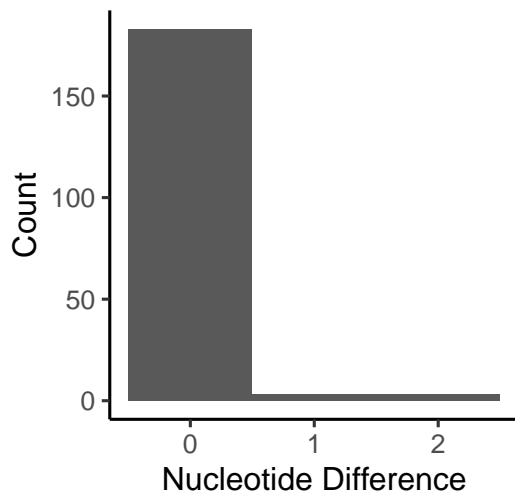
### IGHV1-46\*01

103 sequences assigned  
97 (94.2%) exact matches, in which:  
97 unique CDR3  
6 unique J



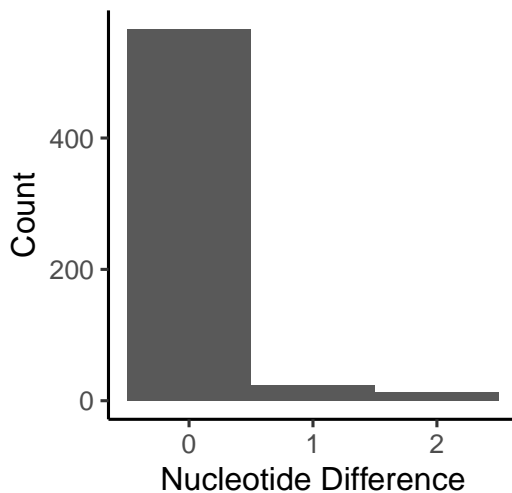
### IGHV1-2\*04

189 sequences assigned  
183 (96.8%) exact matches, in which:  
181 unique CDR3  
6 unique J



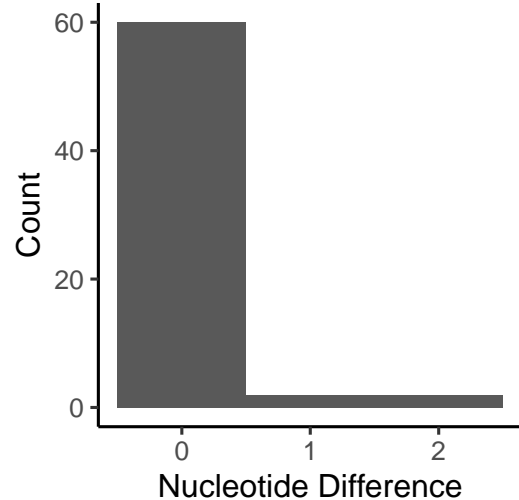
### IGHV1-18\*01

602 sequences assigned  
566 (94%) exact matches, in which:  
563 unique CDR3  
7 unique J



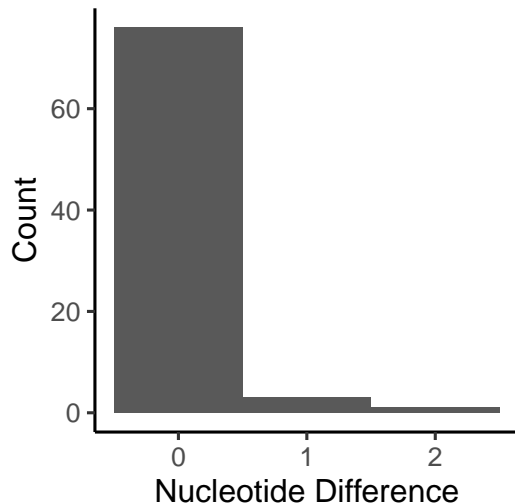
### IGHV1-46\*03

64 sequences assigned  
60 (93.8%) exact matches, in which:  
60 unique CDR3  
5 unique J



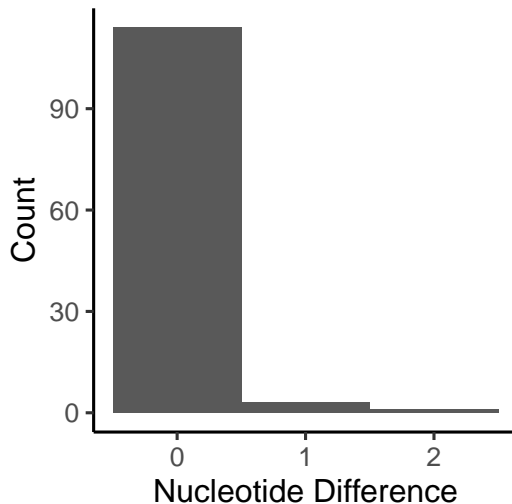
### IGHV1-3\*01\_05

80 sequences assigned  
76 (95%) exact matches, in which:  
76 unique CDR3  
4 unique J



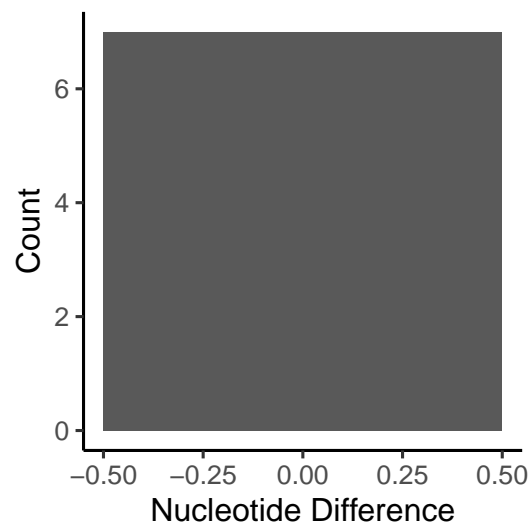
### IGHV1-24\*01

118 sequences assigned  
114 (96.6%) exact matches, in which:  
113 unique CDR3  
7 unique J



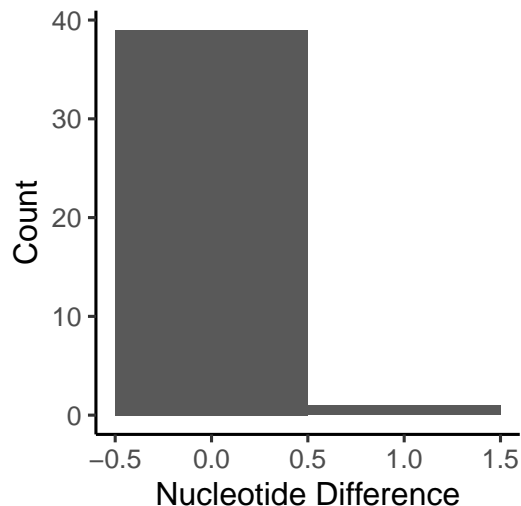
### IGHV1-58\*02

7 sequences assigned  
7 (100%) exact matches, in which:  
7 unique CDR3  
3 unique J



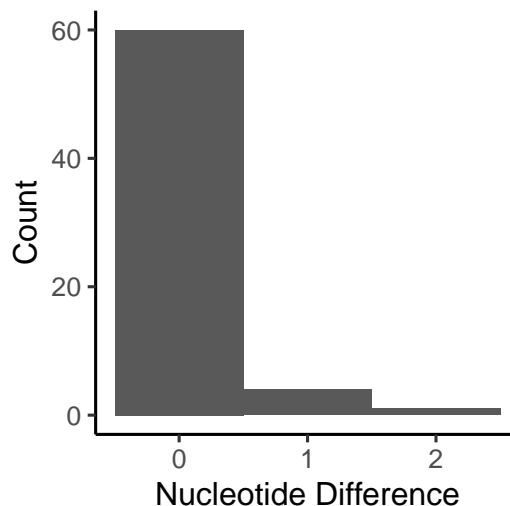
### IGHV1–58\*01\_03

40 sequences assigned  
39 (97.5%) exact matches, in which:  
39 unique CDR3  
4 unique J



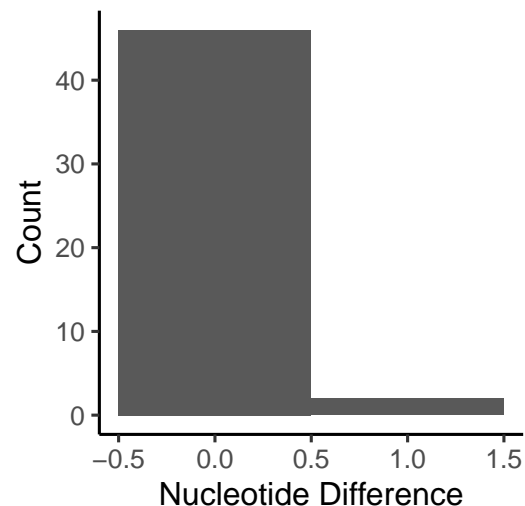
### IGHV2–5\*01

65 sequences assigned  
60 (92.3%) exact matches, in which:  
60 unique CDR3  
5 unique J



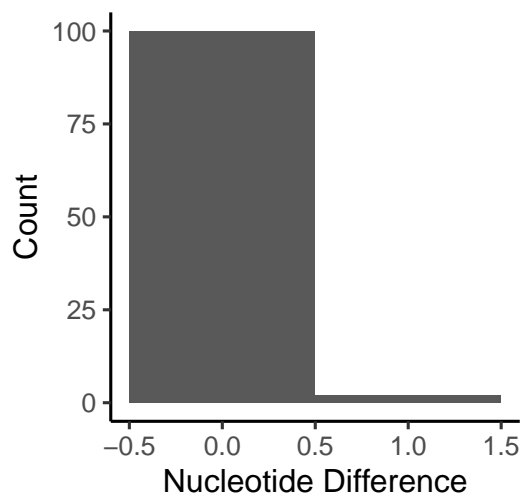
### IGHV2–70\*01

48 sequences assigned  
46 (95.8%) exact matches, in which:  
46 unique CDR3  
5 unique J



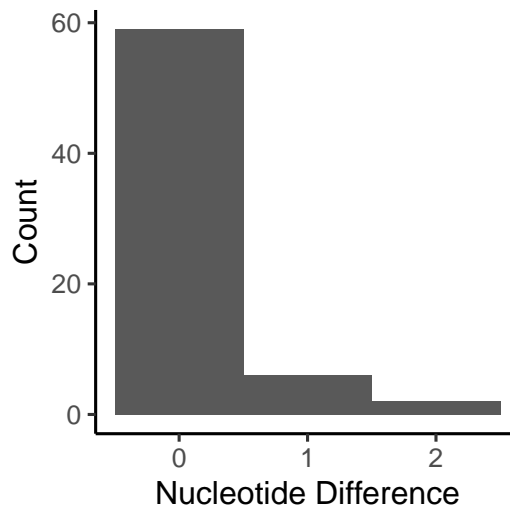
### IGHV1–69\*02

102 sequences assigned  
100 (98%) exact matches, in which:  
100 unique CDR3  
5 unique J



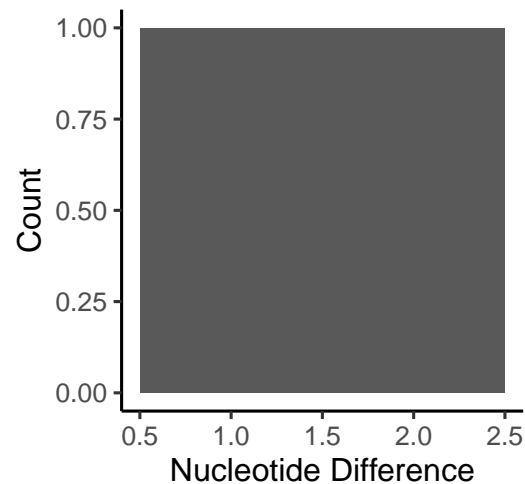
### IGHV2–5\*02

67 sequences assigned  
59 (88.1%) exact matches, in which:  
58 unique CDR3  
5 unique J



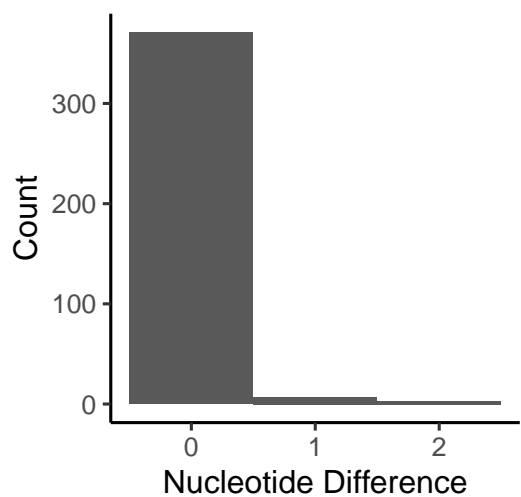
### IGHV2–70D\*04

2 sequences assigned  
No exact matches.



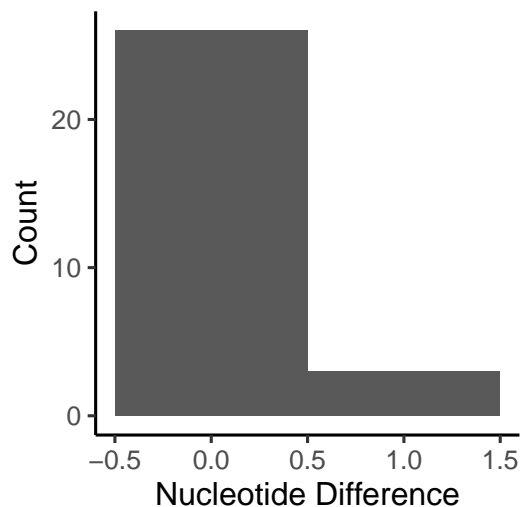
### IGHV1–69\*01\_12\_13

381 sequences assigned  
371 (97.4%) exact matches, in which:  
371 unique CDR3  
6 unique J



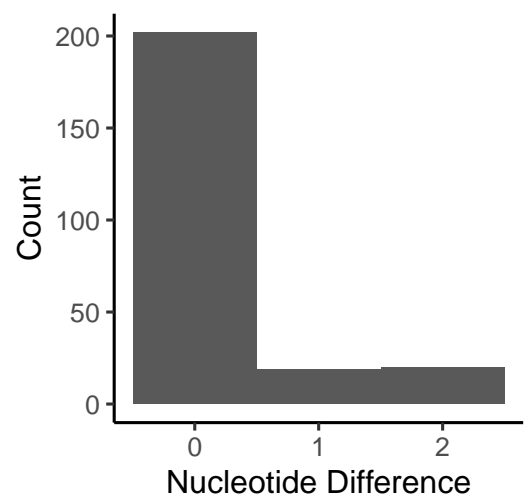
### IGHV2–26\*01

29 sequences assigned  
26 (89.7%) exact matches, in which:  
26 unique CDR3  
6 unique J



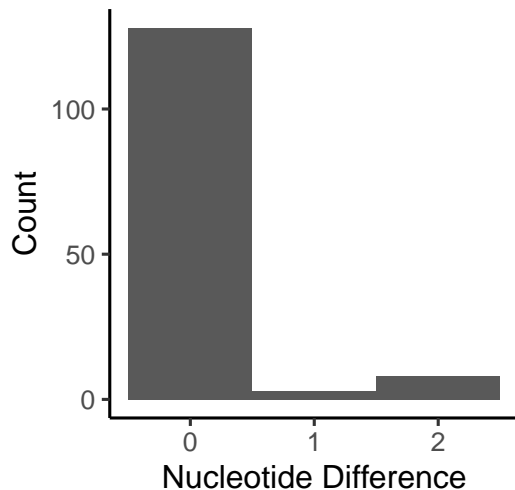
### IGHV3–7\*03

241 sequences assigned  
202 (83.8%) exact matches, in which:  
196 unique CDR3  
6 unique J



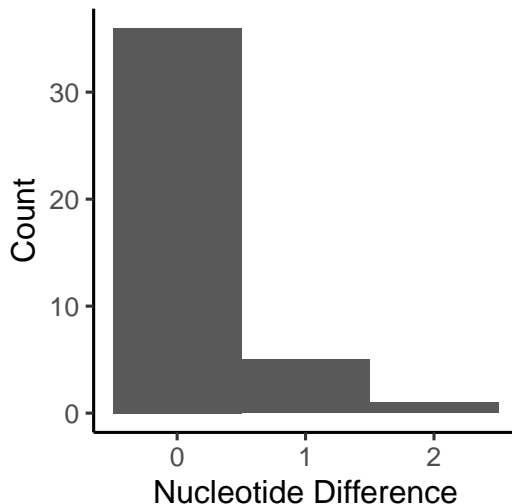
### IGHV3-9\*01

139 sequences assigned  
128 (92.1%) exact matches, in which:  
128 unique CDR3  
6 unique J



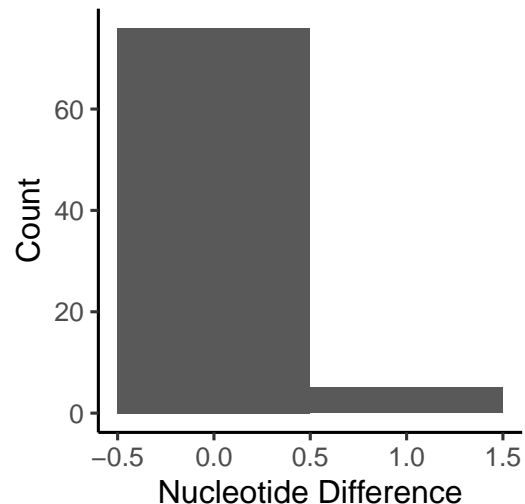
### IGHV3-13\*04

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



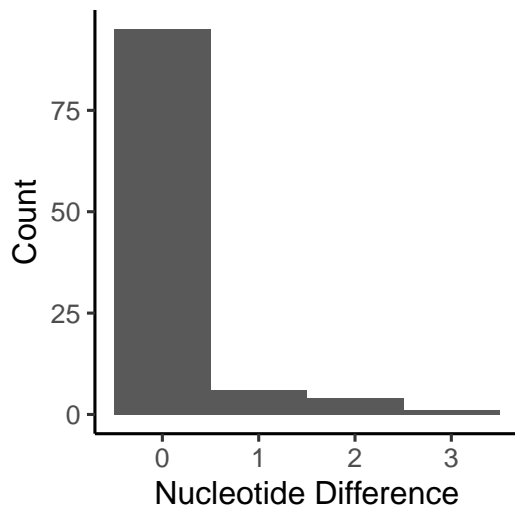
### IGHV3-20\*03\_04

81 sequences assigned  
76 (93.8%) exact matches, in which:  
75 unique CDR3  
5 unique J



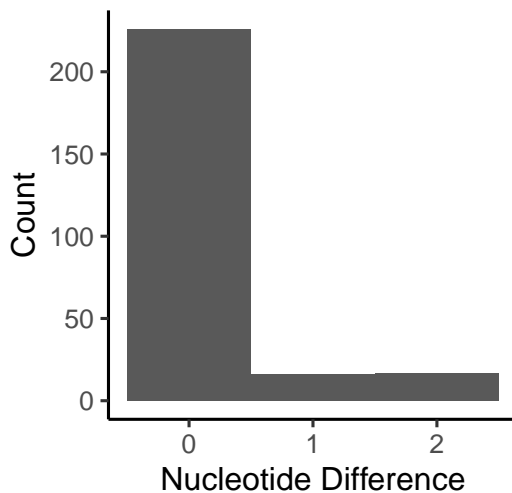
### IGHV3-11\*01

106 sequences assigned  
95 (89.6%) exact matches, in which:  
93 unique CDR3  
5 unique J



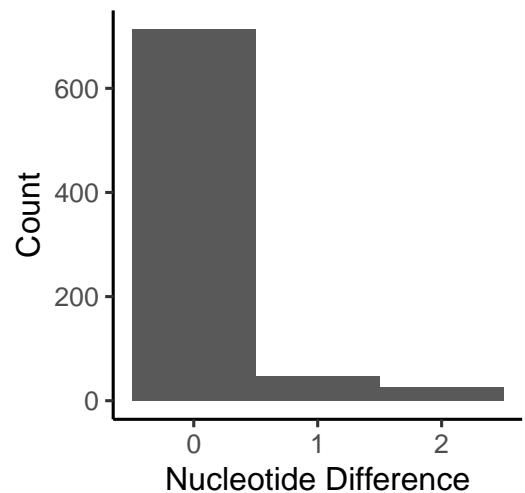
### IGHV3-15\*01\_02

259 sequences assigned  
226 (87.3%) exact matches, in which:  
222 unique CDR3  
7 unique J



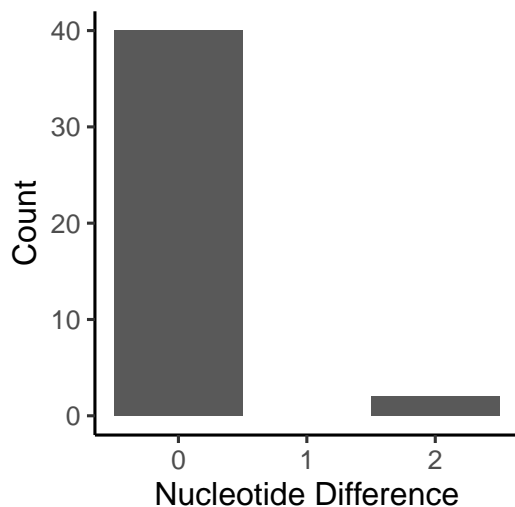
### IGHV3-21\*01\_02

788 sequences assigned  
714 (90.6%) exact matches, in which:  
703 unique CDR3  
7 unique J



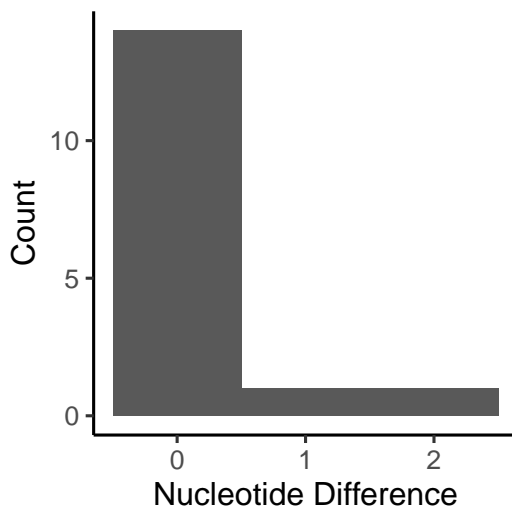
### IGHV3-13\*01

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



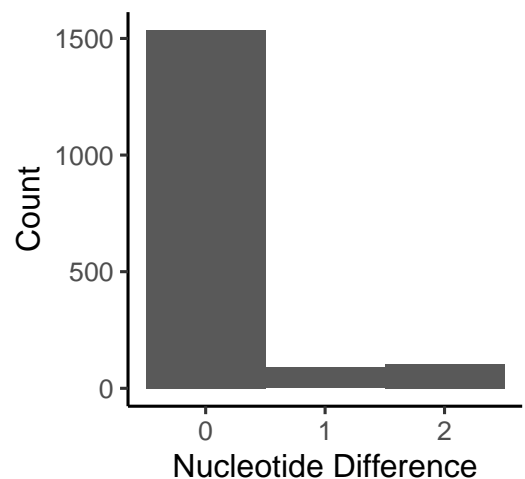
### IGHV3-20\*01\_02

16 sequences assigned  
14 (87.5%) exact matches, in which:  
14 unique CDR3  
5 unique J



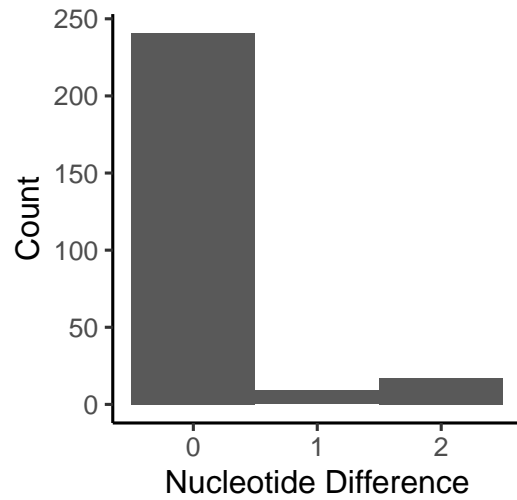
### IGHV3-23\*01\_04

1731 sequences assigned  
1536 (88.7%) exact matches, in which:  
1509 unique CDR3  
7 unique J



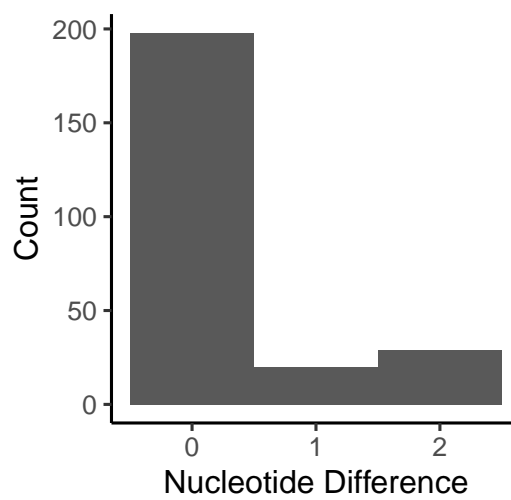
### IGHV3–33\*01

267 sequences assigned  
241 (90.3%) exact matches, in which:  
230 unique CDR3  
6 unique J



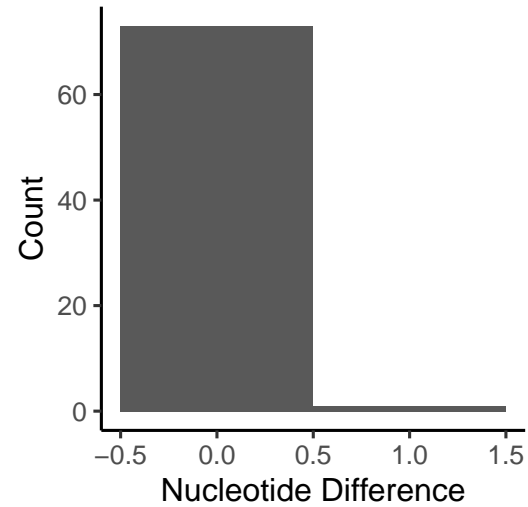
### IGHV3–48\*03

247 sequences assigned  
198 (80.2%) exact matches, in which:  
194 unique CDR3  
6 unique J



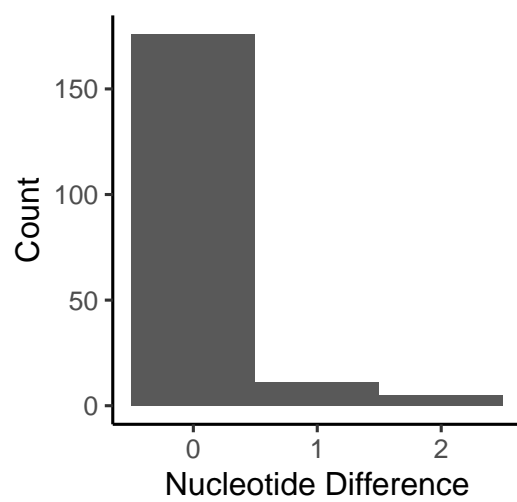
### IGHV3–53\*04

74 sequences assigned  
73 (98.6%) exact matches, in which:  
72 unique CDR3  
6 unique J



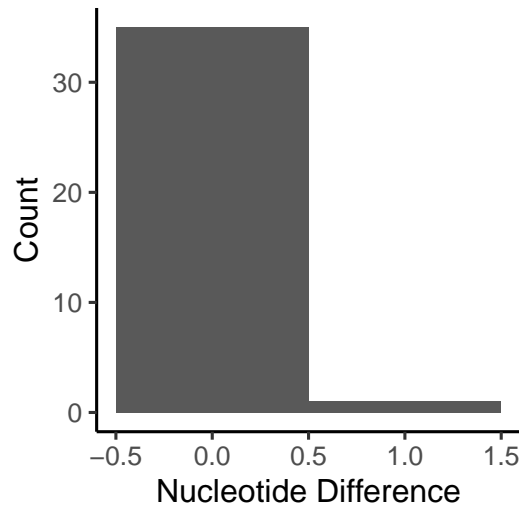
### IGHV3–43\*02

192 sequences assigned  
176 (91.7%) exact matches, in which:  
172 unique CDR3  
6 unique J



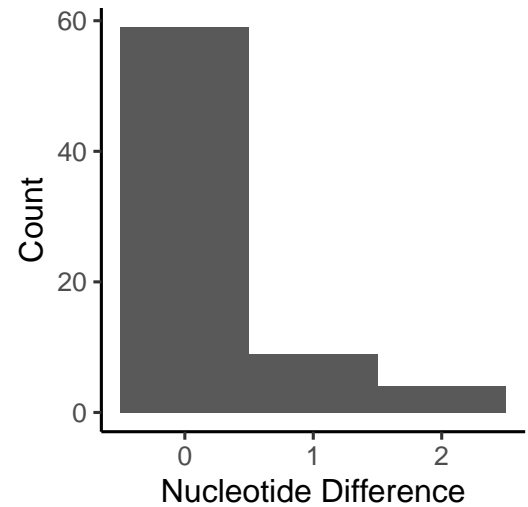
### IGHV3–49\*04

36 sequences assigned  
35 (97.2%) exact matches, in which:  
35 unique CDR3  
4 unique J



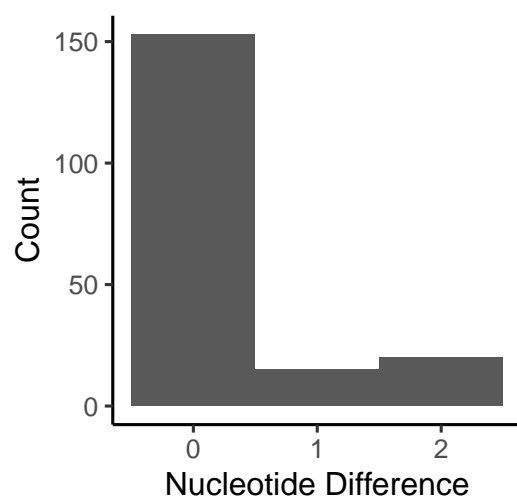
### IGHV3–53\*01\_02

72 sequences assigned  
59 (81.9%) exact matches, in which:  
58 unique CDR3  
5 unique J



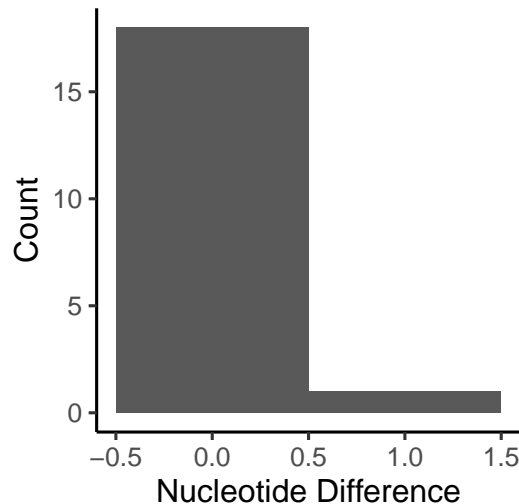
### IGHV3–48\*01

188 sequences assigned  
153 (81.4%) exact matches, in which:  
149 unique CDR3  
6 unique J



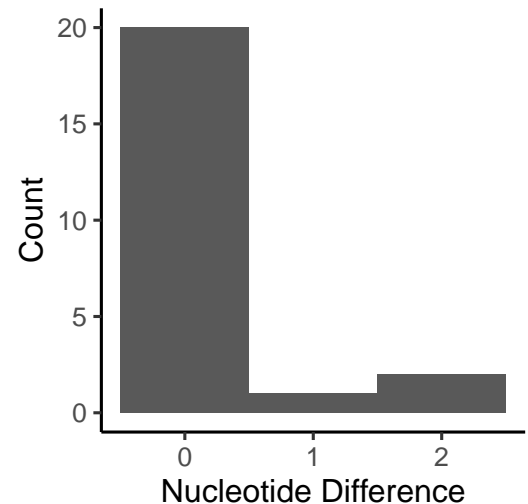
### IGHV3–49\*03\_05

19 sequences assigned  
18 (94.7%) exact matches, in which:  
18 unique CDR3  
4 unique J



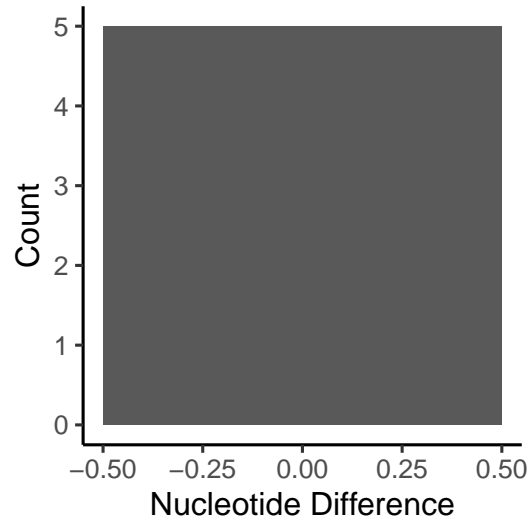
### IGHV3–64\*01

23 sequences assigned  
20 (87%) exact matches, in which:  
20 unique CDR3  
5 unique J



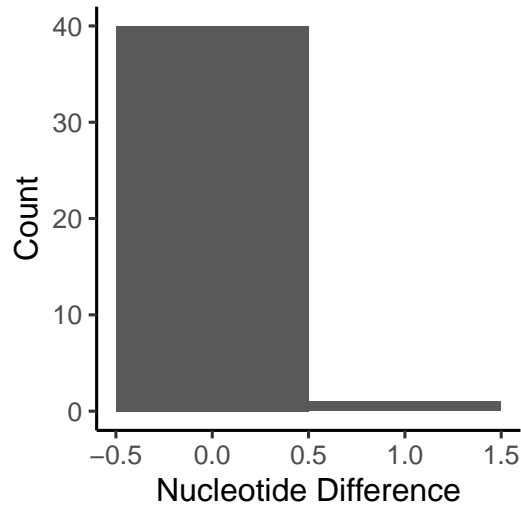
### IGHV3-64\*02\_07

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



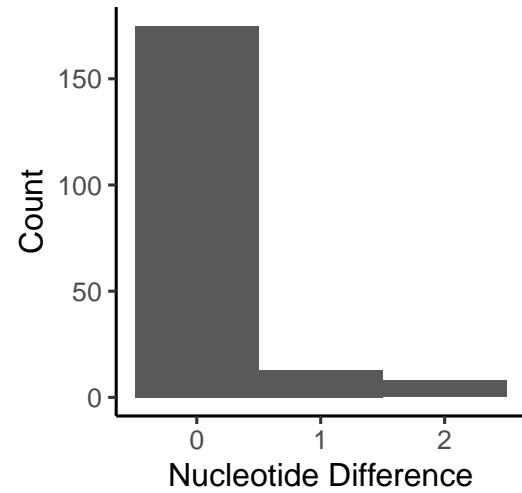
### IGHV3-73\*01\_02

41 sequences assigned  
40 (97.6%) exact matches, in which:  
39 unique CDR3  
6 unique J



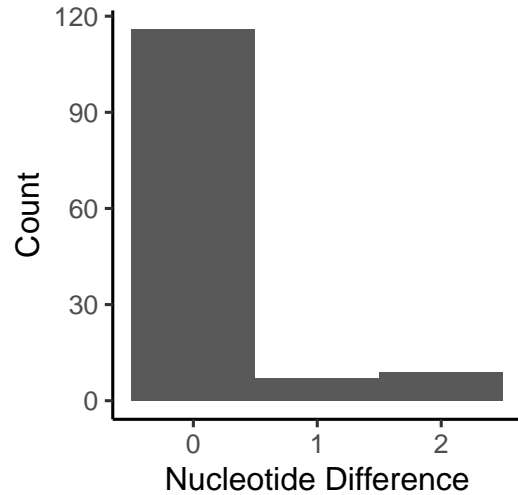
### IGHV4-4\*07

196 sequences assigned  
175 (89.3%) exact matches, in which:  
173 unique CDR3  
7 unique J



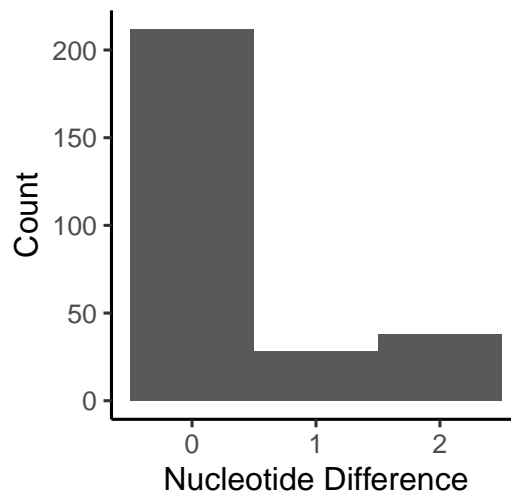
### IGHV3-66\*02

132 sequences assigned  
116 (87.9%) exact matches, in which:  
112 unique CDR3  
7 unique J



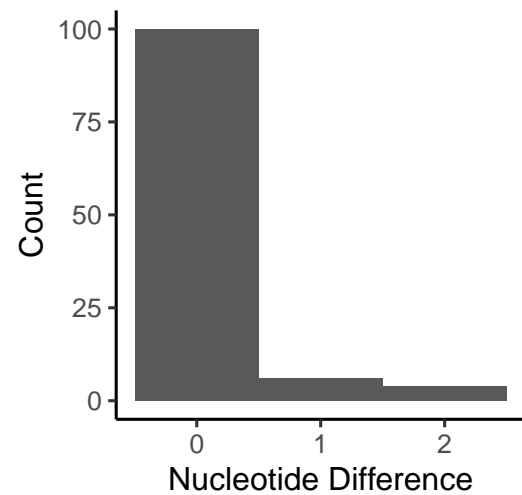
### IGHV3-74\*01\_02

278 sequences assigned  
212 (76.3%) exact matches, in which:  
203 unique CDR3  
7 unique J



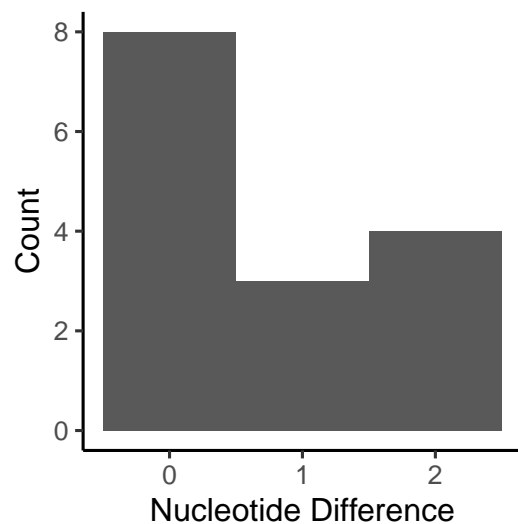
### IGHV4-4\*02\_03

110 sequences assigned  
100 (90.9%) exact matches, in which:  
100 unique CDR3  
6 unique J



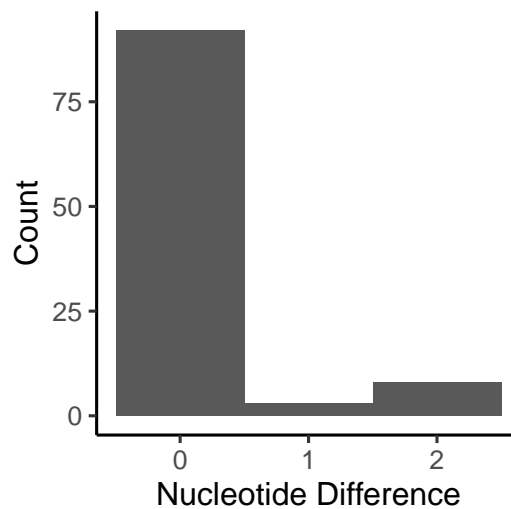
### IGHV3-72\*01

15 sequences assigned  
8 (53.3%) exact matches, in which:  
8 unique CDR3  
4 unique J



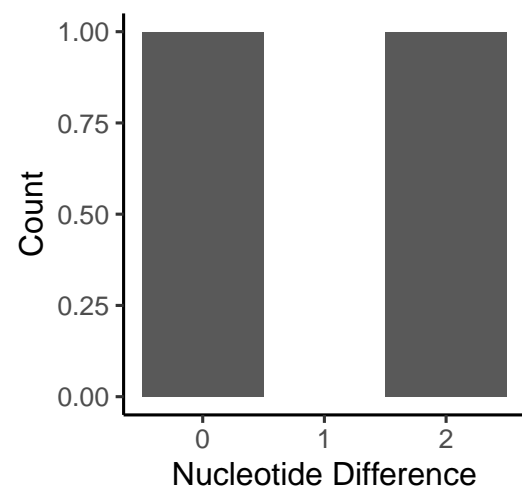
### IGHV3-64D\*06

103 sequences assigned  
92 (89.3%) exact matches, in which:  
87 unique CDR3  
5 unique J



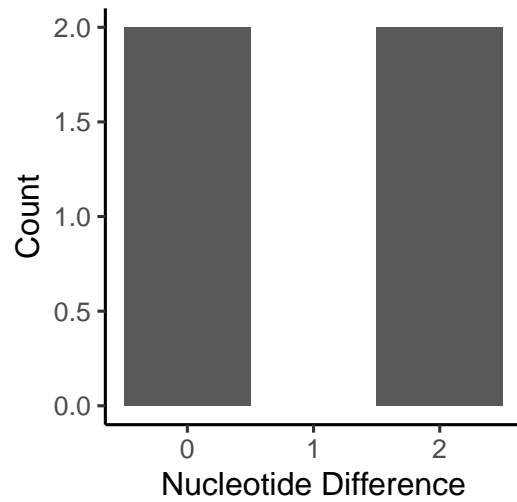
### IGHV4-28\*01\_07

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



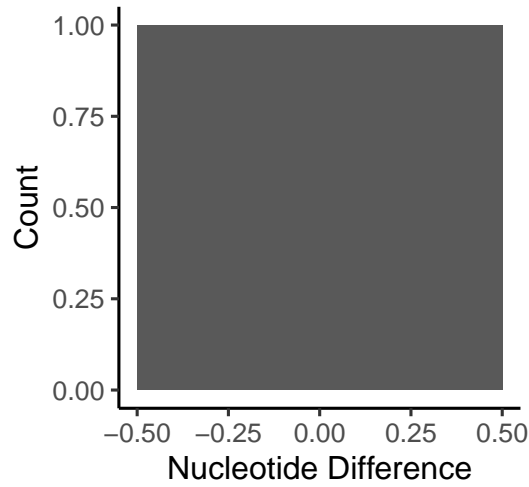
### IGHV4-28\*02\_05

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



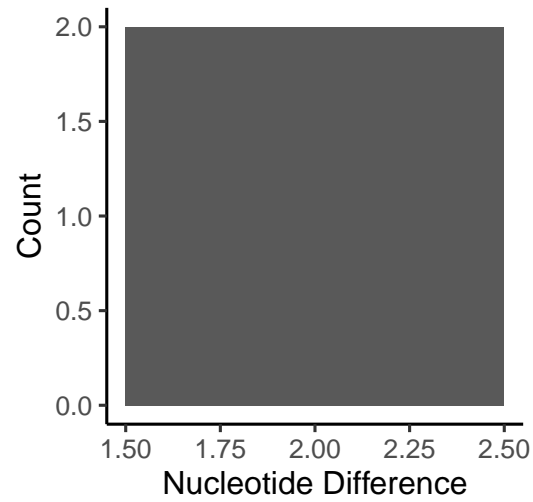
### IGHV4-38-2\*02

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



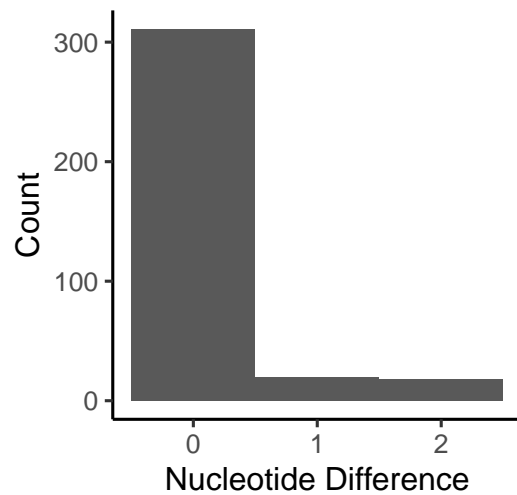
### IGHV4-59\*03

2 sequences assigned  
No exact matches.



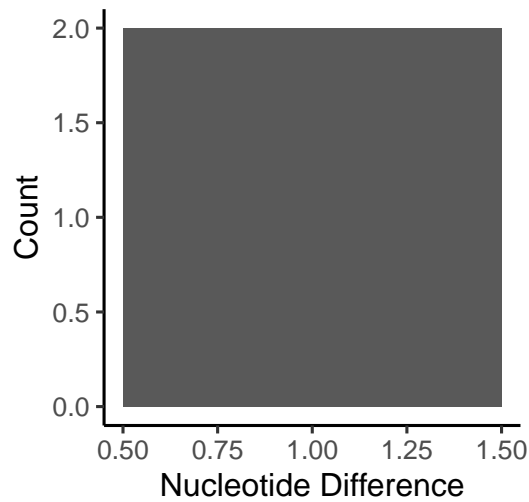
### IGHV4-31\*02

349 sequences assigned  
311 (89.1%) exact matches, in which:  
309 unique CDR3  
6 unique J



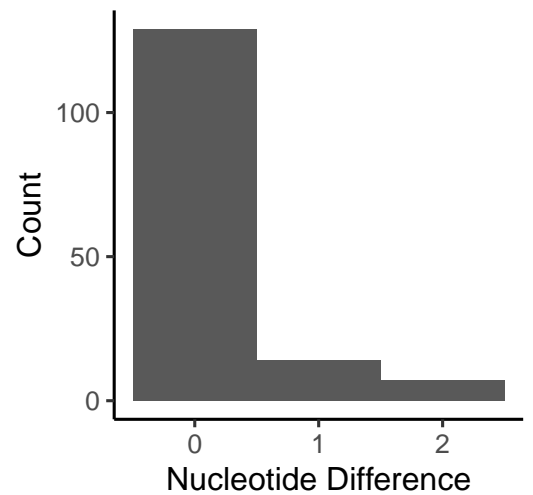
### IGHV4-39\*02

2 sequences assigned  
No exact matches.



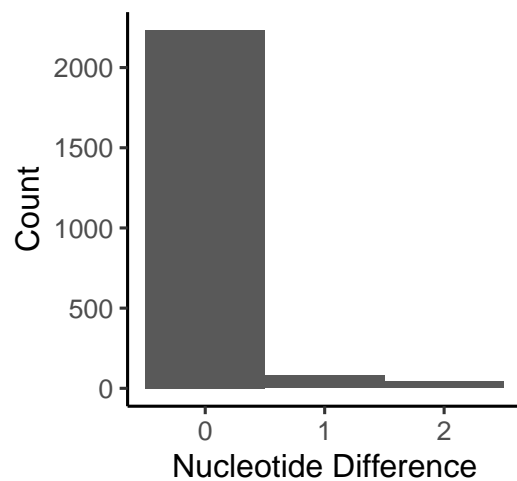
### IGHV4-61\*01

150 sequences assigned  
129 (86%) exact matches, in which:  
127 unique CDR3  
6 unique J



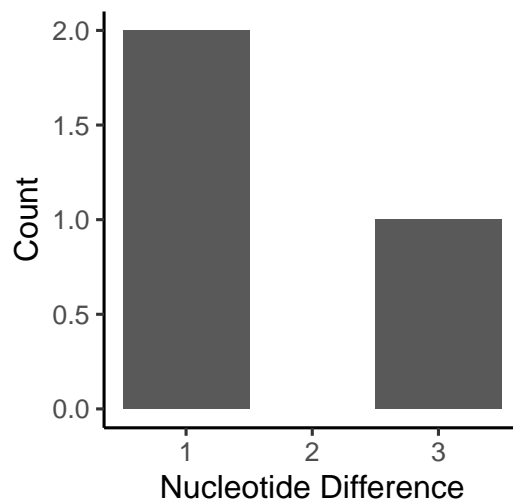
### IGHV4-34\*01\_02

2356 sequences assigned  
2234 (94.8%) exact matches, in which:  
2200 unique CDR3  
7 unique J



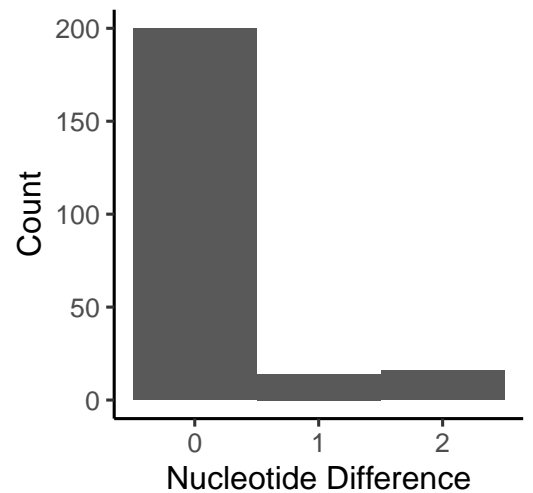
### IGHV4-59\*02

3 sequences assigned  
No exact matches.



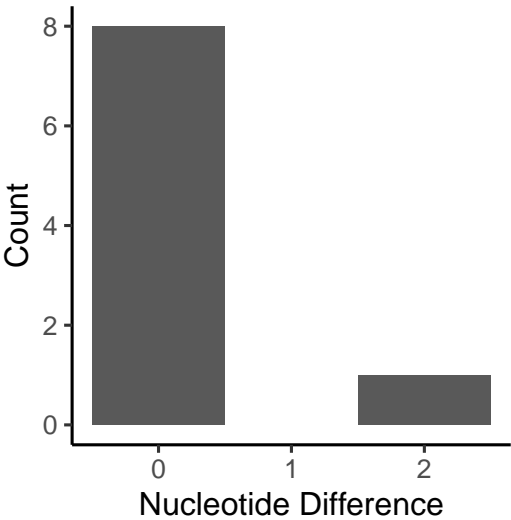
### IGHV4-61\*02

230 sequences assigned  
200 (87%) exact matches, in which:  
197 unique CDR3  
5 unique J



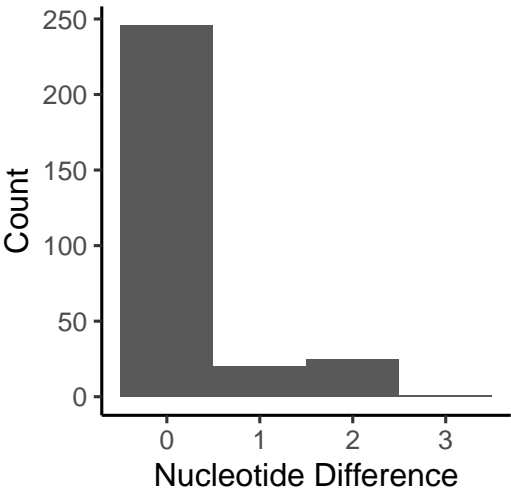
IGHV5-10-1\*01\_03

9 sequences assigned  
8 (88.9%) exact matches, in which:  
8 unique CDR3  
4 unique J



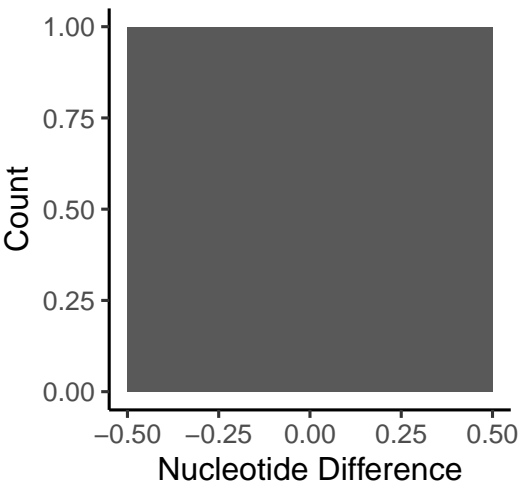
IGHV6-1\*01\_02

292 sequences assigned  
246 (84.2%) exact matches, in which:  
243 unique CDR3  
6 unique J

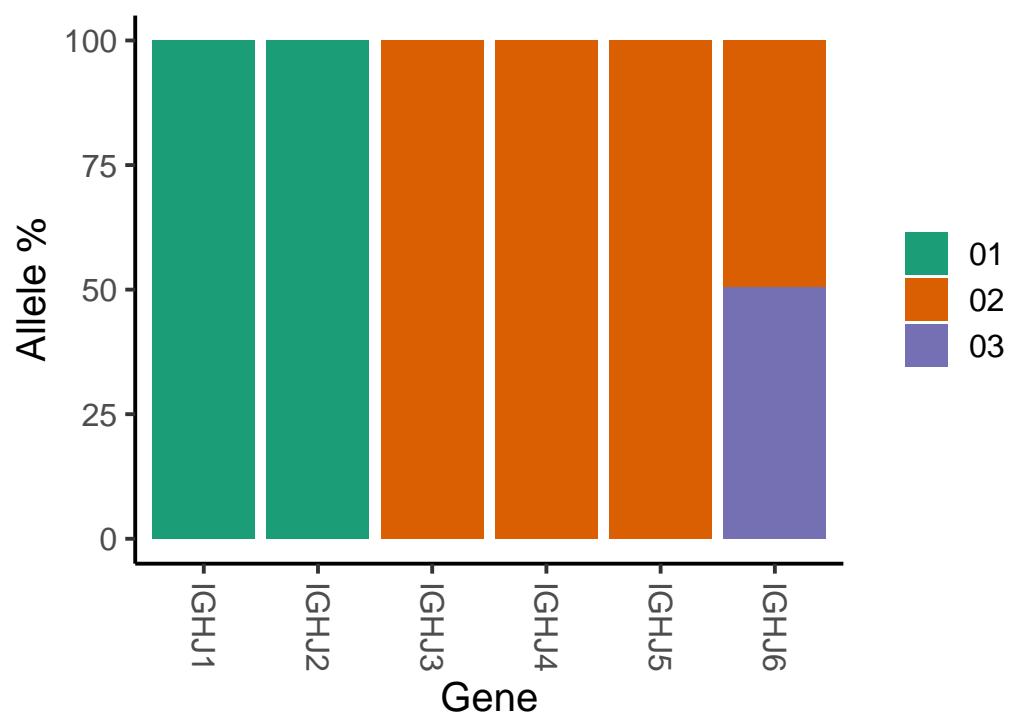


IGHV7-4-1\*01

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

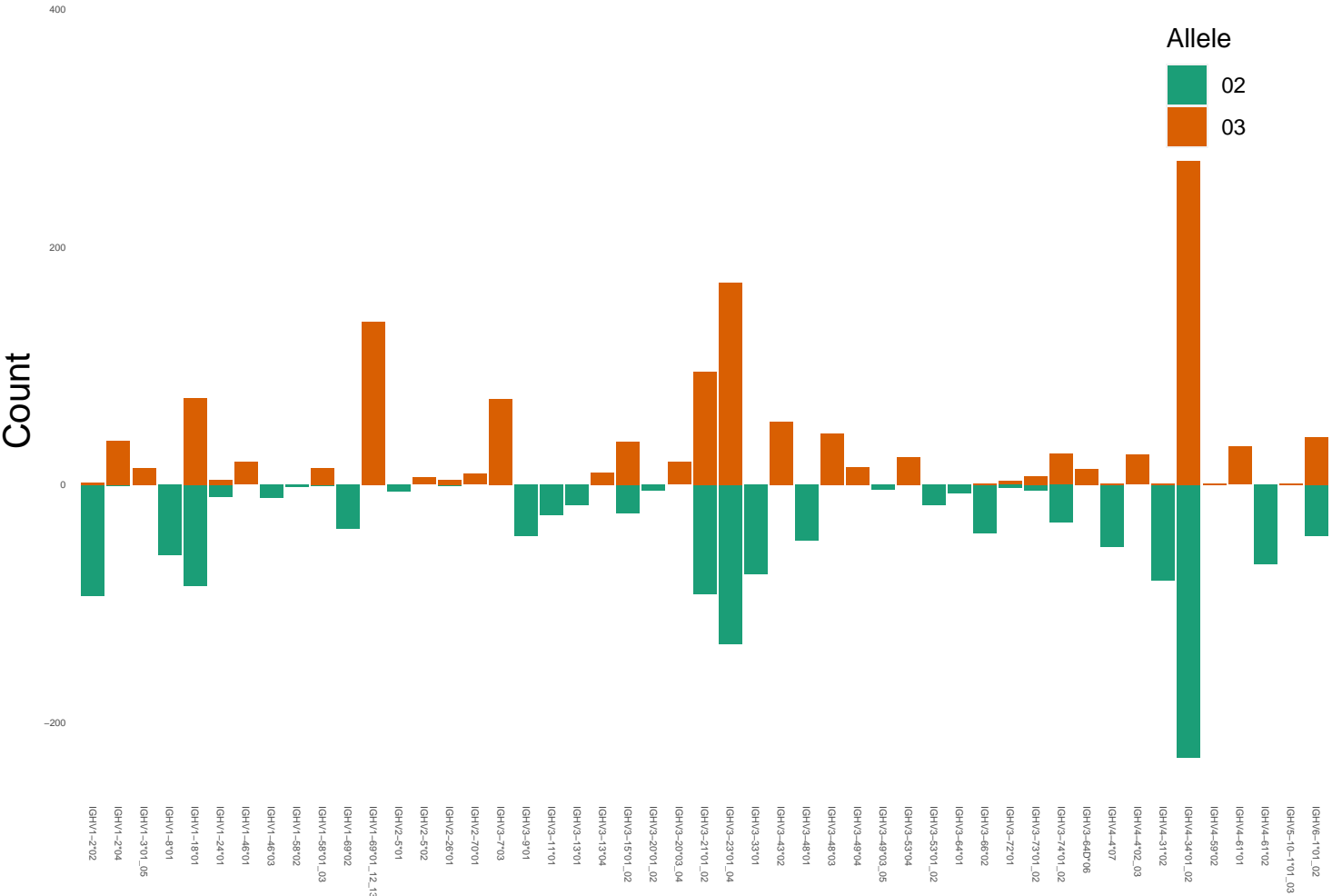


Allele Usage





Sequence Count by IGHJ6 allele usage



Warning – no inferred sequences found.