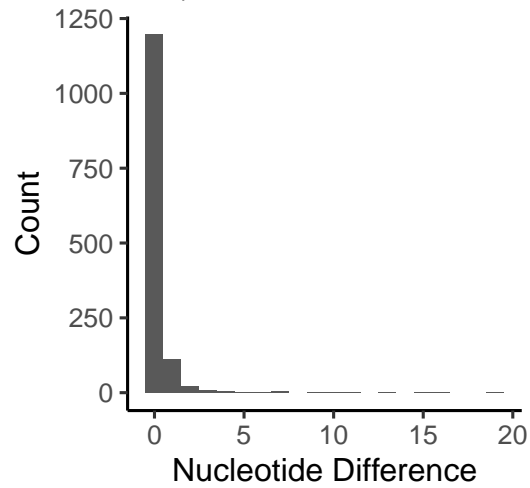


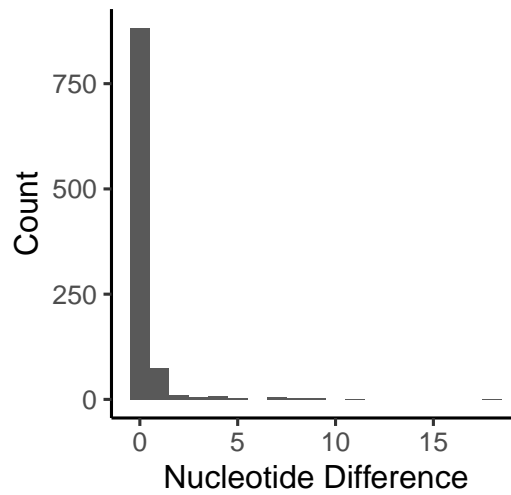
### IGHV1-2\*02

1360 sequences assigned  
1197 (88%) exact matches, in which:  
1129 unique CDR3  
7 unique J



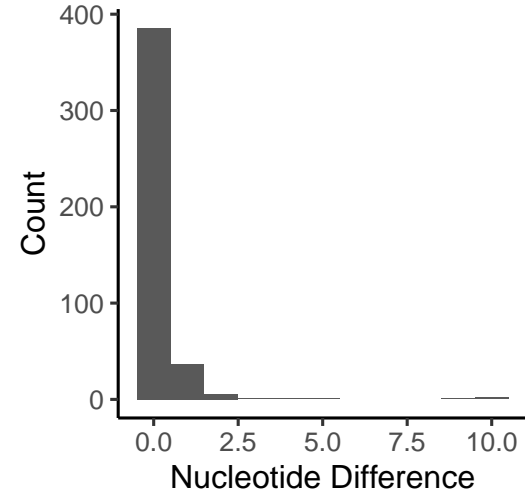
### IGHV1-18\*01

1001 sequences assigned  
883 (88.2%) exact matches, in which:  
852 unique CDR3  
7 unique J



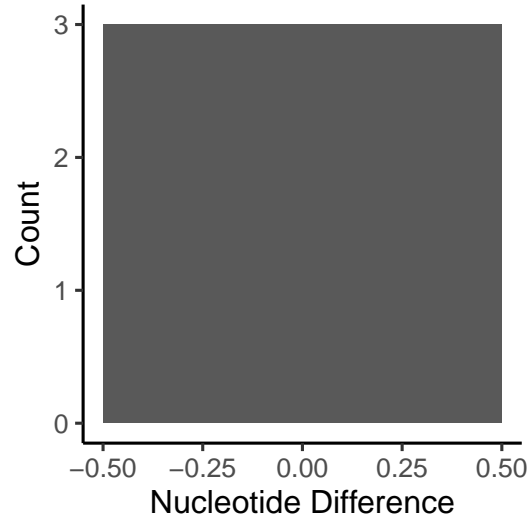
### IGHV1-46\*01

436 sequences assigned  
386 (88.5%) exact matches, in which:  
375 unique CDR3  
6 unique J



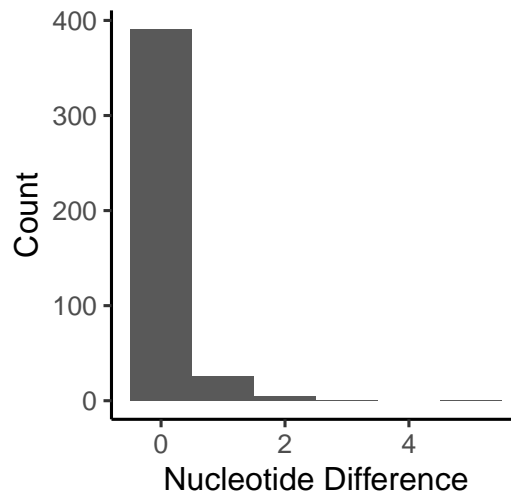
### IGHV1-3\*02

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



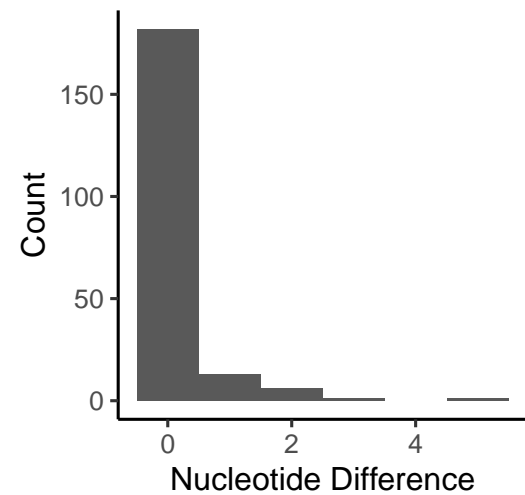
### IGHV1-24\*01

424 sequences assigned  
391 (92.2%) exact matches, in which:  
363 unique CDR3  
7 unique J



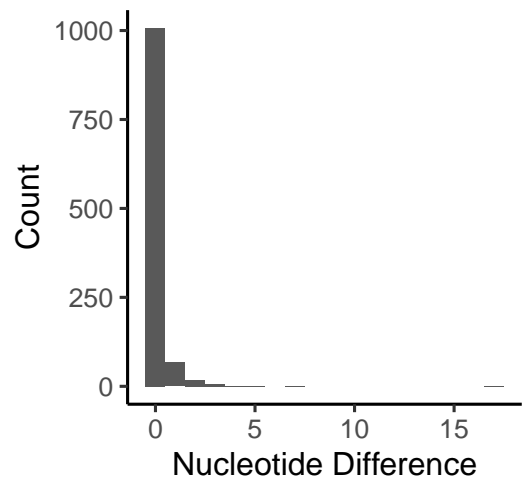
### IGHV1-46\*03

203 sequences assigned  
182 (89.7%) exact matches, in which:  
174 unique CDR3  
7 unique J



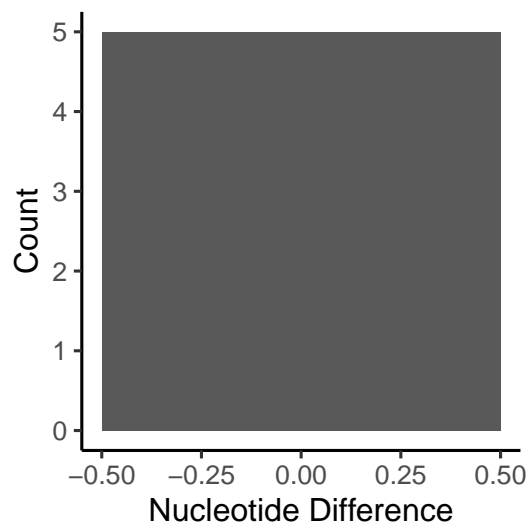
### IGHV1-8\*01

1102 sequences assigned  
1007 (91.4%) exact matches, in which:  
947 unique CDR3  
7 unique J



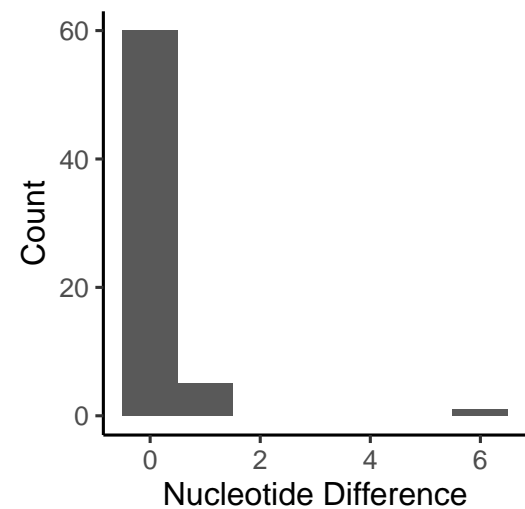
### IGHV1-45\*02

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



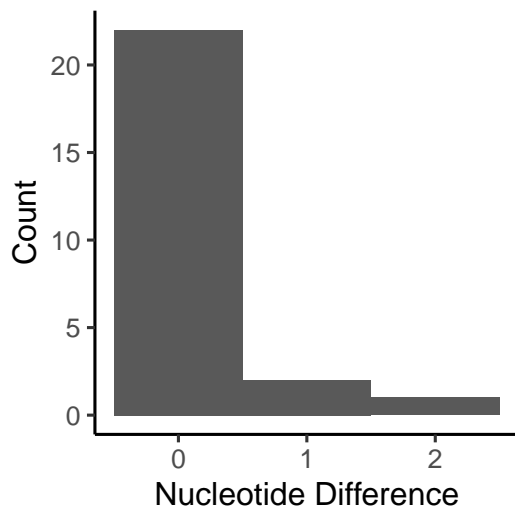
### IGHV1-58\*01

66 sequences assigned  
60 (90.9%) exact matches, in which:  
56 unique CDR3  
5 unique J



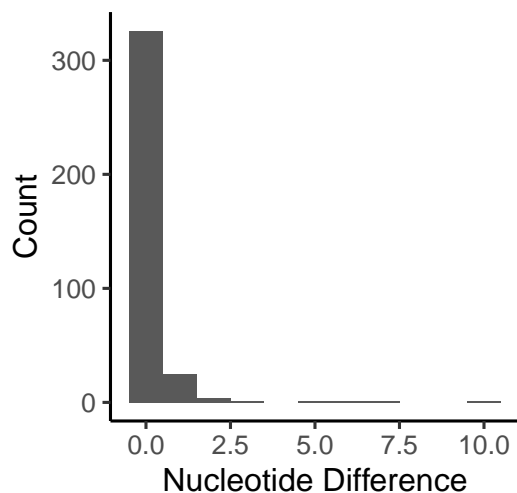
### IGHV1-58\*02

25 sequences assigned  
22 (88%) exact matches, in which:  
21 unique CDR3  
4 unique J



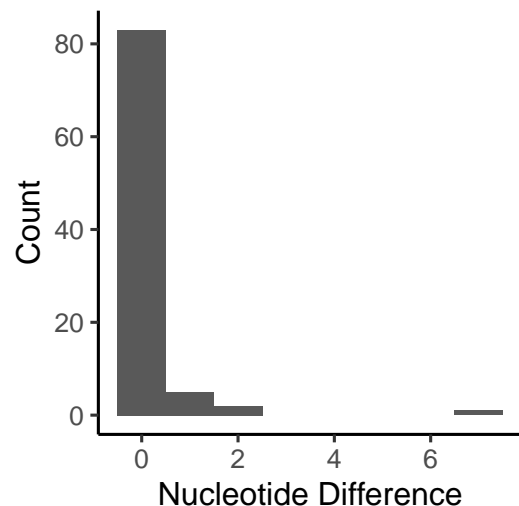
### IGHV2-5\*02

360 sequences assigned  
326 (90.6%) exact matches, in which:  
315 unique CDR3  
6 unique J



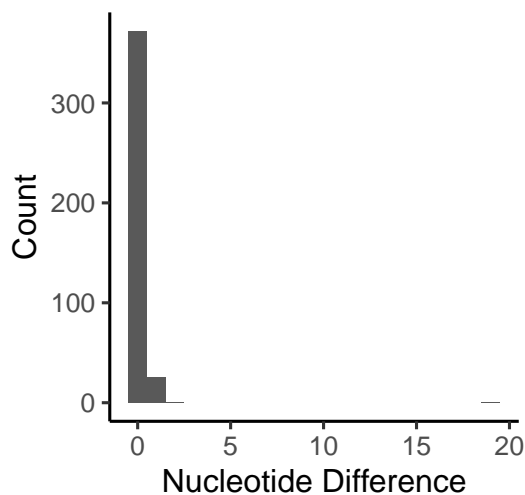
### IGHV2-70\*15

91 sequences assigned  
83 (91.2%) exact matches, in which:  
80 unique CDR3  
5 unique J



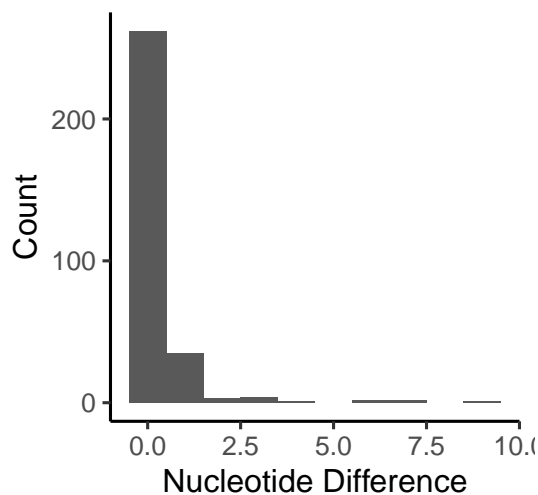
### IGHV1-69\*04

400 sequences assigned  
372 (93%) exact matches, in which:  
352 unique CDR3  
7 unique J



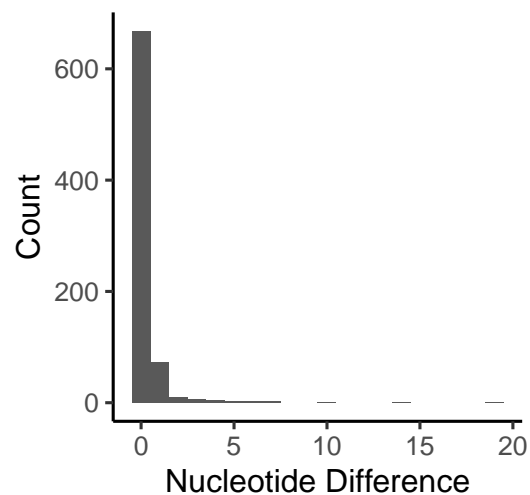
### IGHV2-26\*01

310 sequences assigned  
262 (84.5%) exact matches, in which:  
256 unique CDR3  
6 unique J



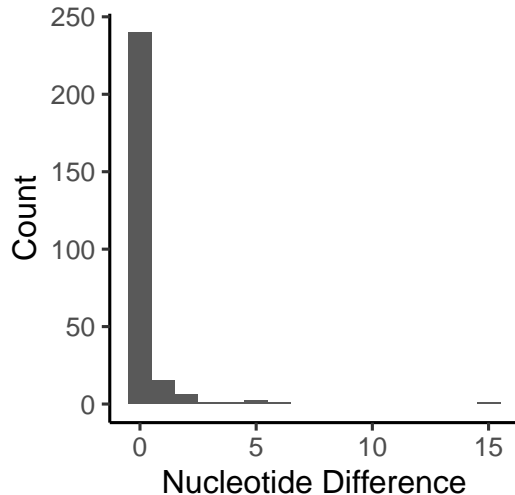
### IGHV3-7\*01

772 sequences assigned  
668 (86.5%) exact matches, in which:  
632 unique CDR3  
7 unique J



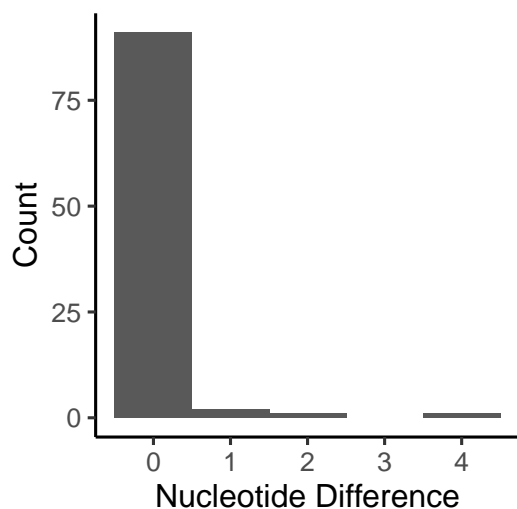
### IGHV2-5\*01

267 sequences assigned  
240 (89.9%) exact matches, in which:  
236 unique CDR3  
6 unique J



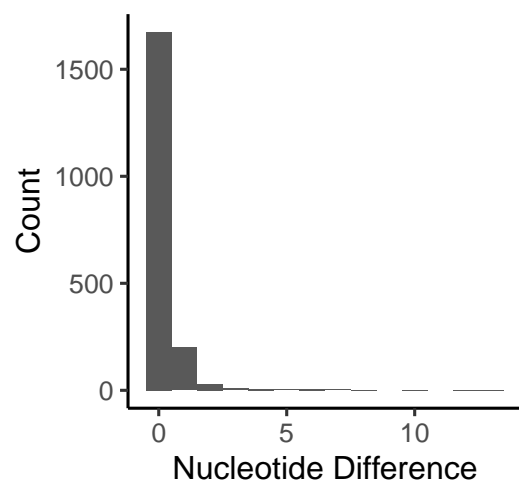
### IGHV2-70\*01

95 sequences assigned  
91 (95.8%) exact matches, in which:  
90 unique CDR3  
4 unique J



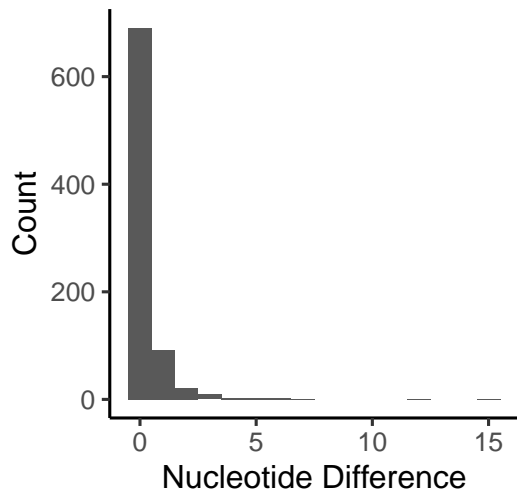
### IGHV3-9\*01

1932 sequences assigned  
1674 (86.6%) exact matches, in which:  
1539 unique CDR3  
7 unique J



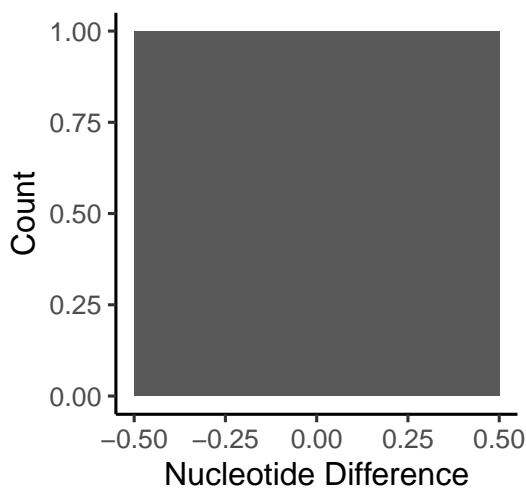
### IGHV3-11\*01

824 sequences assigned  
691 (83.9%) exact matches, in which:  
656 unique CDR3  
7 unique J



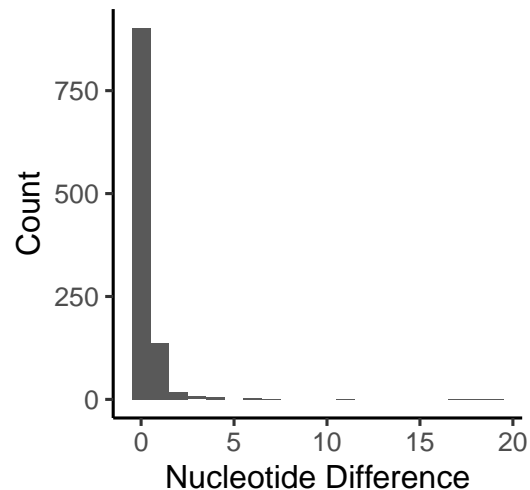
### IGHV3-19\*01

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



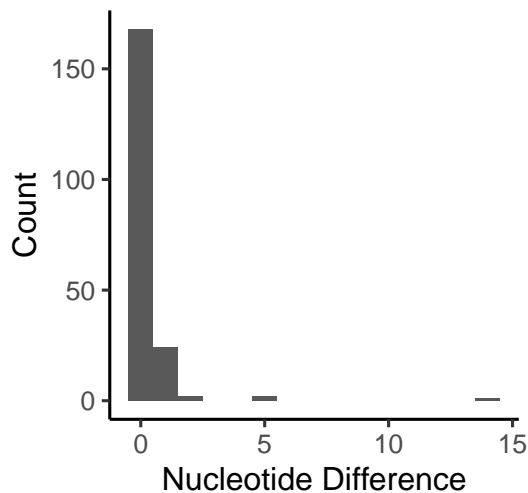
### IGHV3-30-3\*01

1079 sequences assigned  
903 (83.7%) exact matches, in which:  
844 unique CDR3  
7 unique J



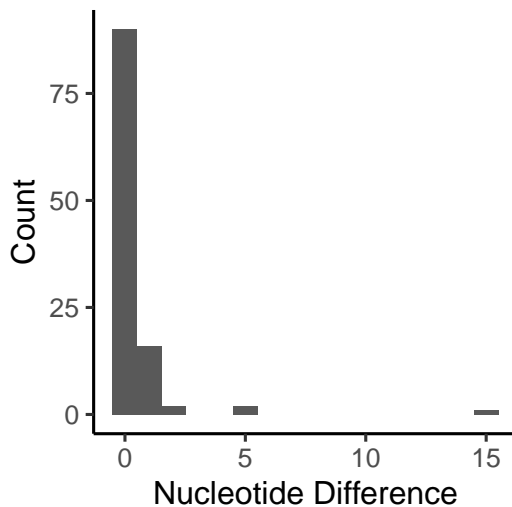
### IGHV3-13\*01

197 sequences assigned  
168 (85.3%) exact matches, in which:  
155 unique CDR3  
6 unique J



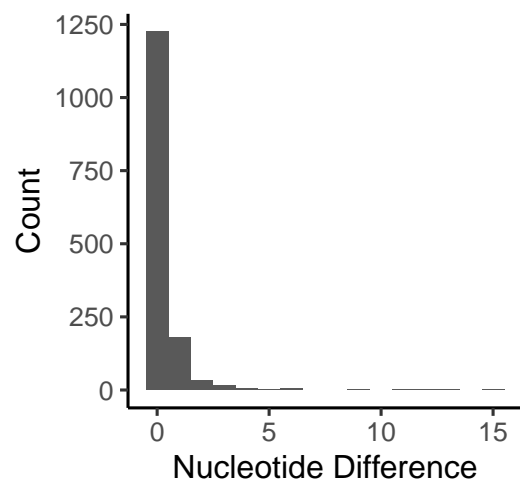
### IGHV3-20\*01

111 sequences assigned  
90 (81.1%) exact matches, in which:  
85 unique CDR3  
6 unique J



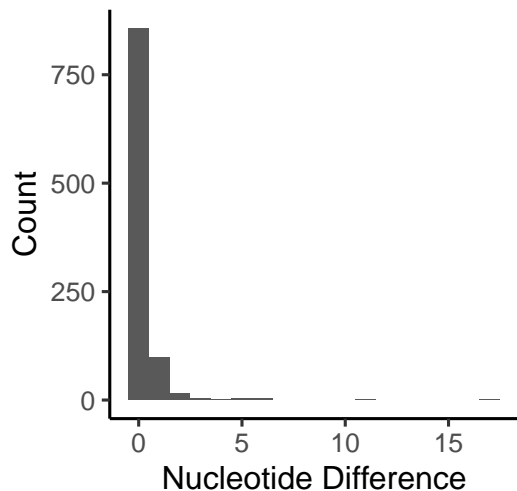
### IGHV3-33\*01

1474 sequences assigned  
1225 (83.1%) exact matches, in which:  
1148 unique CDR3  
7 unique J



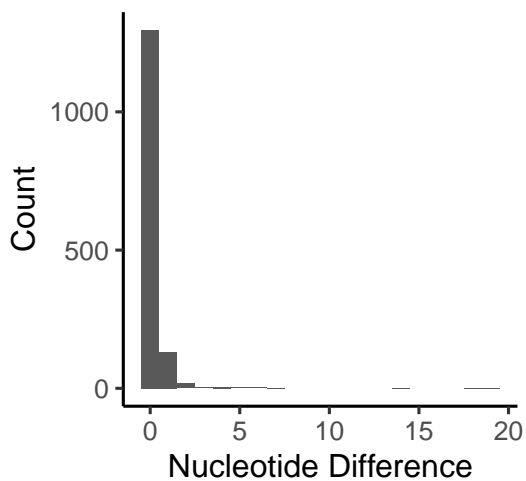
### IGHV3-15\*01

987 sequences assigned  
857 (86.8%) exact matches, in which:  
817 unique CDR3  
7 unique J



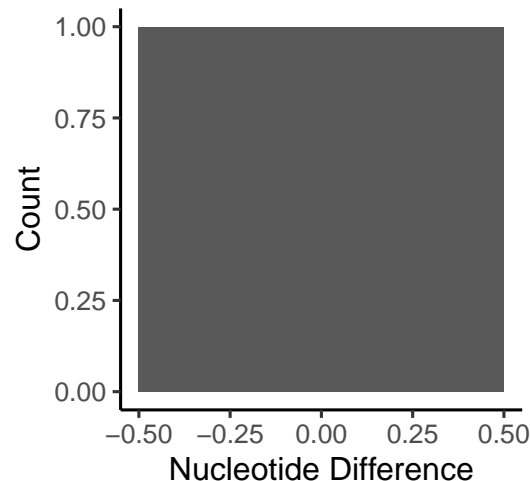
### IGHV3-21\*01

1464 sequences assigned  
1296 (88.5%) exact matches, in which:  
1185 unique CDR3  
7 unique J



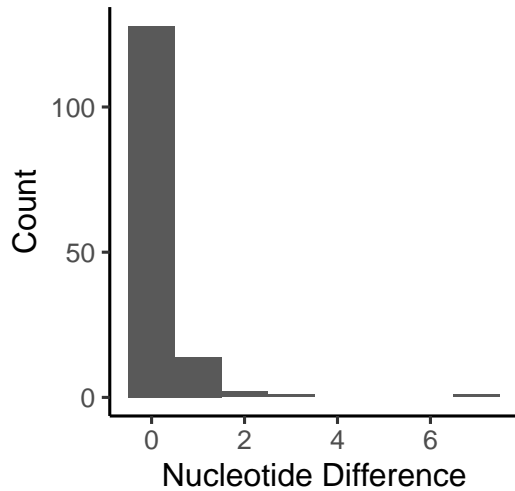
### IGHV3-35\*01

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



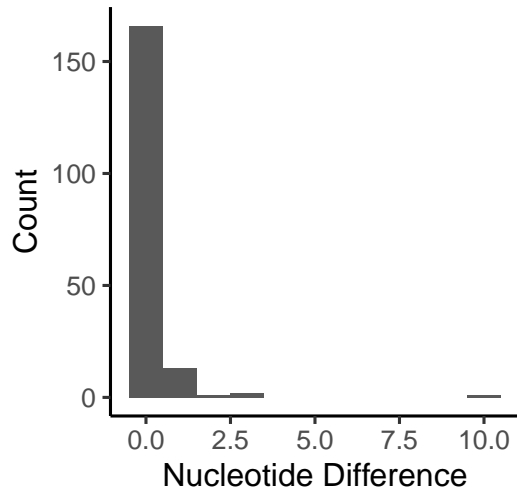
### IGHV3-43\*01

146 sequences assigned  
128 (87.7%) exact matches, in which:  
120 unique CDR3  
7 unique J



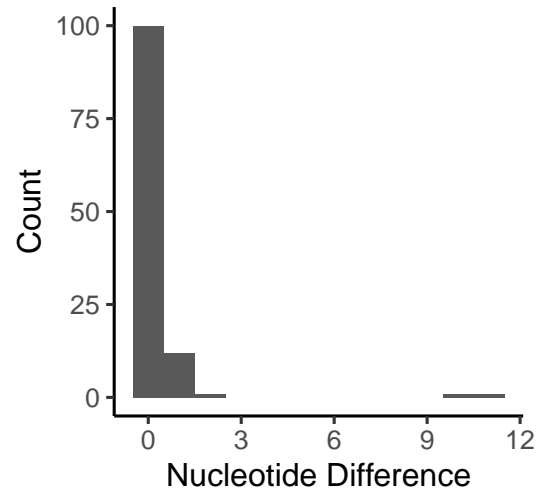
### IGHV3-49\*03

183 sequences assigned  
166 (90.7%) exact matches, in which:  
154 unique CDR3  
5 unique J



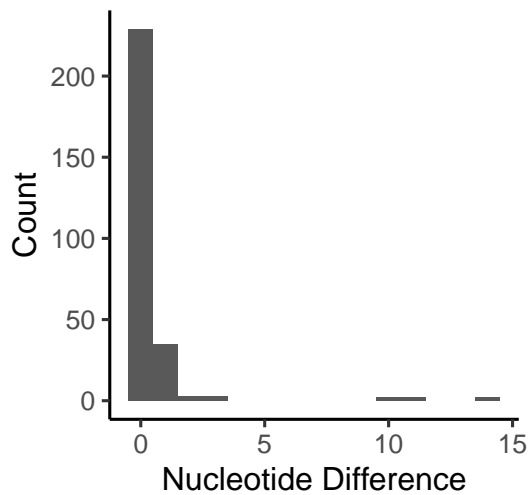
### IGHV3-53\*02

115 sequences assigned  
100 (87%) exact matches, in which:  
95 unique CDR3  
6 unique J



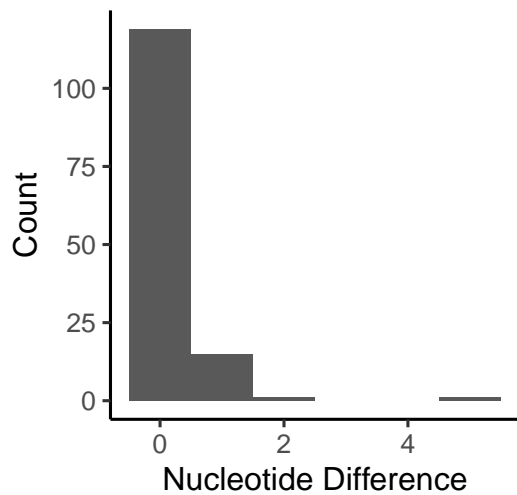
### IGHV3-48\*01

276 sequences assigned  
229 (83%) exact matches, in which:  
218 unique CDR3  
6 unique J



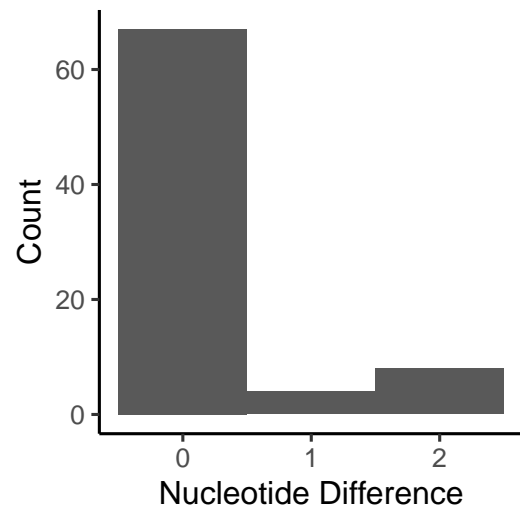
### IGHV3-49\*05

136 sequences assigned  
119 (87.5%) exact matches, in which:  
115 unique CDR3  
6 unique J



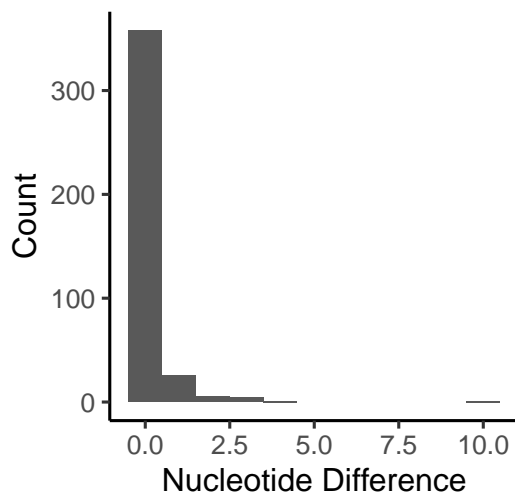
### IGHV3-64\*01

79 sequences assigned  
67 (84.8%) exact matches, in which:  
62 unique CDR3  
6 unique J



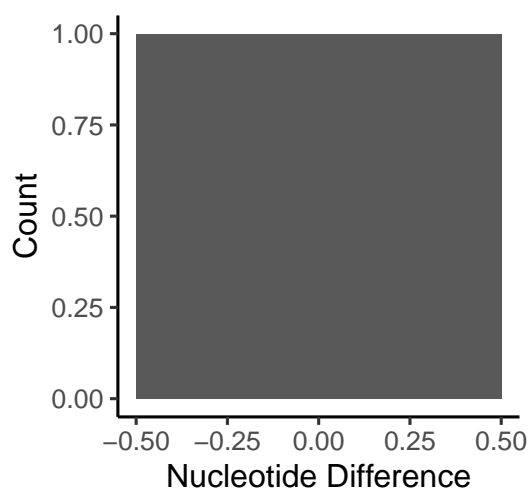
### IGHV3-48\*02

395 sequences assigned  
358 (90.6%) exact matches, in which:  
318 unique CDR3  
6 unique J



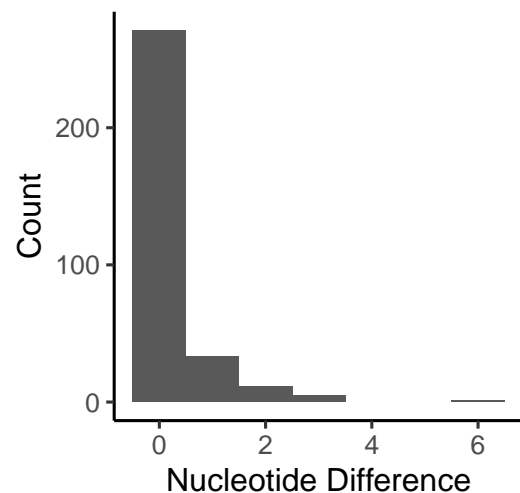
### IGHV3-52\*01

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



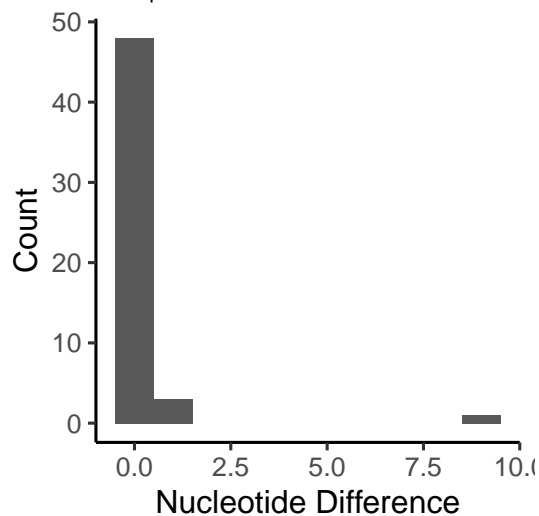
### IGHV3-66\*01

321 sequences assigned  
271 (84.4%) exact matches, in which:  
258 unique CDR3  
7 unique J



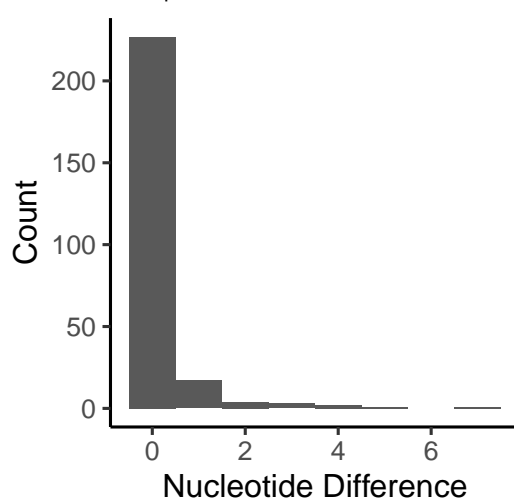
### IGHV3-72\*01

52 sequences assigned  
48 (92.3%) exact matches, in which:  
44 unique CDR3  
5 unique J



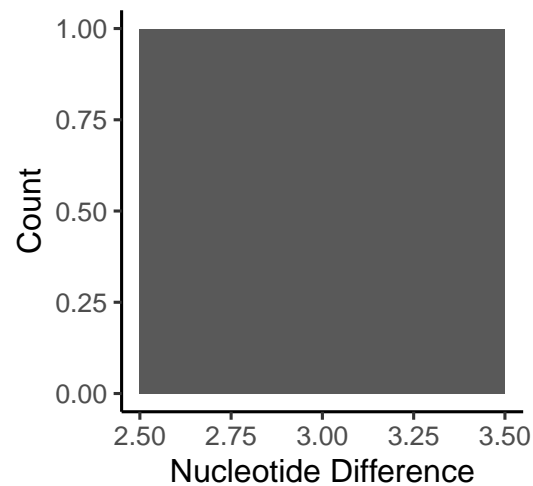
### IGHV3-74\*01

255 sequences assigned  
227 (89%) exact matches, in which:  
217 unique CDR3  
6 unique J



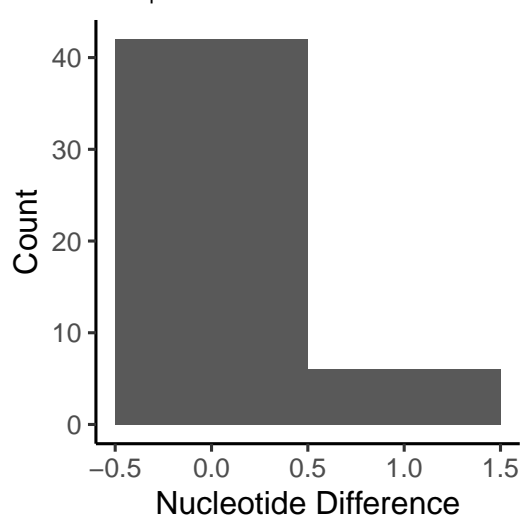
### IGHV4-28\*03

1 sequences assigned  
No exact matches.



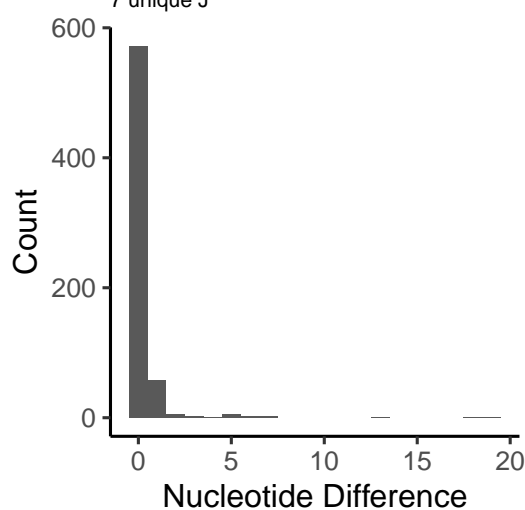
### IGHV3-73\*01

48 sequences assigned  
42 (87.5%) exact matches, in which:  
40 unique CDR3  
5 unique J



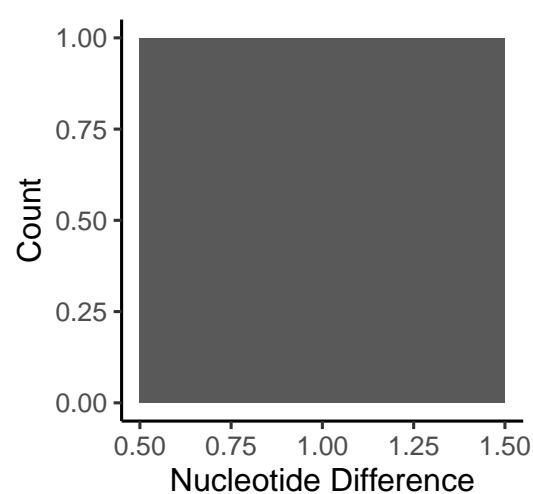
### IGHV4-4\*07

654 sequences assigned  
572 (87.5%) exact matches, in which:  
543 unique CDR3  
7 unique J



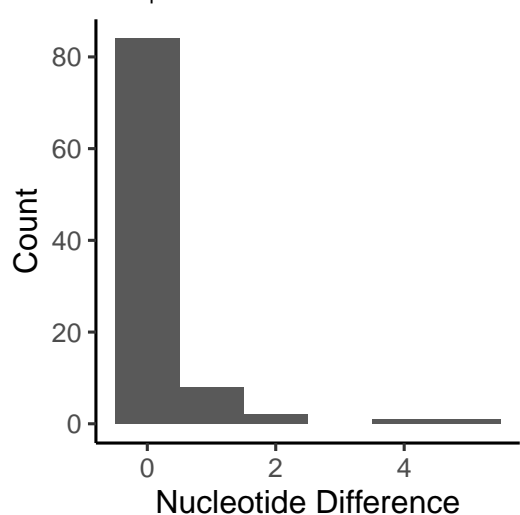
### IGHV4-28\*04

1 sequences assigned  
No exact matches.



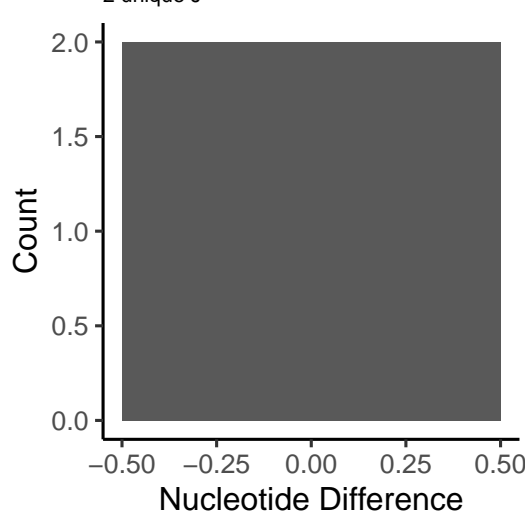
### IGHV3-73\*02

96 sequences assigned  
84 (87.5%) exact matches, in which:  
80 unique CDR3  
6 unique J



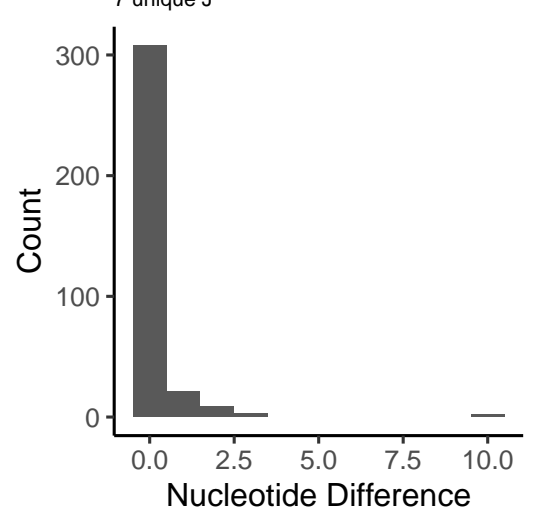
### IGHV4-28\*01

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



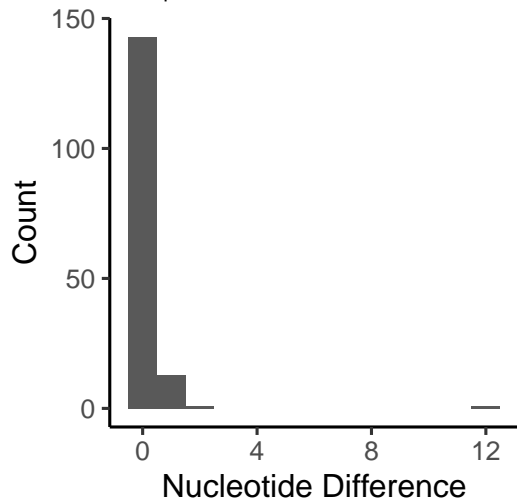
### IGHV4-30-4\*01

343 sequences assigned  
308 (89.8%) exact matches, in which:  
299 unique CDR3  
7 unique J



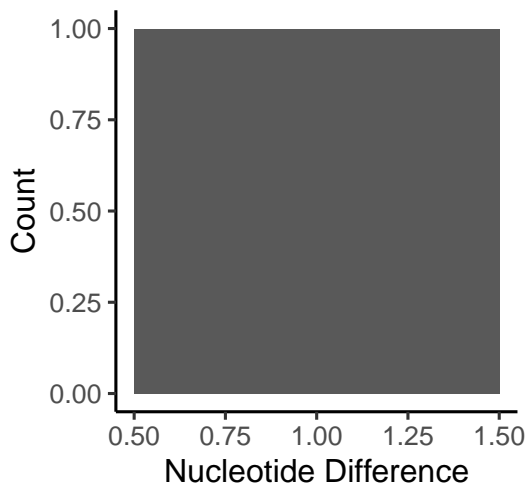
### IGHV4-30-2\*01

158 sequences assigned  
143 (90.5%) exact matches, in which:  
134 unique CDR3  
6 unique J



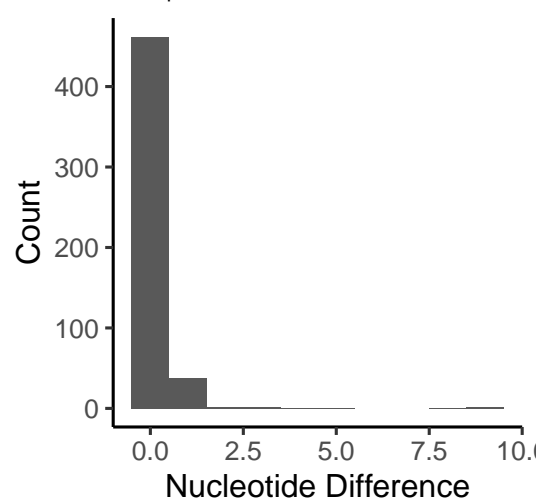
### IGHV4-38-2\*02

1 sequences assigned  
No exact matches.



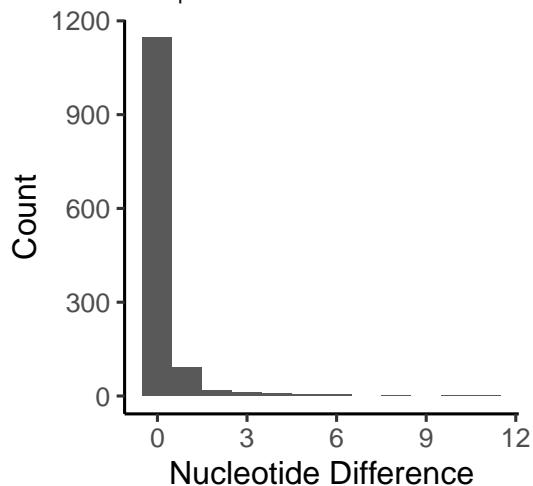
### IGHV4-59\*08

509 sequences assigned  
462 (90.8%) exact matches, in which:  
444 unique CDR3  
7 unique J



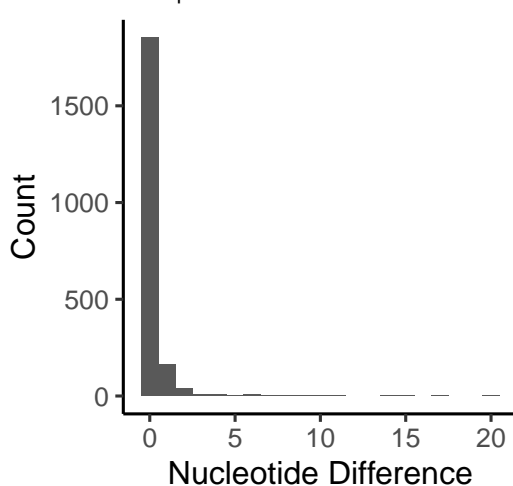
### IGHV4-31\*03

1287 sequences assigned  
1146 (89%) exact matches, in which:  
1085 unique CDR3  
7 unique J



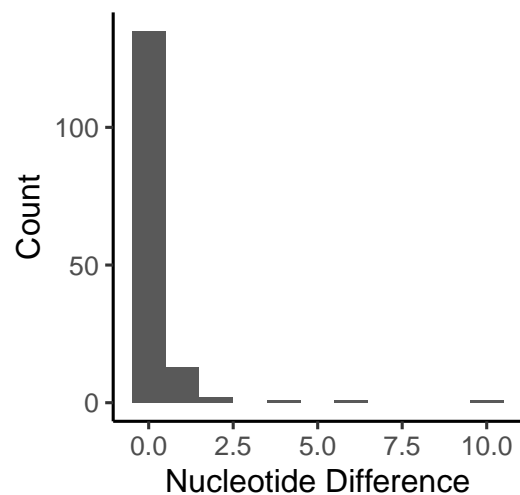
### IGHV4-39\*01

2101 sequences assigned  
1852 (88.1%) exact matches, in which:  
1723 unique CDR3  
7 unique J



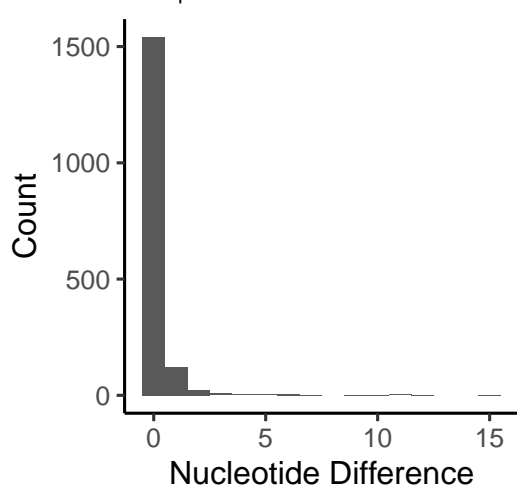
### IGHV4-61\*01

153 sequences assigned  
135 (88.2%) exact matches, in which:  
131 unique CDR3  
6 unique J



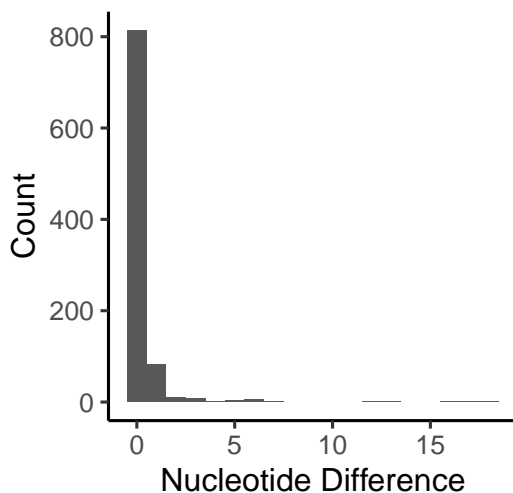
### IGHV4-34\*01

1719 sequences assigned  
1541 (89.6%) exact matches, in which:  
1427 unique CDR3  
7 unique J



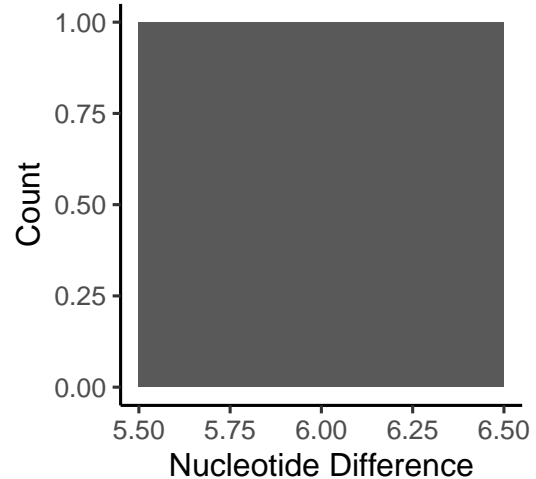
### IGHV4-59\*01

930 sequences assigned  
814 (87.5%) exact matches, in which:  
782 unique CDR3  
7 unique J



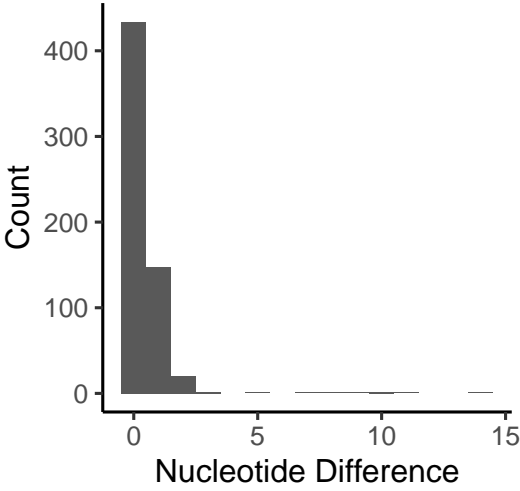
### IGHV1/OR15-2\*01

1 sequences assigned  
No exact matches.



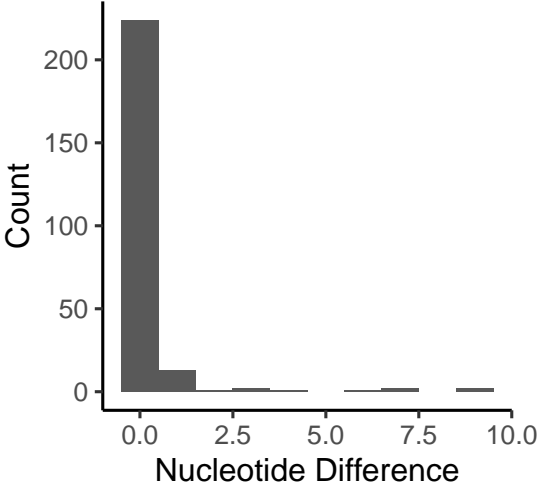
### IGHV5–51\*01

612 sequences assigned  
434 (70.9%) exact matches, in which:  
405 unique CDR3  
7 unique J



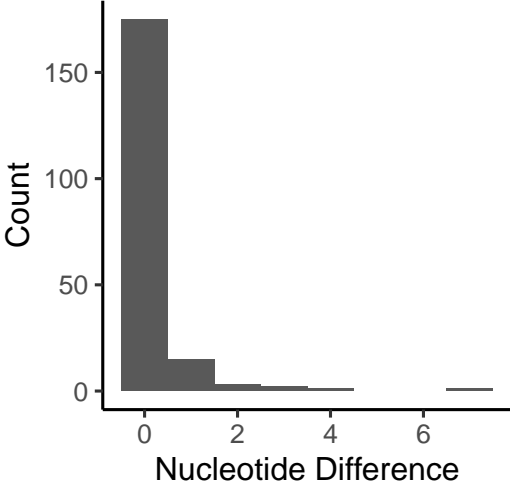
### IGHV5–51\*03

247 sequences assigned  
224 (90.7%) exact matches, in which:  
211 unique CDR3  
6 unique J

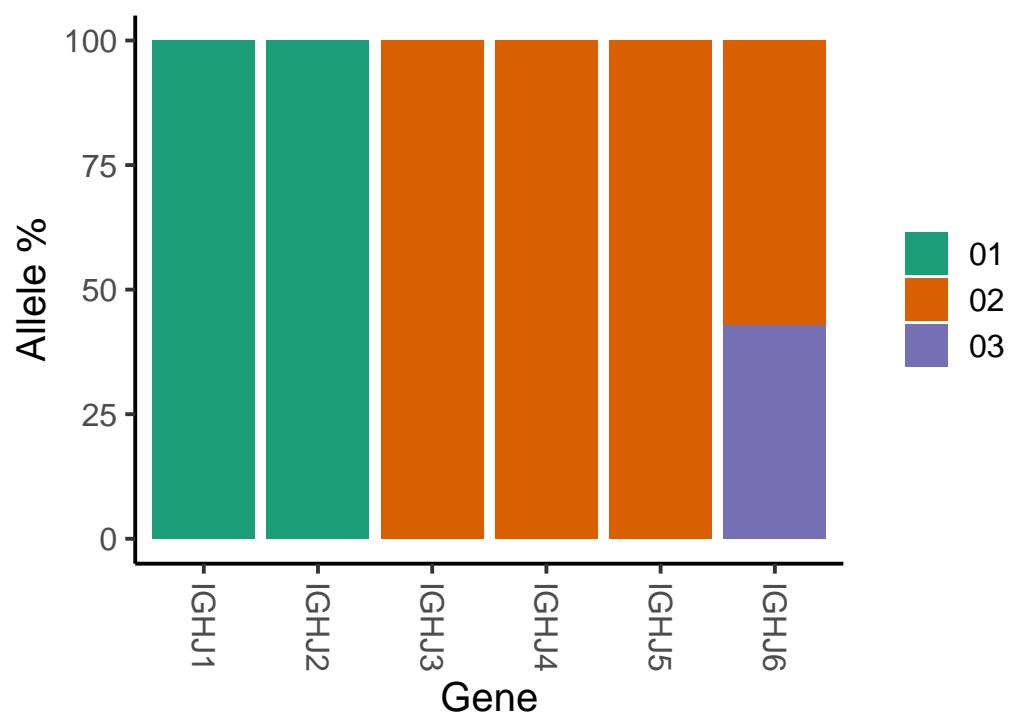


### IGHV6–1\*01

197 sequences assigned  
175 (88.8%) exact matches, in which:  
164 unique CDR3  
7 unique J

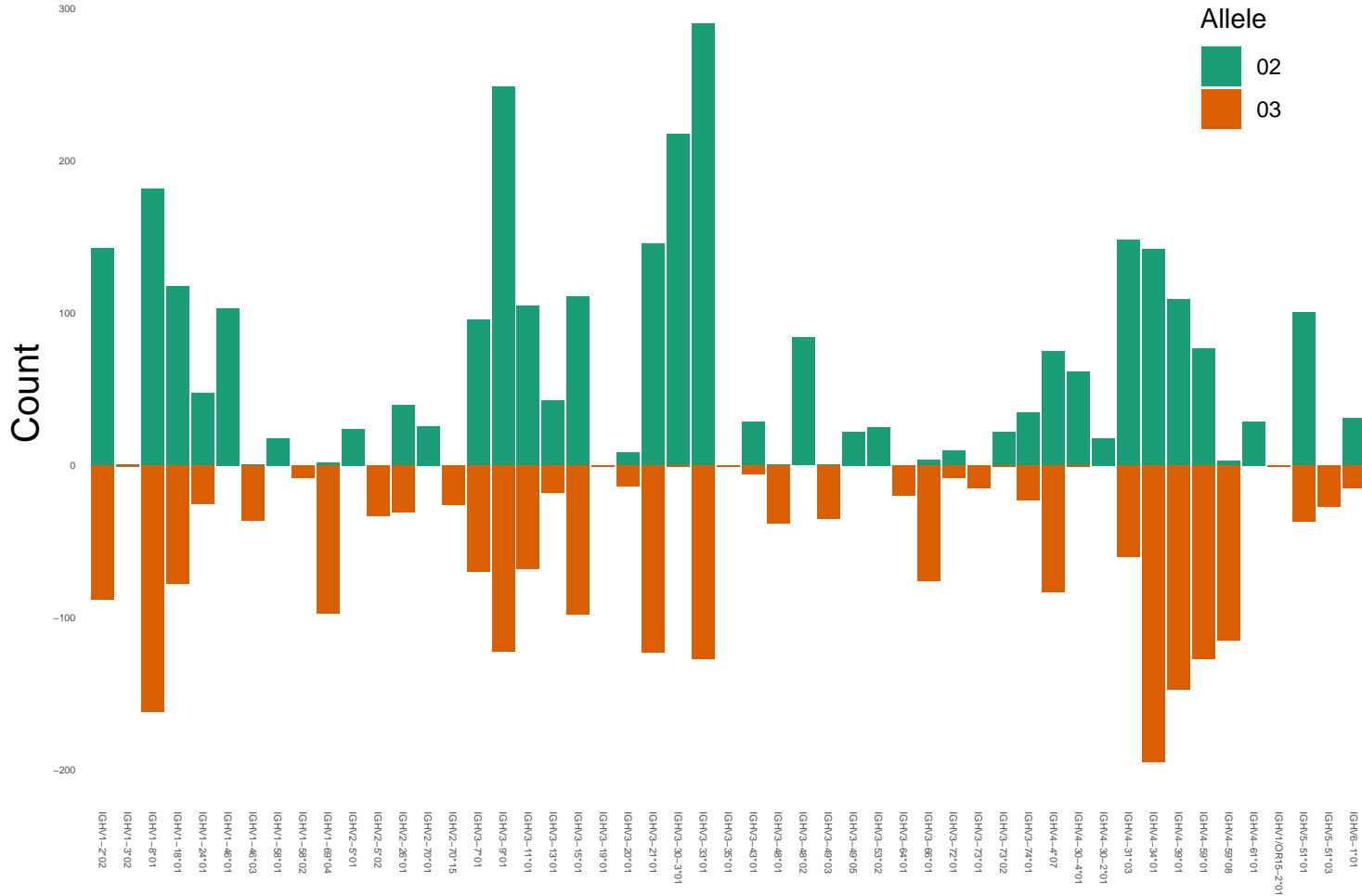


Allele Usage





Sequence Count by IGHJ6 allele usage



Warning – no inferred sequences found.

Warning – no inferred sequences found.

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