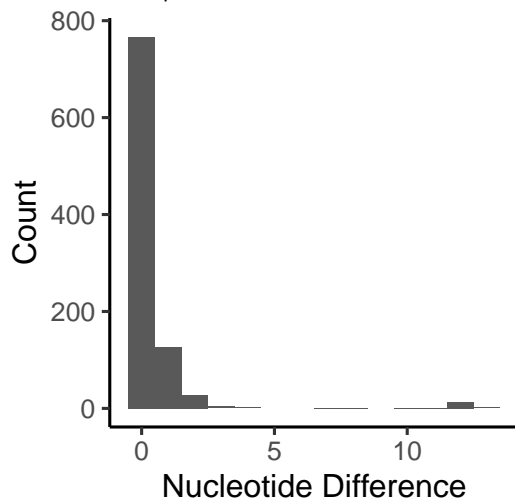


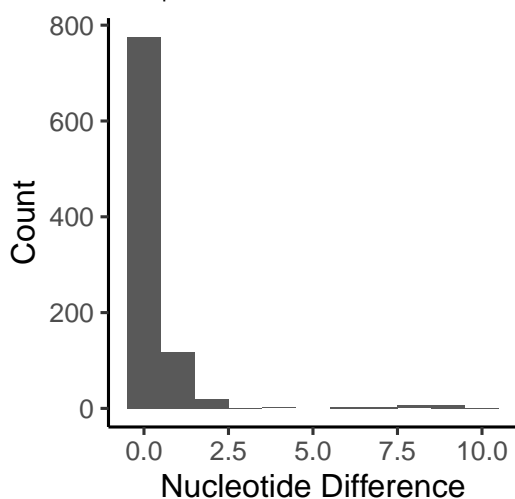
### IGHV1-2\*02

947 sequences assigned  
767 (81%) exact matches, in which:  
719 unique CDR3  
6 unique J



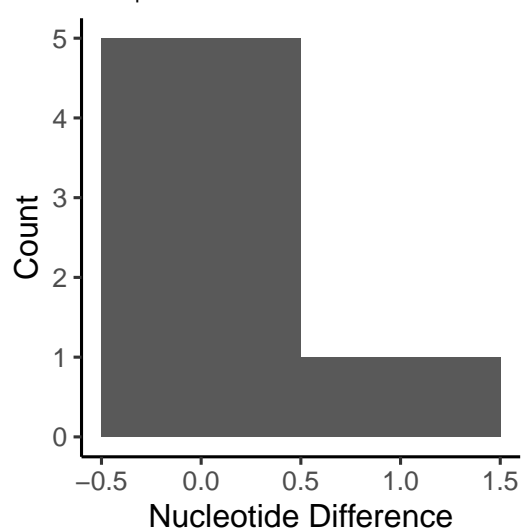
### IGHV1-8\*01

936 sequences assigned  
776 (82.9%) exact matches, in which:  
732 unique CDR3  
6 unique J



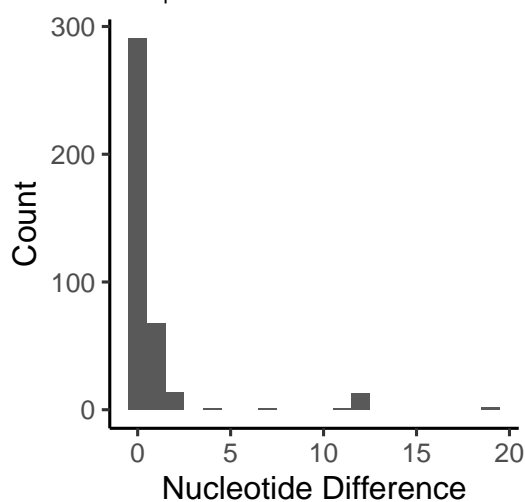
### IGHV1-38-4\*01

6 sequences assigned  
5 (83.3%) exact matches, in which:  
5 unique CDR3  
2 unique J



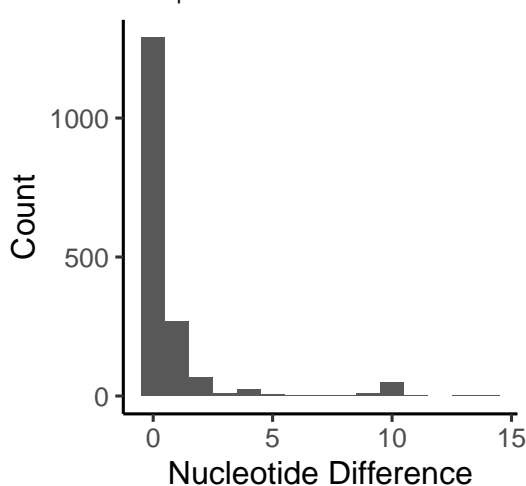
### IGHV1-2\*04

391 sequences assigned  
291 (74.4%) exact matches, in which:  
272 unique CDR3  
6 unique J



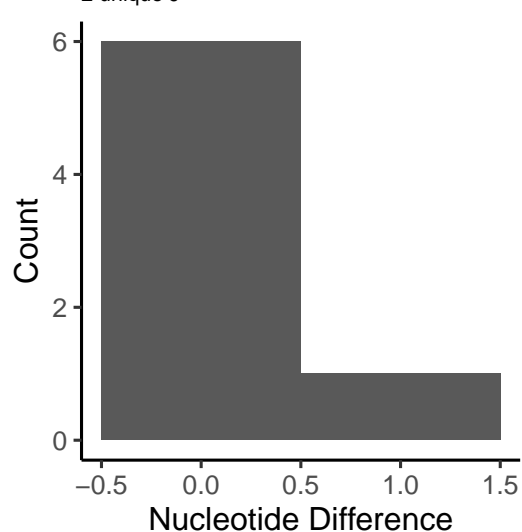
### IGHV1-18\*01

1733 sequences assigned  
1289 (74.4%) exact matches, in which:  
1188 unique CDR3  
6 unique J



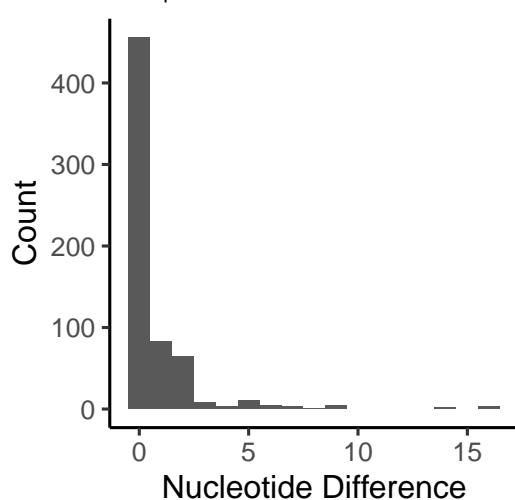
### IGHV1-45\*02

7 sequences assigned  
6 (85.7%) exact matches, in which:  
6 unique CDR3  
2 unique J



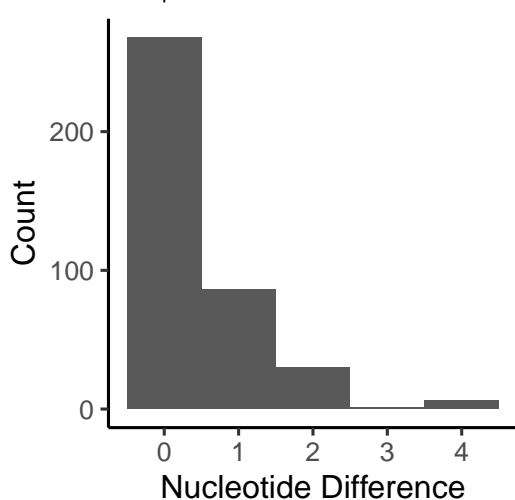
### IGHV1-3\*01

641 sequences assigned  
456 (71.1%) exact matches, in which:  
419 unique CDR3  
6 unique J



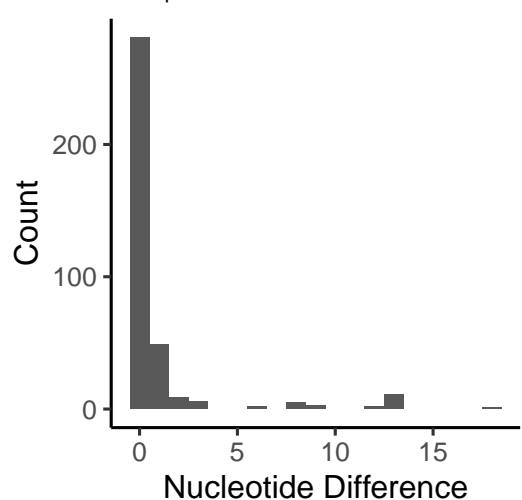
### IGHV1-24\*01

394 sequences assigned  
268 (68%) exact matches, in which:  
248 unique CDR3  
6 unique J



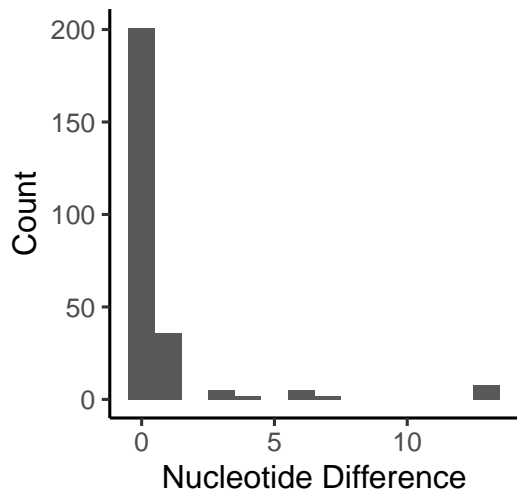
### IGHV1-46\*01

369 sequences assigned  
281 (76.2%) exact matches, in which:  
260 unique CDR3  
6 unique J



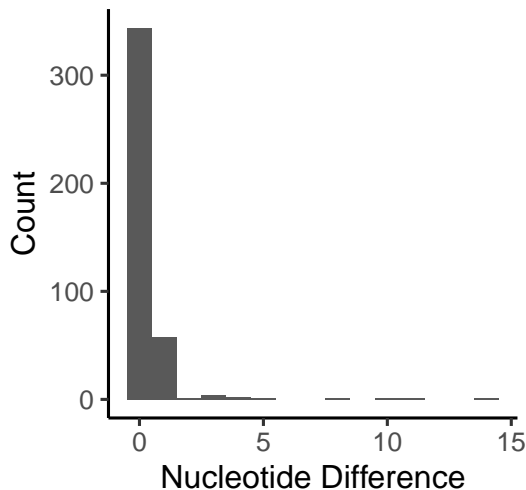
### IGHV1-46\*03

259 sequences assigned  
201 (77.6%) exact matches, in which:  
186 unique CDR3  
6 unique J



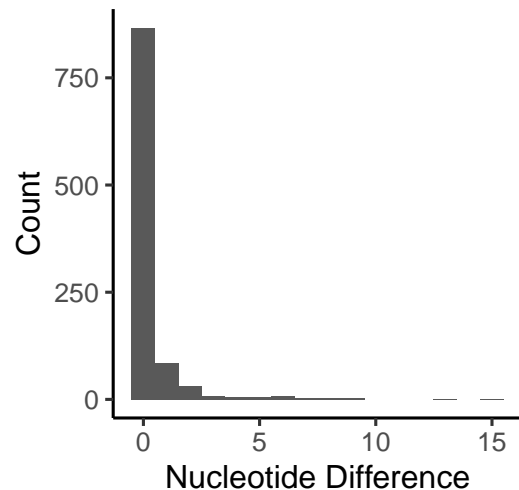
### IGHV2-5\*02

414 sequences assigned  
344 (83.1%) exact matches, in which:  
327 unique CDR3  
6 unique J



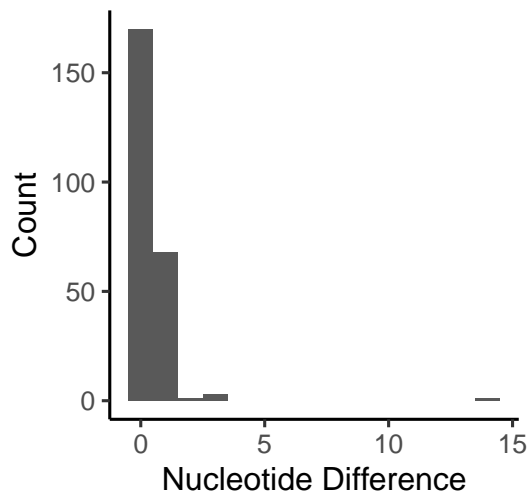
### IGHV3-7\*01

1020 sequences assigned  
867 (85%) exact matches, in which:  
821 unique CDR3  
6 unique J



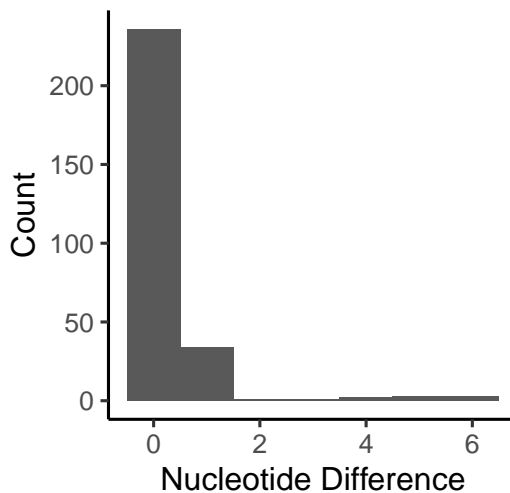
### IGHV1-58\*01

243 sequences assigned  
170 (70%) exact matches, in which:  
136 unique CDR3  
6 unique J



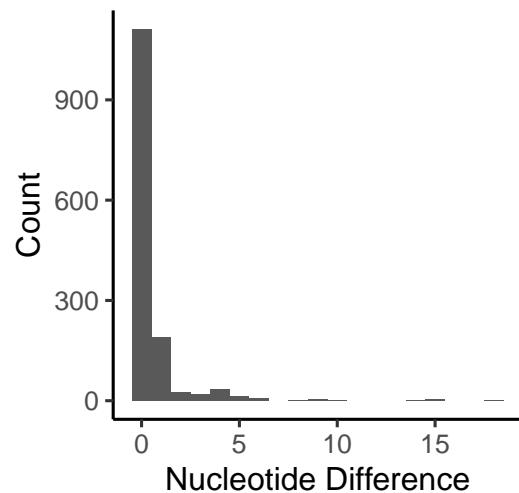
### IGHV2-26\*01

280 sequences assigned  
236 (84.3%) exact matches, in which:  
223 unique CDR3  
5 unique J



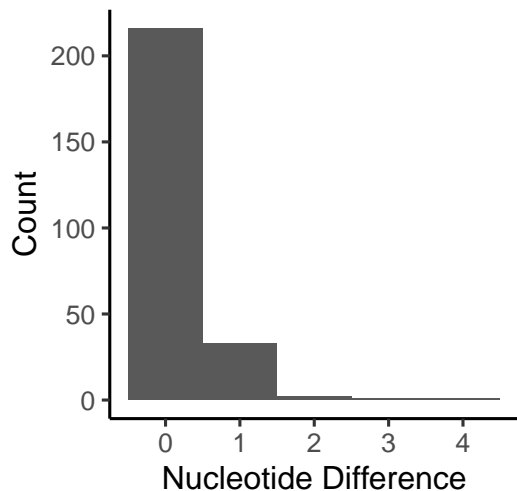
### IGHV3-9\*01

1415 sequences assigned  
1112 (78.6%) exact matches, in which:  
1047 unique CDR3  
6 unique J



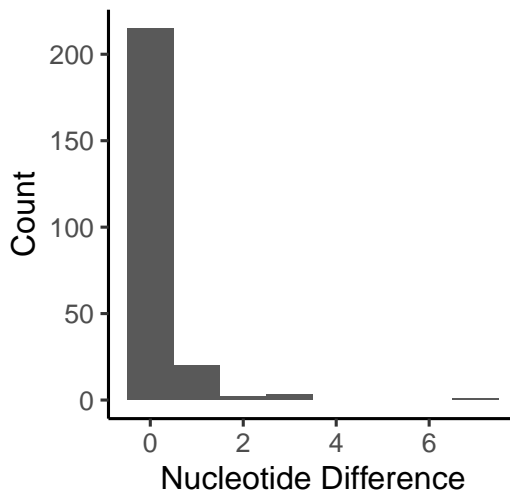
### IGHV2-5\*01

253 sequences assigned  
216 (85.4%) exact matches, in which:  
203 unique CDR3  
6 unique J



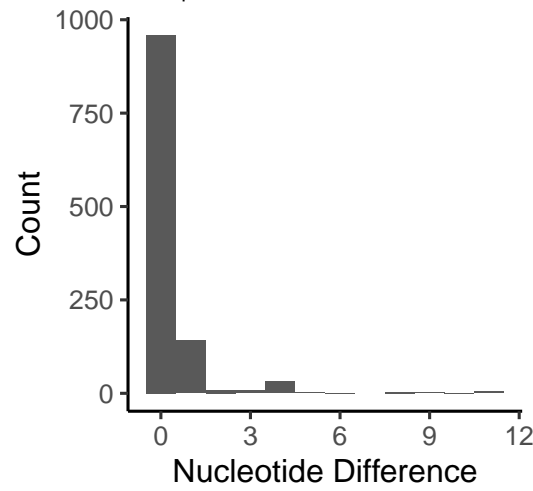
### IGHV2-70\*01

241 sequences assigned  
215 (89.2%) exact matches, in which:  
208 unique CDR3  
5 unique J



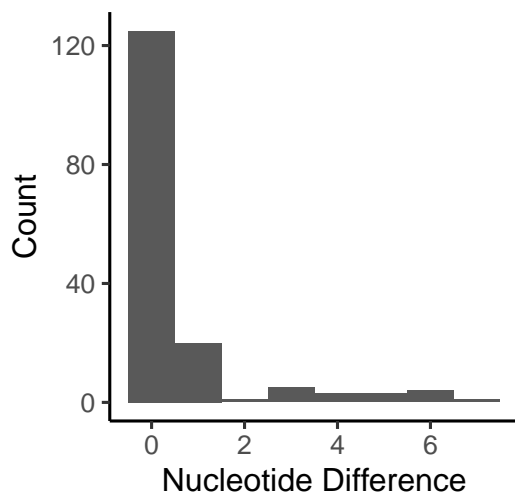
### IGHV3-11\*01

1164 sequences assigned  
959 (82.4%) exact matches, in which:  
836 unique CDR3  
6 unique J



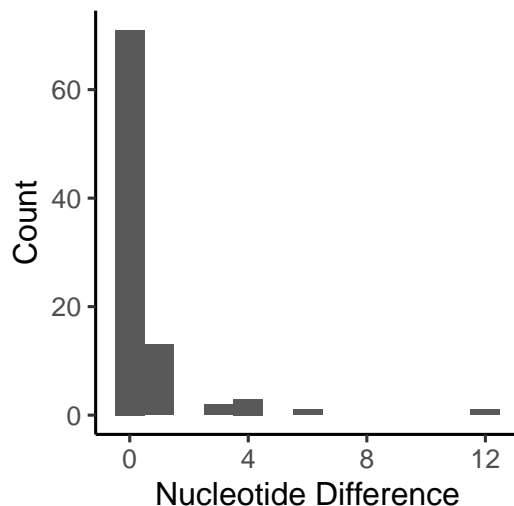
### IGHV3-13\*01

162 sequences assigned  
125 (77.2%) exact matches, in which:  
116 unique CDR3  
5 unique J



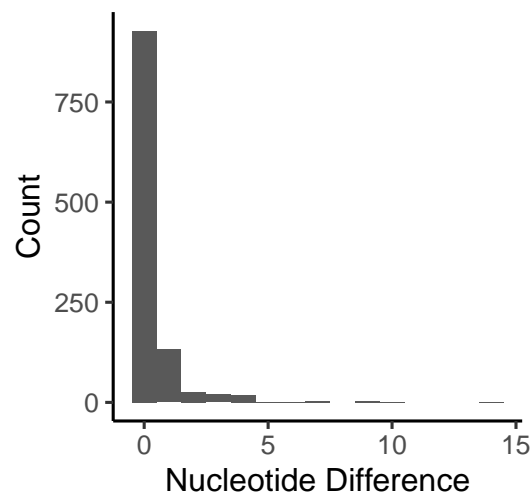
### IGHV3-20\*01

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



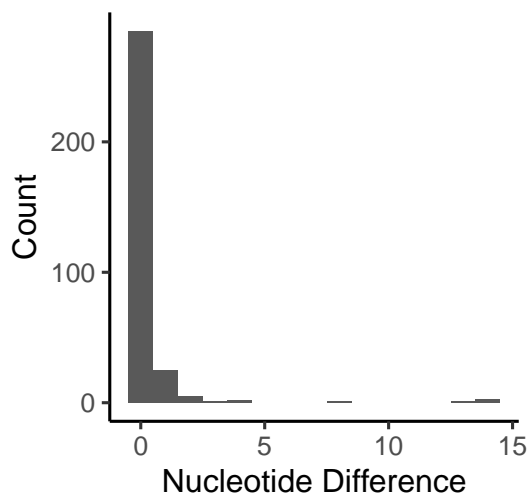
### IGHV3-30-3\*01

1137 sequences assigned  
928 (81.6%) exact matches, in which:  
813 unique CDR3  
6 unique J



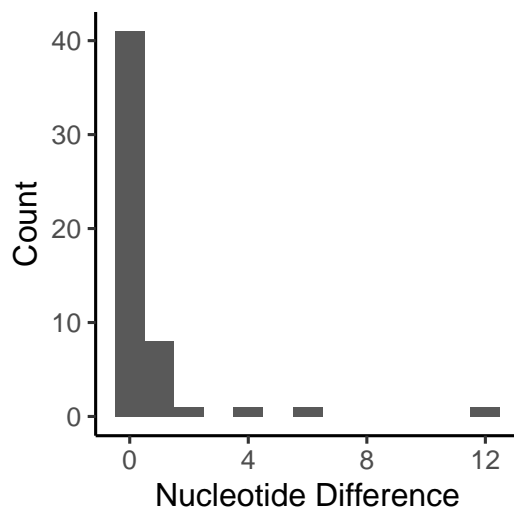
### IGHV3-15\*01

323 sequences assigned  
285 (88.2%) exact matches, in which:  
274 unique CDR3  
5 unique J



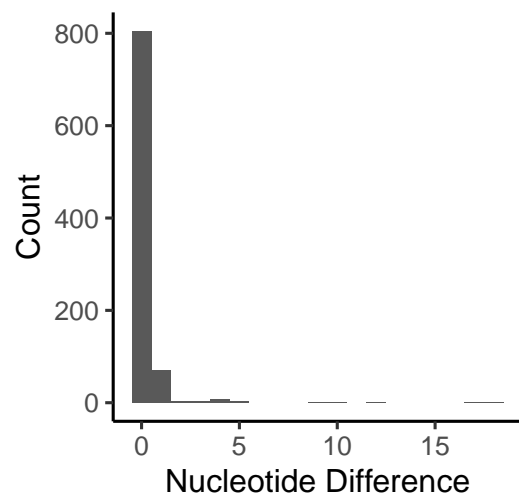
### IGHV3-20\*04

53 sequences assigned  
41 (77.4%) exact matches, in which:  
37 unique CDR3  
3 unique J



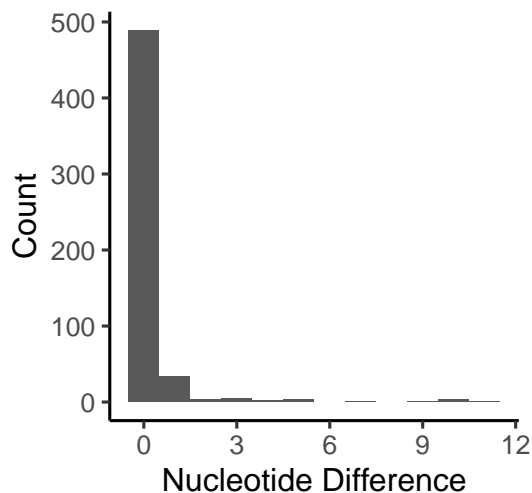
### IGHV3-30\*01

900 sequences assigned  
805 (89.4%) exact matches, in which:  
735 unique CDR3  
6 unique J



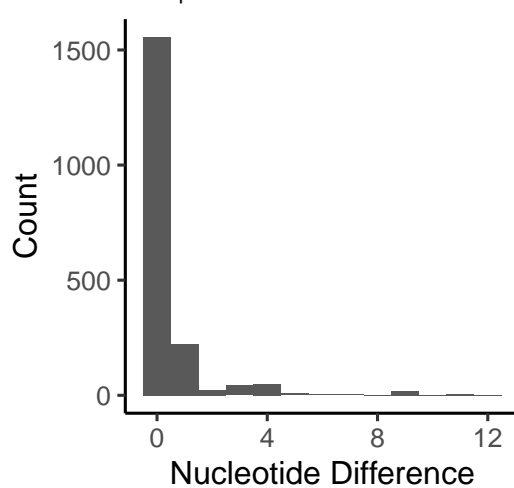
### IGHV3-15\*07

542 sequences assigned  
489 (90.2%) exact matches, in which:  
479 unique CDR3  
6 unique J



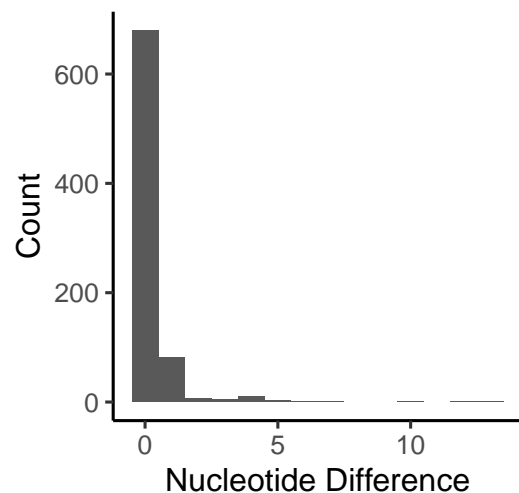
### IGHV3-21\*01

1939 sequences assigned  
1556 (80.2%) exact matches, in which:  
1459 unique CDR3  
6 unique J



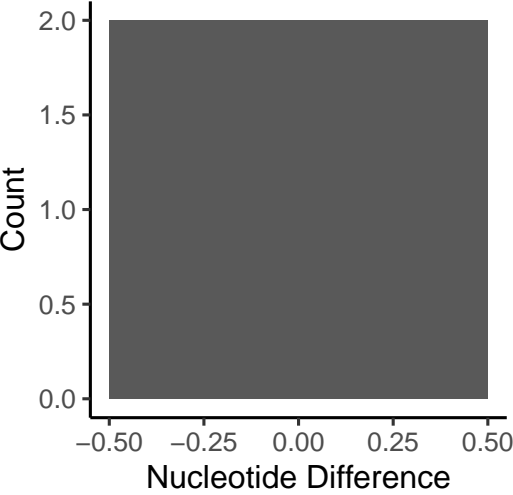
### IGHV3-33\*01

791 sequences assigned  
680 (86%) exact matches, in which:  
612 unique CDR3  
6 unique J



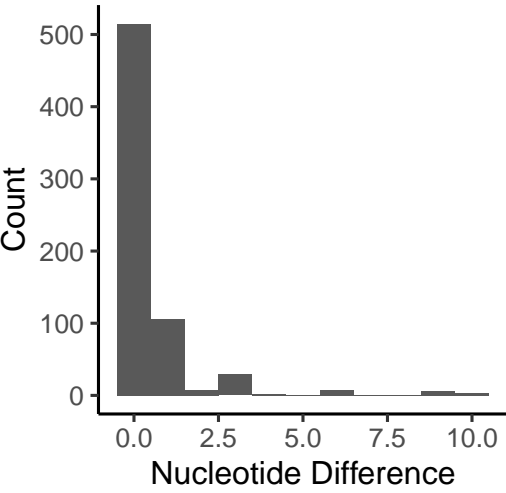
IGHV3-38-3\*01

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



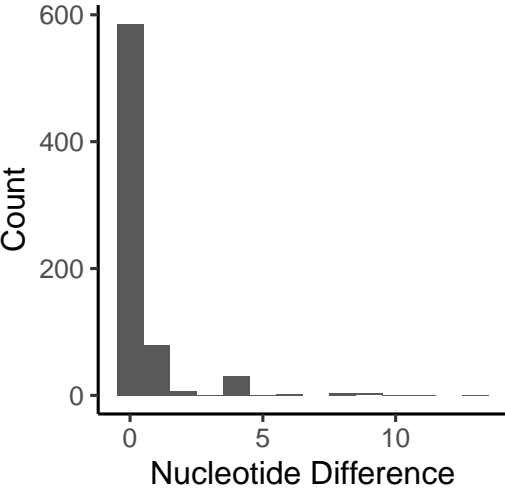
IGHV3-48\*04

679 sequences assigned  
515 (75.8%) exact matches, in which:  
467 unique CDR3  
6 unique J



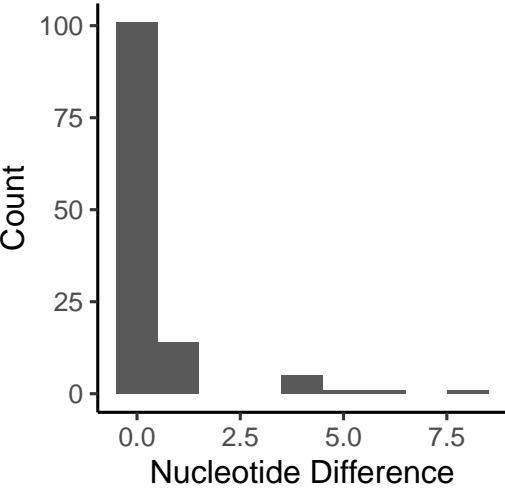
IGHV3-53\*01

718 sequences assigned  
586 (81.6%) exact matches, in which:  
535 unique CDR3  
6 unique J



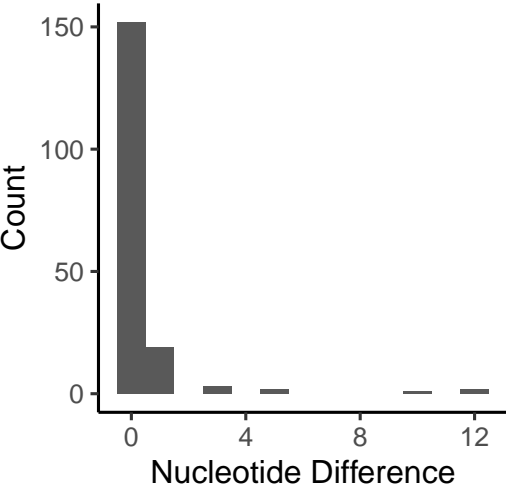
IGHV3-43\*01

124 sequences assigned  
101 (81.5%) exact matches, in which:  
96 unique CDR3  
6 unique J



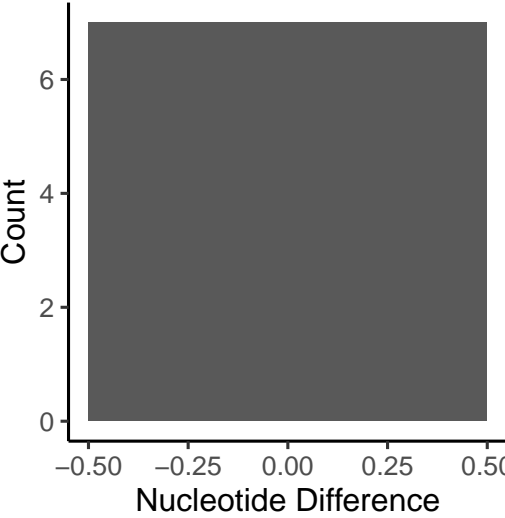
IGHV3-49\*03

179 sequences assigned  
152 (84.9%) exact matches, in which:  
147 unique CDR3  
5 unique J



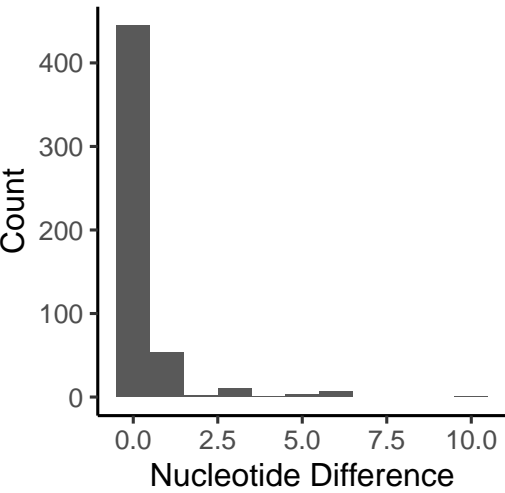
IGHV3-64\*02

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



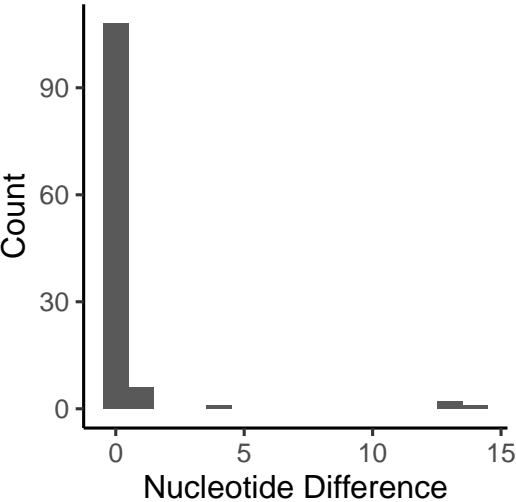
IGHV3-48\*02

522 sequences assigned  
445 (85.2%) exact matches, in which:  
422 unique CDR3  
6 unique J



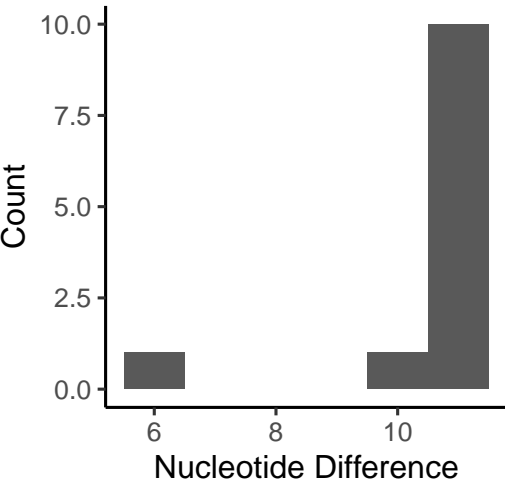
IGHV3-49\*05

118 sequences assigned  
108 (91.5%) exact matches, in which:  
107 unique CDR3  
4 unique J



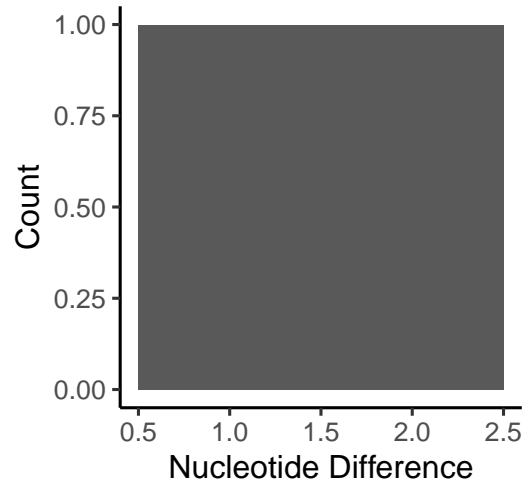
IGHV3-66\*01

12 sequences assigned  
No exact matches.



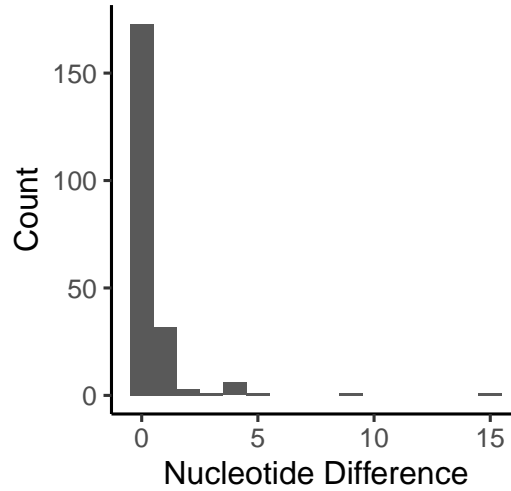
### IGHV3-66\*03

2 sequences assigned  
No exact matches.



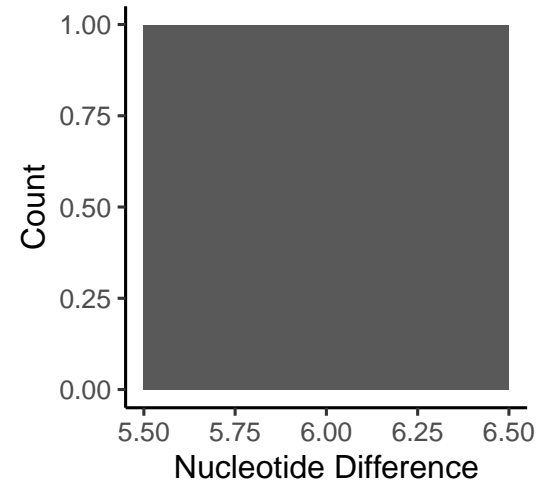
### IGHV3-73\*02

218 sequences assigned  
173 (79.4%) exact matches, in which:  
166 unique CDR3  
5 unique J



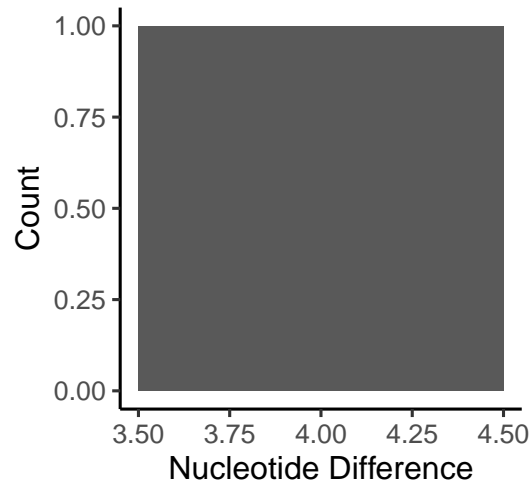
### IGHV3-NL1\*01

1 sequences assigned  
No exact matches.



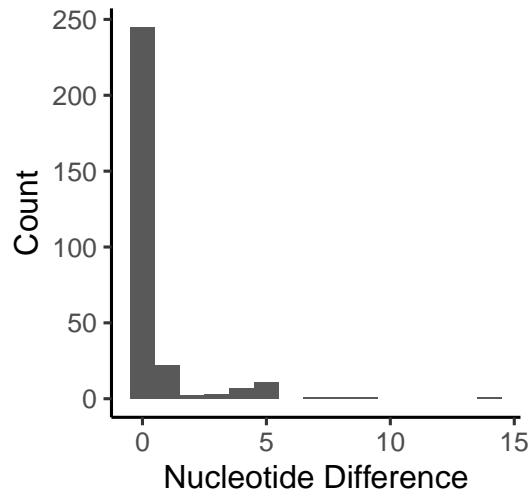
### IGHV3-69-1\*01

1 sequences assigned  
No exact matches.



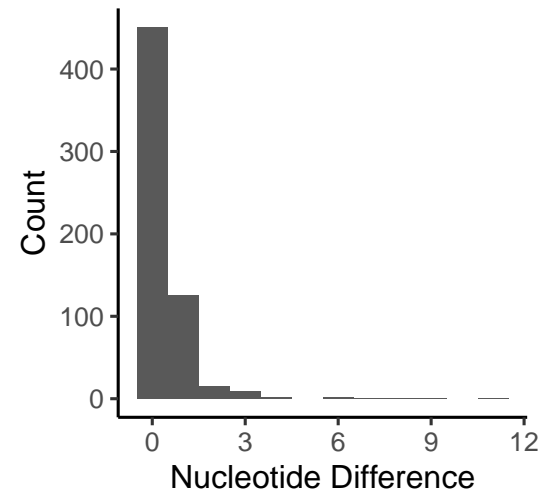
### IGHV3-74\*01

294 sequences assigned  
245 (83.3%) exact matches, in which:  
234 unique CDR3  
6 unique J



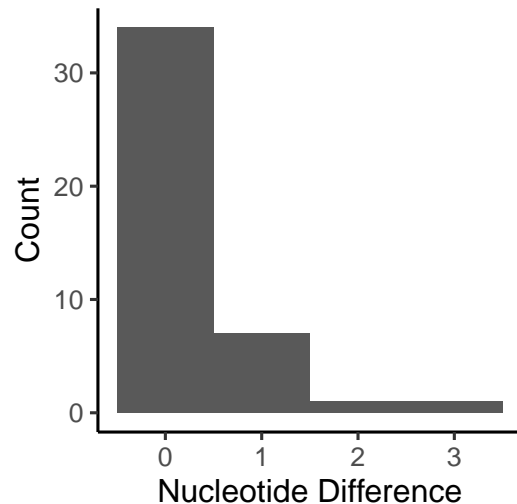
### IGHV4-4\*02

609 sequences assigned  
451 (74.1%) exact matches, in which:  
423 unique CDR3  
6 unique J



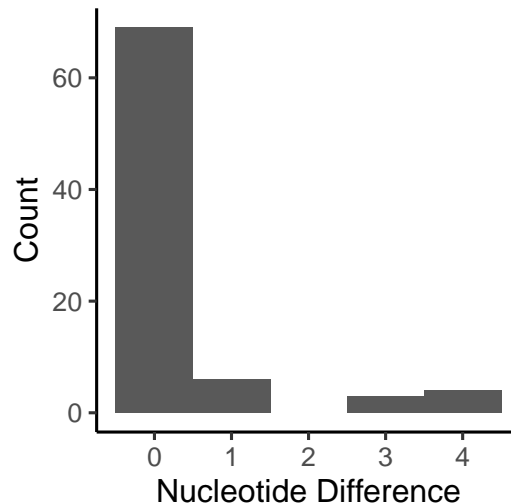
### IGHV3-72\*01

43 sequences assigned  
34 (79.1%) exact matches, in which:  
31 unique CDR3  
5 unique J



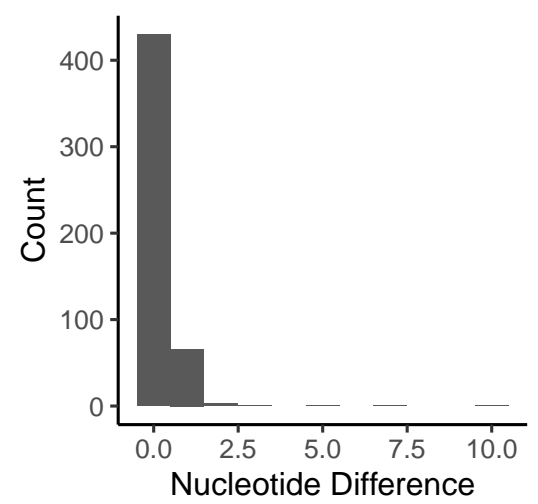
### IGHV3-43D\*03

82 sequences assigned  
69 (84.1%) exact matches, in which:  
65 unique CDR3  
5 unique J



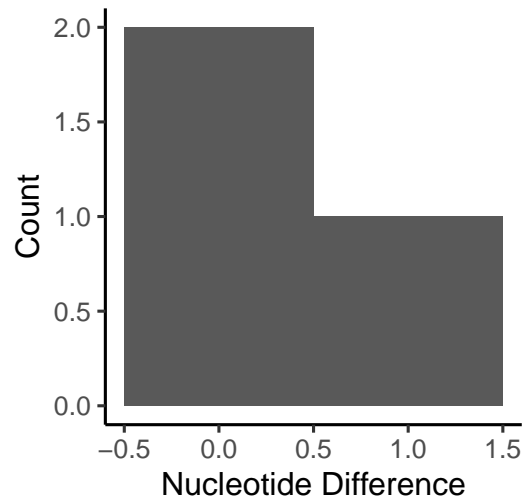
### IGHV4-4\*07

503 sequences assigned  
430 (85.5%) exact matches, in which:  
410 unique CDR3  
6 unique J



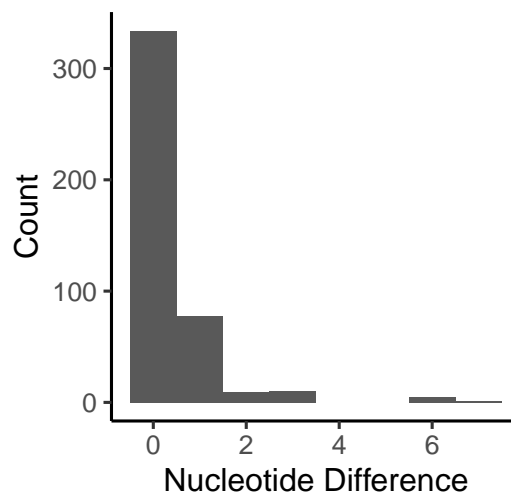
### IGHV4-28\*01

3 sequences assigned  
2 (66.7%) exact matches, in which:  
2 unique CDR3  
2 unique J



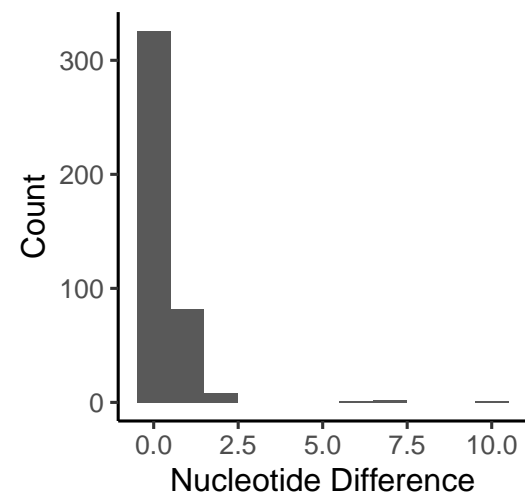
### IGHV4-30-4\*01

437 sequences assigned  
334 (76.4%) exact matches, in which:  
313 unique CDR3  
6 unique J



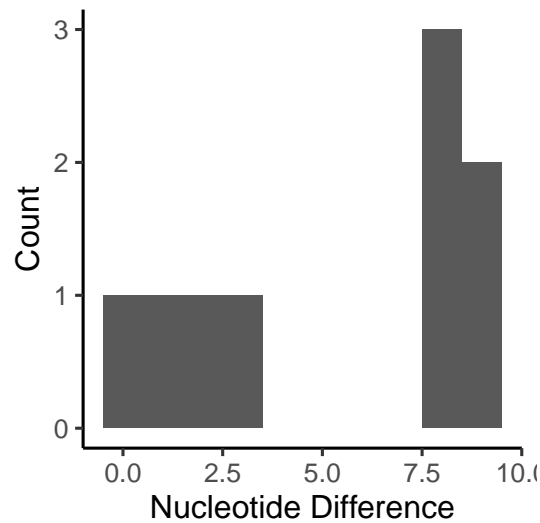
### IGHV4-38-2\*02

420 sequences assigned  
326 (77.6%) exact matches, in which:  
311 unique CDR3  
6 unique J



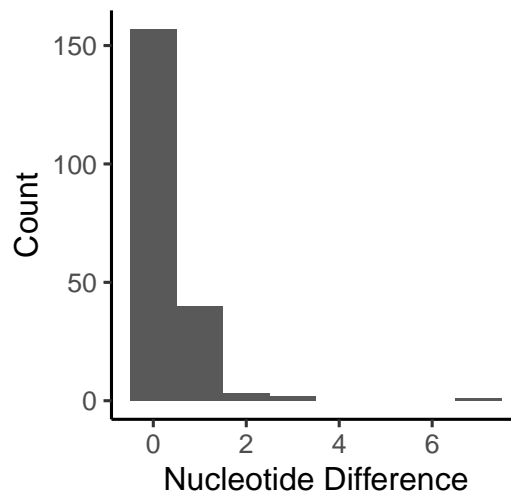
### IGHV4-28\*02

9 sequences assigned  
1 (11.1%) exact matches, in which:  
1 unique CDR3  
1 unique J



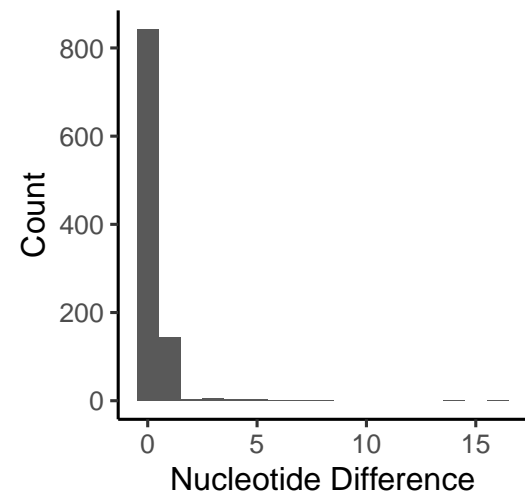
### IGHV4-31\*01

203 sequences assigned  
157 (77.3%) exact matches, in which:  
144 unique CDR3  
5 unique J



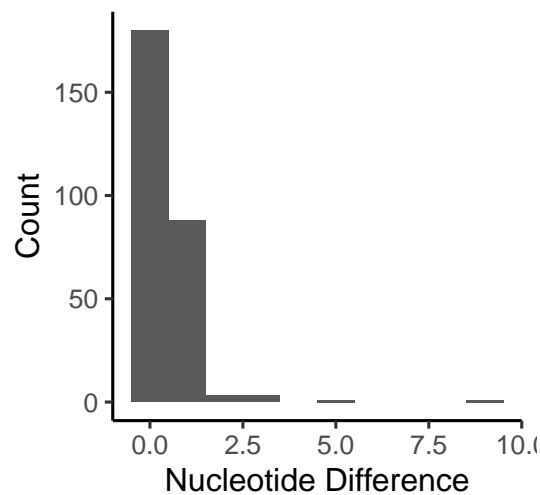
### IGHV4-39\*01

1009 sequences assigned  
843 (83.5%) exact matches, in which:  
815 unique CDR3  
6 unique J



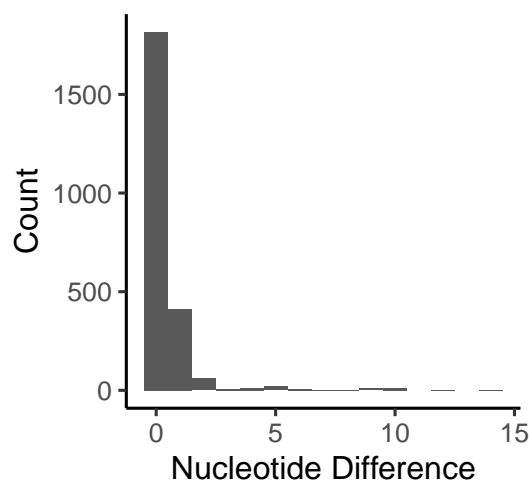
### IGHV4-30-2\*01

276 sequences assigned  
180 (65.2%) exact matches, in which:  
158 unique CDR3  
6 unique J



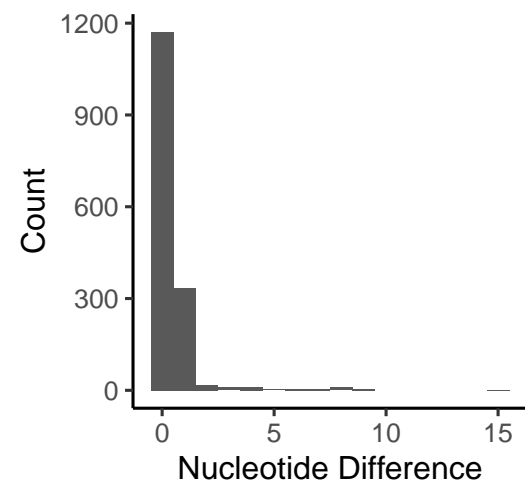
### IGHV4-34\*01

2360 sequences assigned  
1816 (76.9%) exact matches, in which:  
1677 unique CDR3  
6 unique J



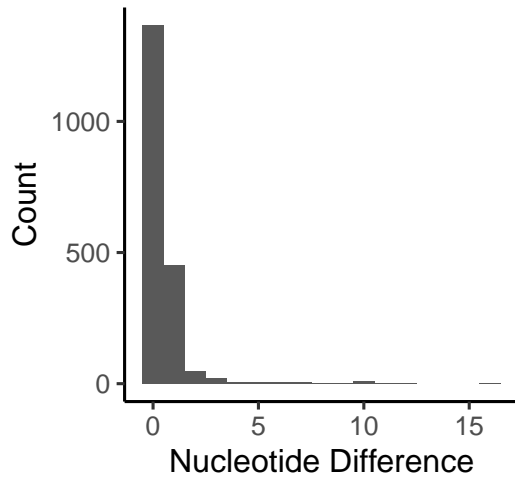
### IGHV4-39\*07

1570 sequences assigned  
1171 (74.6%) exact matches, in which:  
1095 unique CDR3  
6 unique J



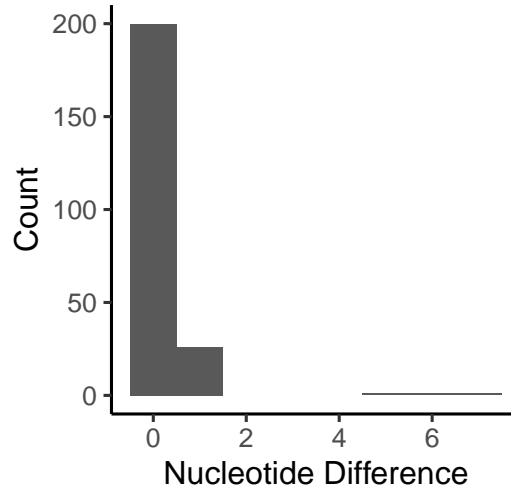
### IGHV4-59\*01

1927 sequences assigned  
1366 (70.9%) exact matches, in which:  
1211 unique CDR3  
6 unique J



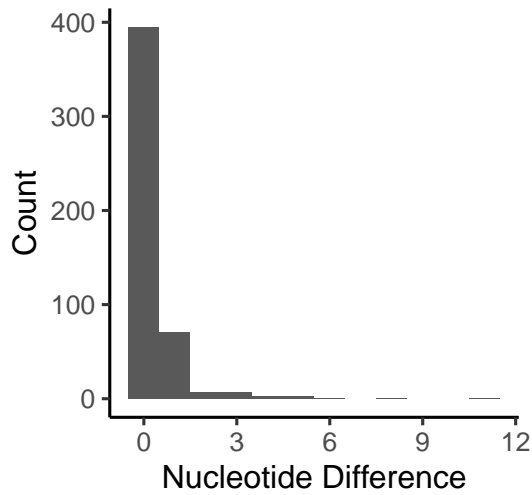
### IGHV6-1\*01

229 sequences assigned  
200 (87.3%) exact matches, in which:  
181 unique CDR3  
5 unique J



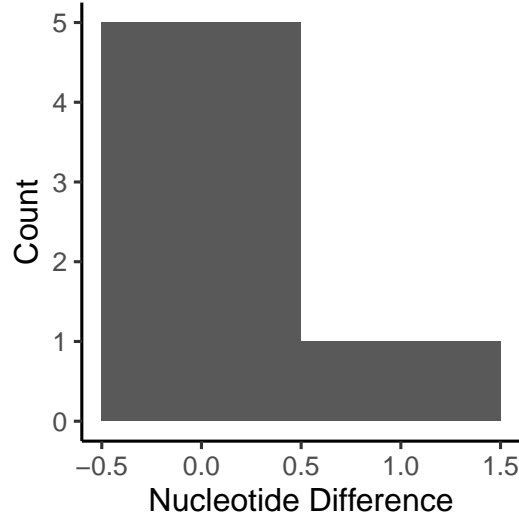
### IGHV4-61\*01

489 sequences assigned  
395 (80.8%) exact matches, in which:  
382 unique CDR3  
6 unique J



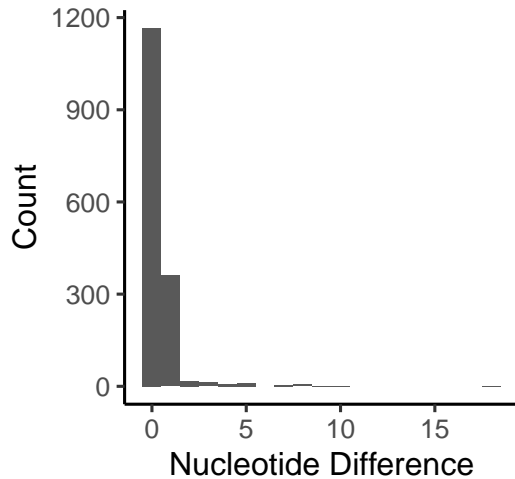
### IGHV7-4-1\*01

6 sequences assigned  
5 (83.3%) exact matches, in which:  
5 unique CDR3  
3 unique J



### IGHV5-51\*01

1590 sequences assigned  
1166 (73.3%) exact matches, in which:  
1053 unique CDR3  
6 unique J



Allele Usage





Warning – no inferred sequences found.