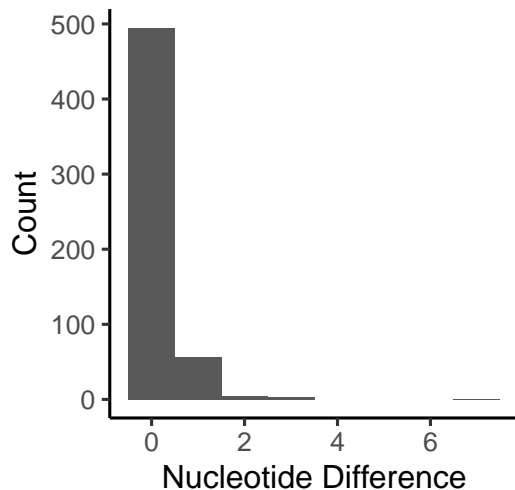


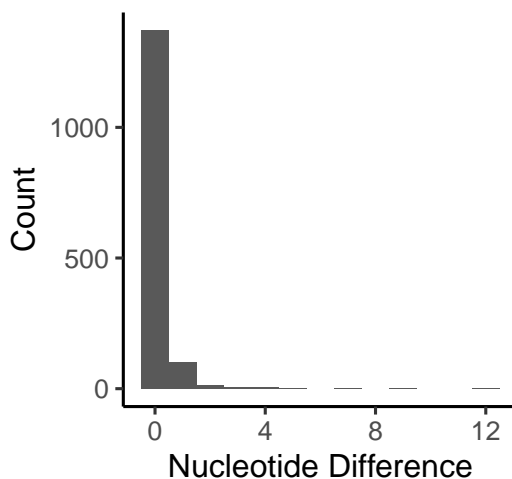
### IGHV1-2\*04

560 sequences assigned  
495 (88.4%) exact matches, in which:  
460 unique CDR3  
6 unique J



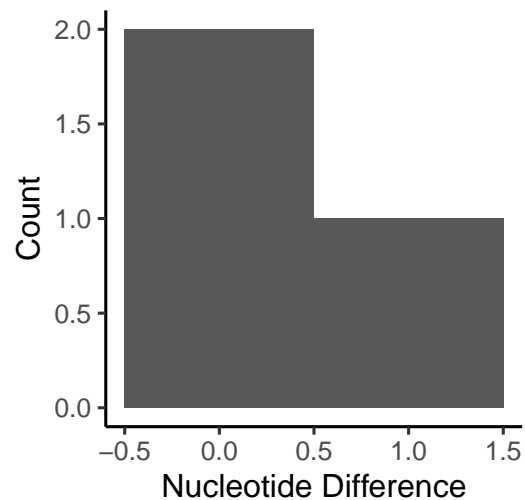
### IGHV1-8\*01

1500 sequences assigned  
1371 (91.4%) exact matches, in which:  
1264 unique CDR3  
6 unique J



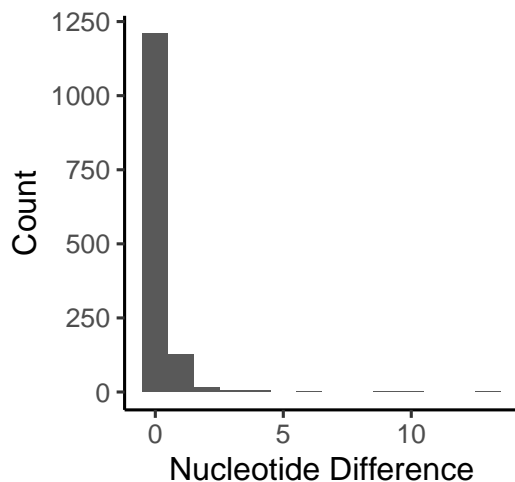
### IGHV1-45\*03

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



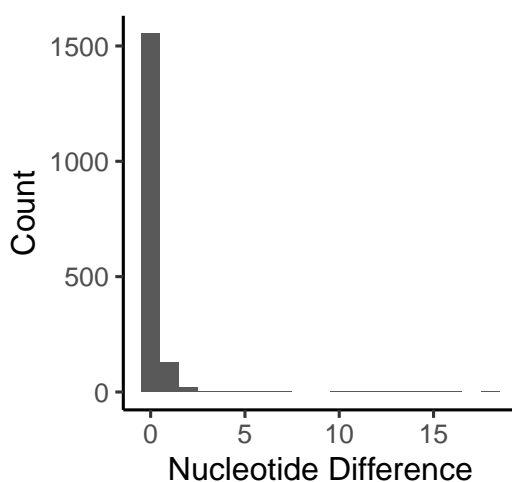
### IGHV1-2\*06

1367 sequences assigned  
1209 (88.4%) exact matches, in which:  
1118 unique CDR3  
6 unique J



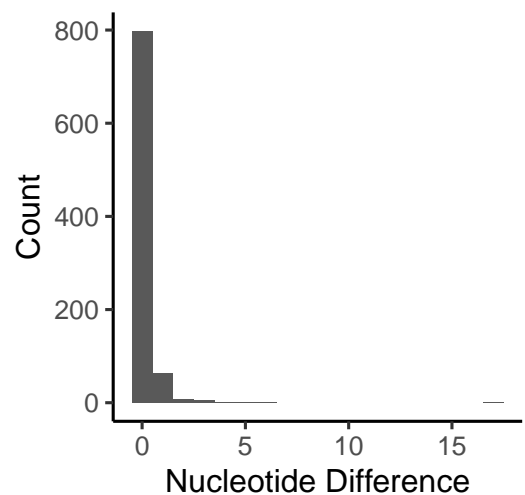
### IGHV1-18\*01

1718 sequences assigned  
1553 (90.4%) exact matches, in which:  
1460 unique CDR3  
6 unique J



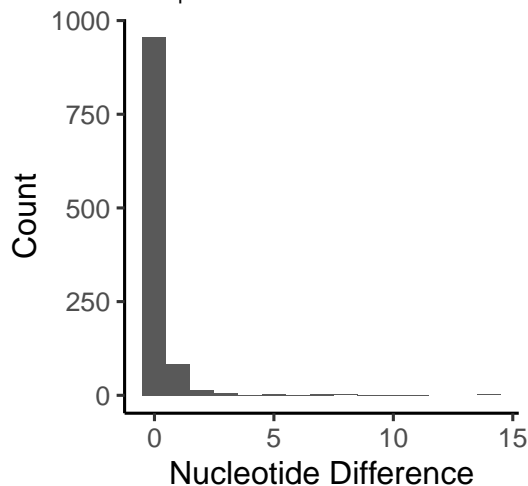
### IGHV1-46\*01

879 sequences assigned  
798 (90.8%) exact matches, in which:  
743 unique CDR3  
6 unique J



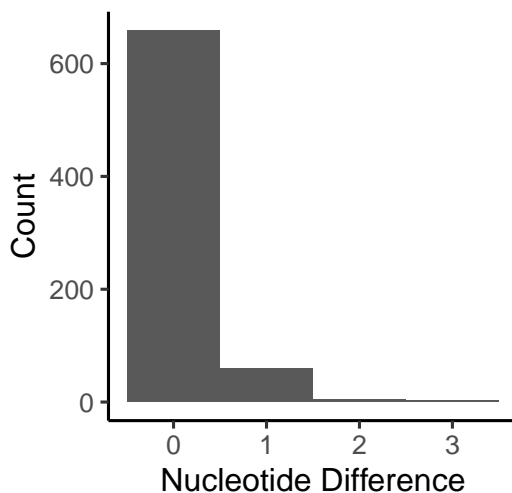
### IGHV1-3\*01

1076 sequences assigned  
956 (88.8%) exact matches, in which:  
911 unique CDR3  
6 unique J



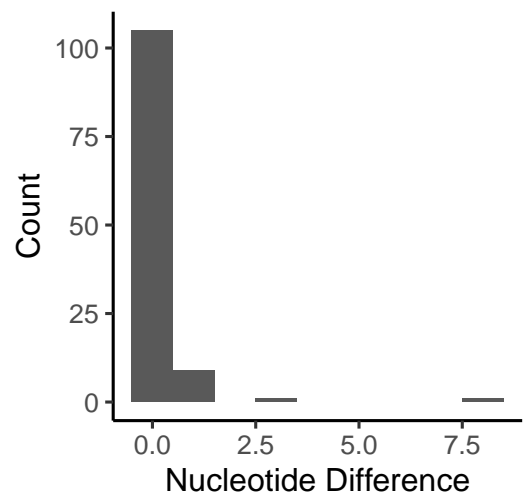
### IGHV1-24\*01

726 sequences assigned  
659 (90.8%) exact matches, in which:  
610 unique CDR3  
6 unique J



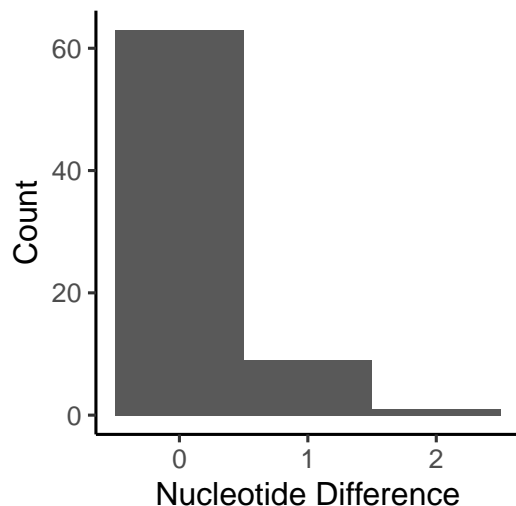
### IGHV1-58\*01

117 sequences assigned  
105 (89.7%) exact matches, in which:  
94 unique CDR3  
5 unique J



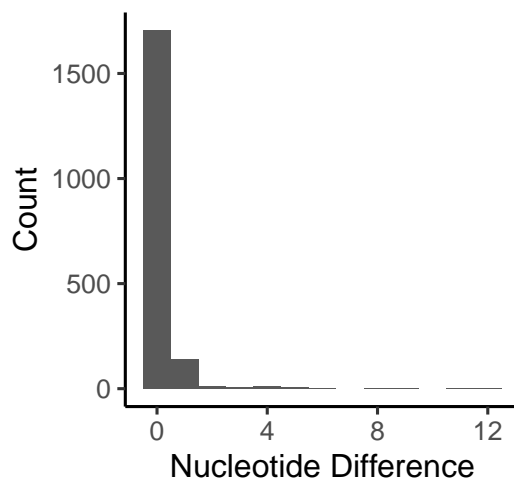
## IGHV1–58\*02

73 sequences assigned  
63 (86.3%) exact matches, in which:  
58 unique CDR3  
4 unique J



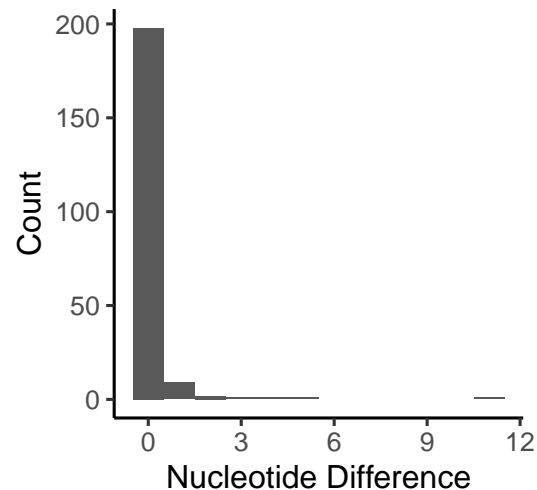
## IGHV2–5\*02

1891 sequences assigned  
1705 (90.2%) exact matches, in which:  
1597 unique CDR3  
6 unique J



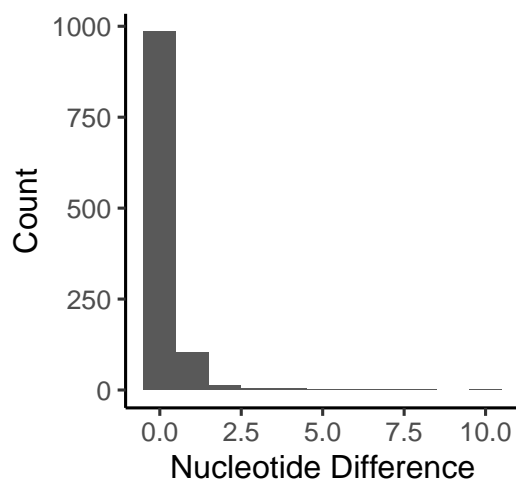
## IGHV2–70\*15

213 sequences assigned  
198 (93%) exact matches, in which:  
190 unique CDR3  
6 unique J



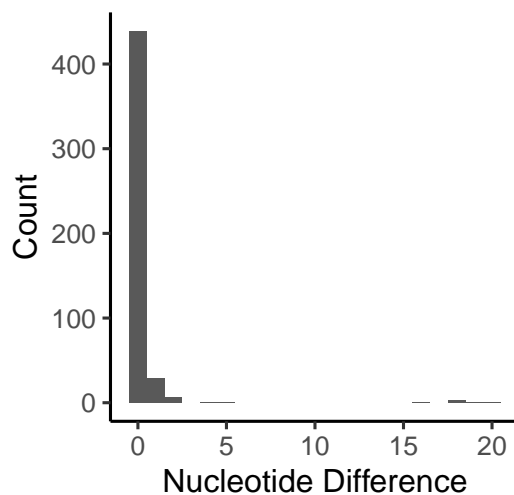
## IGHV1–69\*04

1115 sequences assigned  
985 (88.3%) exact matches, in which:  
905 unique CDR3  
6 unique J



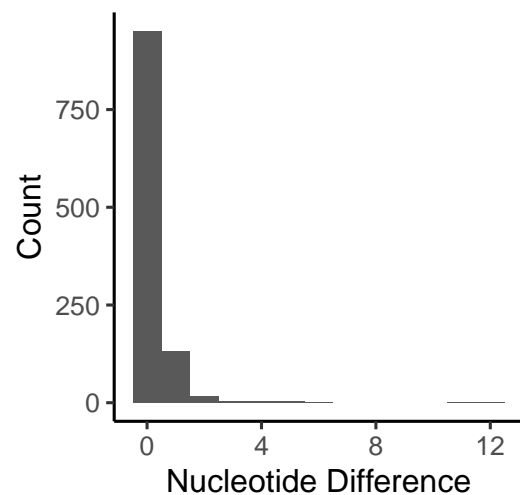
## IGHV2–26\*01

483 sequences assigned  
439 (90.9%) exact matches, in which:  
413 unique CDR3  
6 unique J



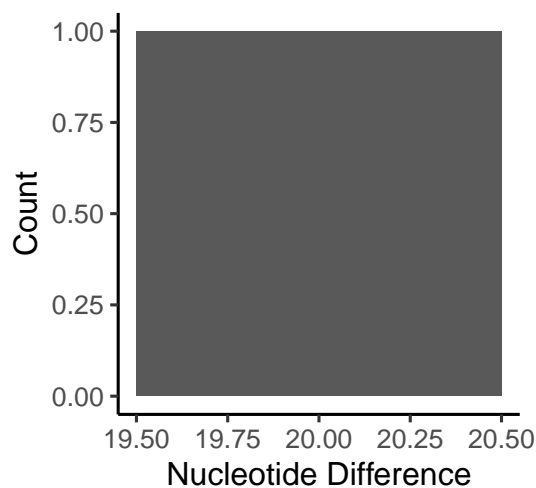
## IGHV3–7\*01

1114 sequences assigned  
951 (85.4%) exact matches, in which:  
897 unique CDR3  
6 unique J



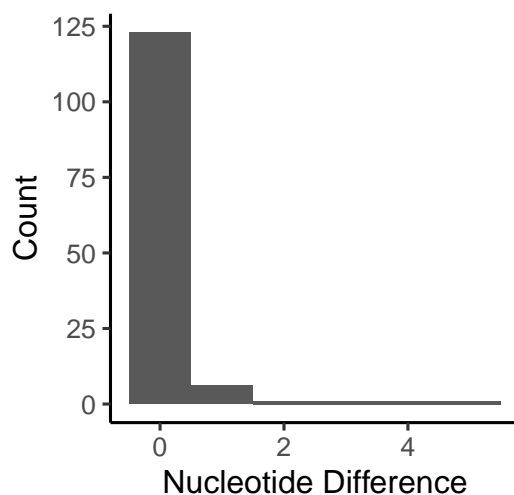
## IGHV1–NL1\*01

1 sequences assigned  
No exact matches.



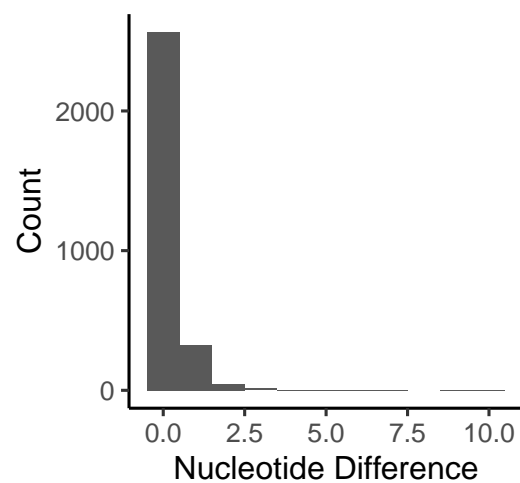
## IGHV2–70\*01

133 sequences assigned  
123 (92.5%) exact matches, in which:  
117 unique CDR3  
6 unique J



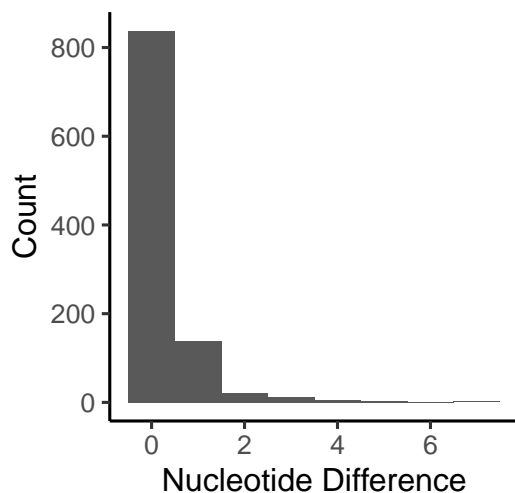
## IGHV3–9\*01

2957 sequences assigned  
2565 (86.7%) exact matches, in which:  
2297 unique CDR3  
6 unique J



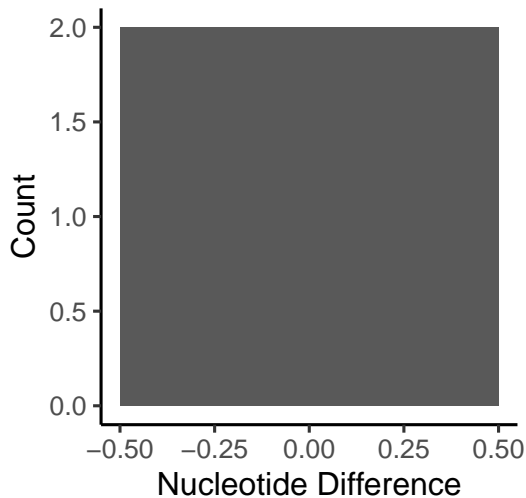
### IGHV3-11\*01

1023 sequences assigned  
838 (81.9%) exact matches, in which:  
786 unique CDR3  
6 unique J



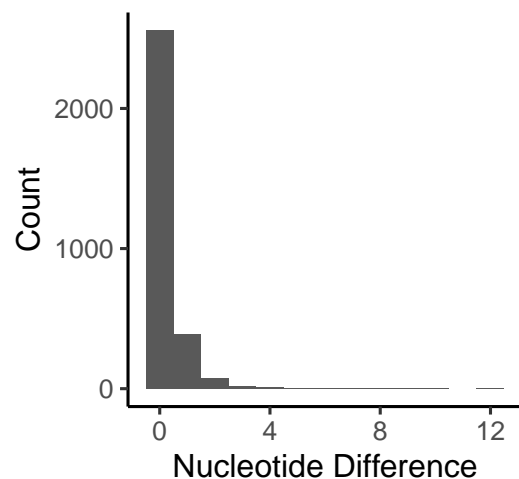
### IGHV3-19\*01

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



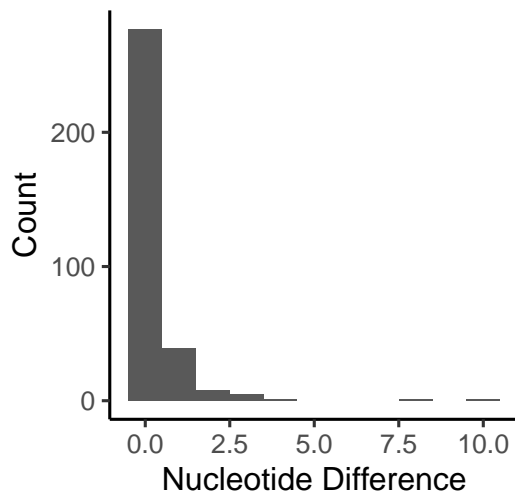
### IGHV3-30-3\*01

3073 sequences assigned  
2557 (83.2%) exact matches, in which:  
2343 unique CDR3  
6 unique J



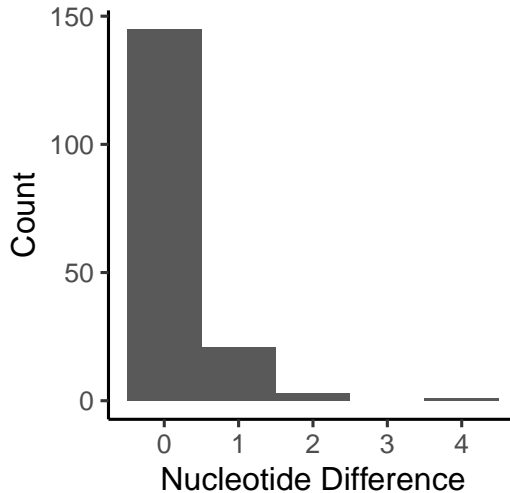
### IGHV3-13\*01

332 sequences assigned  
277 (83.4%) exact matches, in which:  
254 unique CDR3  
5 unique J



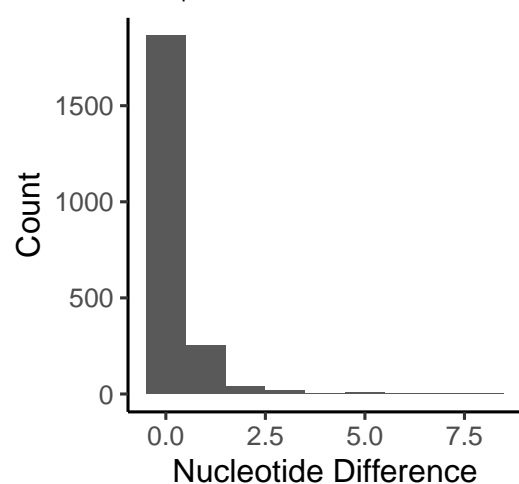
### IGHV3-20\*01

170 sequences assigned  
145 (85.3%) exact matches, in which:  
127 unique CDR3  
5 unique J



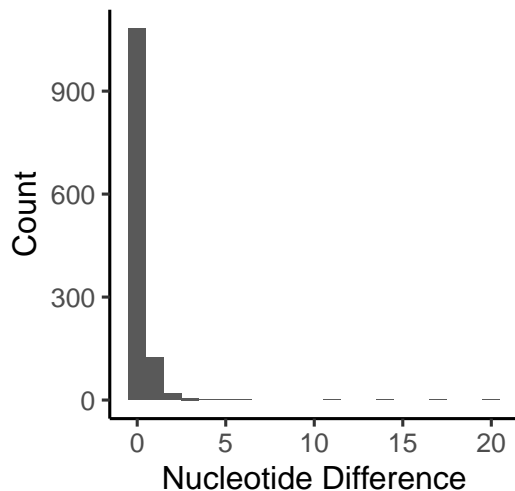
### IGHV3-33\*01

2192 sequences assigned  
1864 (85%) exact matches, in which:  
1715 unique CDR3  
6 unique J



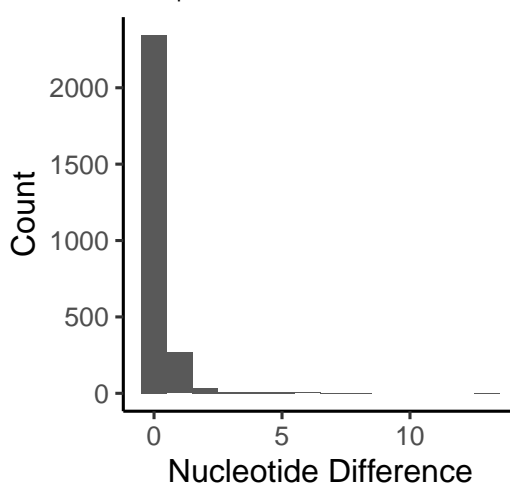
### IGHV3-15\*01

1245 sequences assigned  
1083 (87%) exact matches, in which:  
991 unique CDR3  
6 unique J



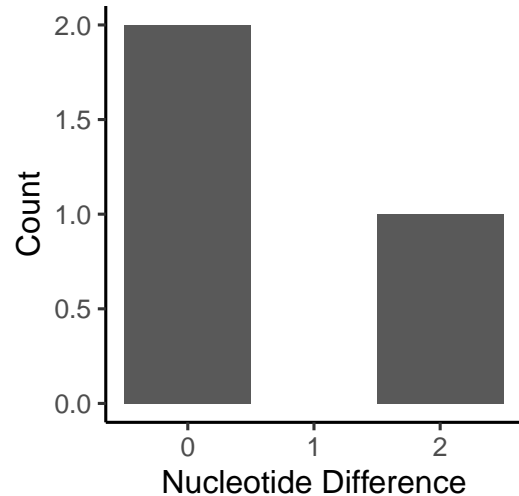
### IGHV3-21\*01

2684 sequences assigned  
2345 (87.4%) exact matches, in which:  
2138 unique CDR3  
6 unique J



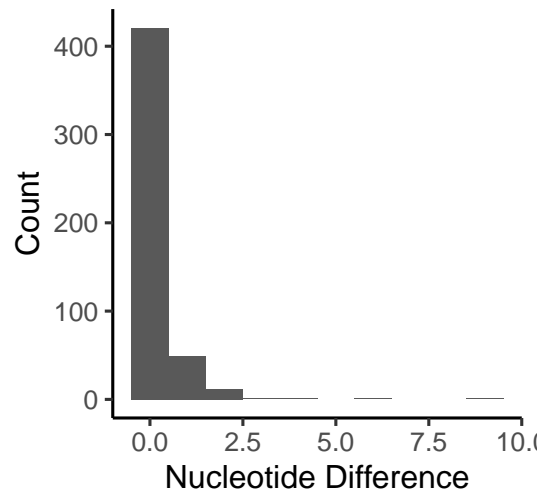
### IGHV3-35\*01

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



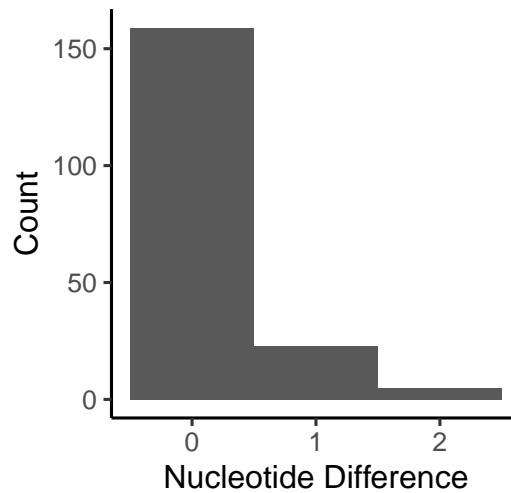
### IGHV3-43\*02

486 sequences assigned  
421 (86.6%) exact matches, in which:  
388 unique CDR3  
6 unique J



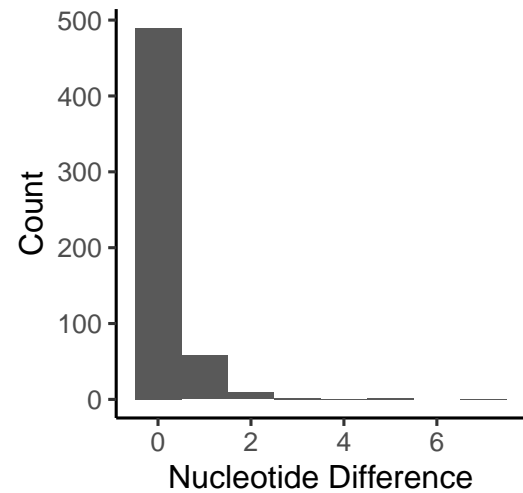
### IGHV3-53\*02

187 sequences assigned  
159 (85%) exact matches, in which:  
150 unique CDR3  
6 unique J



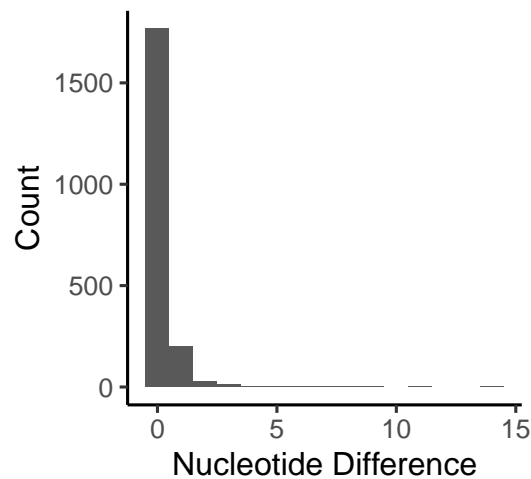
### IGHV3-66\*01

563 sequences assigned  
490 (87%) exact matches, in which:  
447 unique CDR3  
6 unique J



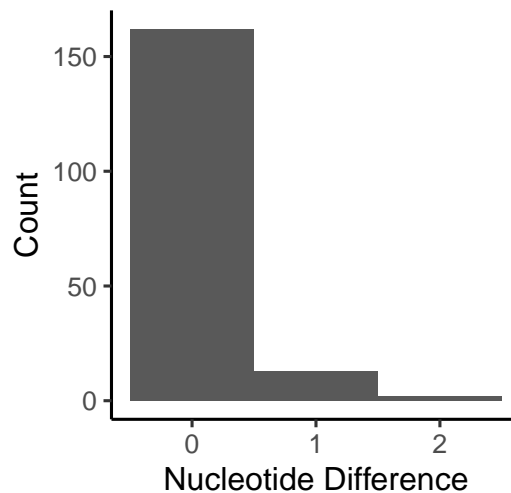
### IGHV3-48\*03

2020 sequences assigned  
1767 (87.5%) exact matches, in which:  
1633 unique CDR3  
6 unique J



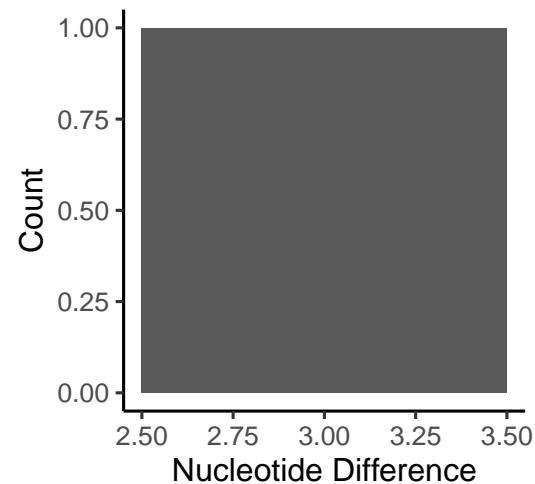
### IGHV3-53\*04

177 sequences assigned  
162 (91.5%) exact matches, in which:  
151 unique CDR3  
5 unique J



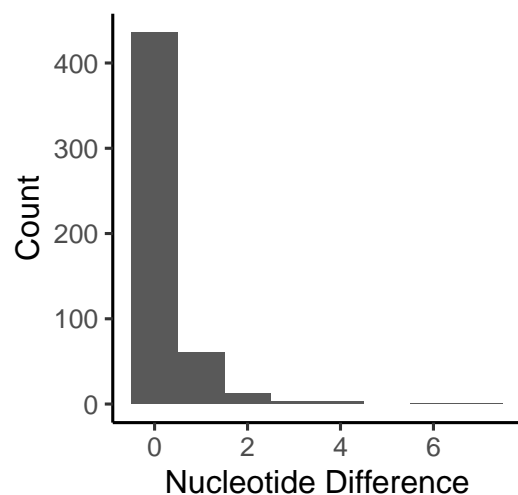
### IGHV3-69-1\*01

1 sequences assigned  
No exact matches.



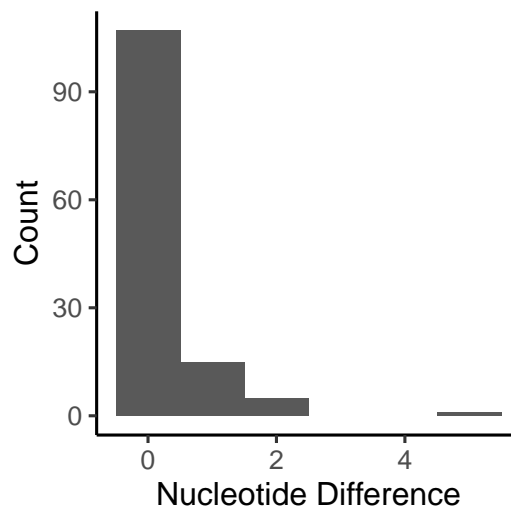
### IGHV3-49\*04

517 sequences assigned  
436 (84.3%) exact matches, in which:  
401 unique CDR3  
6 unique J



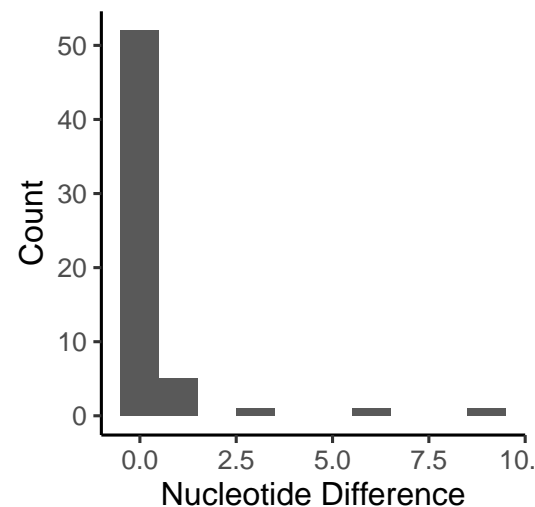
### IGHV3-64\*01

128 sequences assigned  
107 (83.6%) exact matches, in which:  
96 unique CDR3  
6 unique J



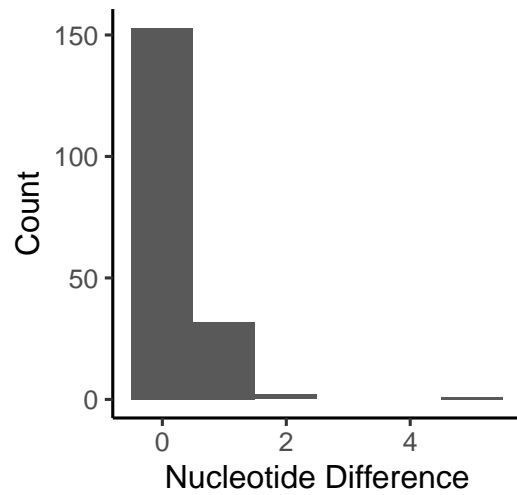
### IGHV3-72\*01

60 sequences assigned  
52 (86.7%) exact matches, in which:  
48 unique CDR3  
5 unique J



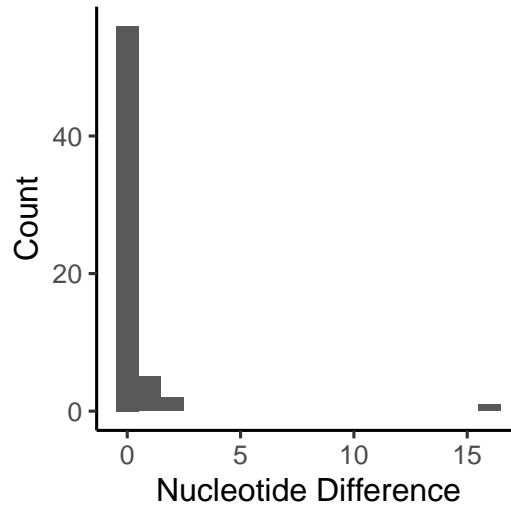
### IGHV3-73\*01

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



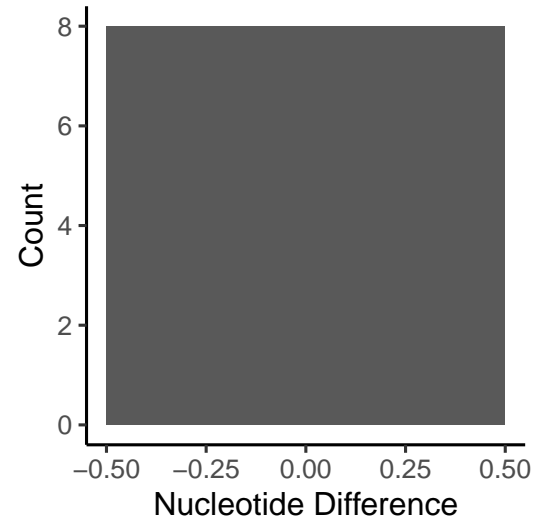
### IGHV3-43D\*04

64 sequences assigned  
56 (87.5%) exact matches, in which:  
52 unique CDR3  
6 unique J



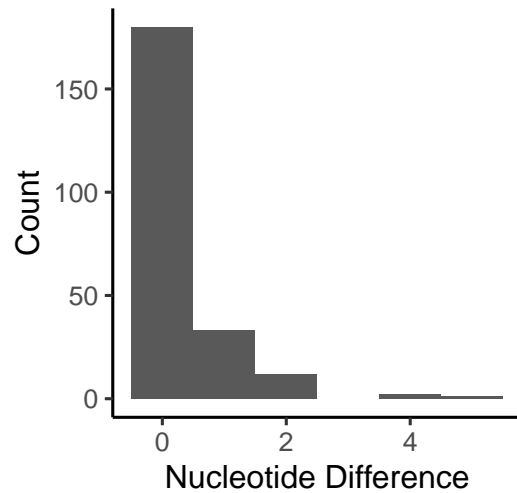
### IGHV4-28\*03

8 sequences assigned  
8 (100%) exact matches, in which:  
6 unique CDR3  
3 unique J



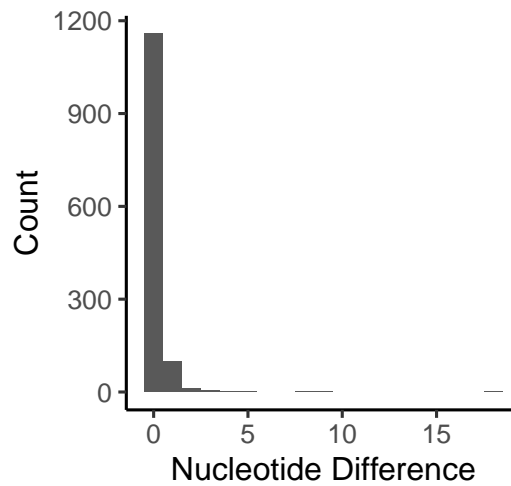
### IGHV3-73\*02

228 sequences assigned  
180 (78.9%) exact matches, in which:  
155 unique CDR3  
6 unique J



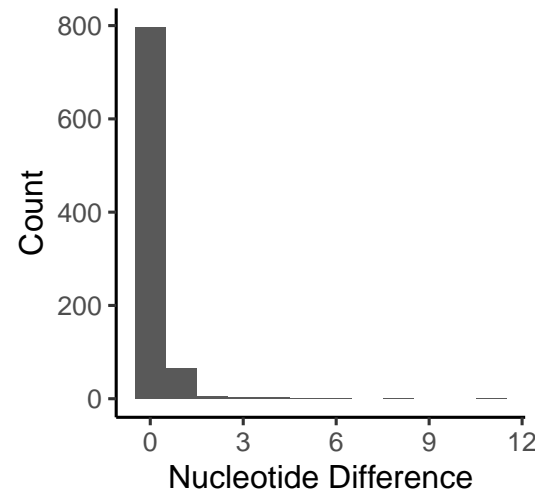
### IGHV4-4\*02

1282 sequences assigned  
1158 (90.3%) exact matches, in which:  
1089 unique CDR3  
6 unique J



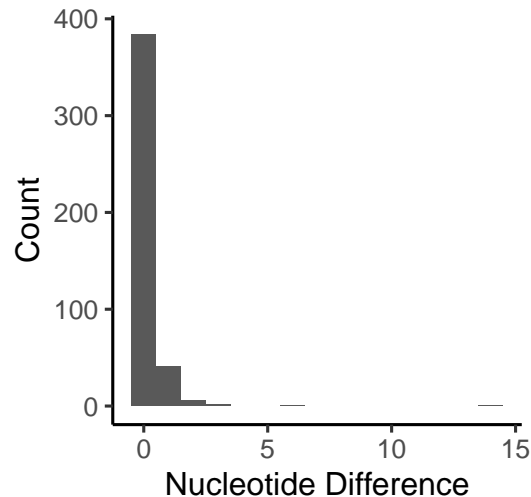
### IGHV4-30-4\*01

880 sequences assigned  
797 (90.6%) exact matches, in which:  
750 unique CDR3  
6 unique J



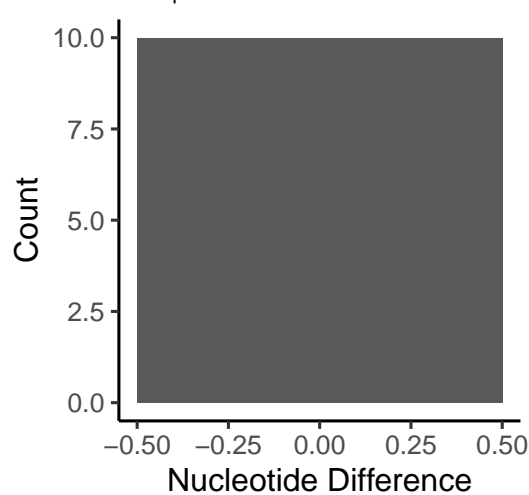
### IGHV3-74\*01

435 sequences assigned  
384 (88.3%) exact matches, in which:  
365 unique CDR3  
6 unique J



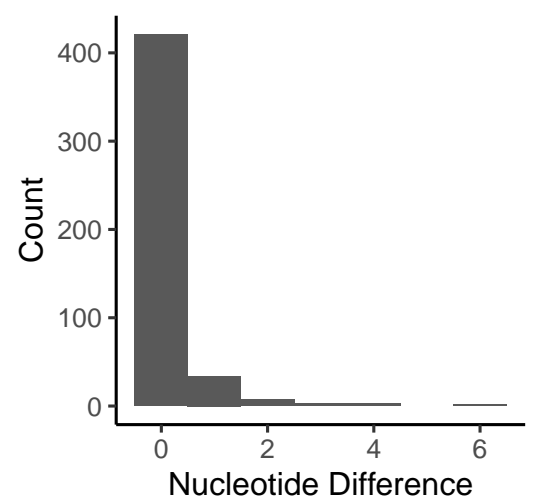
### IGHV4-28\*01

10 sequences assigned  
10 (100%) exact matches, in which:  
10 unique CDR3  
5 unique J



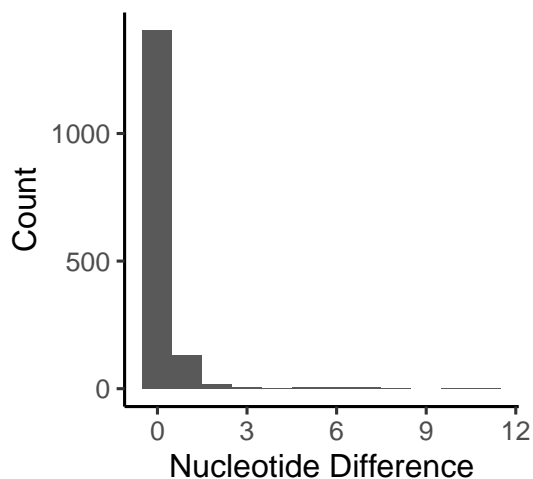
### IGHV4-30-2\*01

470 sequences assigned  
421 (89.6%) exact matches, in which:  
392 unique CDR3  
6 unique J



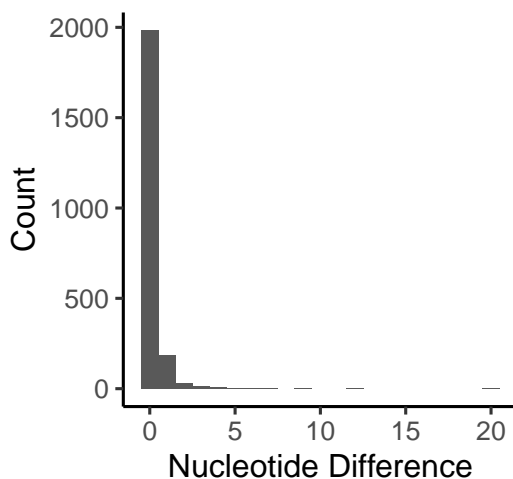
### IGHV4-31\*03

1579 sequences assigned  
1404 (88.9%) exact matches, in which:  
1331 unique CDR3  
6 unique J



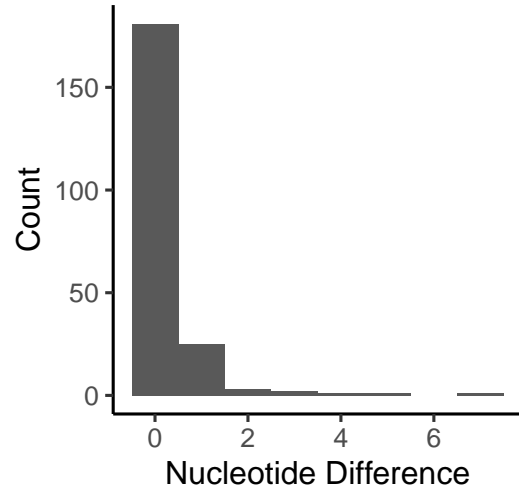
### IGHV4-39\*01

2226 sequences assigned  
1983 (89.1%) exact matches, in which:  
1772 unique CDR3  
6 unique J



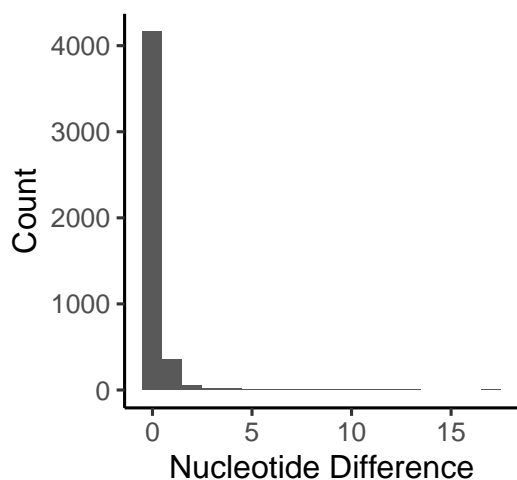
### IGHV4-61\*01

214 sequences assigned  
181 (84.6%) exact matches, in which:  
171 unique CDR3  
6 unique J



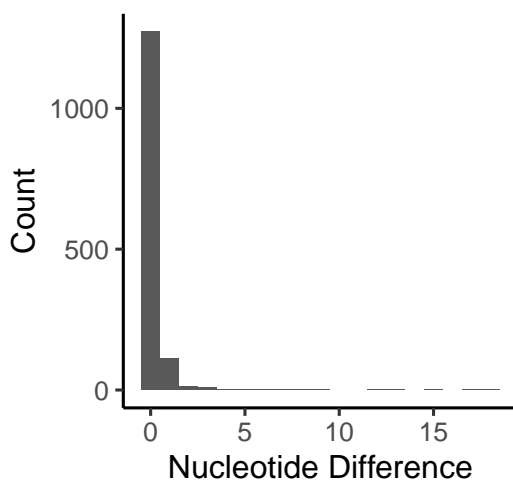
### IGHV4-34\*01

4619 sequences assigned  
4162 (90.1%) exact matches, in which:  
3759 unique CDR3  
6 unique J



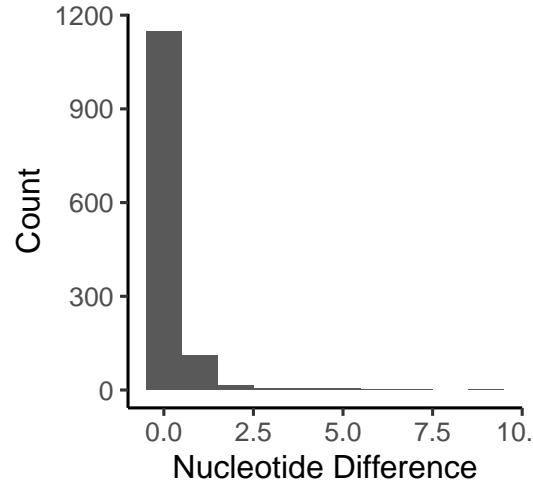
### IGHV4-59\*01

1420 sequences assigned  
1272 (89.6%) exact matches, in which:  
1220 unique CDR3  
6 unique J



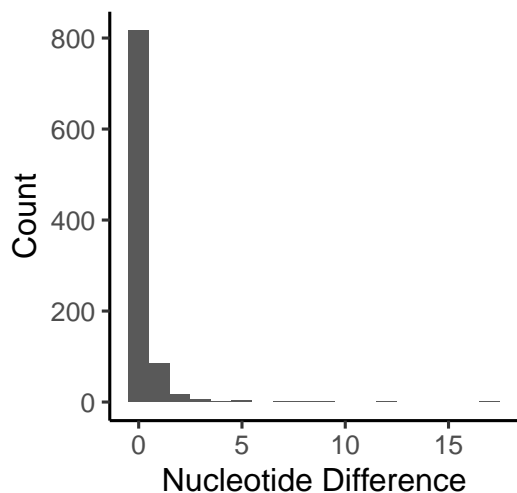
### IGHV5-51\*01

1293 sequences assigned  
1147 (88.7%) exact matches, in which:  
1063 unique CDR3  
6 unique J



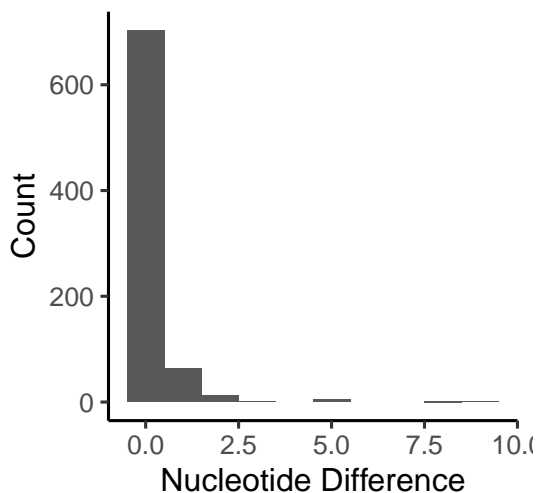
### IGHV4-38-2\*02\_A70G

933 sequences assigned  
817 (87.6%) exact matches, in which:  
733 unique CDR3  
6 unique J



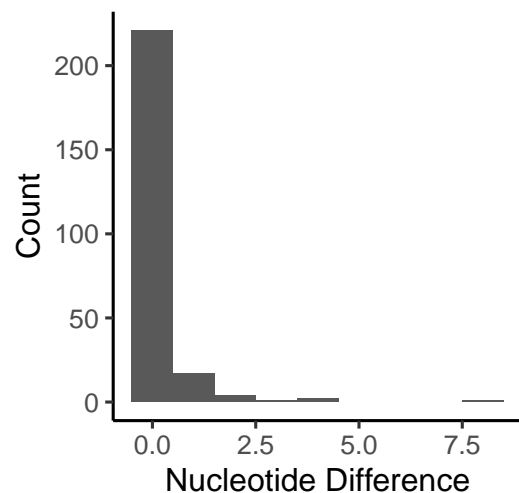
### IGHV4-59\*08

786 sequences assigned  
703 (89.4%) exact matches, in which:  
664 unique CDR3  
6 unique J



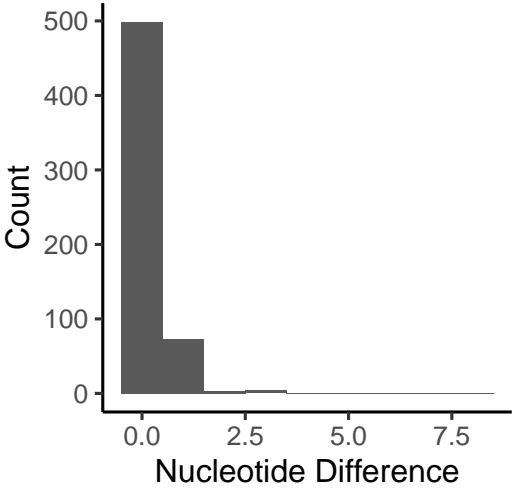
### IGHV6-1\*01

246 sequences assigned  
221 (89.8%) exact matches, in which:  
205 unique CDR3  
6 unique J



# IGHV7-4-1\*02

584 sequences assigned  
499 (85.4%) exact matches, in which:  
478 unique CDR3  
6 unique J







Warning – no inferred sequences found.