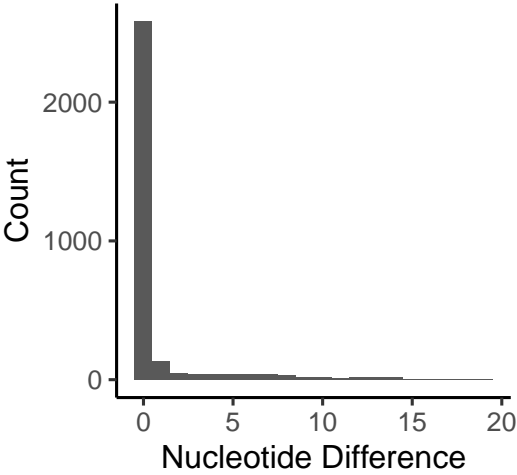


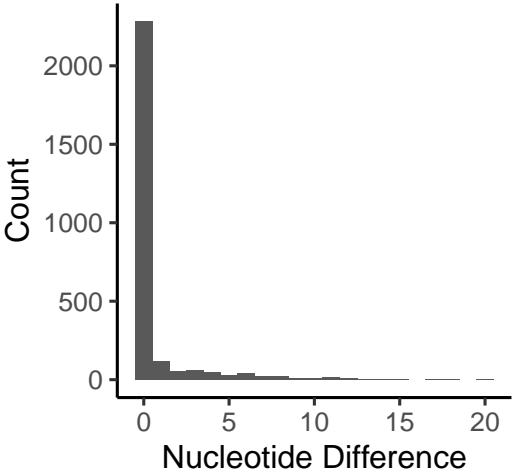
IGHV1-2\*02

3116 sequences assigned  
2582 (82.9%) exact matches, in which:  
2568 unique CDR3  
6 unique J



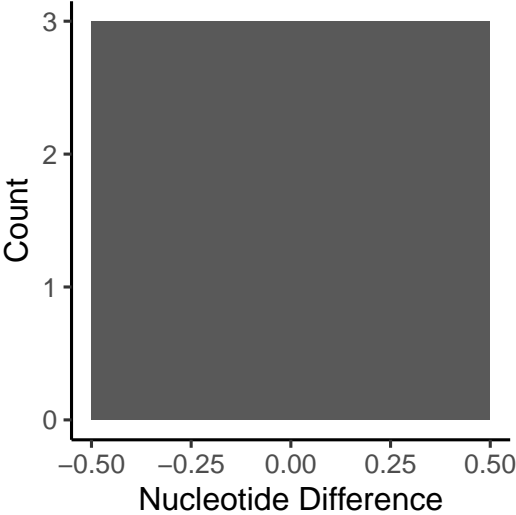
IGHV1-8\*01

2736 sequences assigned  
2283 (83.4%) exact matches, in which:  
2275 unique CDR3  
6 unique J



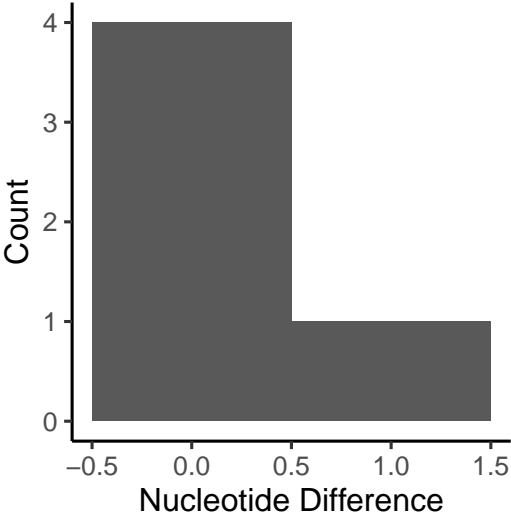
IGHV1-45\*02

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



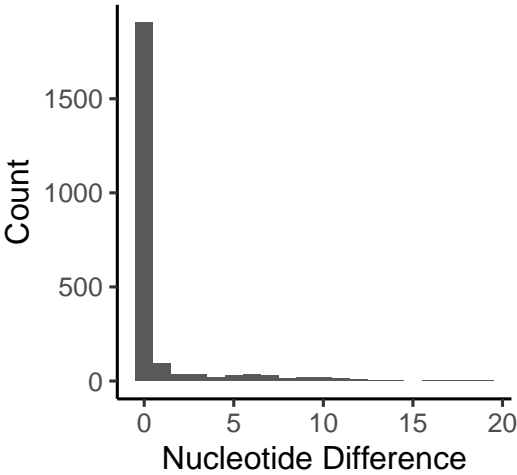
IGHV1-3\*02

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



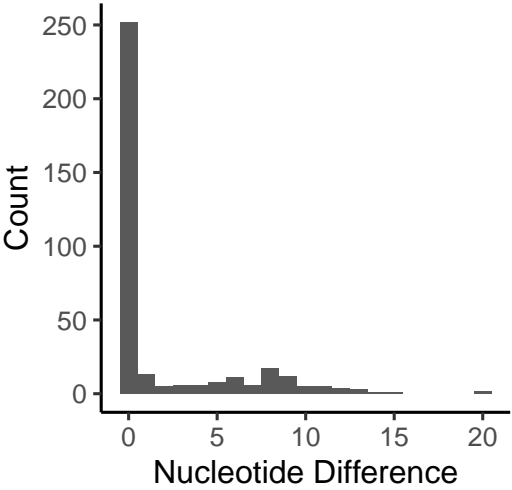
IGHV1-18\*01

2267 sequences assigned  
1904 (84%) exact matches, in which:  
1896 unique CDR3  
6 unique J



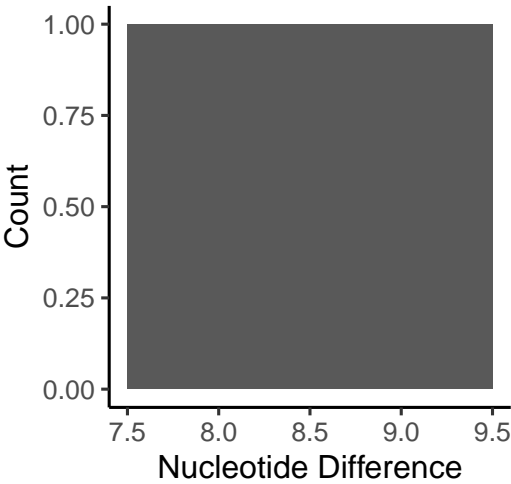
IGHV1-46\*01

357 sequences assigned  
252 (70.6%) exact matches, in which:  
252 unique CDR3  
6 unique J



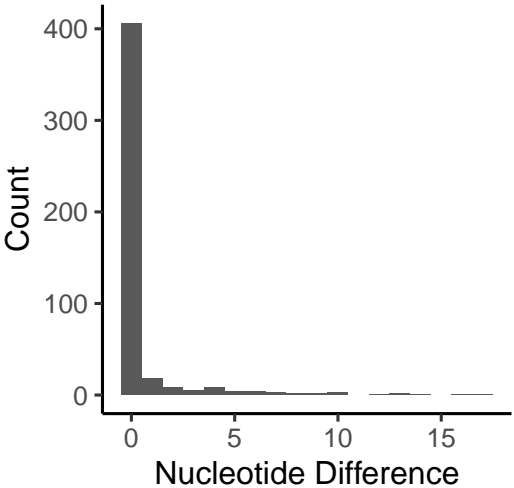
IGHV1-3\*01\_05

2 sequences assigned  
No exact matches.



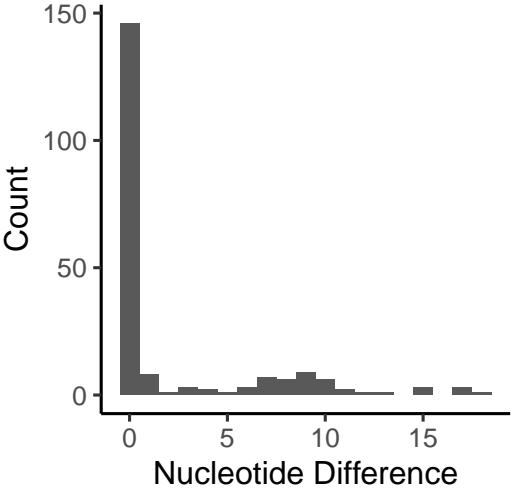
IGHV1-24\*01

469 sequences assigned  
406 (86.6%) exact matches, in which:  
404 unique CDR3  
6 unique J



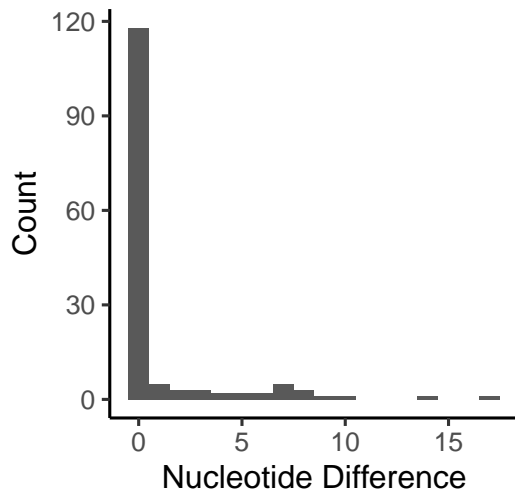
IGHV1-46\*03

203 sequences assigned  
146 (71.9%) exact matches, in which:  
146 unique CDR3  
6 unique J



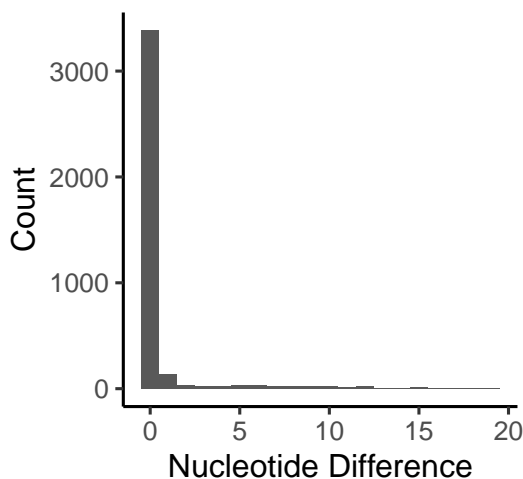
### IGHV1–58\*01\_03

147 sequences assigned  
118 (80.3%) exact matches, in which:  
118 unique CDR3  
5 unique J



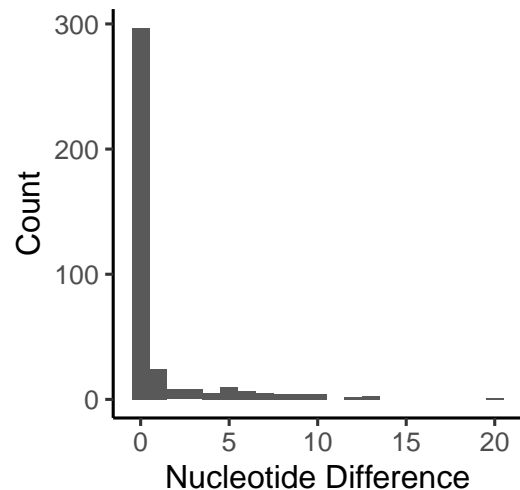
### IGHV1–69\*01\_12\_13

3833 sequences assigned  
3384 (88.3%) exact matches, in which:  
3379 unique CDR3  
6 unique J



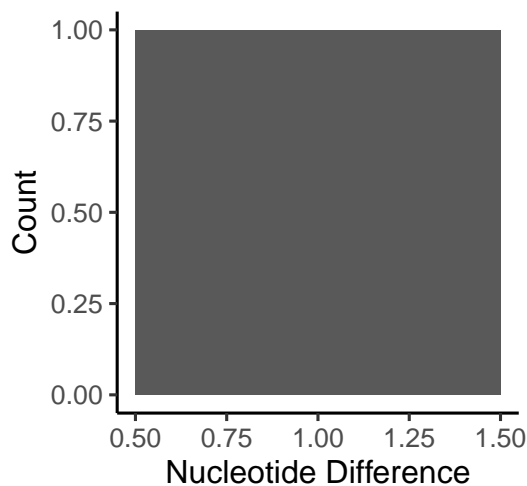
### IGHV2–5\*02

384 sequences assigned  
297 (77.3%) exact matches, in which:  
295 unique CDR3  
6 unique J



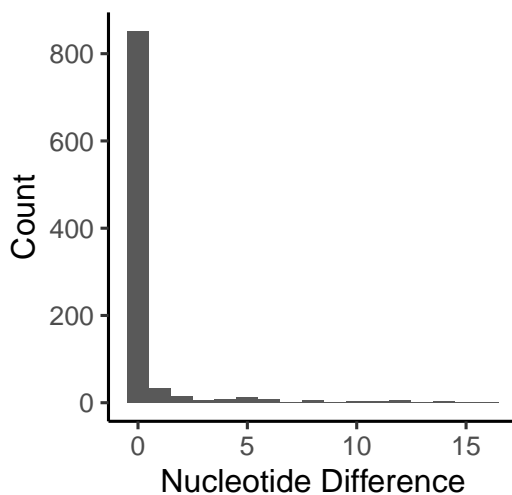
### IGHV1–68\*01

1 sequences assigned  
No exact matches.



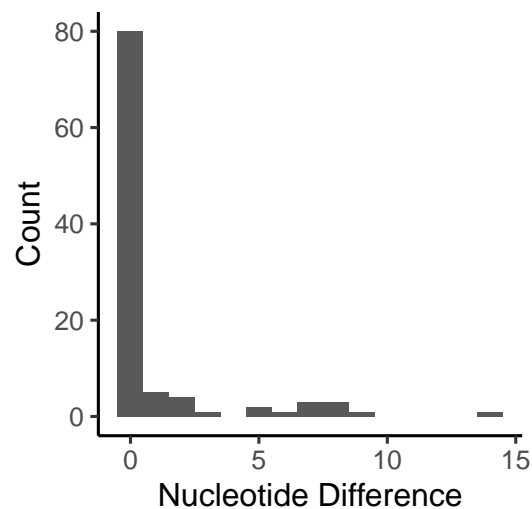
### IGHV1–69\*06\_14

964 sequences assigned  
852 (88.4%) exact matches, in which:  
851 unique CDR3  
6 unique J



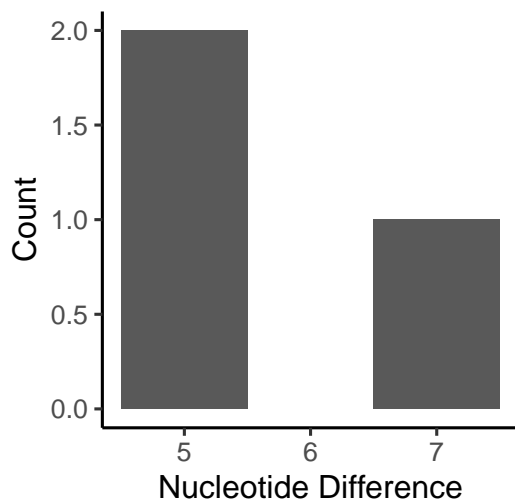
### IGHV2–26\*01

101 sequences assigned  
80 (79.2%) exact matches, in which:  
79 unique CDR3  
5 unique J



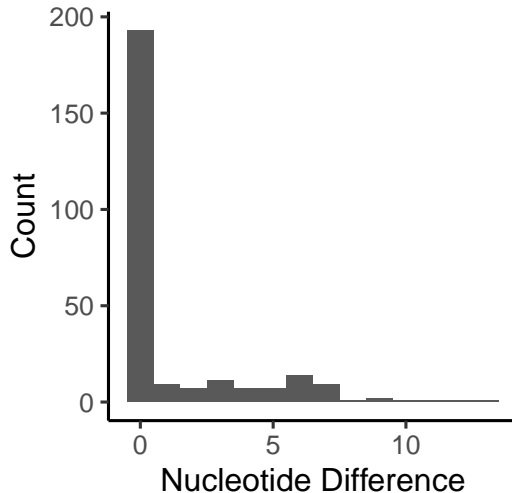
### IGHV1–69–2\*01

3 sequences assigned  
No exact matches.



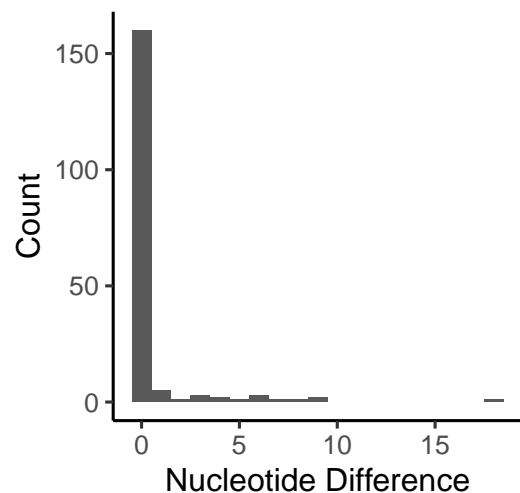
### IGHV2–5\*01

264 sequences assigned  
193 (73.1%) exact matches, in which:  
189 unique CDR3  
6 unique J



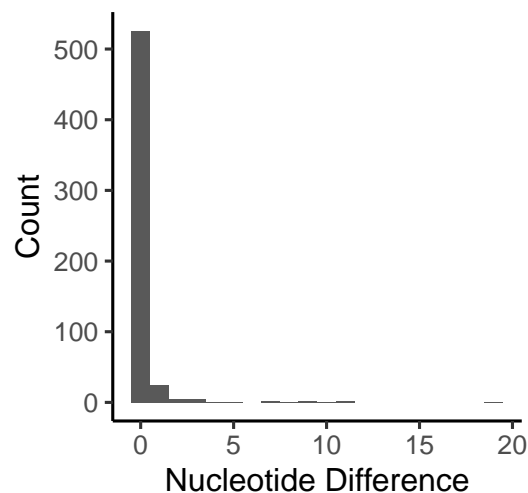
### IGHV2–70\*01

180 sequences assigned  
160 (88.9%) exact matches, in which:  
158 unique CDR3  
5 unique J



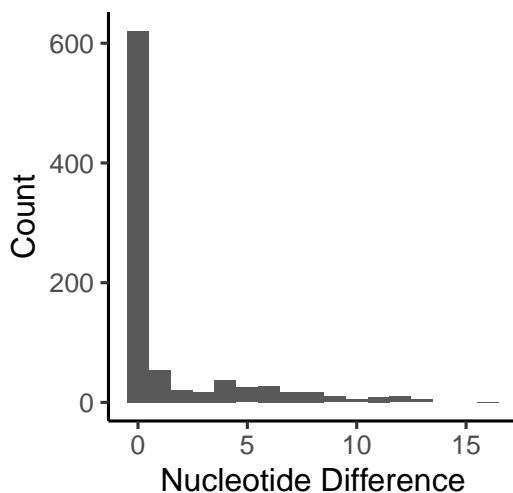
### IGHV2–70\*04

572 sequences assigned  
526 (92%) exact matches, in which:  
492 unique CDR3  
5 unique J



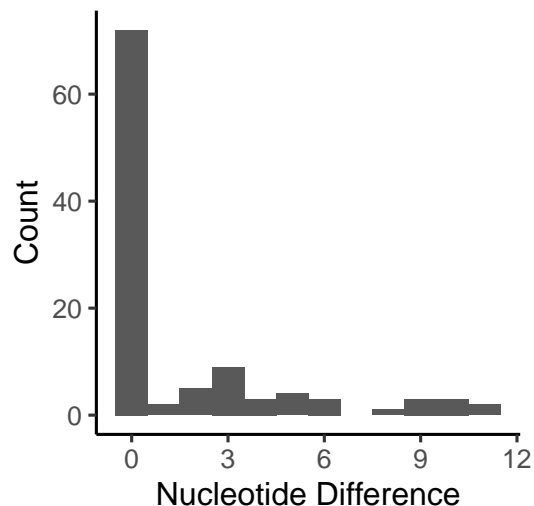
### IGHV3–11\*01

879 sequences assigned  
621 (70.6%) exact matches, in which:  
609 unique CDR3  
6 unique J



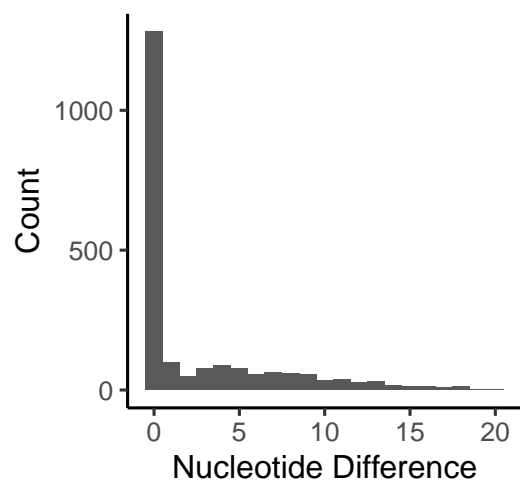
### IGHV3–20\*01\_02

107 sequences assigned  
72 (67.3%) exact matches, in which:  
69 unique CDR3  
6 unique J



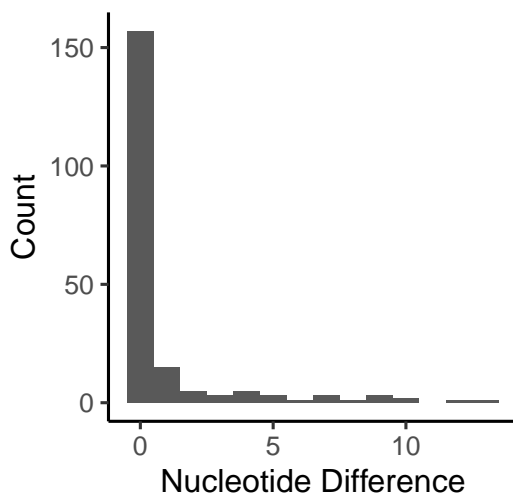
### IGHV3–7\*01

2109 sequences assigned  
1281 (60.7%) exact matches, in which:  
1230 unique CDR3  
6 unique J



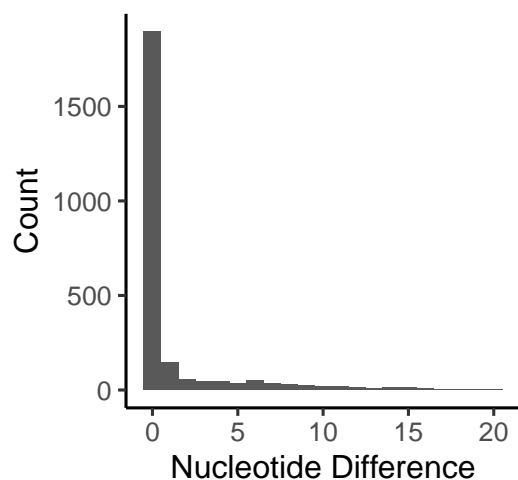
### IGHV3–13\*01

200 sequences assigned  
157 (78.5%) exact matches, in which:  
152 unique CDR3  
5 unique J



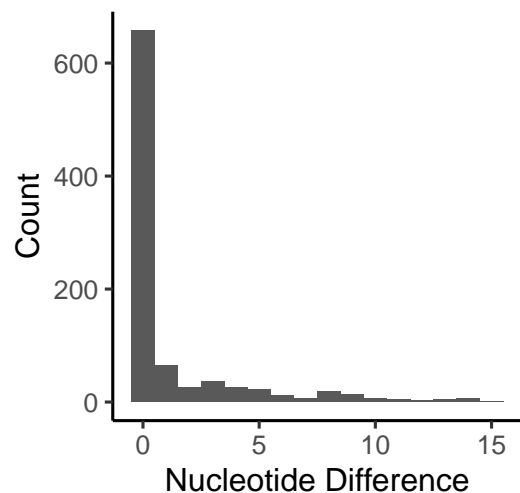
### IGHV3–21\*01\_02

2463 sequences assigned  
1895 (76.9%) exact matches, in which:  
1857 unique CDR3  
6 unique J



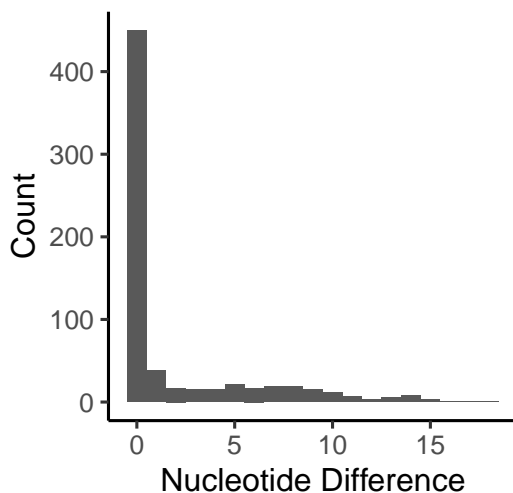
### IGHV3–9\*01

908 sequences assigned  
658 (72.5%) exact matches, in which:  
641 unique CDR3  
6 unique J



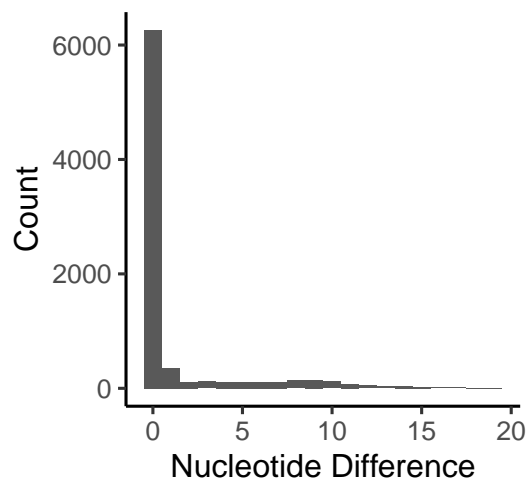
### IGHV3–15\*01\_02

668 sequences assigned  
450 (67.4%) exact matches, in which:  
439 unique CDR3  
6 unique J



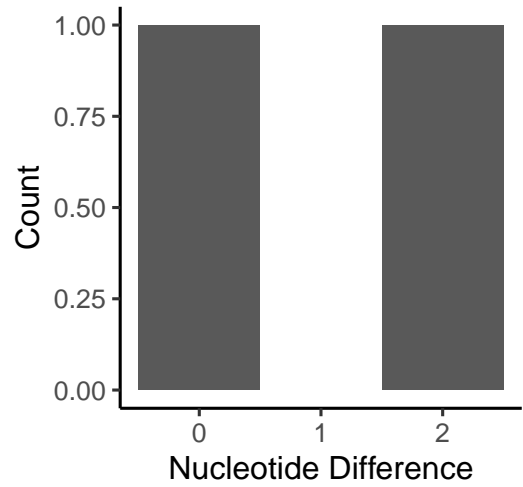
### IGHV3–23\*01\_04

7970 sequences assigned  
6262 (78.6%) exact matches, in which:  
6117 unique CDR3  
6 unique J



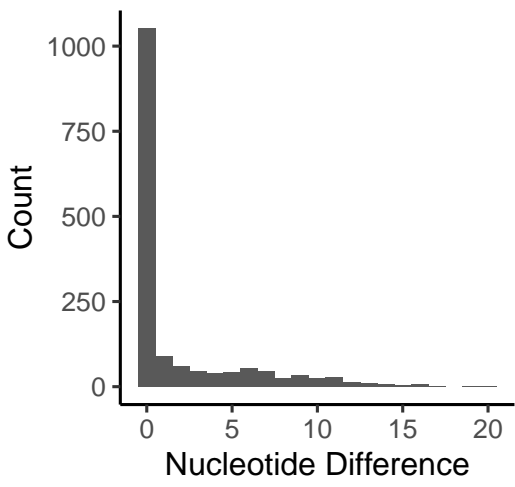
### IGHV3-30-3\*01

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



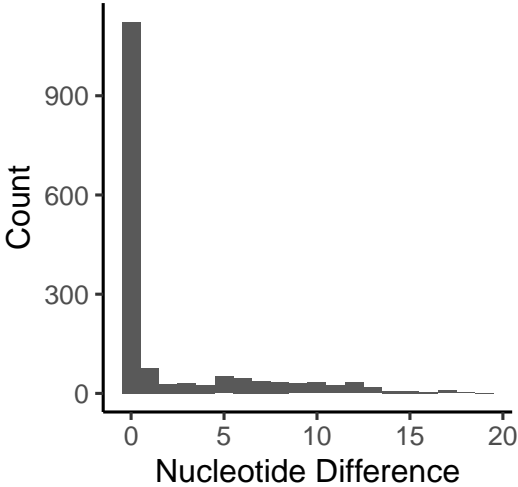
### IGHV3-33\*01

1591 sequences assigned  
1052 (66.1%) exact matches, in which:  
1030 unique CDR3  
6 unique J



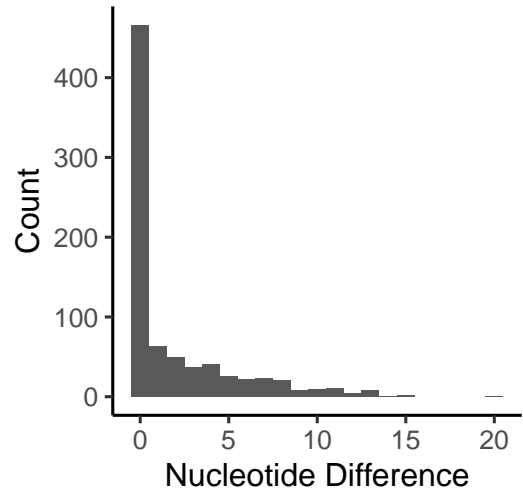
### IGHV3-48\*02

1630 sequences assigned  
1124 (69%) exact matches, in which:  
1095 unique CDR3  
6 unique J



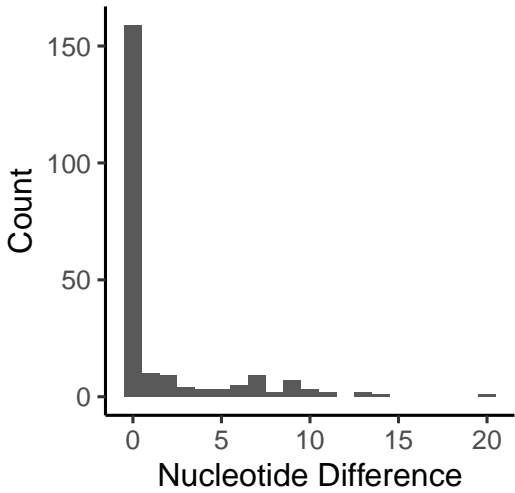
### IGHV3-30\*03

798 sequences assigned  
466 (58.4%) exact matches, in which:  
451 unique CDR3  
6 unique J



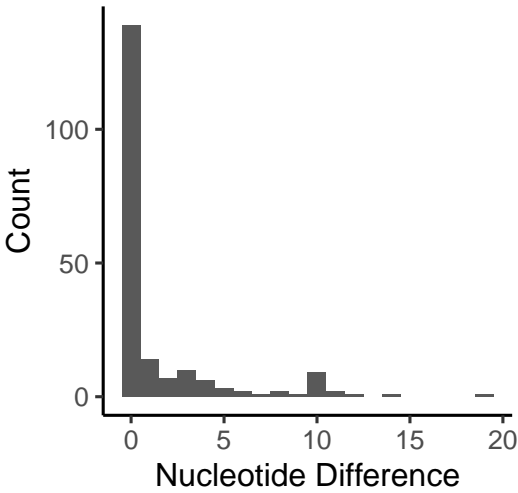
### IGHV3-43\*01

220 sequences assigned  
159 (72.3%) exact matches, in which:  
158 unique CDR3  
6 unique J



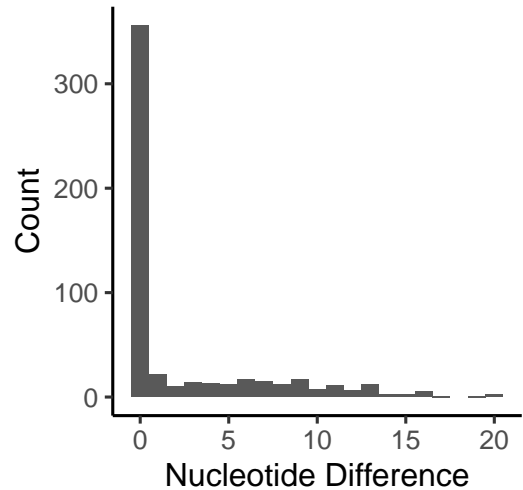
### IGHV3-49\*03\_05

201 sequences assigned  
139 (69.2%) exact matches, in which:  
137 unique CDR3  
6 unique J



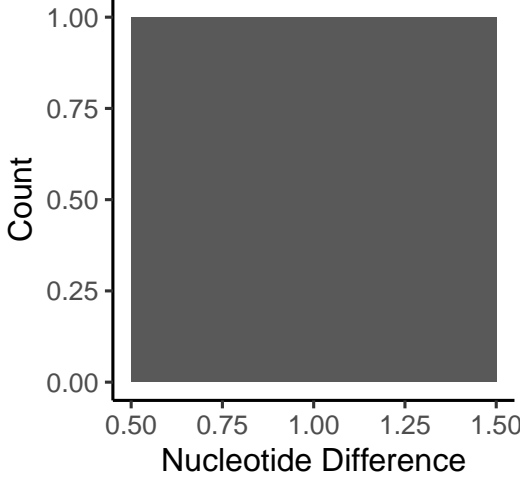
### IGHV3-30\*18

538 sequences assigned  
356 (66.2%) exact matches, in which:  
348 unique CDR3  
6 unique J



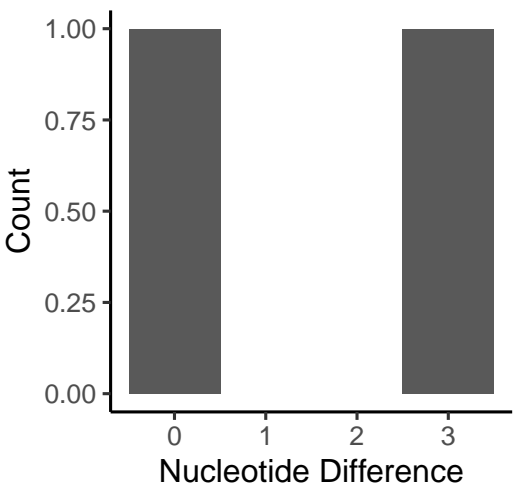
### IGHV3-47\*02

1 sequences assigned  
No exact matches.



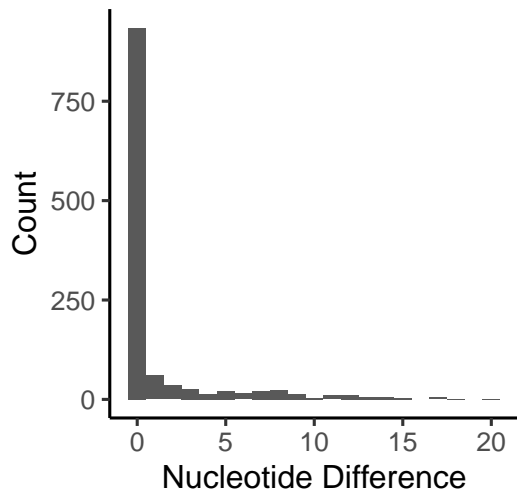
### IGHV3-52\*01\_03

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



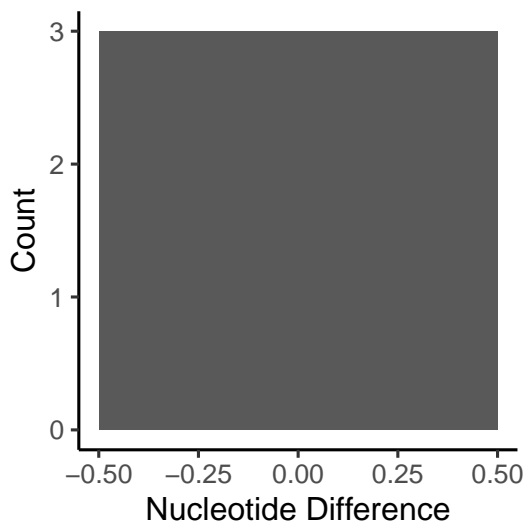
### IGHV3–53\*01\_02

1213 sequences assigned  
935 (77.1%) exact matches, in which:  
921 unique CDR3  
6 unique J



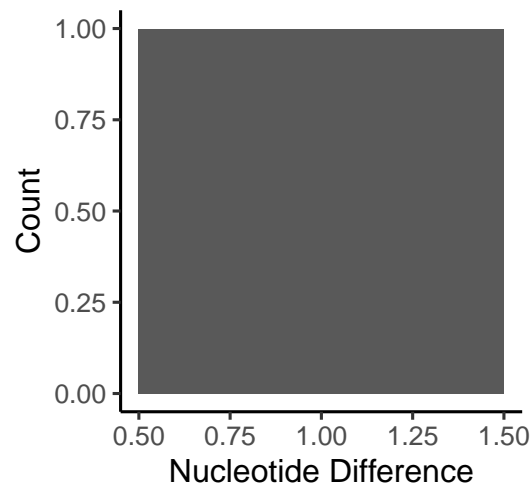
### IGHV3–66\*03

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



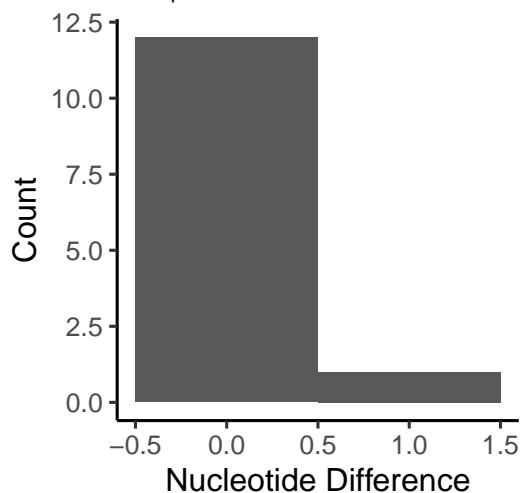
### IGHV3–71\*01\_04

1 sequences assigned  
No exact matches.



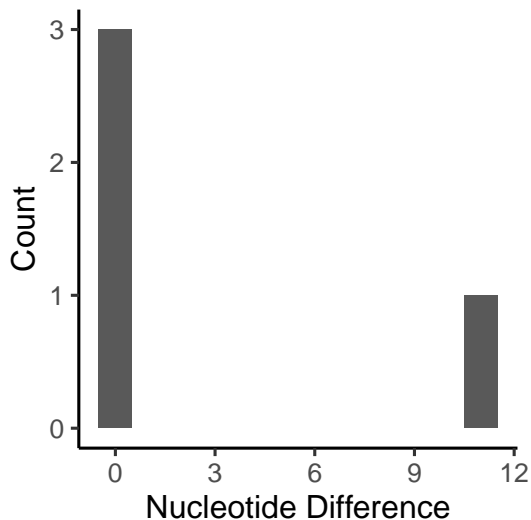
### IGHV3–64\*02\_07

13 sequences assigned  
12 (92.3%) exact matches, in which:  
12 unique CDR3  
4 unique J



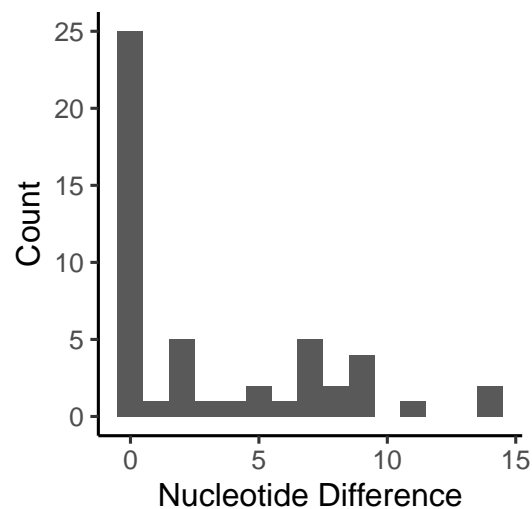
### IGHV3–69–1\*01

4 sequences assigned  
3 (75%) exact matches, in which:  
3 unique CDR3  
3 unique J



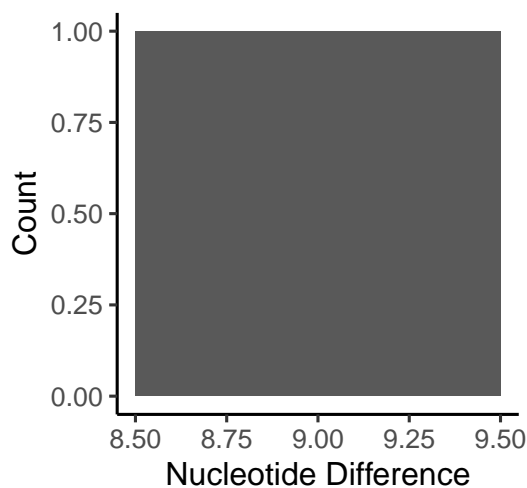
### IGHV3–72\*01

50 sequences assigned  
25 (50%) exact matches, in which:  
24 unique CDR3  
4 unique J



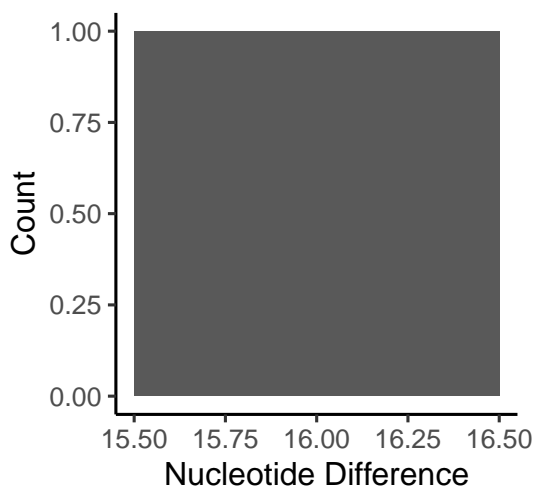
### IGHV3–66\*01

2 sequences assigned  
No exact matches.



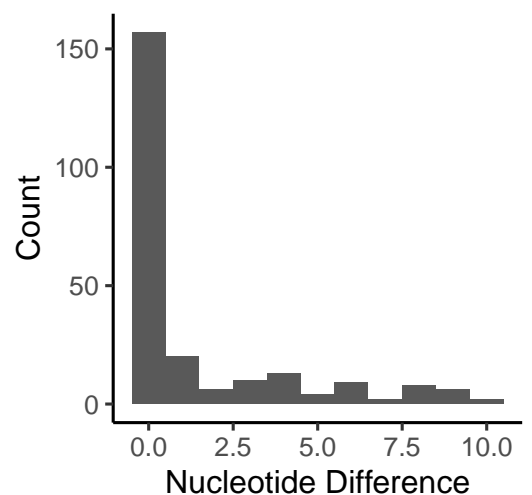
### IGHV3–69–1\*02

1 sequences assigned  
No exact matches.



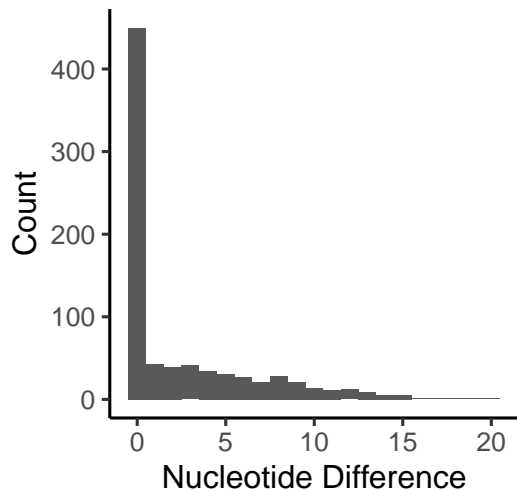
### IGHV3–73\*01\_02

237 sequences assigned  
157 (66.2%) exact matches, in which:  
140 unique CDR3  
6 unique J



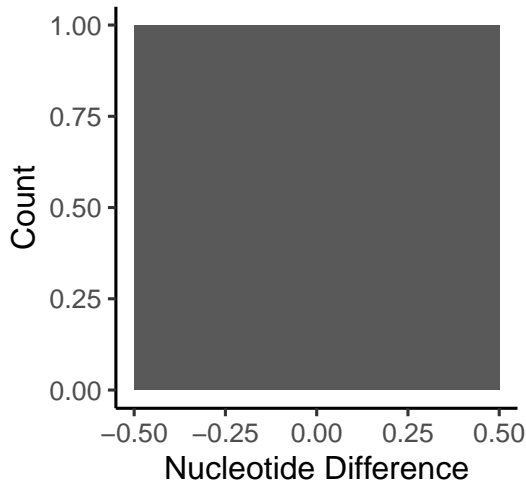
### IGHV3–74\*01\_02

798 sequences assigned  
450 (56.4%) exact matches, in which:  
421 unique CDR3  
6 unique J



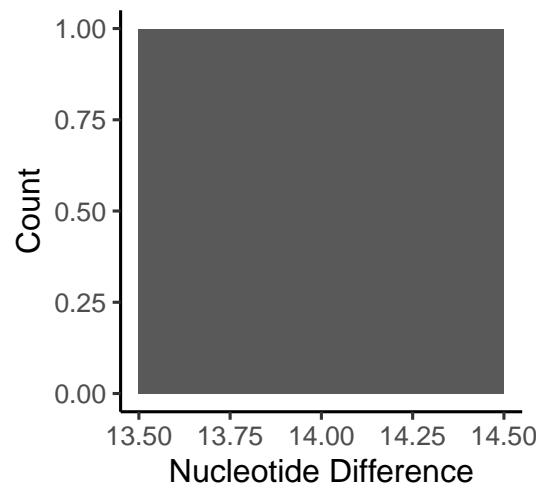
### IGHV4–28\*03

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



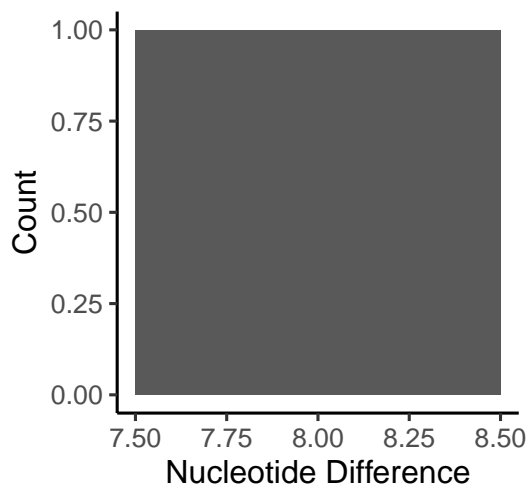
### IGHV4–30–2\*01

2 sequences assigned  
No exact matches.



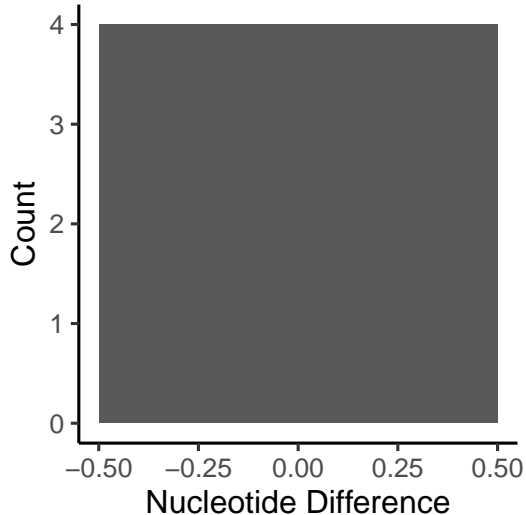
### IGHV3–64D\*09

2 sequences assigned  
No exact matches.



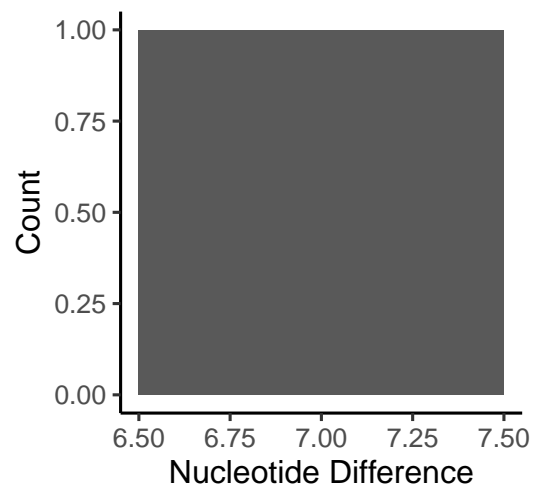
### IGHV4–28\*01\_07

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



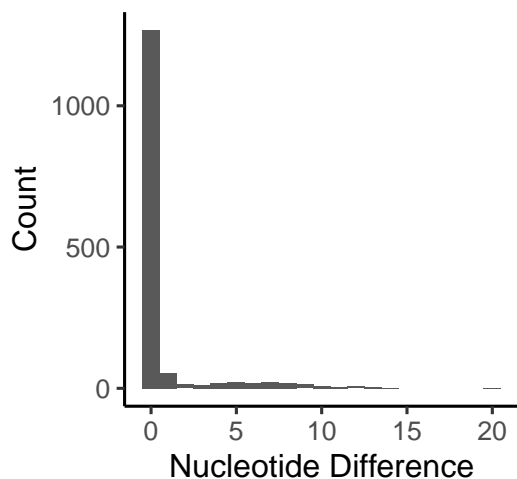
### IGHV4–30–2\*03

1 sequences assigned  
No exact matches.



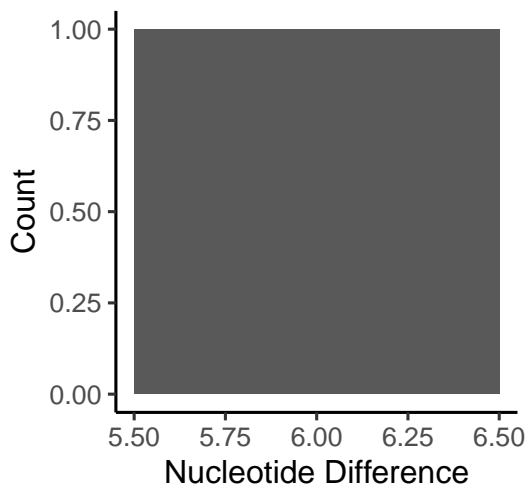
### IGHV4–4\*07

1487 sequences assigned  
1268 (85.3%) exact matches, in which:  
1237 unique CDR3  
6 unique J



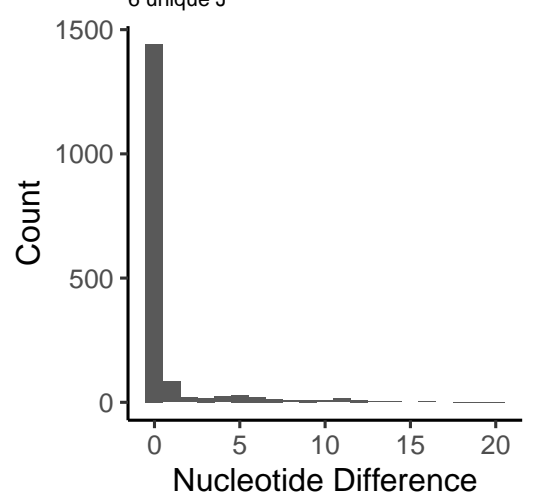
### IGHV4–30–4\*01

1 sequences assigned  
No exact matches.



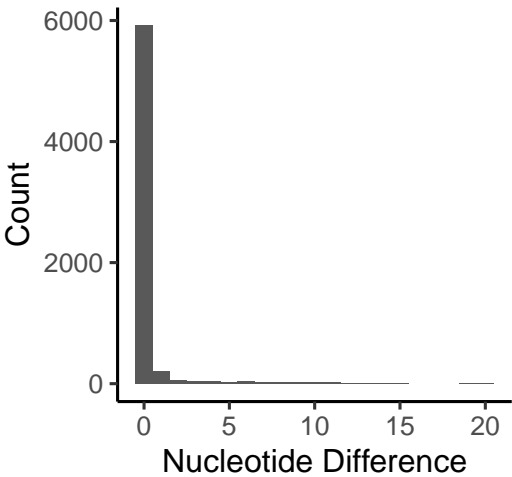
### IGHV4–31\*02

1719 sequences assigned  
1442 (83.9%) exact matches, in which:  
1424 unique CDR3  
6 unique J



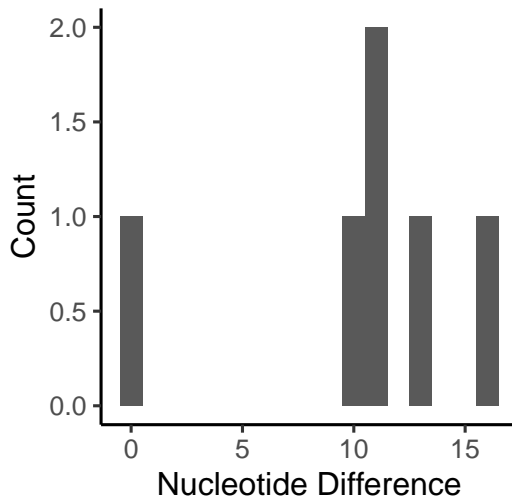
### IGHV4–34\*01\_02

6474 sequences assigned  
5919 (91.4%) exact matches, in which:  
5842 unique CDR3  
6 unique J



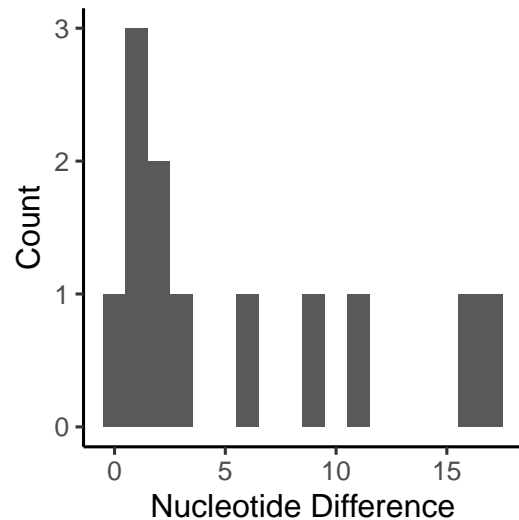
### IGHV4–59\*02

6 sequences assigned  
1 (16.7%) exact matches, in which:  
1 unique CDR3  
1 unique J



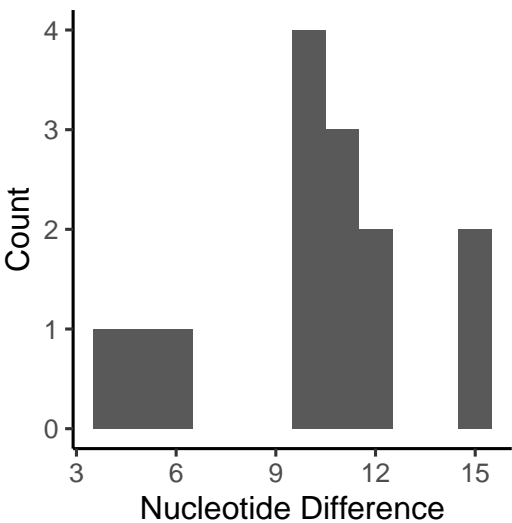
### IGHV4–59\*12

12 sequences assigned  
1 (8.3%) exact matches, in which:  
1 unique CDR3  
1 unique J



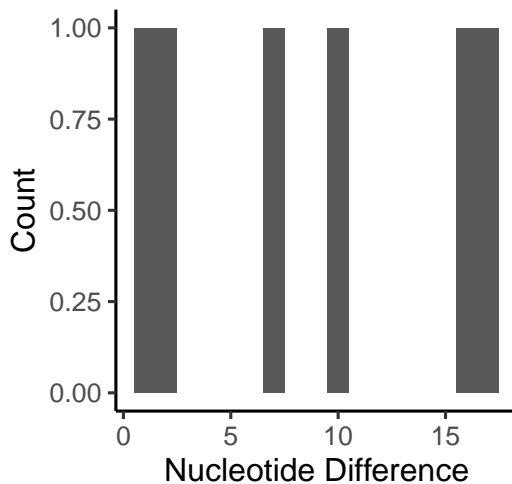
### IGHV4–39\*02

14 sequences assigned  
No exact matches.



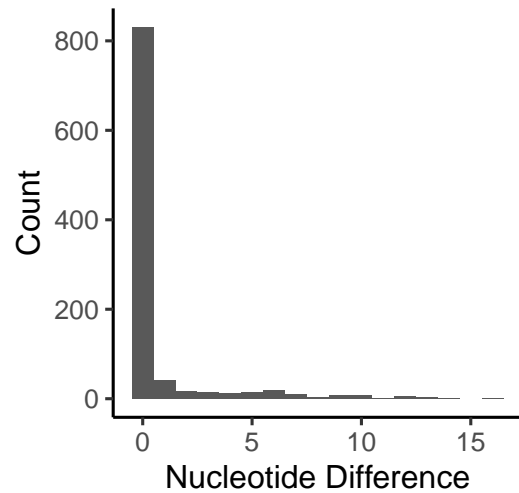
### IGHV4–59\*08

7 sequences assigned  
No exact matches.



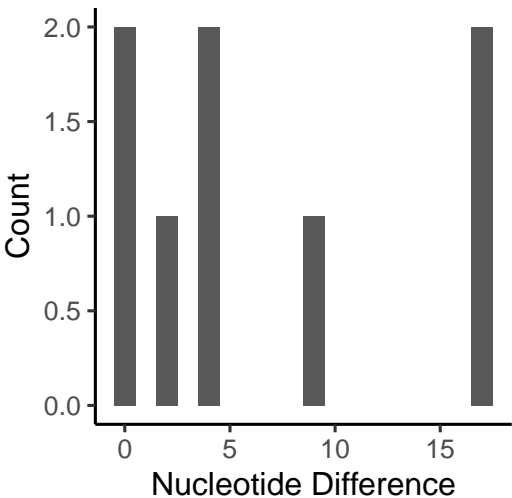
### IGHV4–61\*01

991 sequences assigned  
831 (83.9%) exact matches, in which:  
824 unique CDR3  
6 unique J



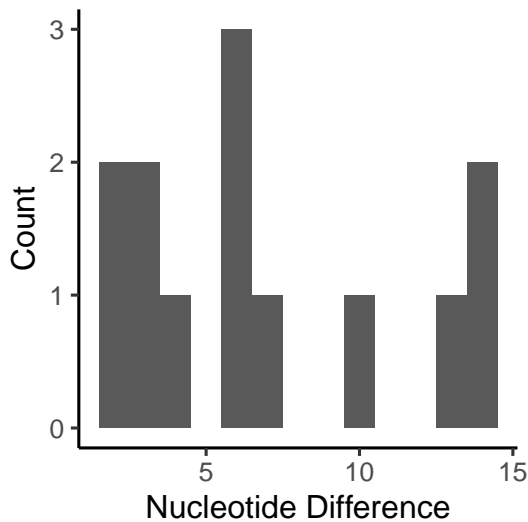
### IGHV4–39\*07

13 sequences assigned  
2 (15.4%) exact matches, in which:  
2 unique CDR3  
1 unique J



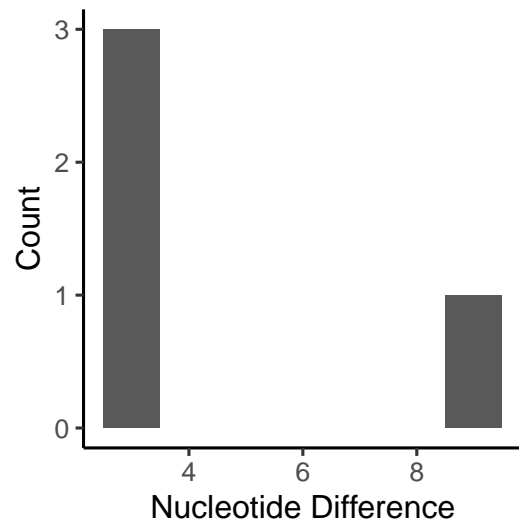
### IGHV4–59\*11

13 sequences assigned  
No exact matches.



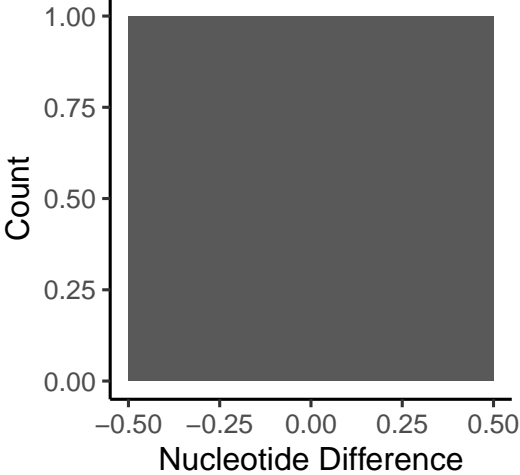
### IGHV4/OR15–8\*01

5 sequences assigned  
No exact matches.



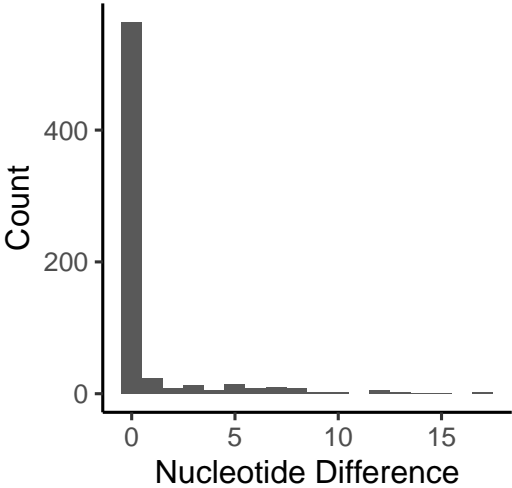
# IGHV5-51\*01\_03

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



# IGHV6-1\*01\_02

674 sequences assigned  
564 (83.7%) exact matches, in which:  
560 unique CDR3  
6 unique J







Warning – no inferred sequences found.