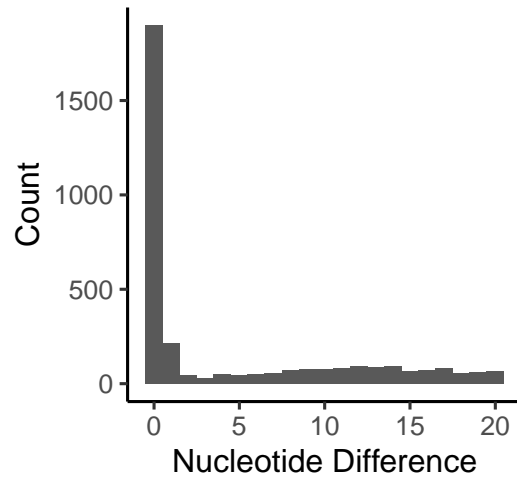


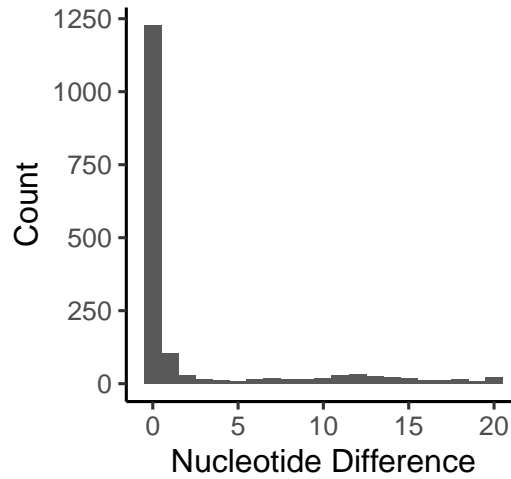
### IGHV1-2\*02

4260 sequences assigned  
1898 (44.6%) exact matches, in which:  
1890 unique CDR3  
7 unique J



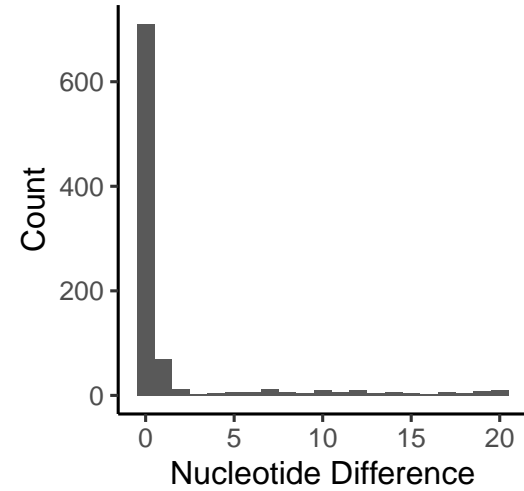
### IGHV1-8\*01

1869 sequences assigned  
1227 (65.7%) exact matches, in which:  
1222 unique CDR3  
7 unique J



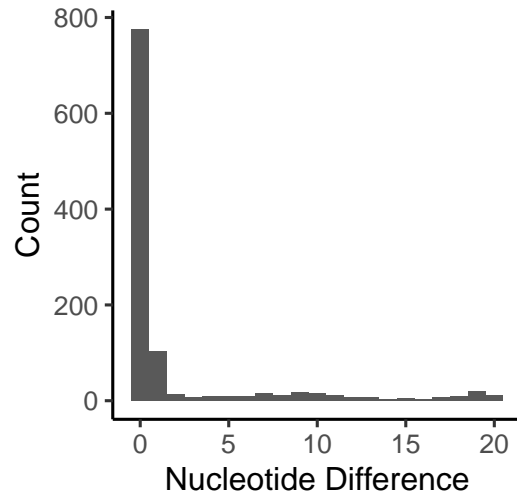
### IGHV1-24\*01

980 sequences assigned  
711 (72.6%) exact matches, in which:  
709 unique CDR3  
7 unique J



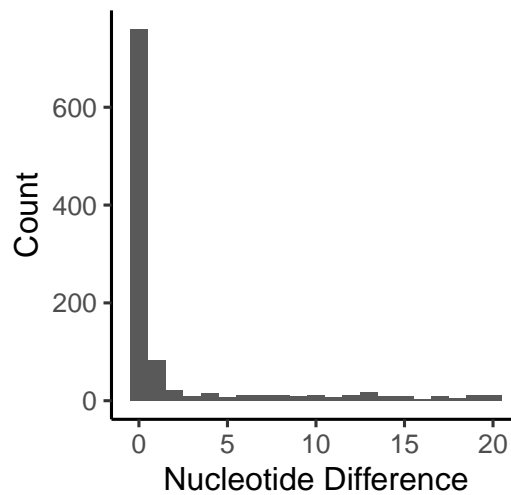
### IGHV1-2\*04

1145 sequences assigned  
776 (67.8%) exact matches, in which:  
771 unique CDR3  
7 unique J



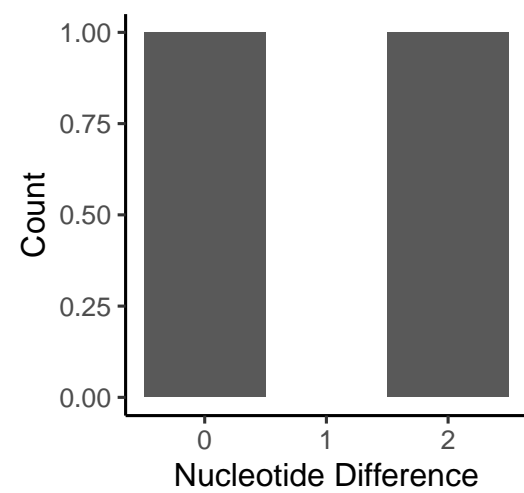
### IGHV1-8\*03

1100 sequences assigned  
760 (69.1%) exact matches, in which:  
758 unique CDR3  
6 unique J



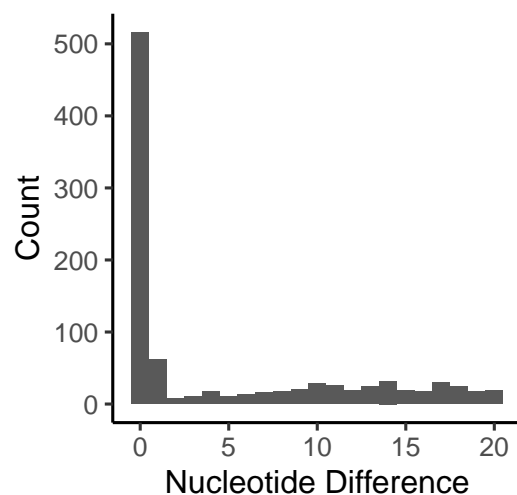
### IGHV1-45\*02

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



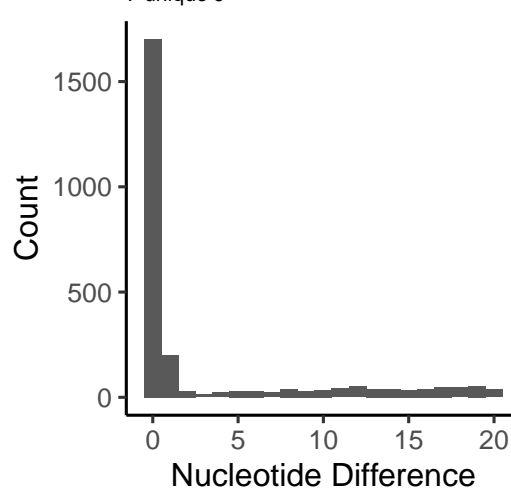
### IGHV1-3\*01

1267 sequences assigned  
516 (40.7%) exact matches, in which:  
512 unique CDR3  
6 unique J



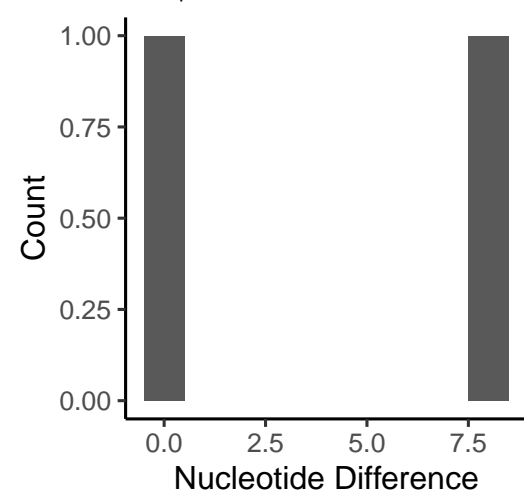
### IGHV1-18\*01

3167 sequences assigned  
1702 (53.7%) exact matches, in which:  
1699 unique CDR3  
7 unique J



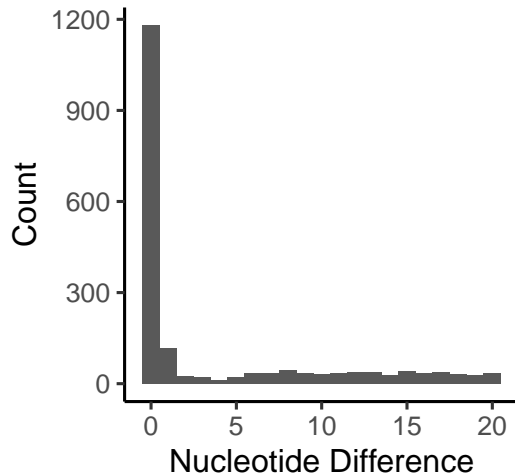
### IGHV1-45\*03

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



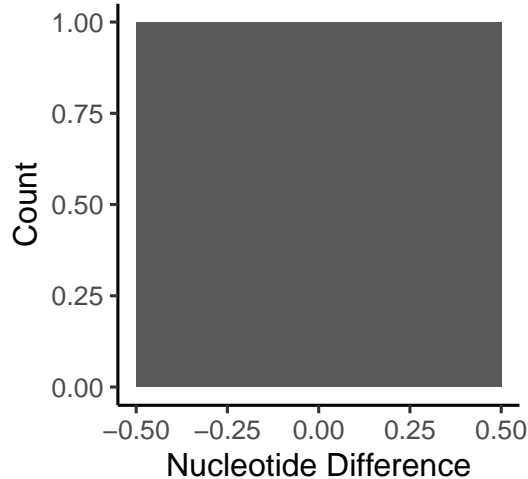
### IGHV1-46\*01

2502 sequences assigned  
1180 (47.2%) exact matches, in which:  
1176 unique CDR3  
7 unique J



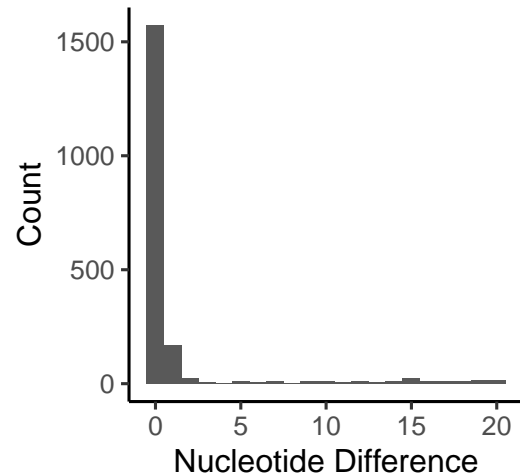
### IGHV1-68\*02

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



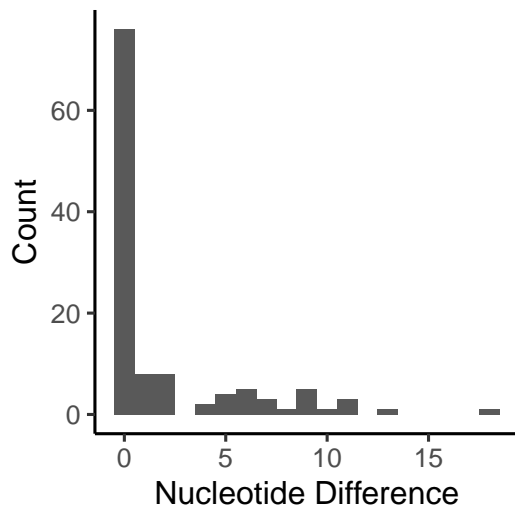
### IGHV1-69\*06

2257 sequences assigned  
1572 (69.6%) exact matches, in which:  
1568 unique CDR3  
7 unique J



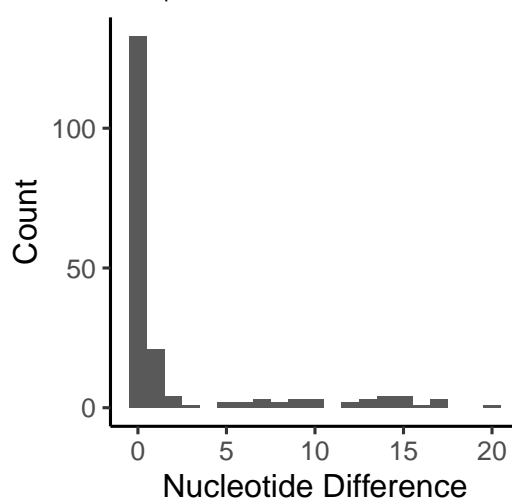
### IGHV1-58\*01

121 sequences assigned  
76 (62.8%) exact matches, in which:  
76 unique CDR3  
5 unique J



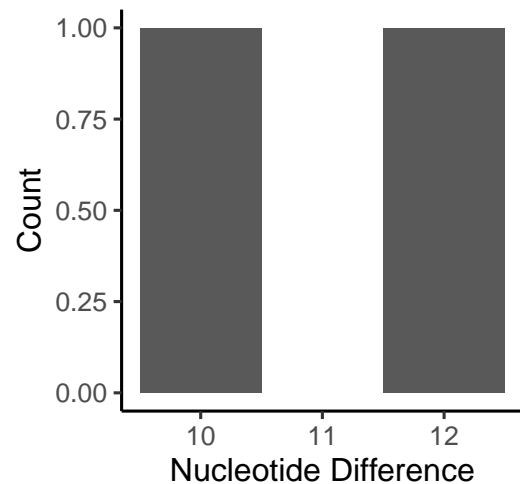
### IGHV1-69-2\*01

222 sequences assigned  
133 (59.9%) exact matches, in which:  
132 unique CDR3  
7 unique J



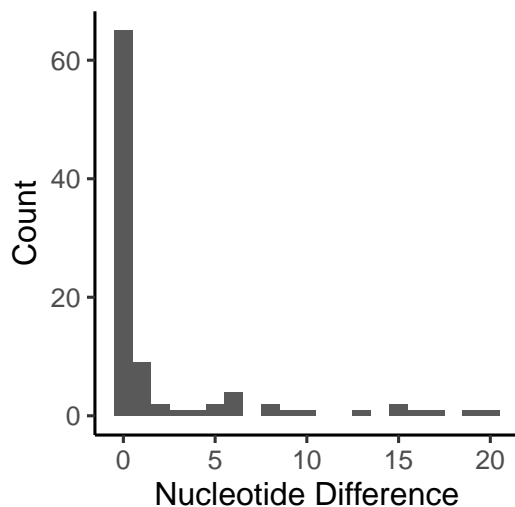
### IGHV1-NL1\*01

2 sequences assigned  
No exact matches.



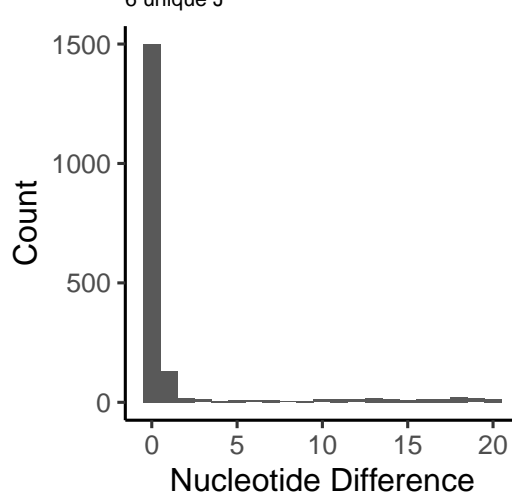
### IGHV1-58\*02

115 sequences assigned  
65 (56.5%) exact matches, in which:  
65 unique CDR3  
5 unique J



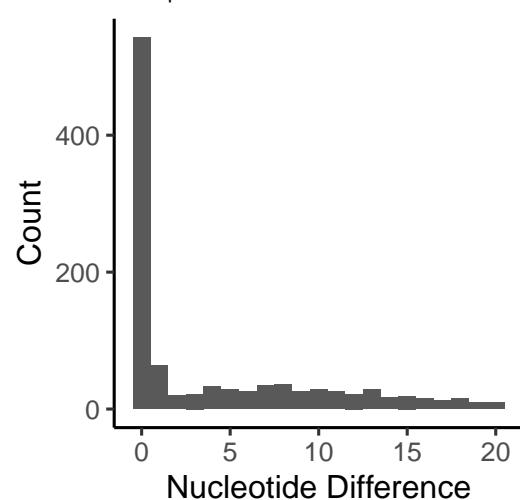
### IGHV1-69\*04

2153 sequences assigned  
1500 (69.7%) exact matches, in which:  
1492 unique CDR3  
6 unique J



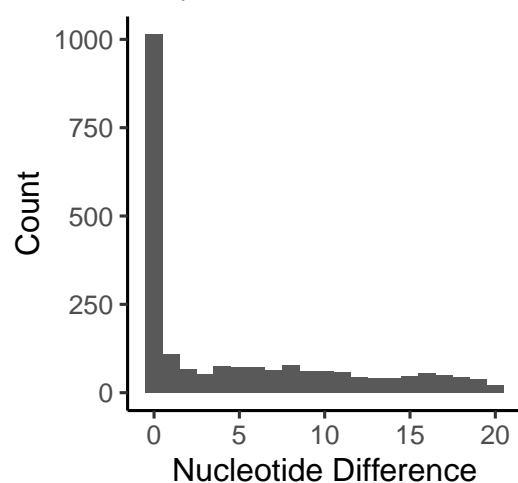
### IGHV2-5\*01

1118 sequences assigned  
543 (48.6%) exact matches, in which:  
542 unique CDR3  
6 unique J



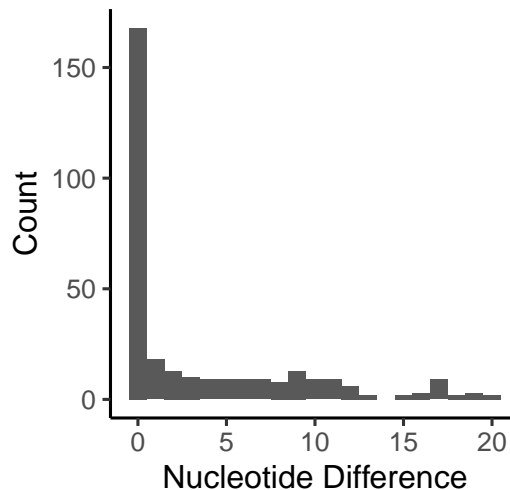
### IGHV2-5\*02

2374 sequences assigned  
1014 (42.7%) exact matches, in which:  
1014 unique CDR3  
6 unique J



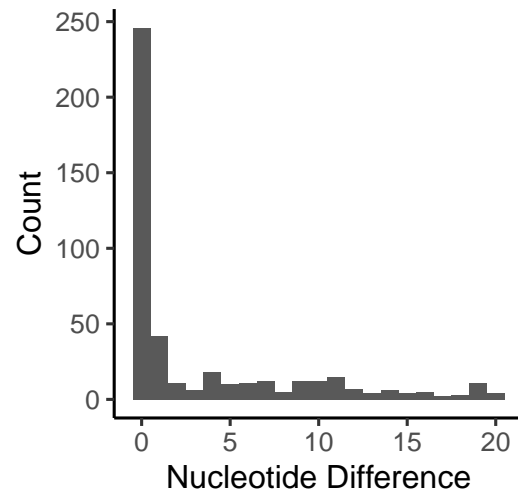
### IGHV2-70\*15

346 sequences assigned  
168 (48.6%) exact matches, in which:  
168 unique CDR3  
5 unique J



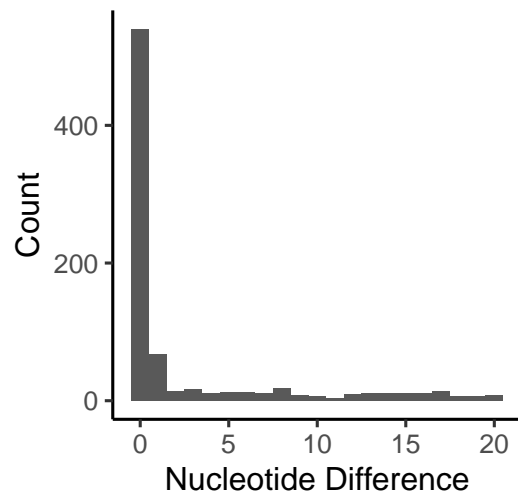
### IGHV3-9\*03

460 sequences assigned  
246 (53.5%) exact matches, in which:  
246 unique CDR3  
7 unique J



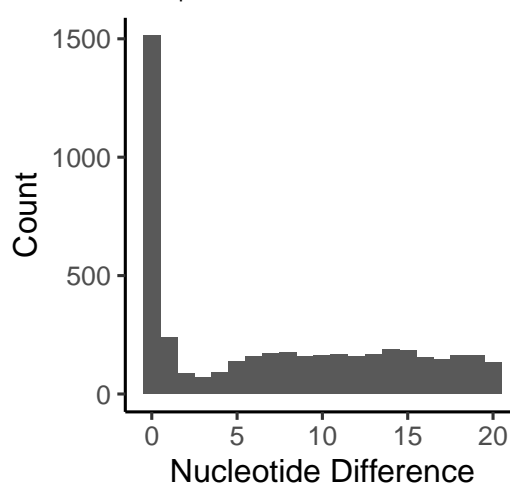
### IGHV2-26\*01

849 sequences assigned  
540 (63.6%) exact matches, in which:  
536 unique CDR3  
6 unique J



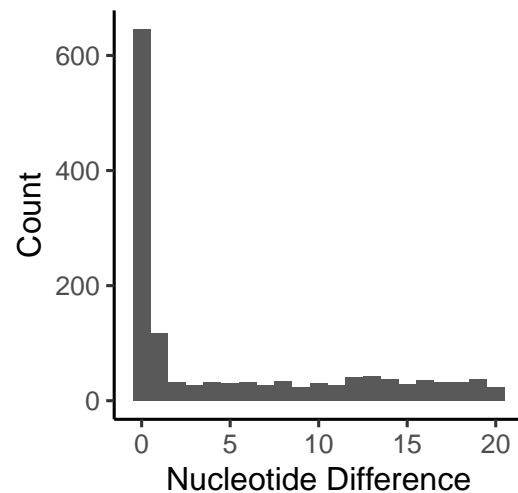
### IGHV3-7\*01

5982 sequences assigned  
1513 (25.3%) exact matches, in which:  
1506 unique CDR3  
7 unique J



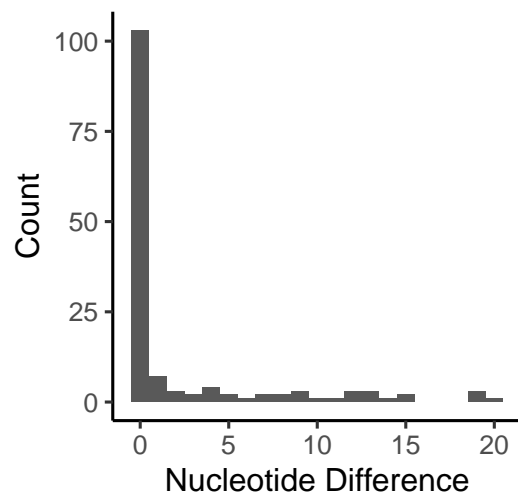
### IGHV3-11\*01

1741 sequences assigned  
646 (37.1%) exact matches, in which:  
640 unique CDR3  
6 unique J



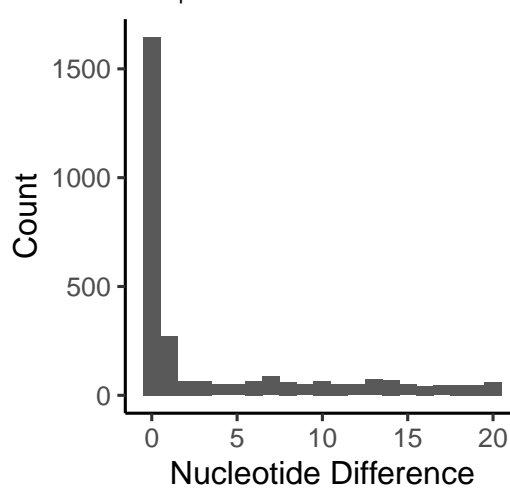
### IGHV2-70\*01

151 sequences assigned  
103 (68.2%) exact matches, in which:  
103 unique CDR3  
5 unique J



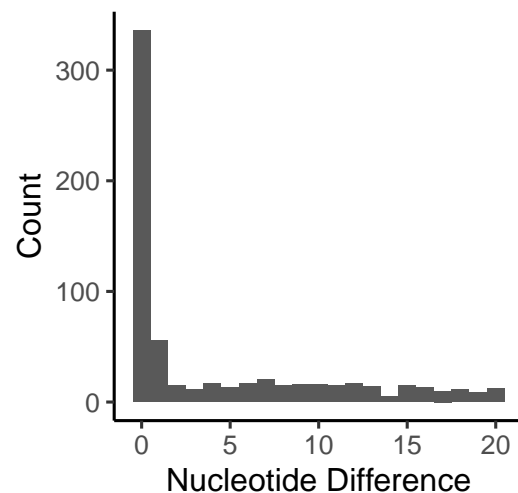
### IGHV3-9\*01

3404 sequences assigned  
1646 (48.4%) exact matches, in which:  
1640 unique CDR3  
6 unique J



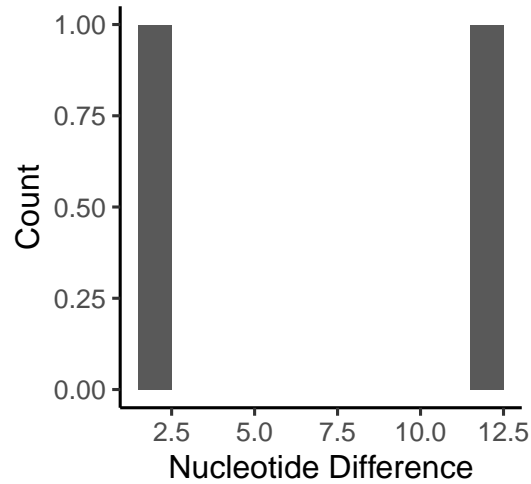
### IGHV3-11\*04

815 sequences assigned  
336 (41.2%) exact matches, in which:  
336 unique CDR3  
7 unique J



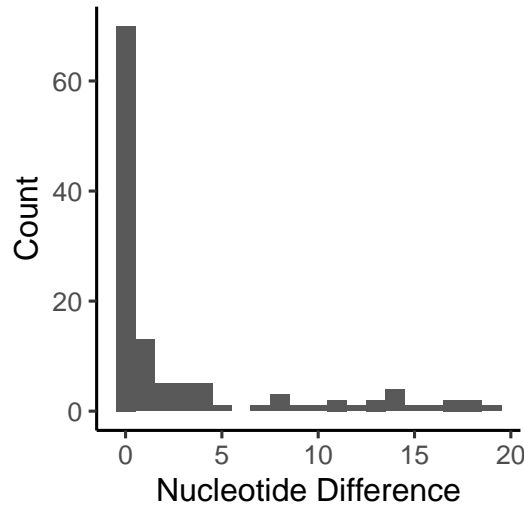
### IGHV3-11\*06

5 sequences assigned  
No exact matches.



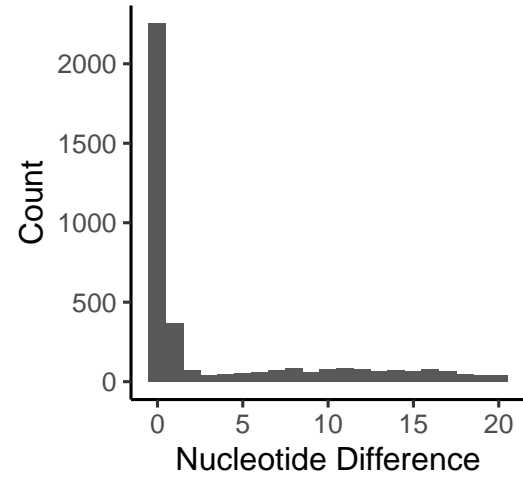
### IGHV3-20\*01

130 sequences assigned  
70 (53.8%) exact matches, in which:  
70 unique CDR3  
5 unique J



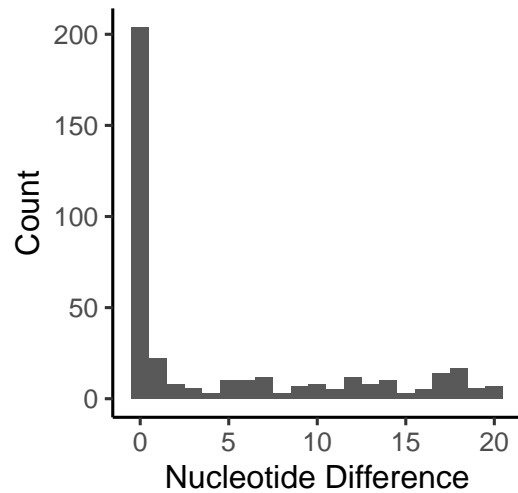
### IGHV3-30-3\*01

4421 sequences assigned  
2254 (51%) exact matches, in which:  
2241 unique CDR3  
6 unique J



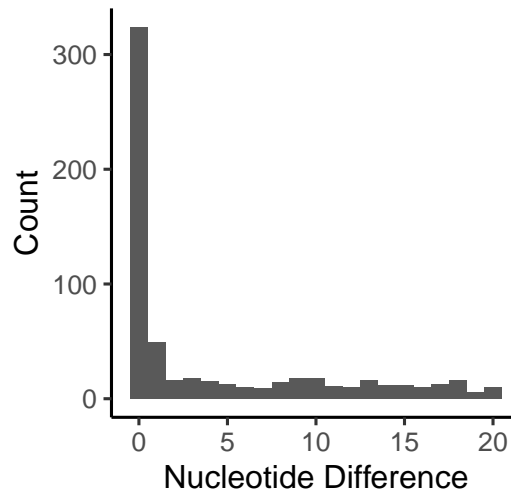
### IGHV3-13\*01

445 sequences assigned  
204 (45.8%) exact matches, in which:  
204 unique CDR3  
6 unique J



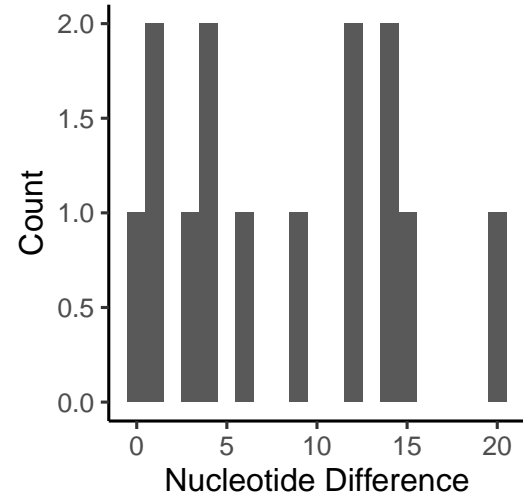
### IGHV3-20\*04

738 sequences assigned  
324 (43.9%) exact matches, in which:  
322 unique CDR3  
7 unique J



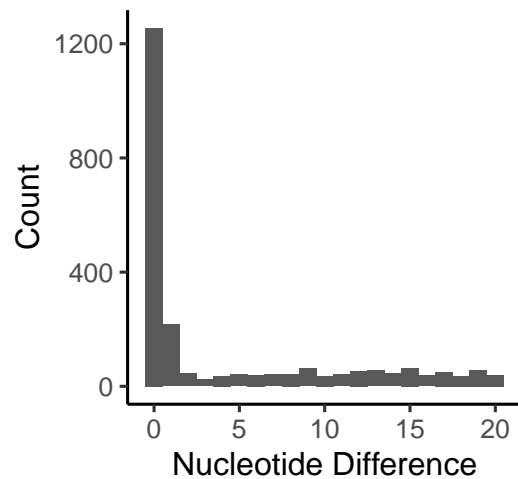
### IGHV3-30-3\*02

36 sequences assigned  
1 (2.8%) exact matches, in which:  
1 unique CDR3  
1 unique J



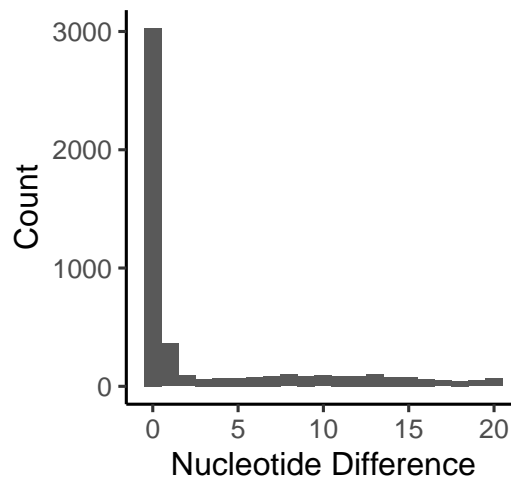
### IGHV3-15\*01

2796 sequences assigned  
1255 (44.9%) exact matches, in which:  
1246 unique CDR3  
7 unique J



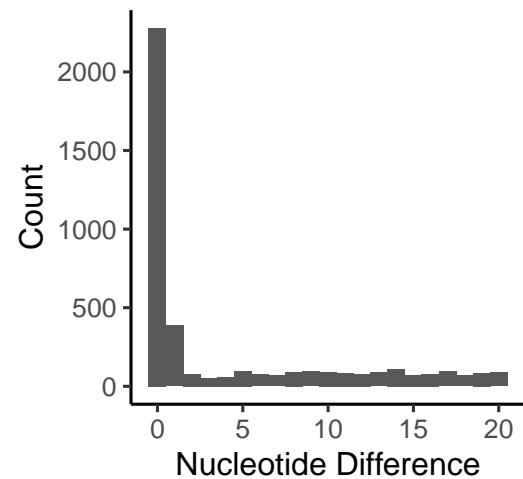
### IGHV3-21\*01

5389 sequences assigned  
3029 (56.2%) exact matches, in which:  
3018 unique CDR3  
7 unique J



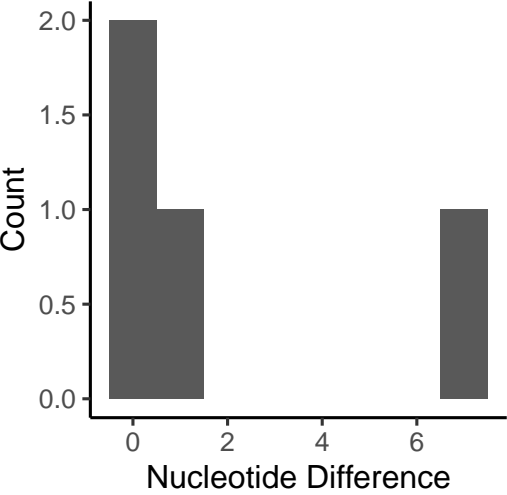
### IGHV3-33\*01

5019 sequences assigned  
2279 (45.4%) exact matches, in which:  
2267 unique CDR3  
7 unique J



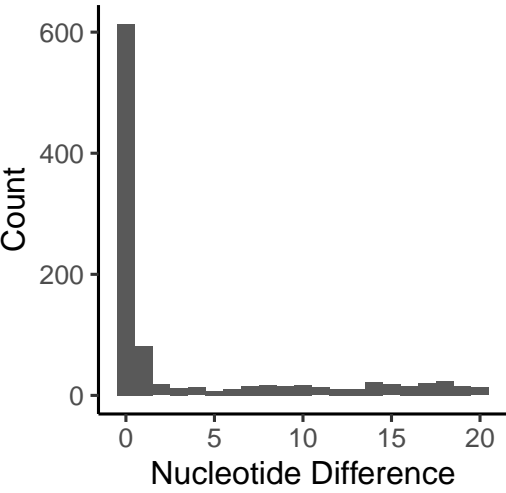
IGHV3-35\*01

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



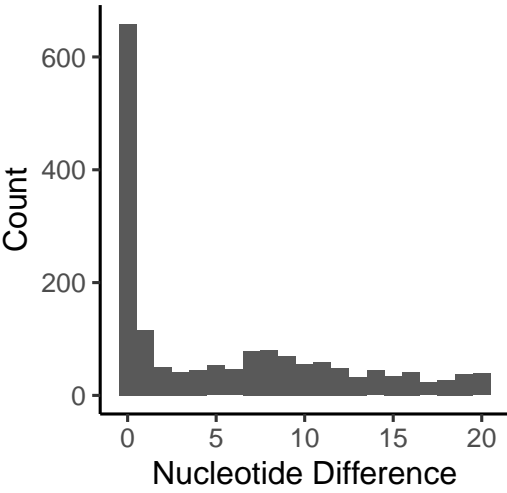
IGHV3-43\*02

1155 sequences assigned  
614 (53.2%) exact matches, in which:  
613 unique CDR3  
7 unique J



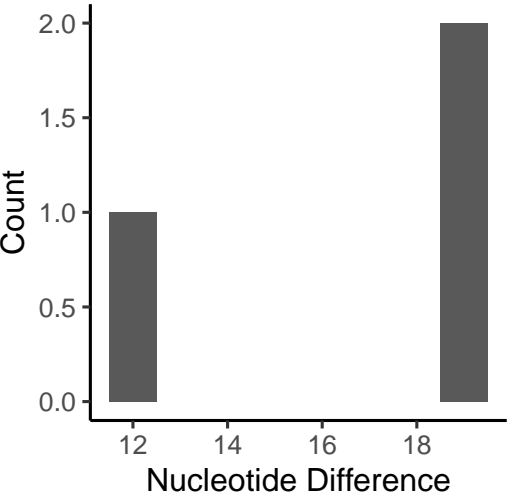
IGHV3-48\*02

2068 sequences assigned  
659 (31.9%) exact matches, in which:  
649 unique CDR3  
7 unique J



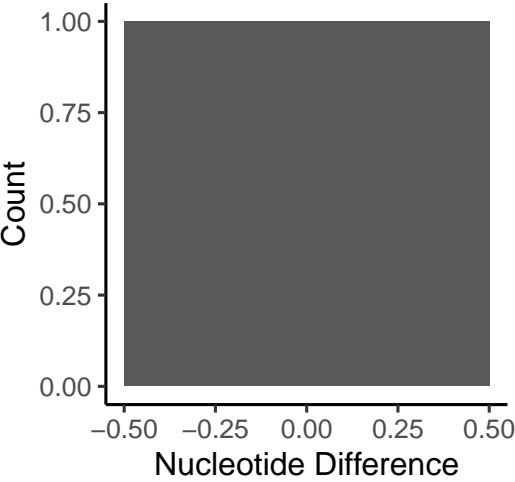
IGHV3-41\*02

3 sequences assigned  
No exact matches.



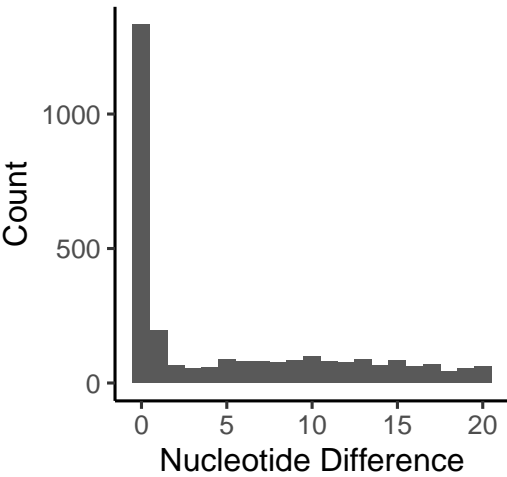
IGHV3-47\*01

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



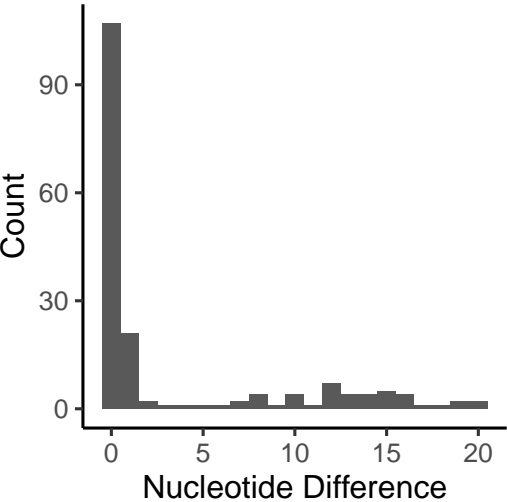
IGHV3-48\*03

3333 sequences assigned  
1332 (40%) exact matches, in which:  
1324 unique CDR3  
7 unique J



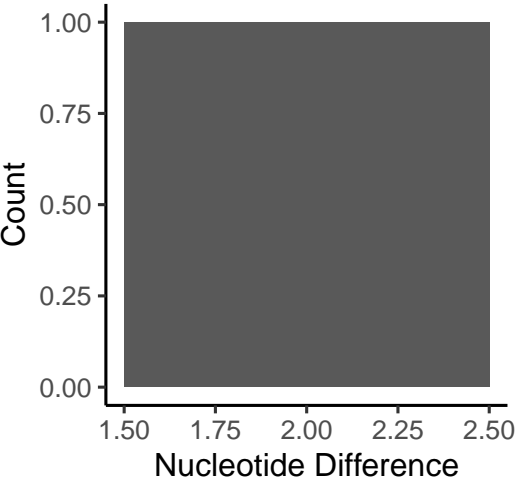
IGHV3-43\*01

203 sequences assigned  
107 (52.7%) exact matches, in which:  
103 unique CDR3  
6 unique J



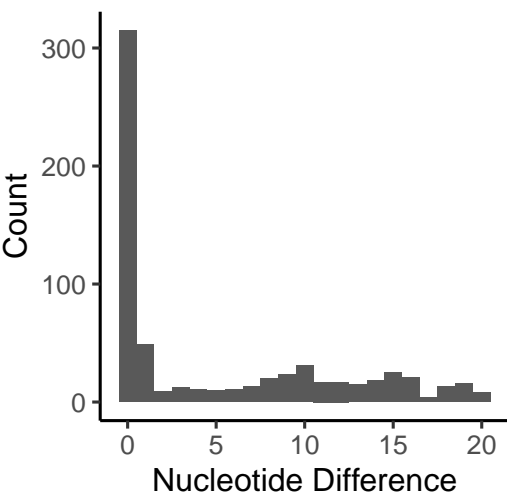
IGHV3-47\*02

1 sequences assigned  
No exact matches.



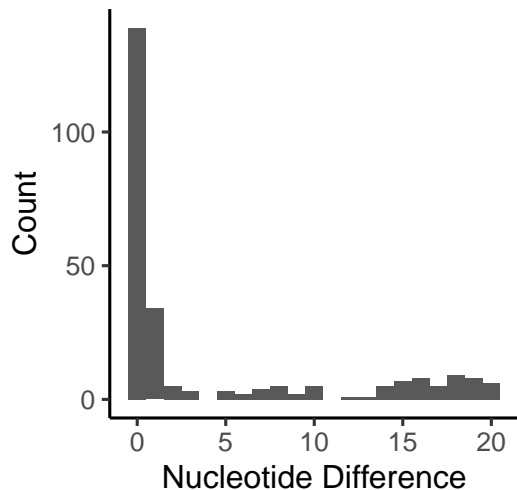
IGHV3-49\*04

737 sequences assigned  
315 (42.7%) exact matches, in which:  
313 unique CDR3  
6 unique J



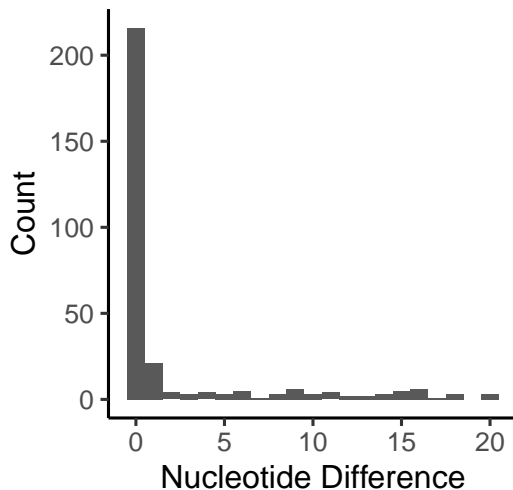
### IGHV3–49\*05

315 sequences assigned  
139 (44.1%) exact matches, in which:  
139 unique CDR3  
6 unique J



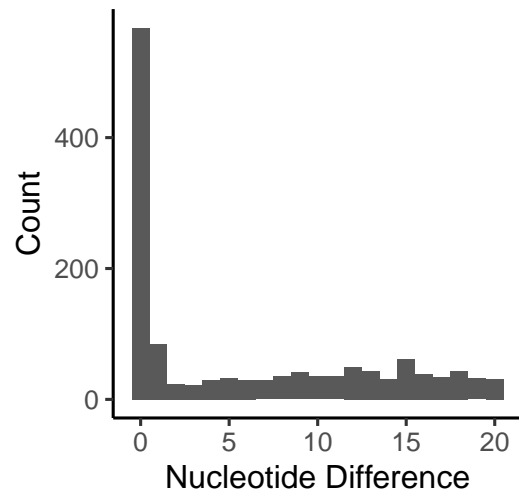
### IGHV3–53\*04

338 sequences assigned  
216 (63.9%) exact matches, in which:  
216 unique CDR3  
6 unique J



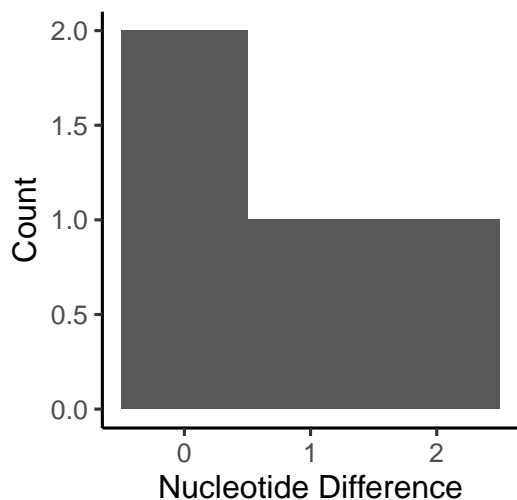
### IGHV3–66\*01

1643 sequences assigned  
568 (34.6%) exact matches, in which:  
564 unique CDR3  
6 unique J



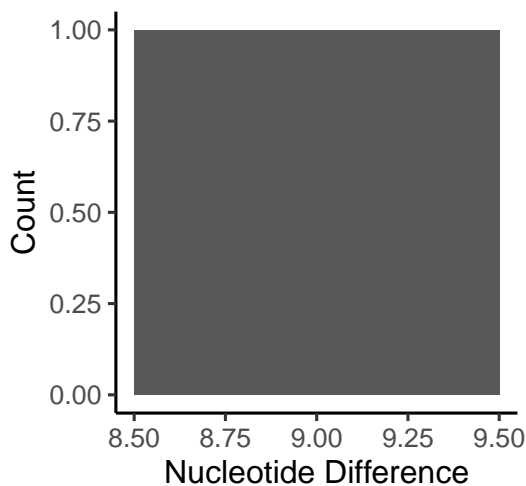
### IGHV3–52\*01

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



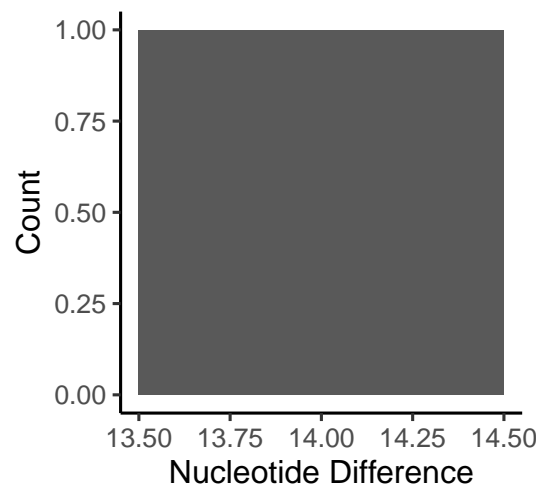
### IGHV3–62\*03

1 sequences assigned  
No exact matches.



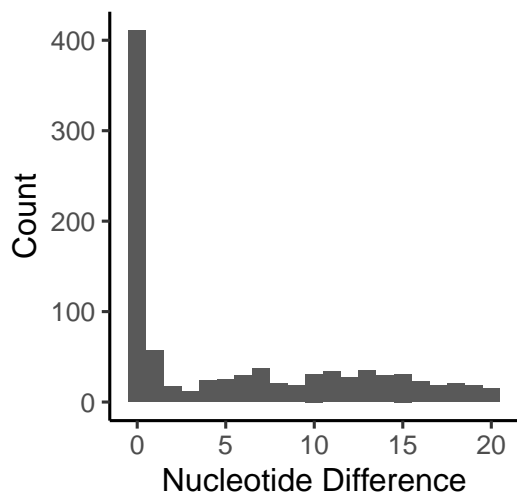
### IGHV3–69–1\*01

6 sequences assigned  
No exact matches.



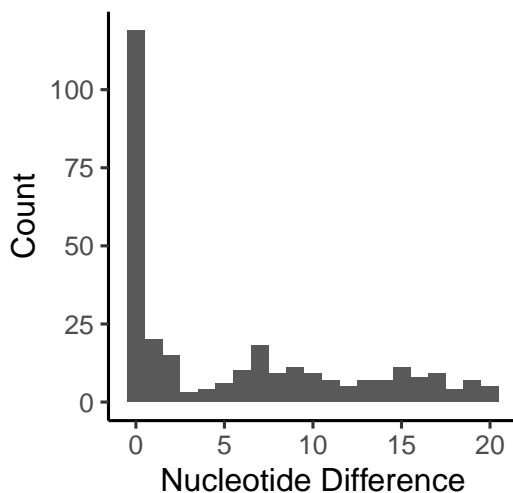
### IGHV3–53\*01

1182 sequences assigned  
411 (34.8%) exact matches, in which:  
410 unique CDR3  
7 unique J



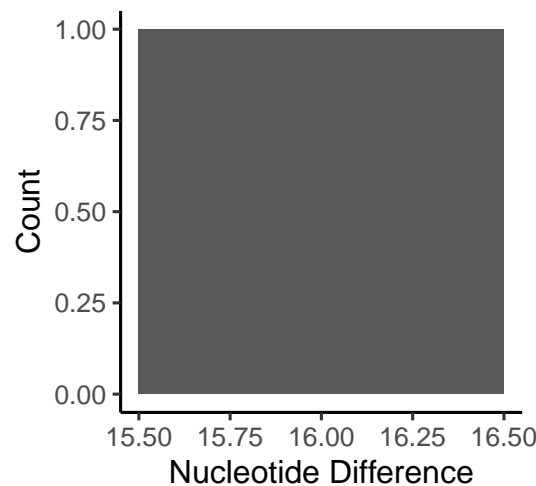
### IGHV3–64\*01

336 sequences assigned  
119 (35.4%) exact matches, in which:  
119 unique CDR3  
5 unique J



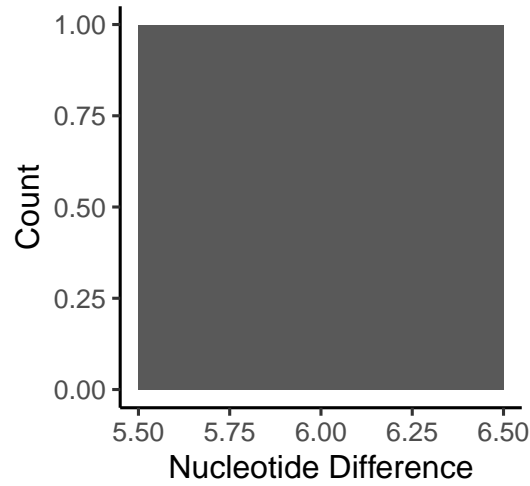
### IGHV3–69–1\*02

4 sequences assigned  
No exact matches.



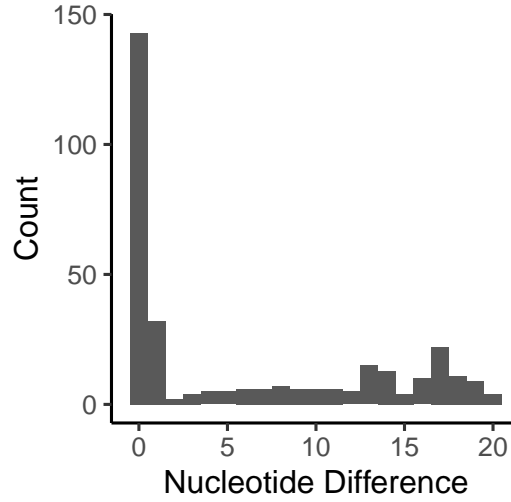
### IGHV3-71\*03

1 sequences assigned  
No exact matches.



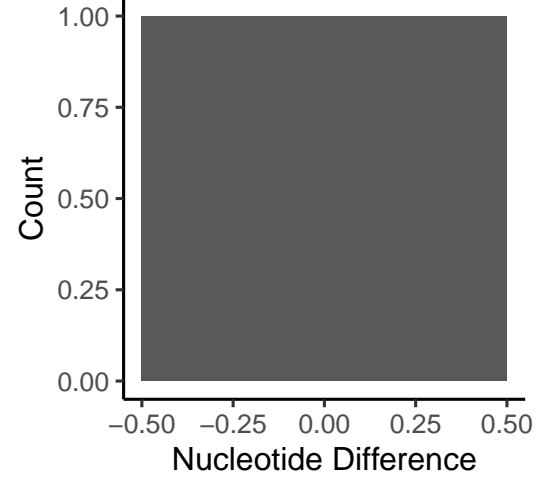
### IGHV3-73\*02

422 sequences assigned  
143 (33.9%) exact matches, in which:  
143 unique CDR3  
5 unique J



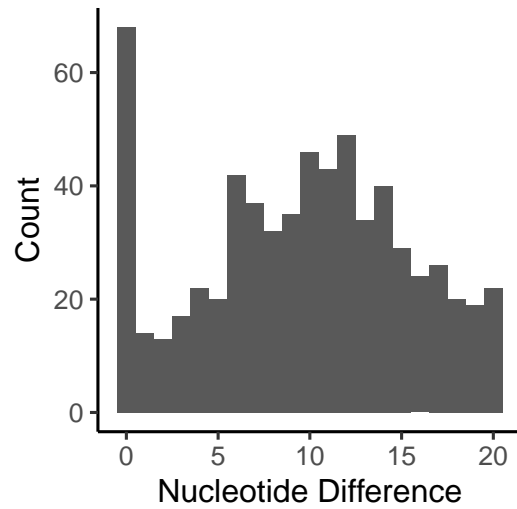
### IGHV3-64D\*06

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



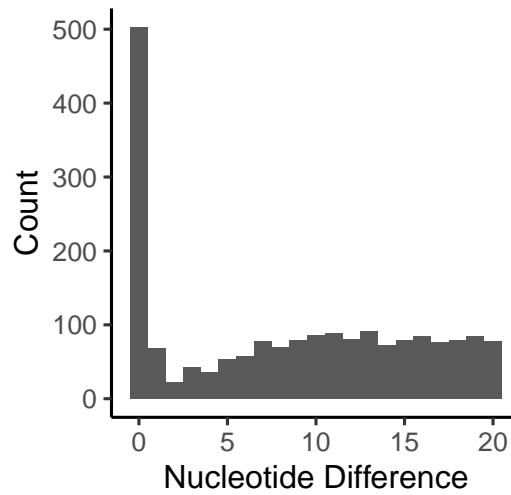
### IGHV3-72\*01

828 sequences assigned  
68 (8.2%) exact matches, in which:  
68 unique CDR3  
6 unique J



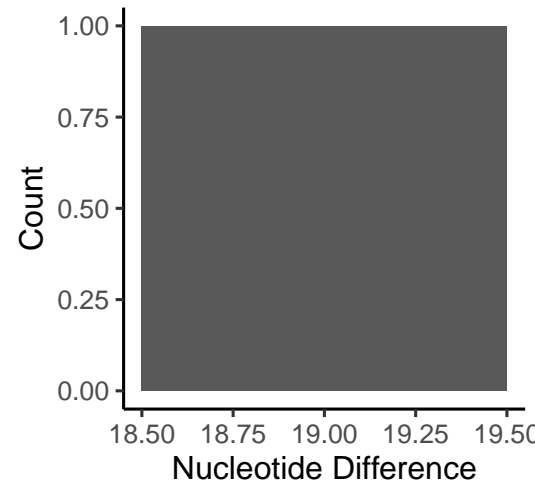
### IGHV3-74\*01

2670 sequences assigned  
503 (18.8%) exact matches, in which:  
500 unique CDR3  
7 unique J



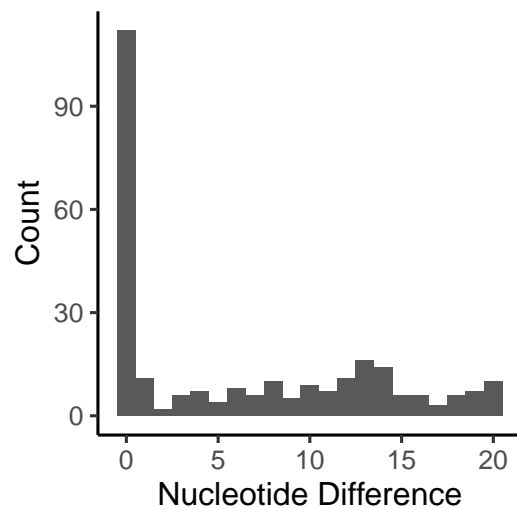
### IGHV3-NL1\*01

3 sequences assigned  
No exact matches.



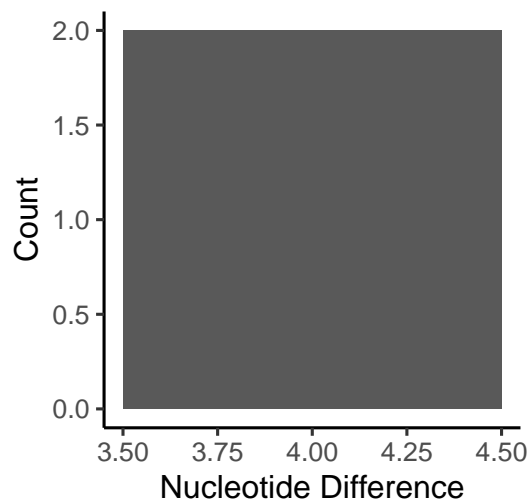
### IGHV3-73\*01

324 sequences assigned  
112 (34.6%) exact matches, in which:  
112 unique CDR3  
4 unique J



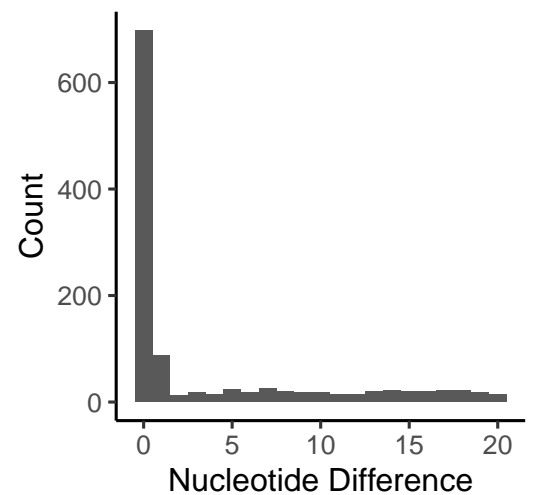
### IGHV3-43D\*04

2 sequences assigned  
No exact matches.



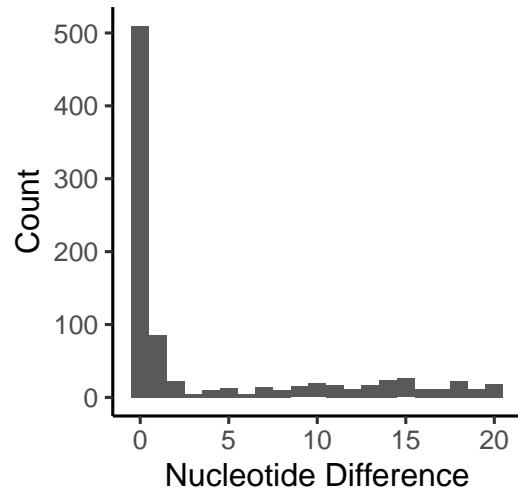
### IGHV4-4\*02

1365 sequences assigned  
698 (51.1%) exact matches, in which:  
698 unique CDR3  
6 unique J



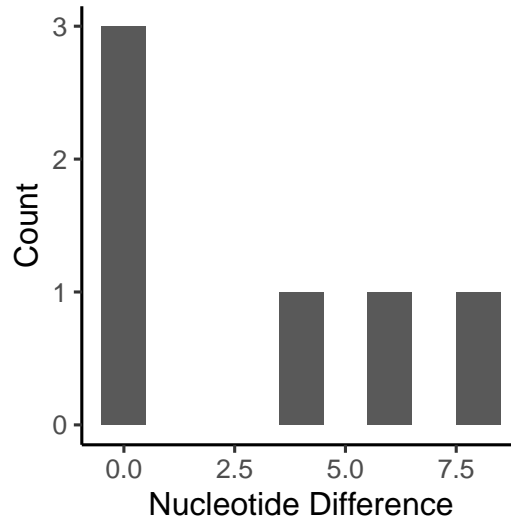
### IGHV4-4\*07

1073 sequences assigned  
510 (47.5%) exact matches, in which:  
506 unique CDR3  
7 unique J



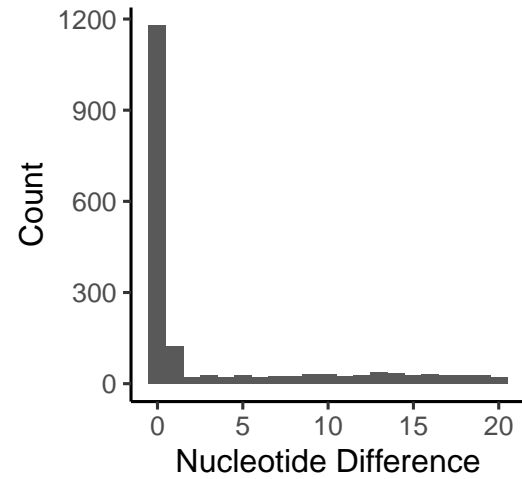
### IGHV4-28\*07

6 sequences assigned  
3 (50%) exact matches, in which:  
3 unique CDR3  
2 unique J



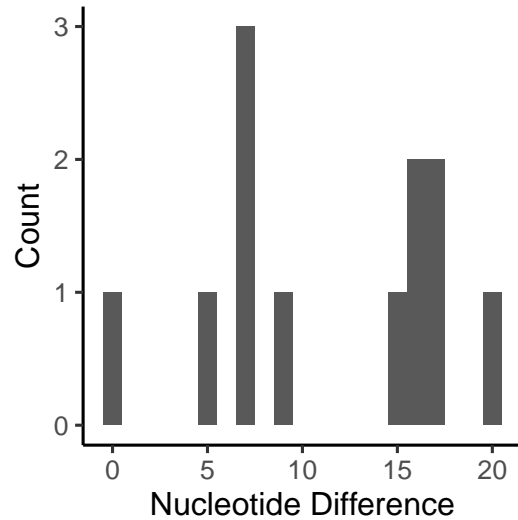
### IGHV4-31\*03

2166 sequences assigned  
1179 (54.4%) exact matches, in which:  
1176 unique CDR3  
7 unique J



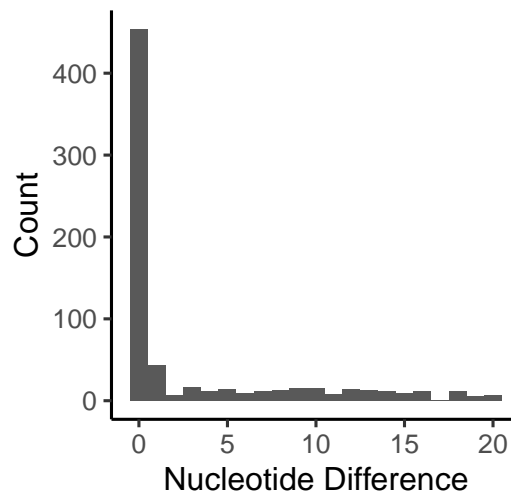
### IGHV4-28\*01

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



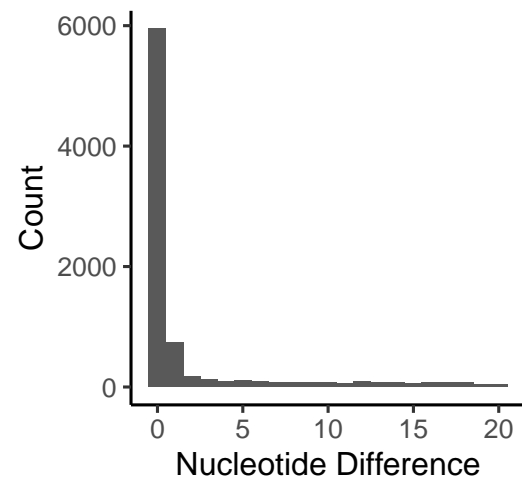
### IGHV4-30-4\*01

848 sequences assigned  
454 (53.5%) exact matches, in which:  
453 unique CDR3  
6 unique J



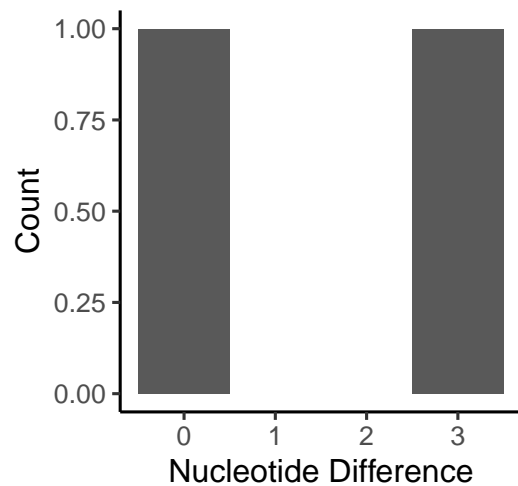
### IGHV4-34\*01

8825 sequences assigned  
5949 (67.4%) exact matches, in which:  
5896 unique CDR3  
7 unique J



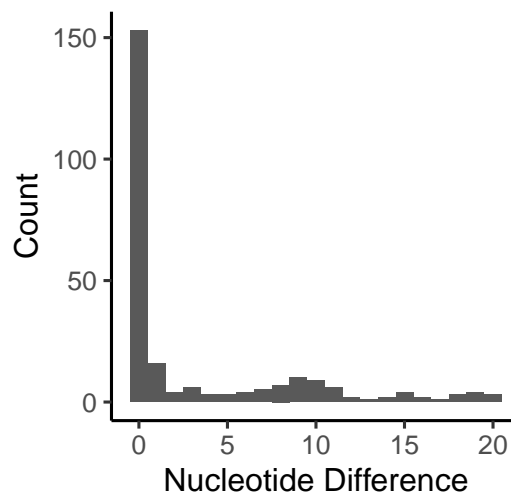
### IGHV4-28\*03

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



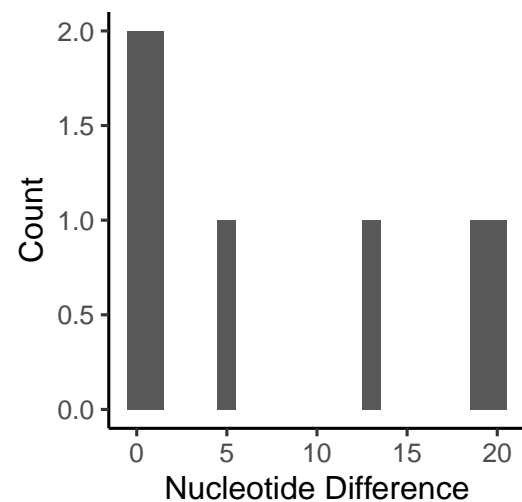
### IGHV4-30-2\*01

269 sequences assigned  
153 (56.9%) exact matches, in which:  
152 unique CDR3  
5 unique J



### IGHV4-38-2\*02

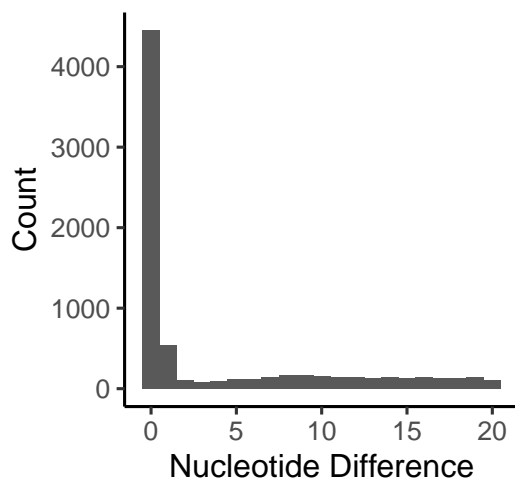
12 sequences assigned  
2 (16.7%) exact matches, in which:  
2 unique CDR3  
2 unique J





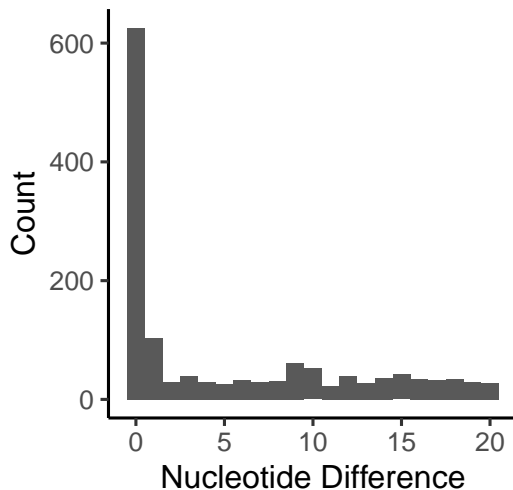
### IGHV4–39\*01

8900 sequences assigned  
4450 (50%) exact matches, in which:  
4439 unique CDR3  
7 unique J



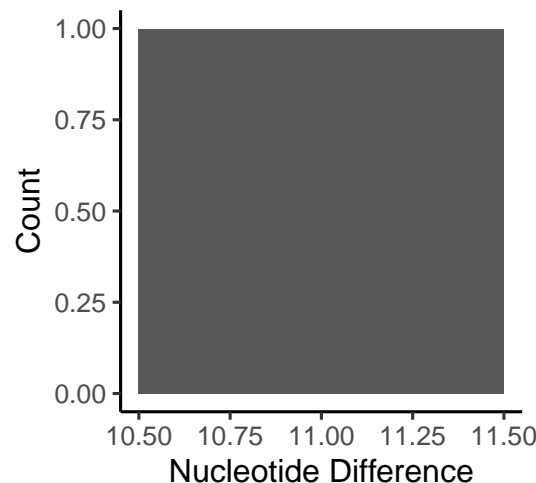
### IGHV4–59\*08

1743 sequences assigned  
626 (35.9%) exact matches, in which:  
623 unique CDR3  
7 unique J



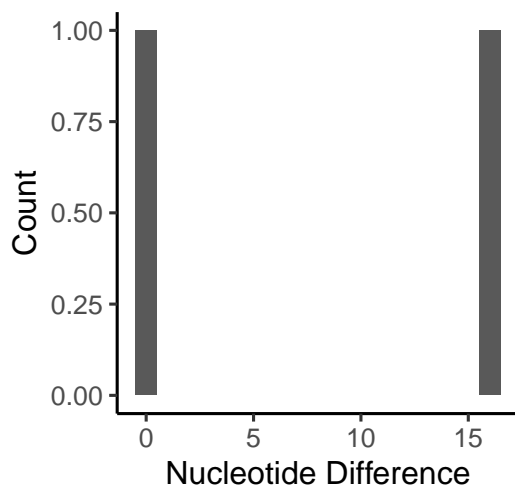
### IGHV5–78\*01

1 sequences assigned  
No exact matches.



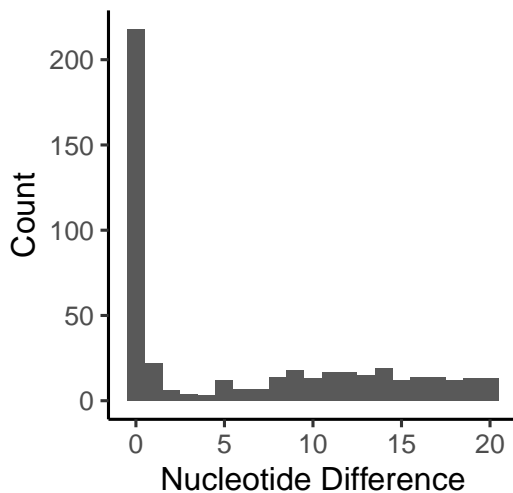
### IGHV4–55\*02

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



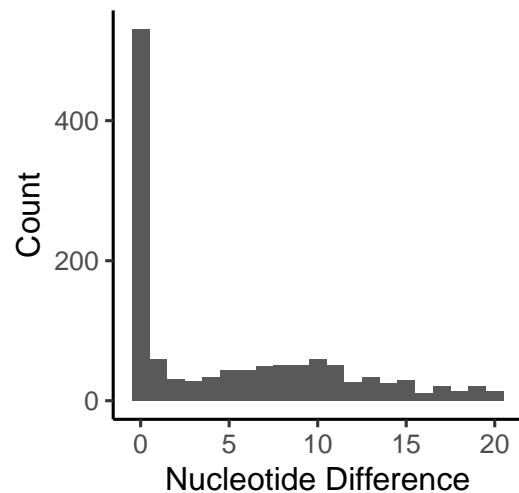
### IGHV4–61\*01

553 sequences assigned  
218 (39.4%) exact matches, in which:  
218 unique CDR3  
6 unique J



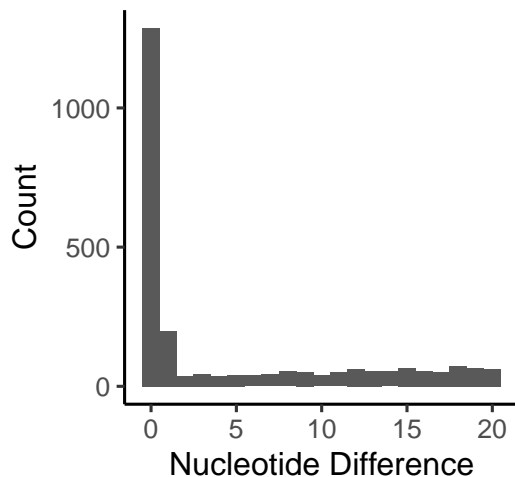
### IGHV6–1\*01

1326 sequences assigned  
531 (40%) exact matches, in which:  
530 unique CDR3  
7 unique J



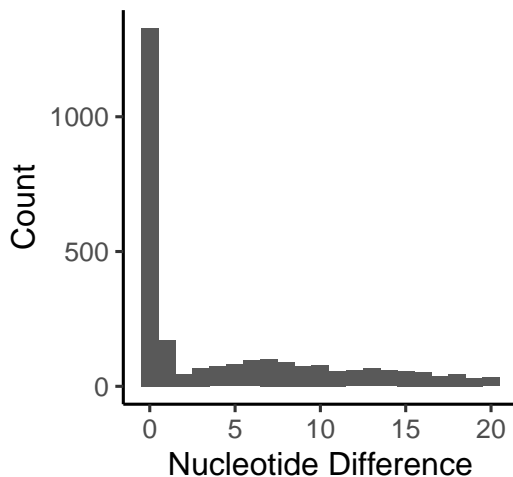
### IGHV4–59\*01

3040 sequences assigned  
1287 (42.3%) exact matches, in which:  
1283 unique CDR3  
7 unique J



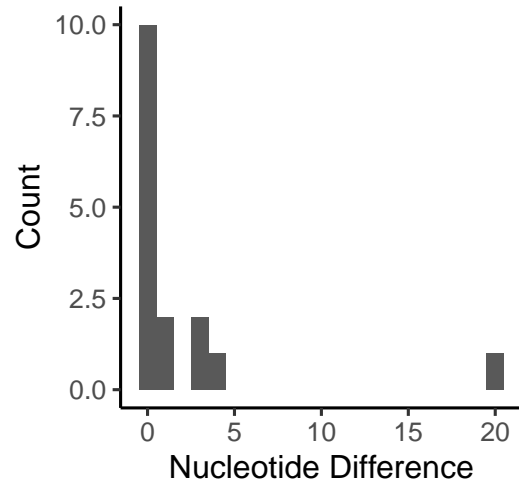
### IGHV5–51\*01

3061 sequences assigned  
1329 (43.4%) exact matches, in which:  
1320 unique CDR3  
7 unique J

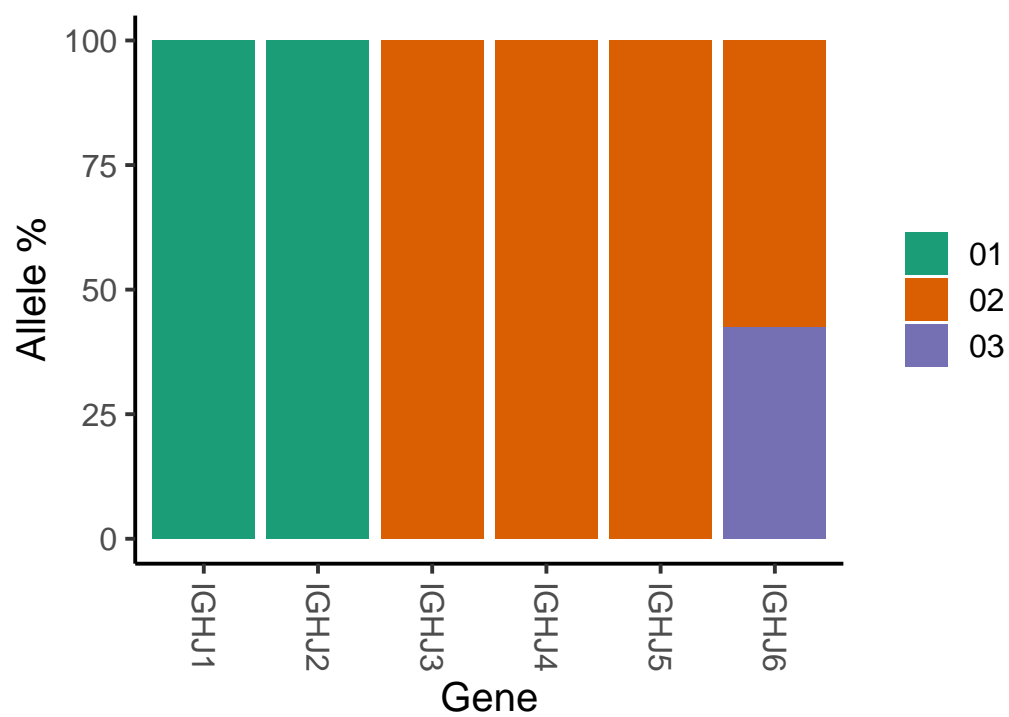


### IGHV7–4–1\*01

16 sequences assigned  
10 (62.5%) exact matches, in which:  
10 unique CDR3  
5 unique J



Allele Usage



Sequence Count by IGHJ6 allele usage



Warning – no inferred sequences found.

Warning – no inferred sequences found.

Warning – no inferred sequences found.