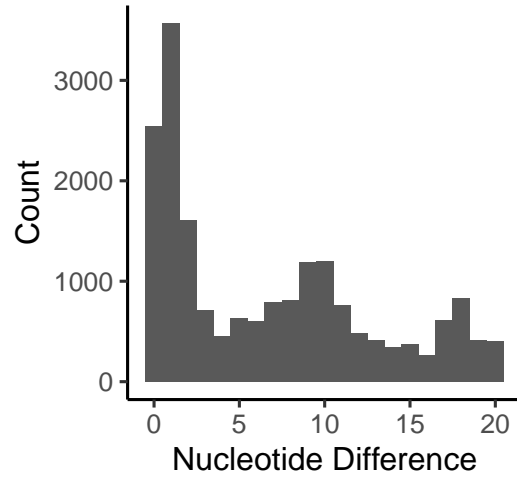


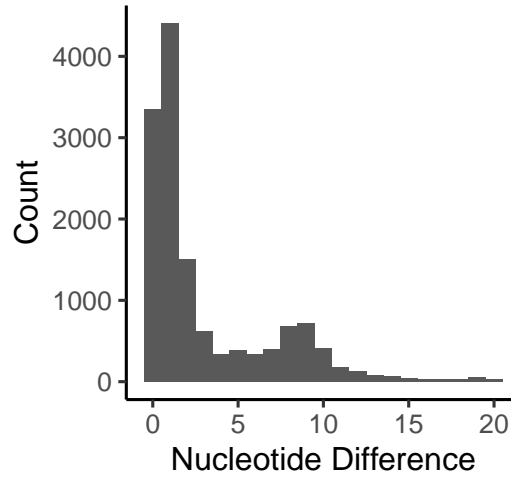
### IGHV1-2\*02

20331 sequences assigned  
2546 (12.5%) exact matches, in which:  
2005 unique CDR3  
6 unique J



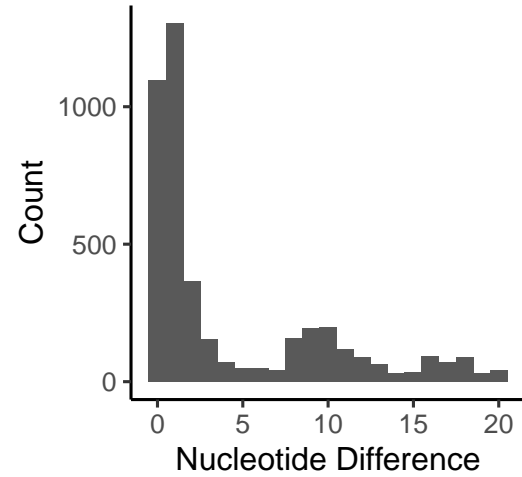
### IGHV1-8\*01

14680 sequences assigned  
3353 (22.8%) exact matches, in which:  
2672 unique CDR3  
6 unique J



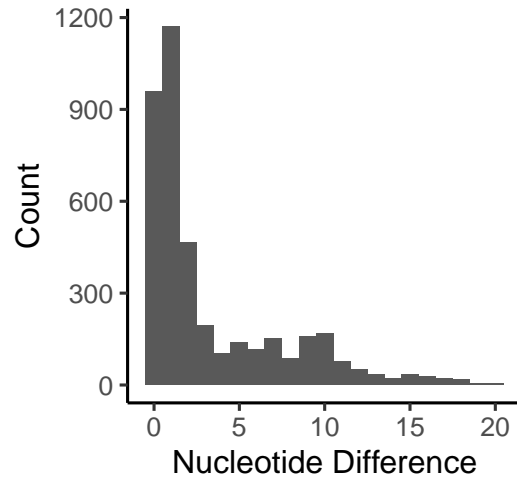
### IGHV1-24\*01

4826 sequences assigned  
1096 (22.7%) exact matches, in which:  
914 unique CDR3  
6 unique J



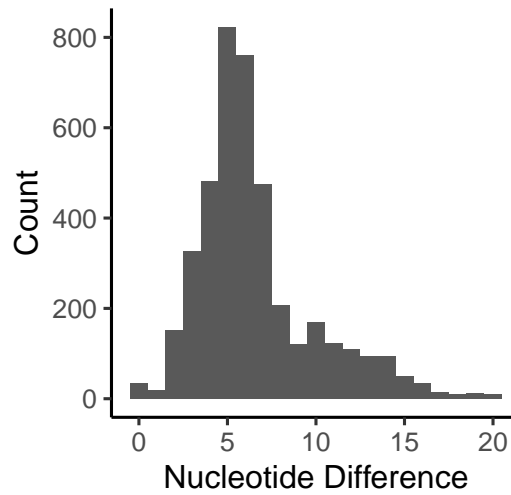
### IGHV1-2\*04

4022 sequences assigned  
960 (23.9%) exact matches, in which:  
806 unique CDR3  
6 unique J



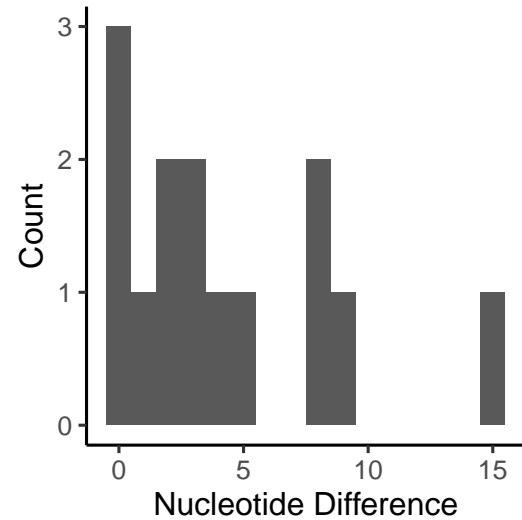
### IGHV1-8\*02

4242 sequences assigned  
35 (0.8%) exact matches, in which:  
35 unique CDR3  
4 unique J



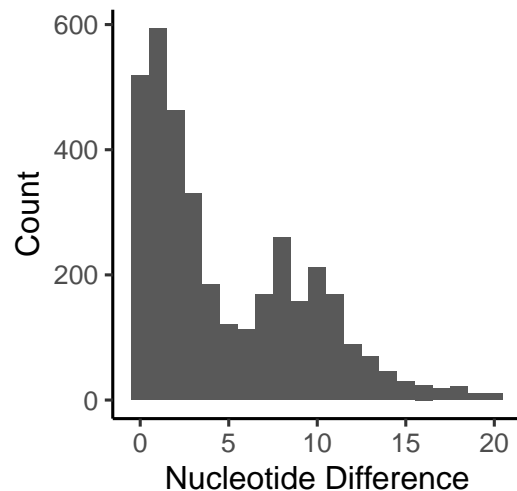
### IGHV1-45\*02

14 sequences assigned  
3 (21.4%) exact matches, in which:  
3 unique CDR3  
3 unique J



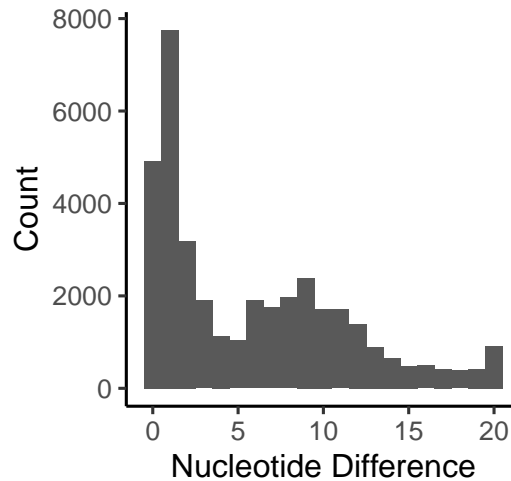
### IGHV1-3\*01\_05

4034 sequences assigned  
519 (12.9%) exact matches, in which:  
406 unique CDR3  
6 unique J



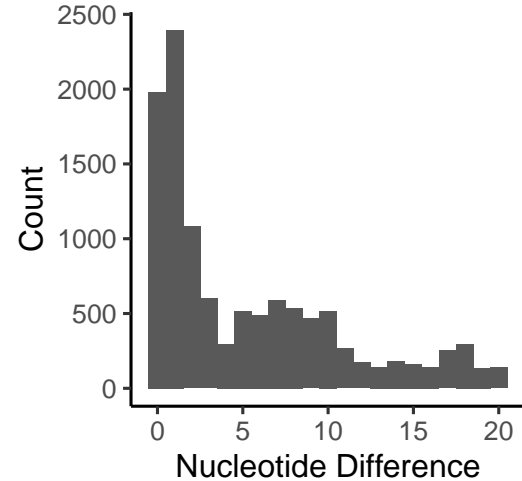
### IGHV1-18\*01

48149 sequences assigned  
4925 (10.2%) exact matches, in which:  
3688 unique CDR3  
6 unique J



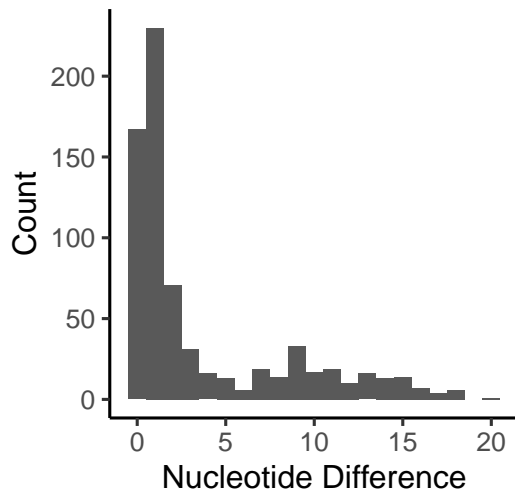
### IGHV1-46\*01

11978 sequences assigned  
1982 (16.5%) exact matches, in which:  
1597 unique CDR3  
6 unique J



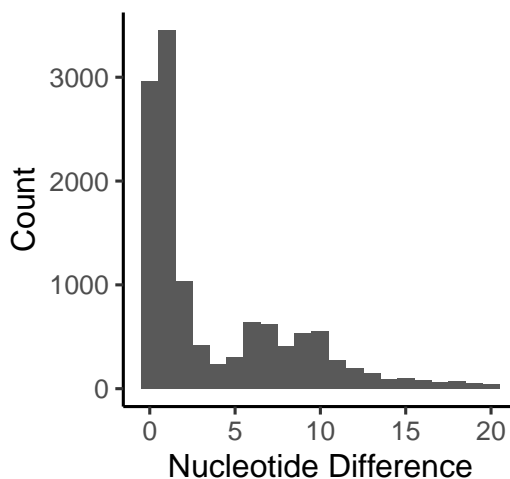
### IGHV1–58\*01\_03

732 sequences assigned  
167 (22.8%) exact matches, in which:  
137 unique CDR3  
6 unique J



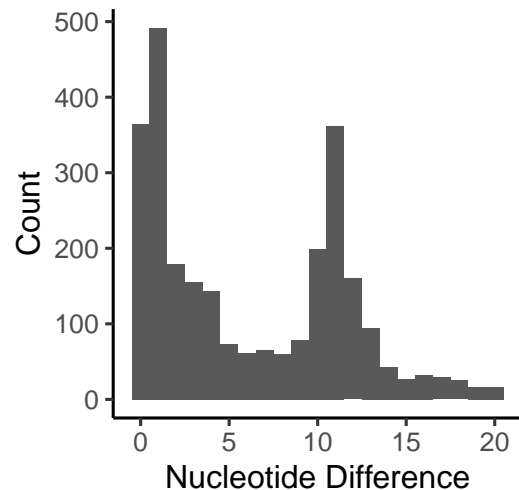
### IGHV1–69\*05

12818 sequences assigned  
2961 (23.1%) exact matches, in which:  
2419 unique CDR3  
6 unique J



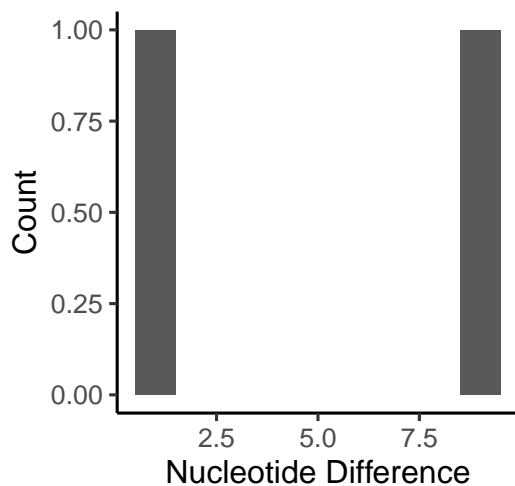
### IGHV2–5\*02

2785 sequences assigned  
365 (13.1%) exact matches, in which:  
254 unique CDR3  
6 unique J



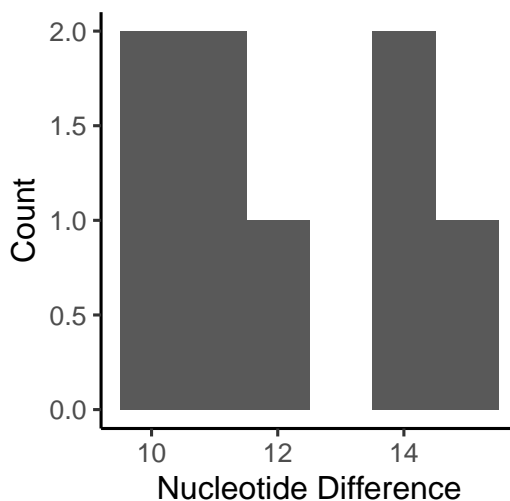
### IGHV1–68\*01

2 sequences assigned  
No exact matches.



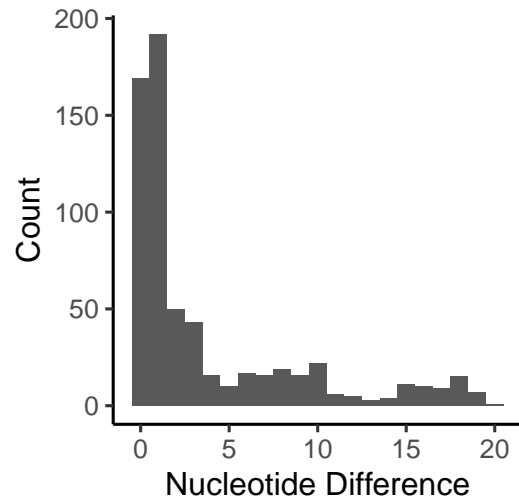
### IGHV1–NL1\*01

8 sequences assigned  
No exact matches.



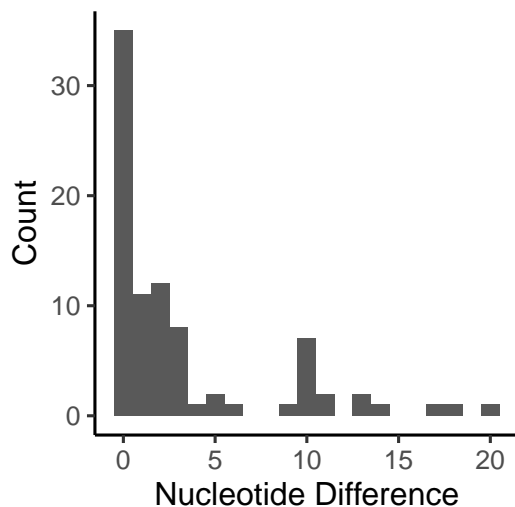
### IGHV2–26\*01

675 sequences assigned  
169 (25%) exact matches, in which:  
134 unique CDR3  
5 unique J



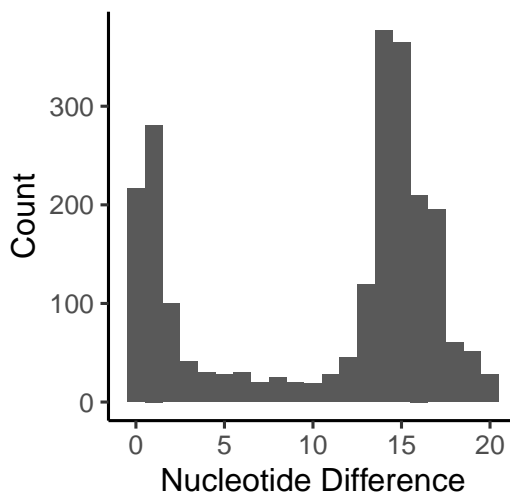
### IGHV1–69–2\*01

106 sequences assigned  
35 (33%) exact matches, in which:  
31 unique CDR3  
4 unique J



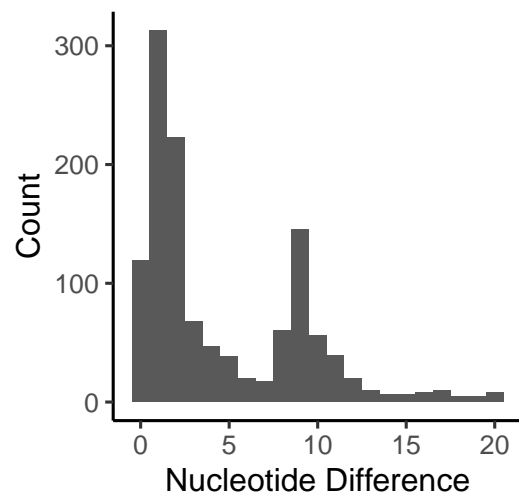
### IGHV2–5\*01

2361 sequences assigned  
217 (9.2%) exact matches, in which:  
180 unique CDR3  
6 unique J



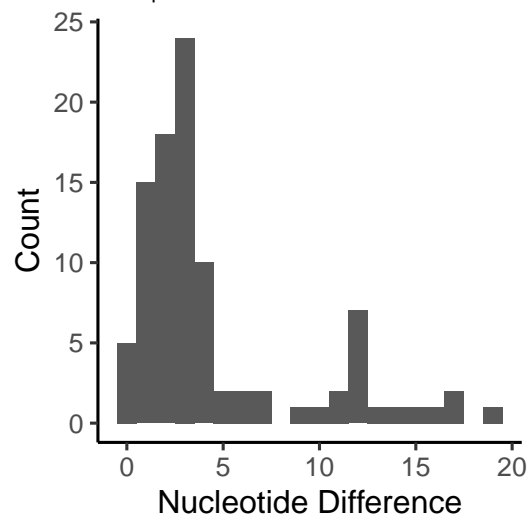
### IGHV2–70\*01

1246 sequences assigned  
119 (9.6%) exact matches, in which:  
85 unique CDR3  
5 unique J



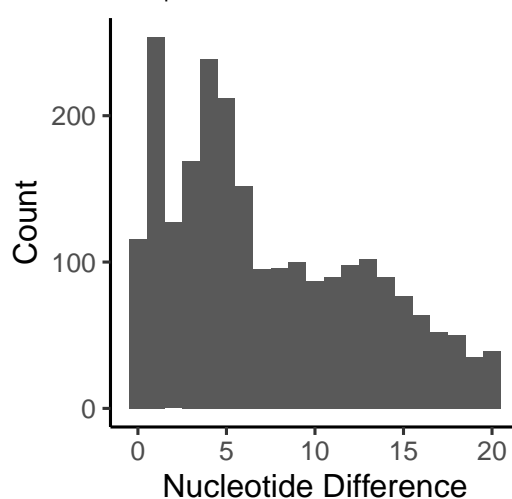
## IGHV2-70\*12

96 sequences assigned  
5 (5.2%) exact matches, in which:  
5 unique CDR3  
4 unique J



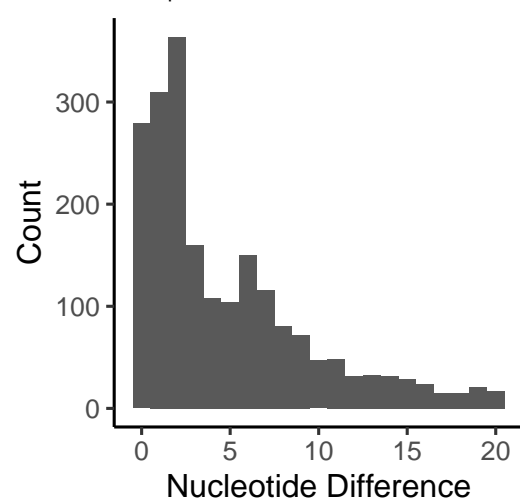
## IGHV3-7\*03

2617 sequences assigned  
116 (4.4%) exact matches, in which:  
106 unique CDR3  
5 unique J



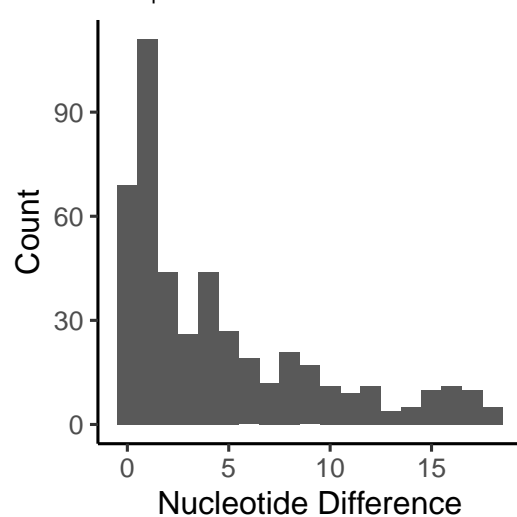
## IGHV3-11\*04

2171 sequences assigned  
279 (12.9%) exact matches, in which:  
264 unique CDR3  
6 unique J



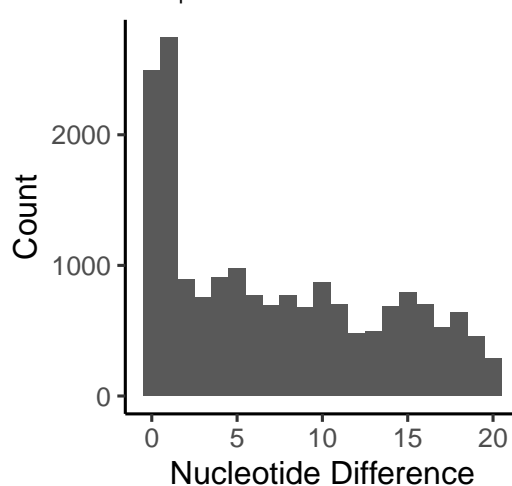
## IGHV2-70D\*14

468 sequences assigned  
69 (14.7%) exact matches, in which:  
49 unique CDR3  
4 unique J



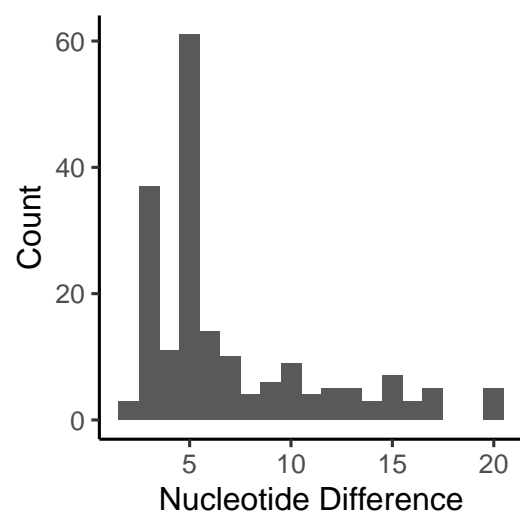
## IGHV3-9\*01

19429 sequences assigned  
2495 (12.8%) exact matches, in which:  
1408 unique CDR3  
6 unique J



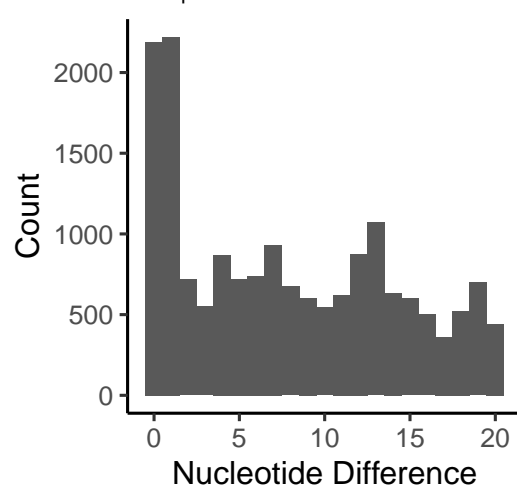
## IGHV3-11\*06

242 sequences assigned  
No exact matches.



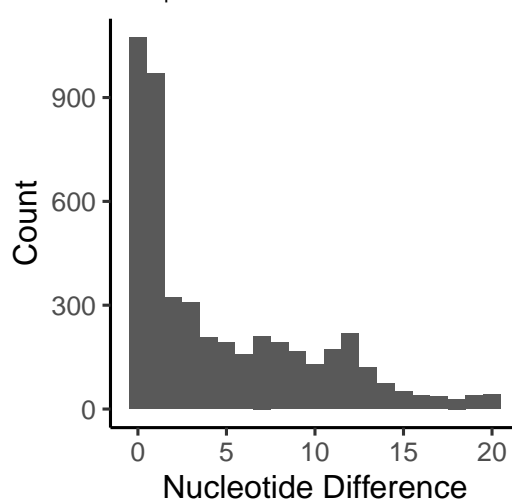
## IGHV3-7\*01

17964 sequences assigned  
2189 (12.2%) exact matches, in which:  
1488 unique CDR3  
6 unique J



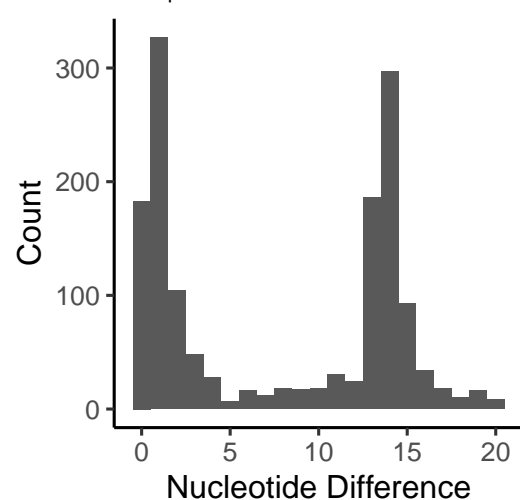
## IGHV3-11\*01

5852 sequences assigned  
1074 (18.4%) exact matches, in which:  
715 unique CDR3  
6 unique J



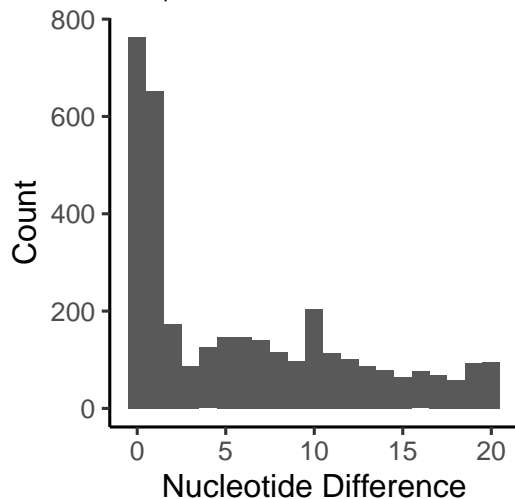
## IGHV3-13\*01

1552 sequences assigned  
183 (11.8%) exact matches, in which:  
96 unique CDR3  
5 unique J



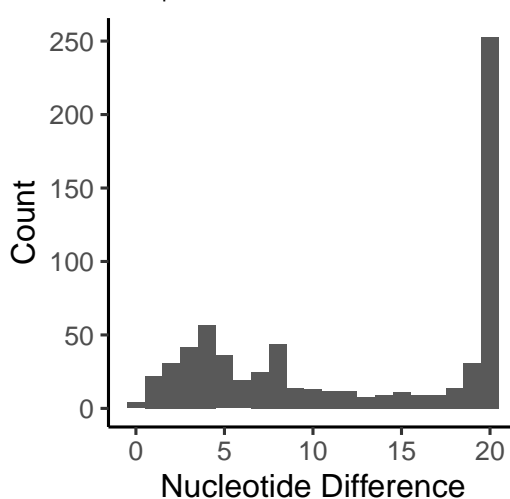
### IGHV3-15\*01\_02

5180 sequences assigned  
764 (14.7%) exact matches, in which:  
456 unique CDR3  
6 unique J



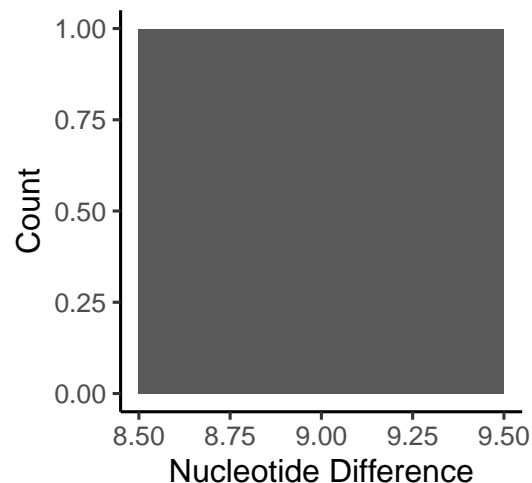
### IGHV3-20\*03\_04

1727 sequences assigned  
4 (0.2%) exact matches, in which:  
4 unique CDR3  
1 unique J



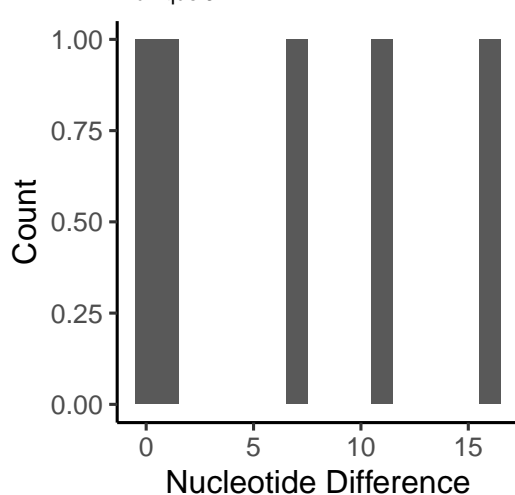
### IGHV3-22\*01\_02

1 sequences assigned  
No exact matches.



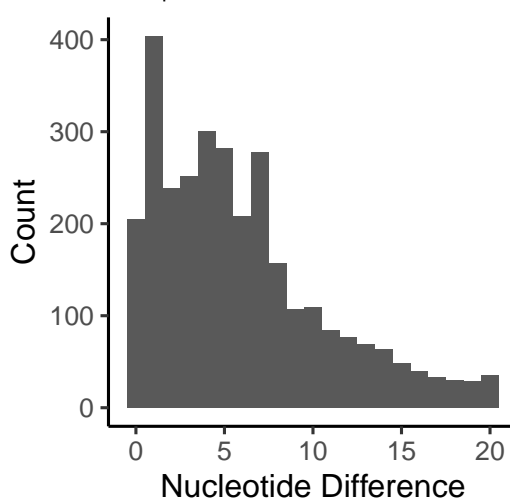
### IGHV3-19\*01

5 sequences assigned  
1 (20%) exact matches, in which:  
1 unique CDR3  
1 unique J



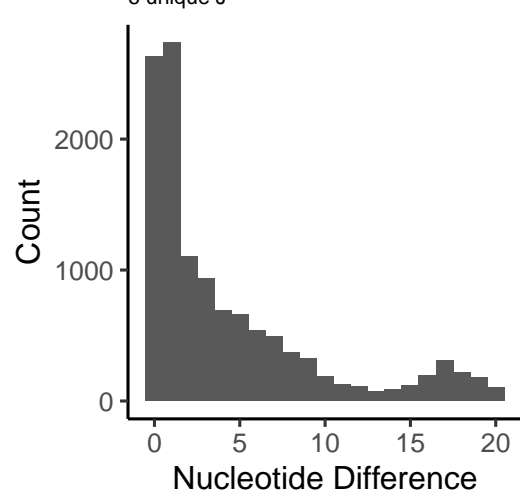
### IGHV3-21\*04

3395 sequences assigned  
205 (6%) exact matches, in which:  
180 unique CDR3  
6 unique J



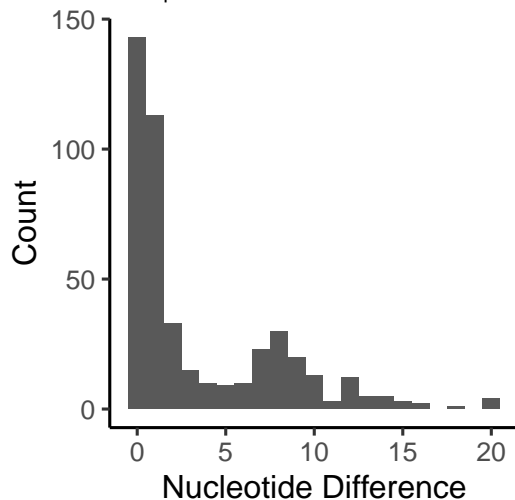
### IGHV3-30-3\*01

13116 sequences assigned  
2630 (20.1%) exact matches, in which:  
1729 unique CDR3  
6 unique J



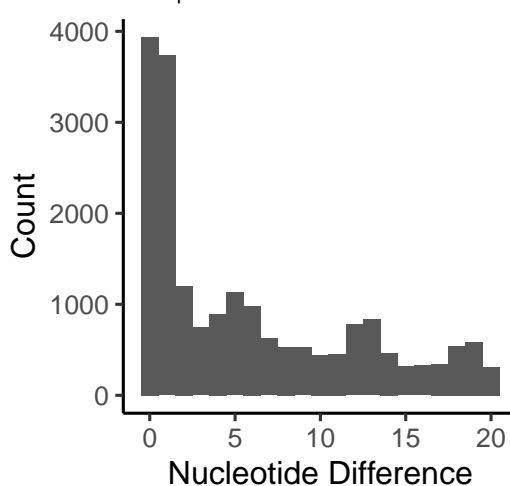
### IGHV3-20\*01\_02

475 sequences assigned  
143 (30.1%) exact matches, in which:  
75 unique CDR3  
6 unique J



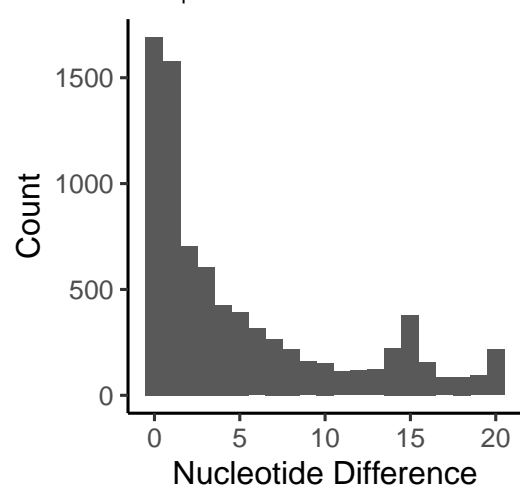
### IGHV3-21\*01\_02

25043 sequences assigned  
3937 (15.7%) exact matches, in which:  
2411 unique CDR3  
6 unique J



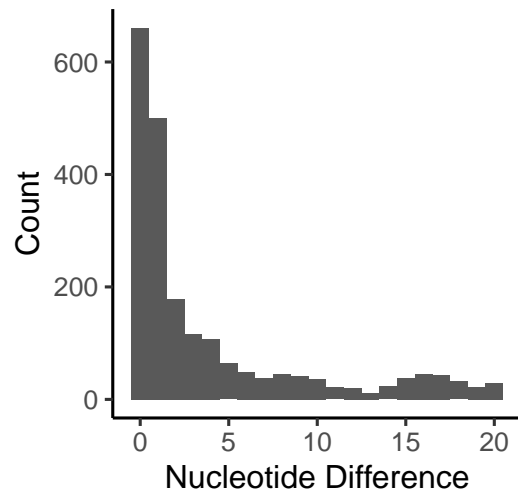
### IGHV3-30\*01

9673 sequences assigned  
1692 (17.5%) exact matches, in which:  
1155 unique CDR3  
6 unique J



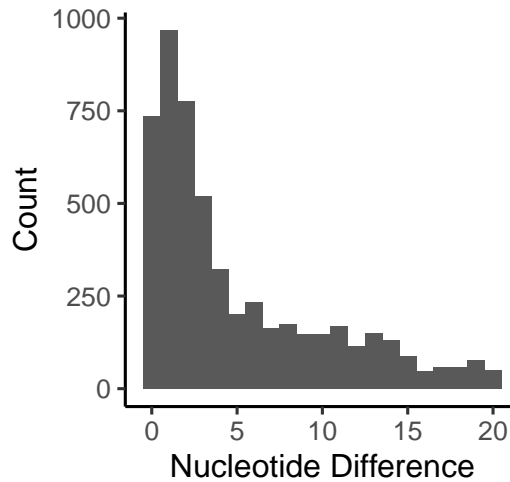
### IGHV3-30\*03

3818 sequences assigned  
661 (17.3%) exact matches, in which:  
571 unique CDR3  
6 unique J



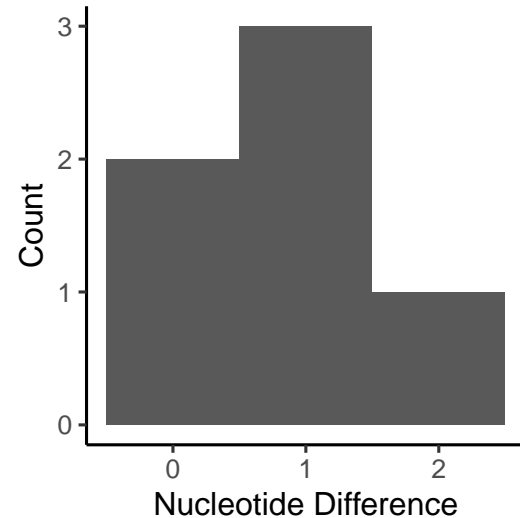
### IGHV3-33\*06

5609 sequences assigned  
735 (13.1%) exact matches, in which:  
495 unique CDR3  
6 unique J



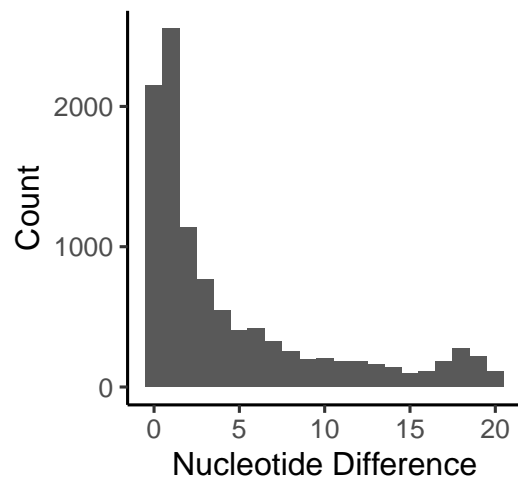
### IGHV3-47\*01

6 sequences assigned  
2 (33.3%) exact matches, in which:  
1 unique CDR3  
1 unique J



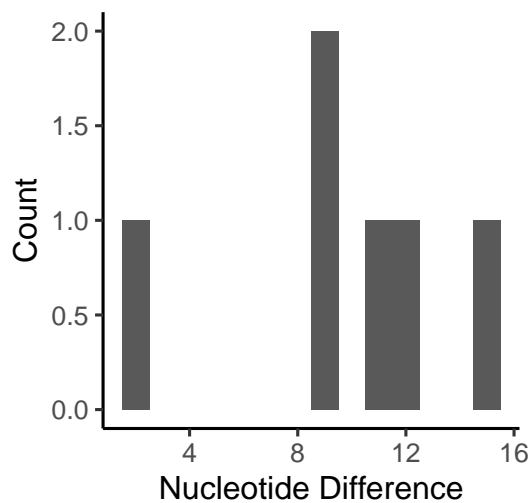
### IGHV3-33\*01

11442 sequences assigned  
2152 (18.8%) exact matches, in which:  
1439 unique CDR3  
6 unique J



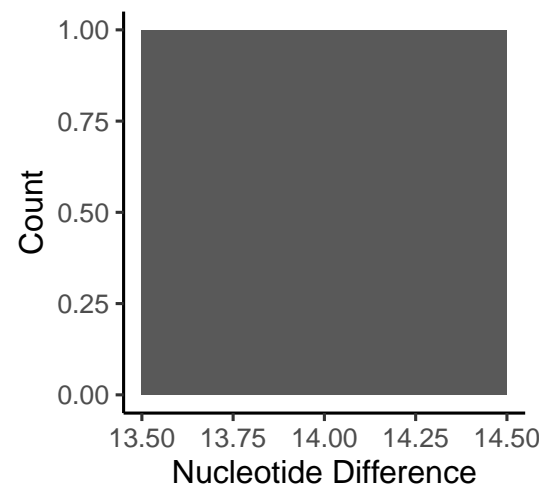
### IGHV3-35\*01

6 sequences assigned  
No exact matches.



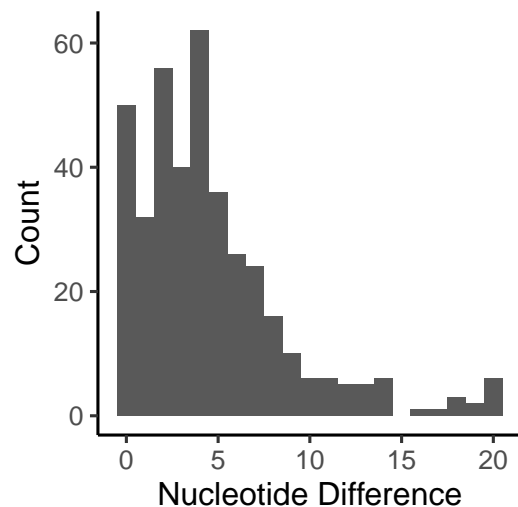
### IGHV3-47\*02

1 sequences assigned  
No exact matches.



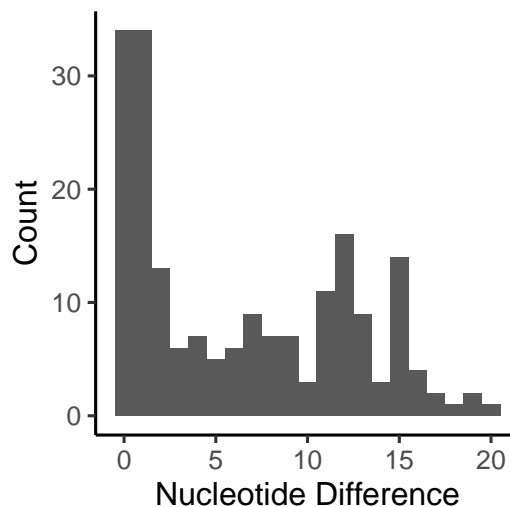
### IGHV3-33\*05

454 sequences assigned  
50 (11%) exact matches, in which:  
48 unique CDR3  
5 unique J



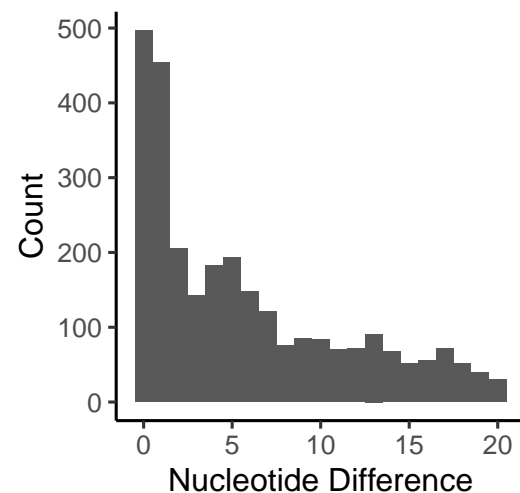
### IGHV3-43\*01

328 sequences assigned  
34 (10.4%) exact matches, in which:  
18 unique CDR3  
4 unique J



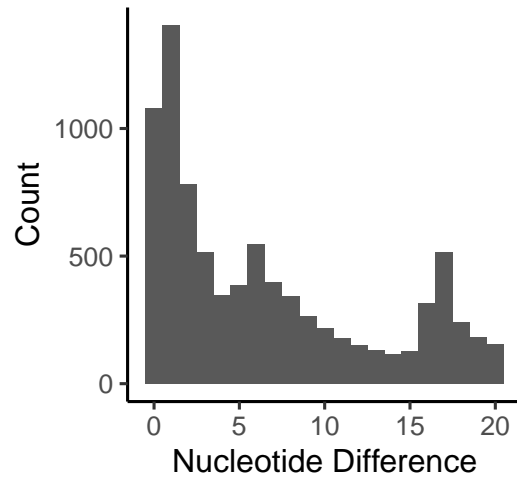
### IGHV3-48\*01

3061 sequences assigned  
497 (16.2%) exact matches, in which:  
349 unique CDR3  
6 unique J



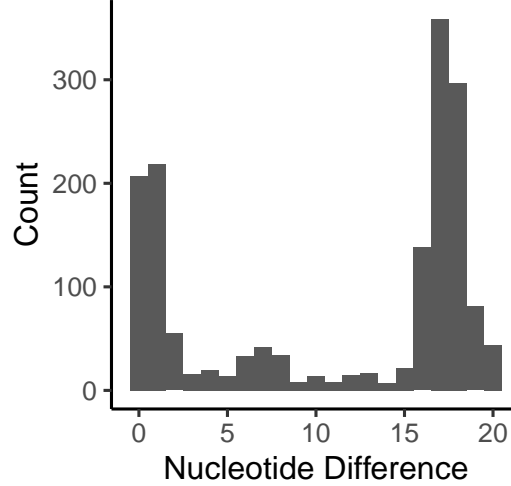
### IGHV3-48\*03

10524 sequences assigned  
1081 (10.3%) exact matches, in which:  
665 unique CDR3  
6 unique J



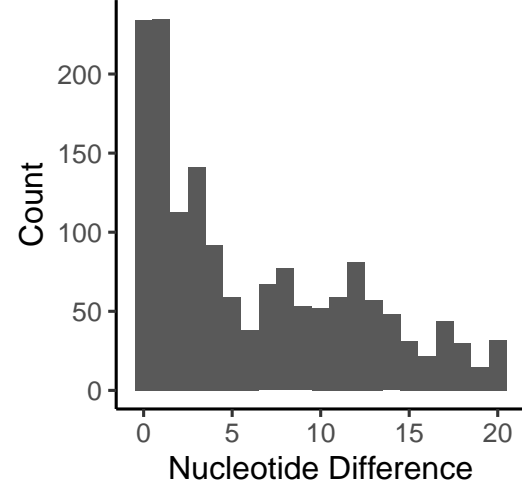
### IGHV3-49\*03\_05

1800 sequences assigned  
207 (11.5%) exact matches, in which:  
124 unique CDR3  
6 unique J



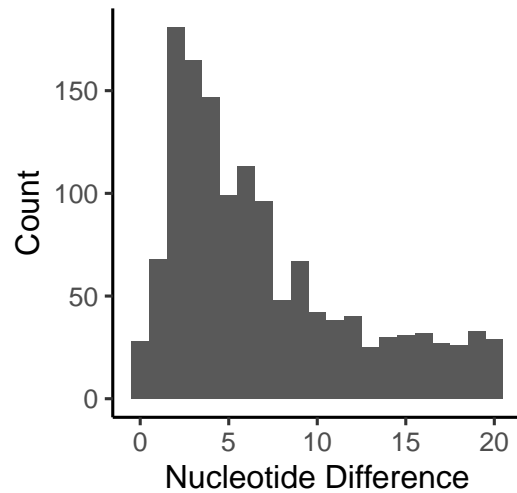
### IGHV3-53\*01\_02

1679 sequences assigned  
234 (13.9%) exact matches, in which:  
152 unique CDR3  
6 unique J



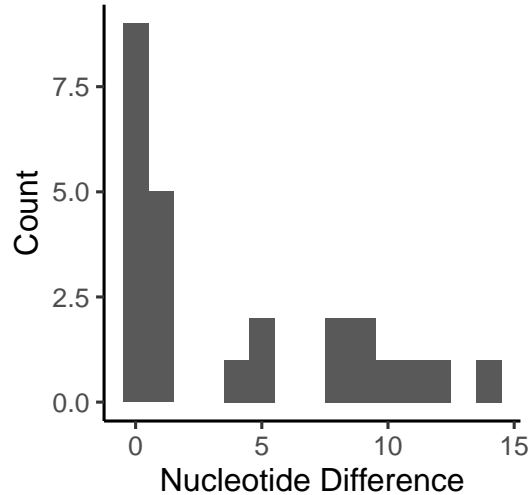
### IGHV3-48\*04

1555 sequences assigned  
28 (1.8%) exact matches, in which:  
28 unique CDR3  
5 unique J



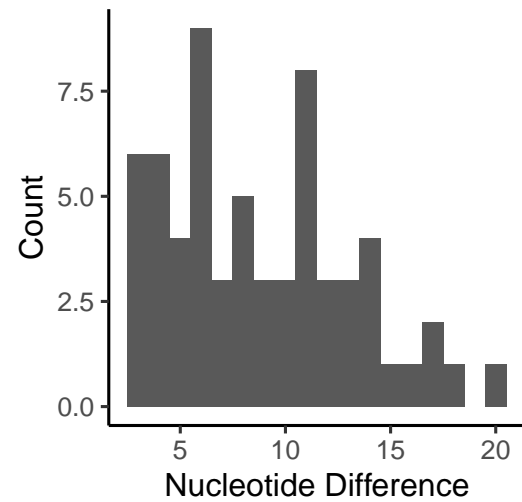
### IGHV3-52\*01\_03

25 sequences assigned  
9 (36%) exact matches, in which:  
6 unique CDR3  
3 unique J



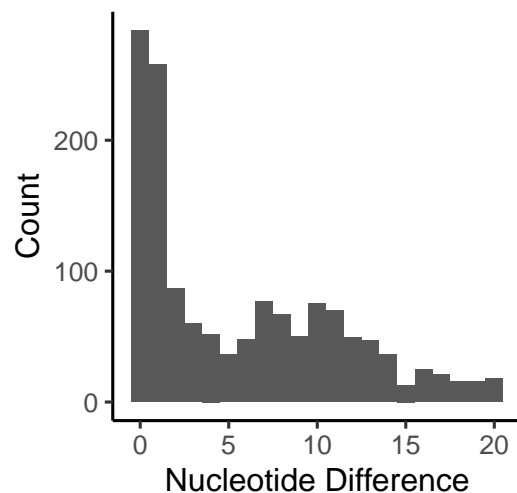
### IGHV3-64\*04

85 sequences assigned  
No exact matches.



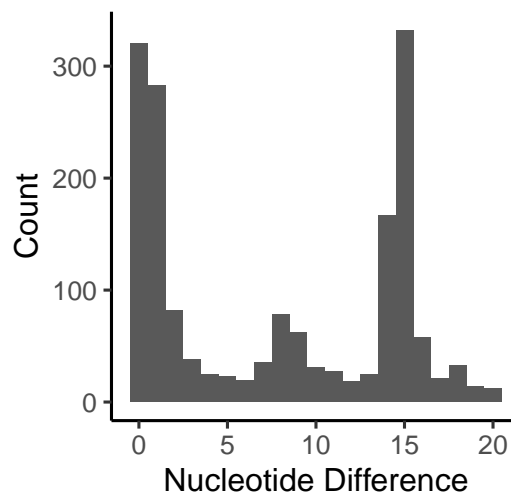
### IGHV3-49\*04

1587 sequences assigned  
284 (17.9%) exact matches, in which:  
167 unique CDR3  
6 unique J



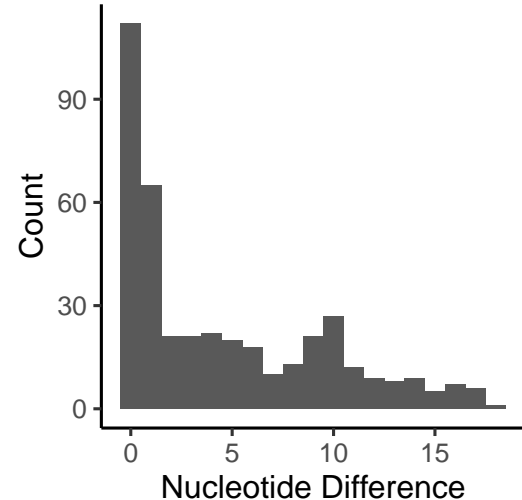
### IGHV3-53\*04

1748 sequences assigned  
320 (18.3%) exact matches, in which:  
224 unique CDR3  
6 unique J



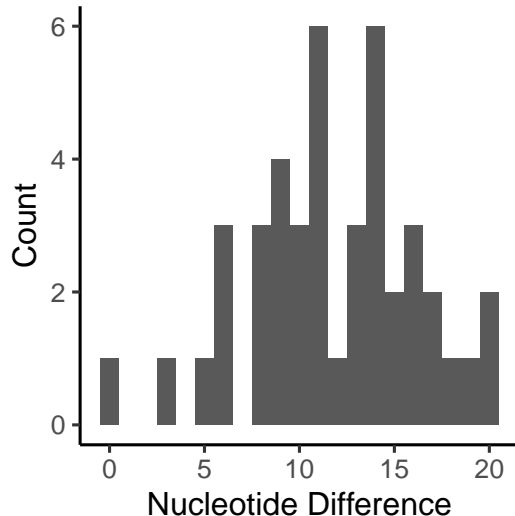
### IGHV3-64\*02\_07

440 sequences assigned  
112 (25.5%) exact matches, in which:  
80 unique CDR3  
6 unique J



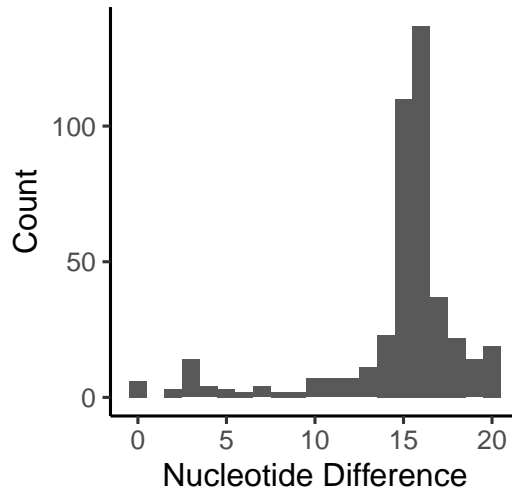
### IGHV3-66\*01

48 sequences assigned  
1 (2.1%) exact matches, in which:  
1 unique CDR3  
1 unique J



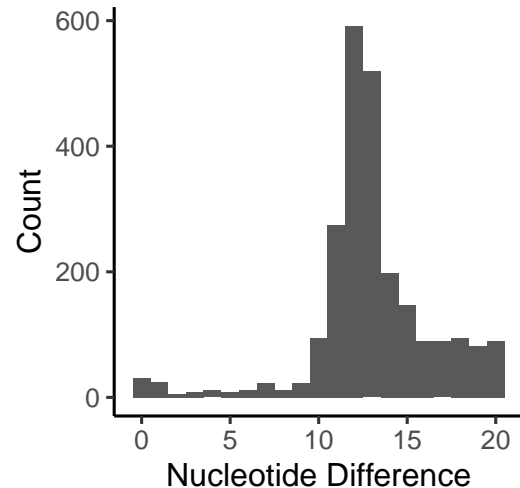
### IGHV3-69-1\*01

526 sequences assigned  
6 (1.1%) exact matches, in which:  
6 unique CDR3  
3 unique J



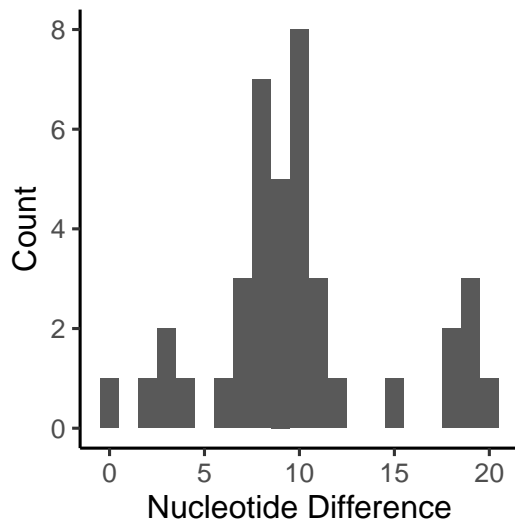
### IGHV3-72\*01

2682 sequences assigned  
31 (1.2%) exact matches, in which:  
23 unique CDR3  
4 unique J



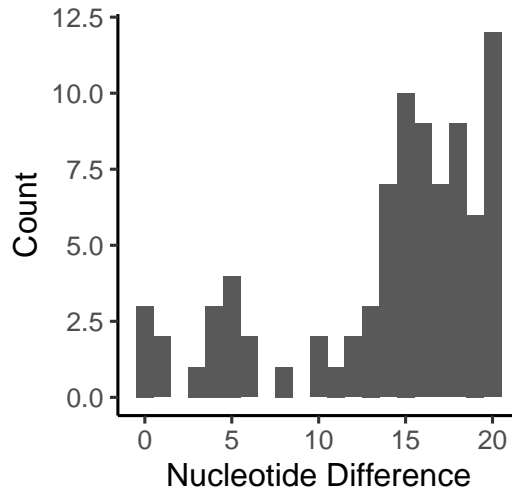
### IGHV3-66\*02

44 sequences assigned  
1 (2.3%) exact matches, in which:  
1 unique CDR3  
1 unique J



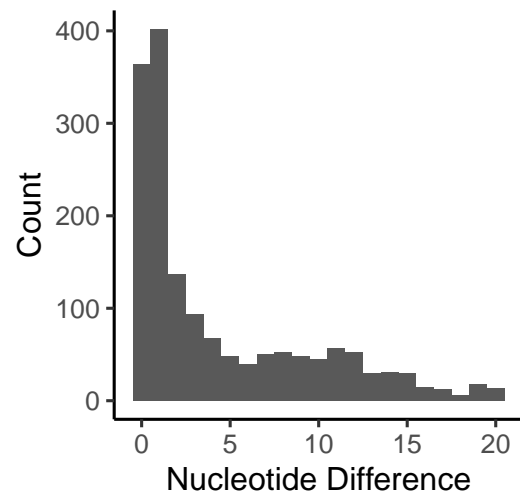
### IGHV3-69-1\*02

441 sequences assigned  
3 (0.7%) exact matches, in which:  
3 unique CDR3  
2 unique J



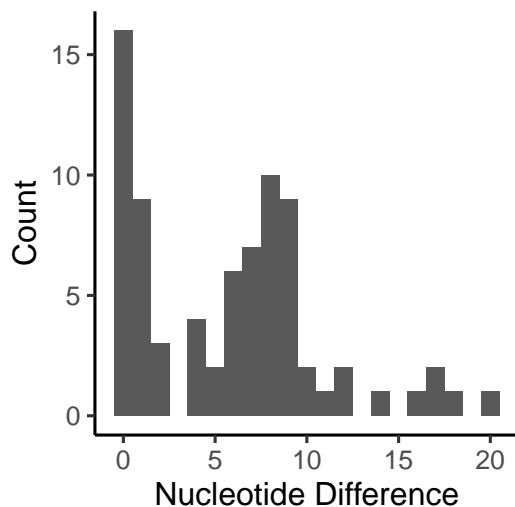
### IGHV3-73\*01\_02

1926 sequences assigned  
364 (18.9%) exact matches, in which:  
236 unique CDR3  
6 unique J



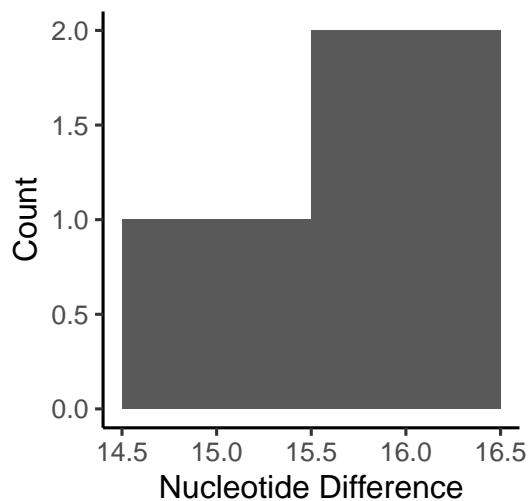
### IGHV3-66\*03

78 sequences assigned  
16 (20.5%) exact matches, in which:  
14 unique CDR3  
4 unique J



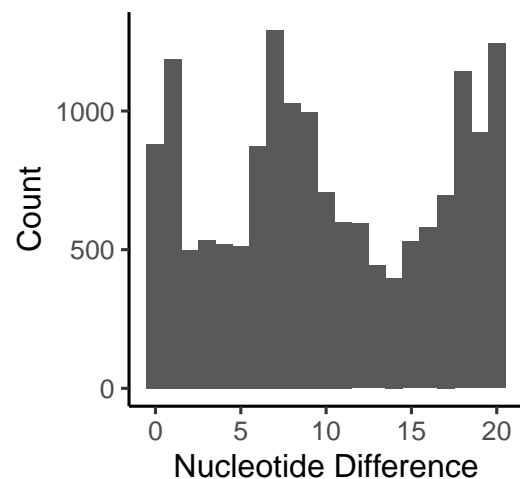
### IGHV3-71\*01\_04

5 sequences assigned  
No exact matches.



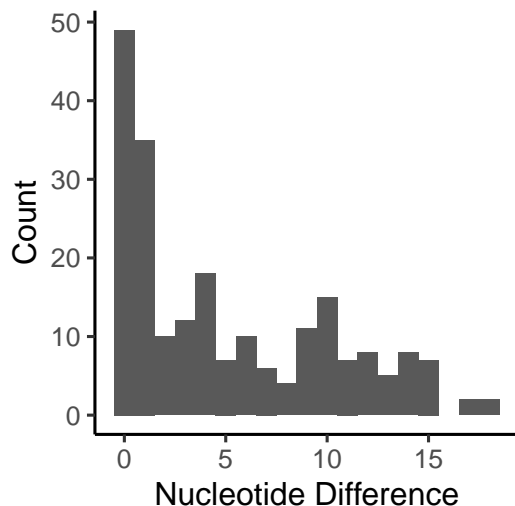
### IGHV3-74\*01\_02

18560 sequences assigned  
881 (4.7%) exact matches, in which:  
594 unique CDR3  
6 unique J



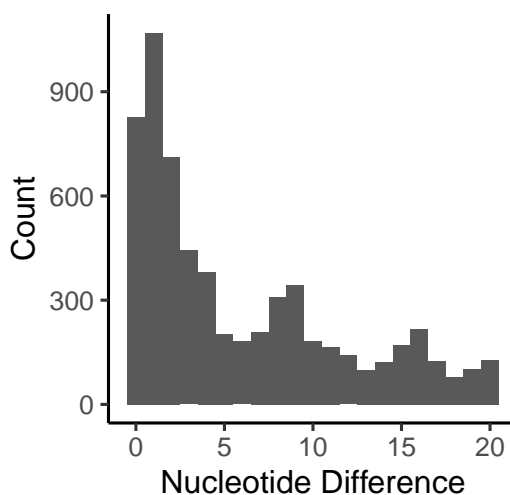
### IGHV3-43D\*04

220 sequences assigned  
49 (22.3%) exact matches, in which:  
39 unique CDR3  
3 unique J



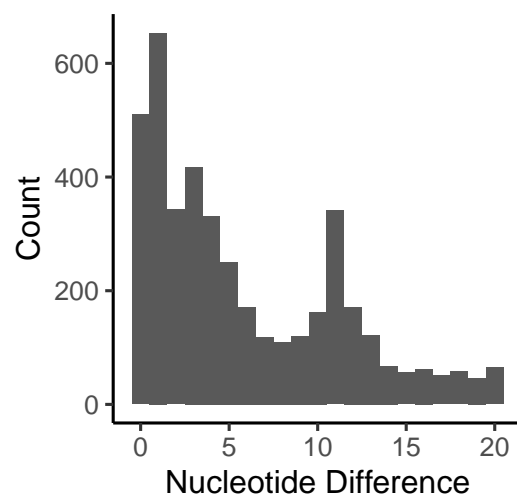
### IGHV4-4\*07

7519 sequences assigned  
828 (11%) exact matches, in which:  
640 unique CDR3  
6 unique J



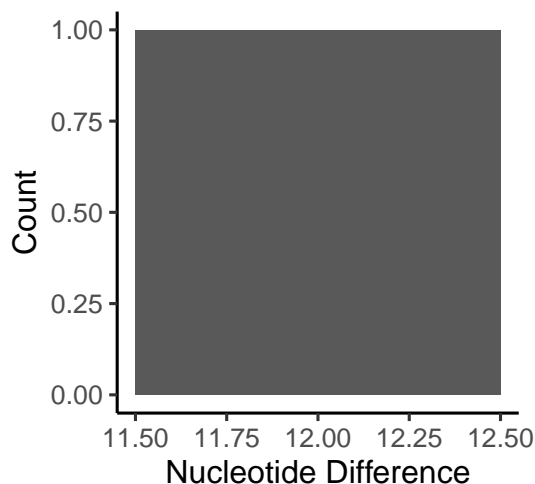
### IGHV4-30-4\*01

5485 sequences assigned  
510 (9.3%) exact matches, in which:  
394 unique CDR3  
6 unique J



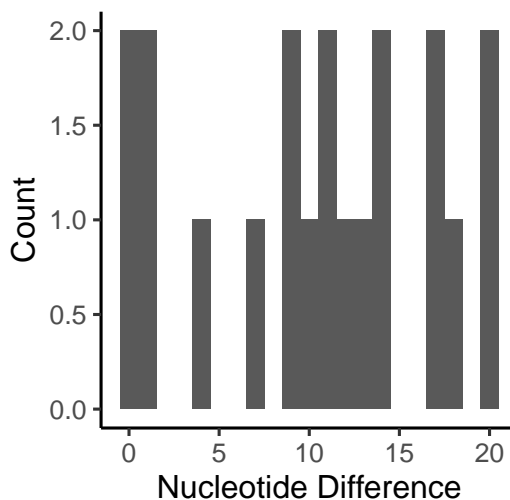
### IGHV3-64D\*08

1 sequences assigned  
No exact matches.



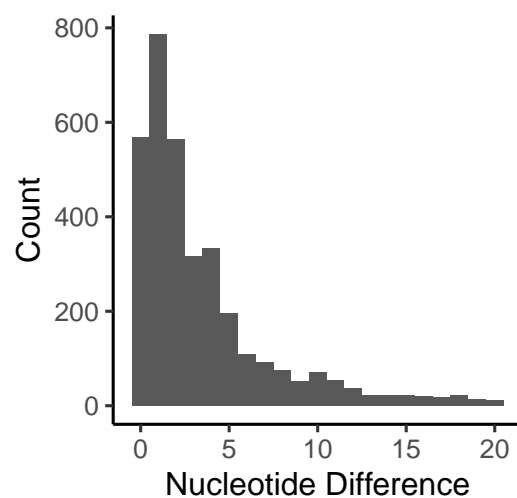
### IGHV4-28\*03

22 sequences assigned  
2 (9.1%) exact matches, in which:  
2 unique CDR3  
2 unique J



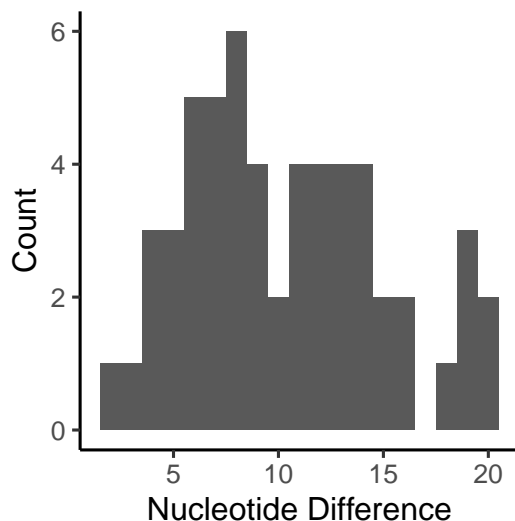
### IGHV4-30-2\*01

3608 sequences assigned  
569 (15.8%) exact matches, in which:  
397 unique CDR3  
6 unique J



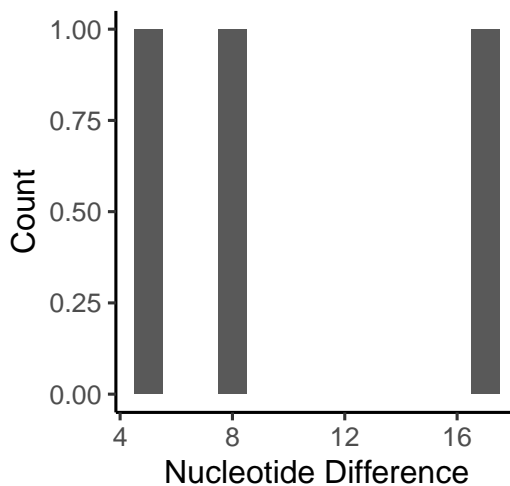
### IGHV3-NL1\*01

78 sequences assigned  
No exact matches.



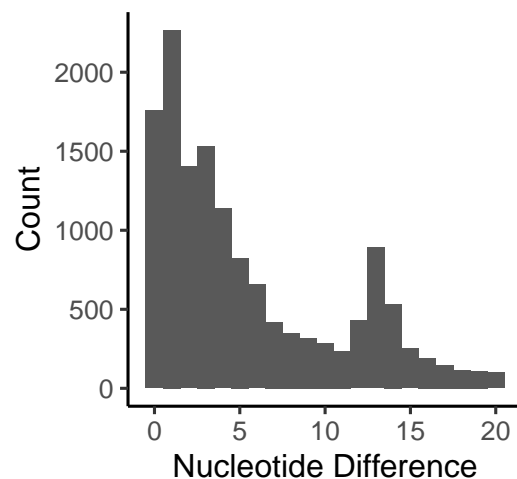
### IGHV4-28\*01\_07

4 sequences assigned  
No exact matches.



### IGHV4-31\*03\_04

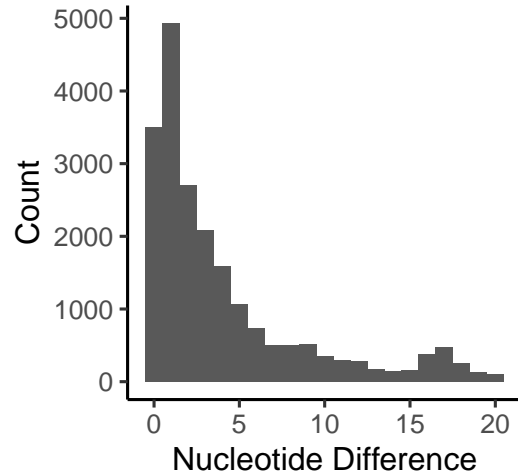
15742 sequences assigned  
1759 (11.2%) exact matches, in which:  
1365 unique CDR3  
6 unique J





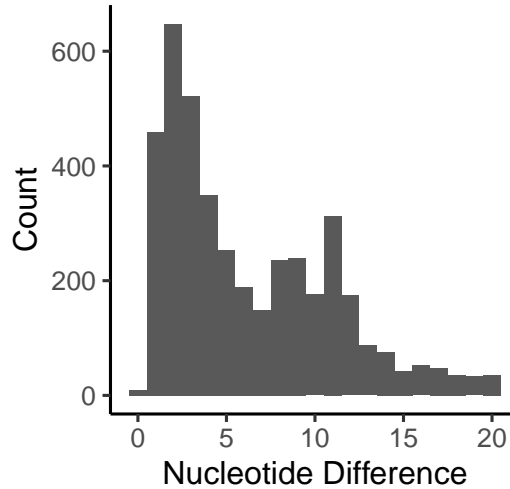
### IGHV4-34\*01\_02

21798 sequences assigned  
3498 (16%) exact matches, in which:  
2413 unique CDR3  
6 unique J



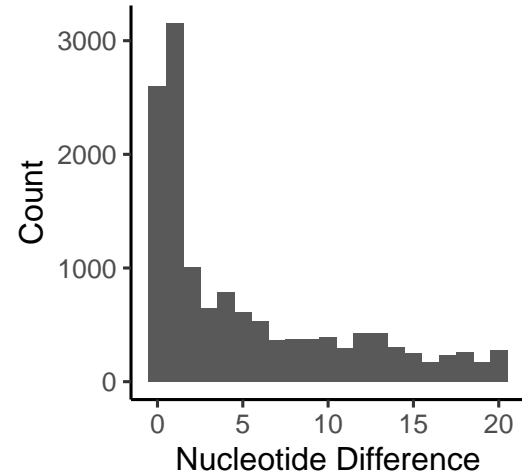
### IGHV4-39\*07

4307 sequences assigned  
9 (0.2%) exact matches, in which:  
9 unique CDR3  
4 unique J



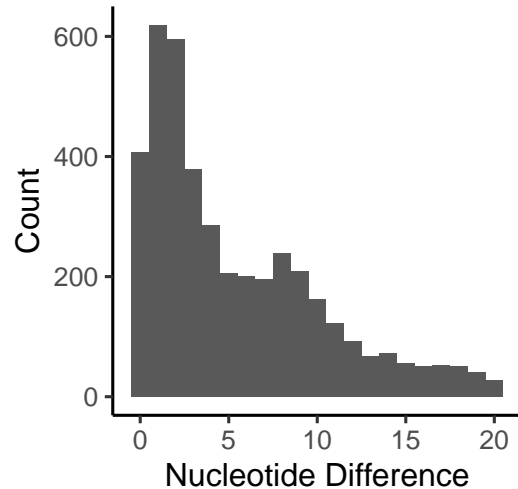
### IGHV4-59\*01\_07

16915 sequences assigned  
2603 (15.4%) exact matches, in which:  
1978 unique CDR3  
6 unique J



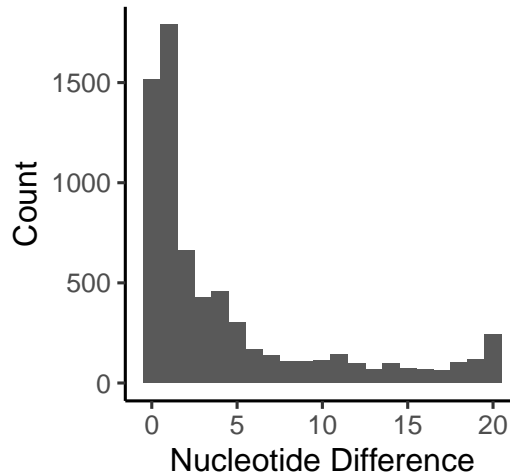
### IGHV4-38-2\*01

4376 sequences assigned  
407 (9.3%) exact matches, in which:  
336 unique CDR3  
6 unique J



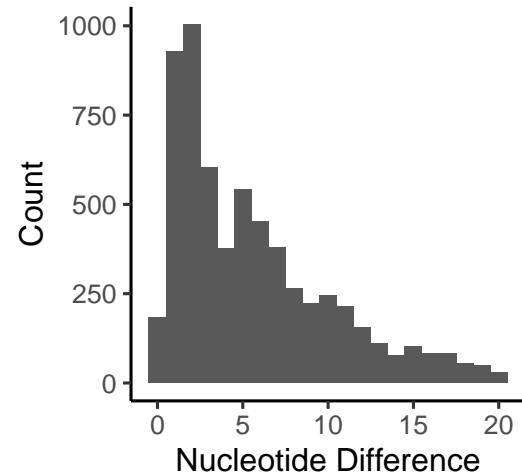
### IGHV4-39\*01\_05

8053 sequences assigned  
1516 (18.8%) exact matches, in which:  
1109 unique CDR3  
6 unique J



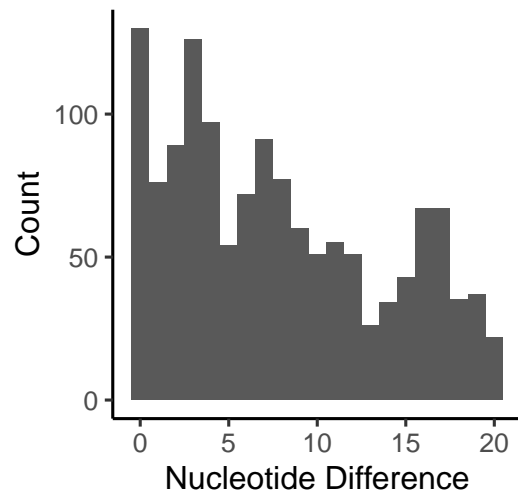
### IGHV4-59\*12

6478 sequences assigned  
182 (2.8%) exact matches, in which:  
179 unique CDR3  
6 unique J



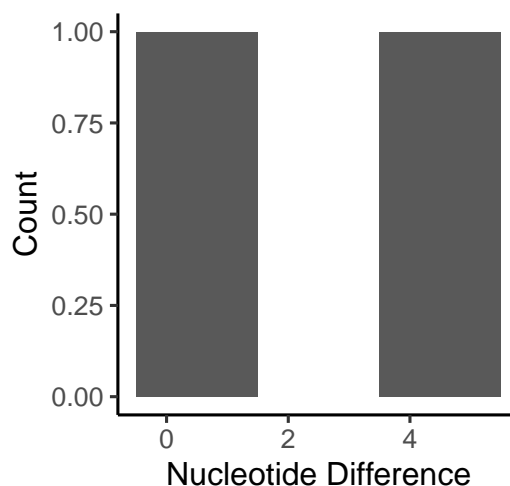
### IGHV4-38-2\*02

1587 sequences assigned  
130 (8.2%) exact matches, in which:  
104 unique CDR3  
6 unique J



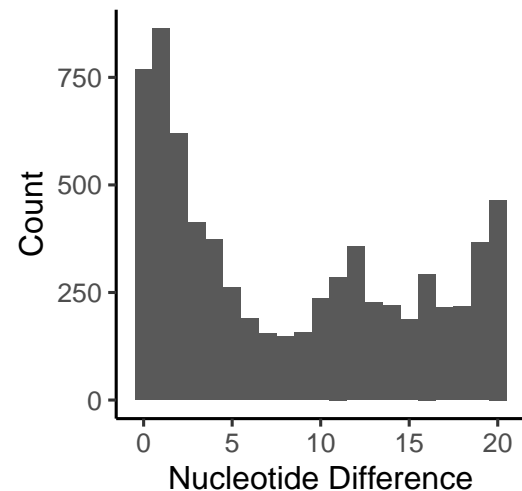
### IGHV4-55\*02\_04\_08

4 sequences assigned  
1 (25%) exact matches, in which:  
1 unique CDR3  
1 unique J



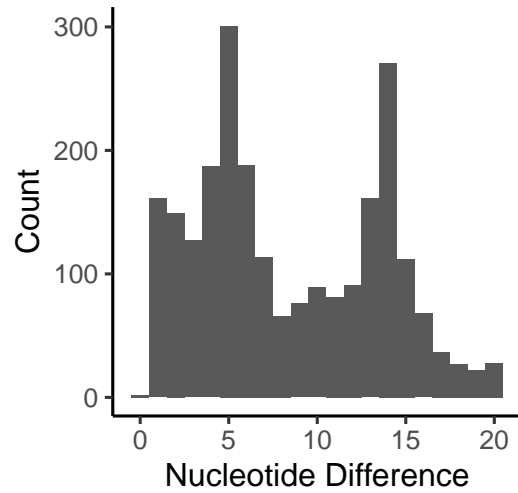
### IGHV4-61\*01

7636 sequences assigned  
768 (10.1%) exact matches, in which:  
658 unique CDR3  
6 unique J



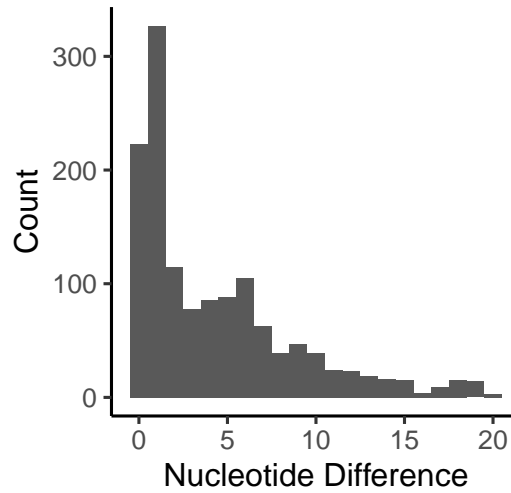
### IGHV4-61\*08

2573 sequences assigned  
2 (0.1%) exact matches, in which:  
2 unique CDR3  
2 unique J



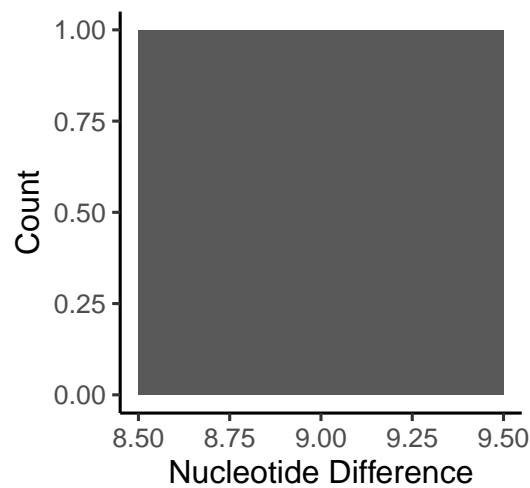
### IGHV6-1\*01\_02

1374 sequences assigned  
223 (16.2%) exact matches, in which:  
168 unique CDR3  
6 unique J



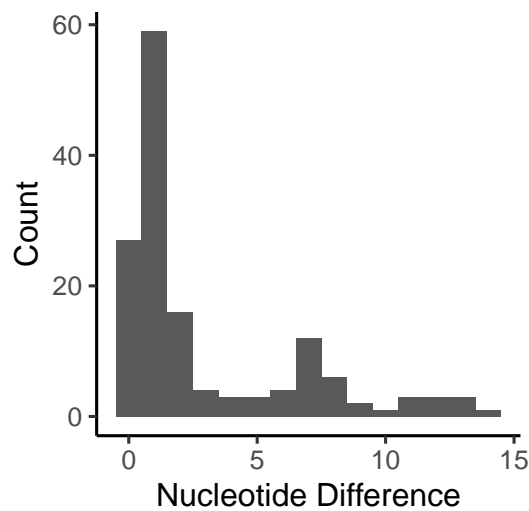
### IGHV5-10-1\*01\_03

2 sequences assigned  
No exact matches.



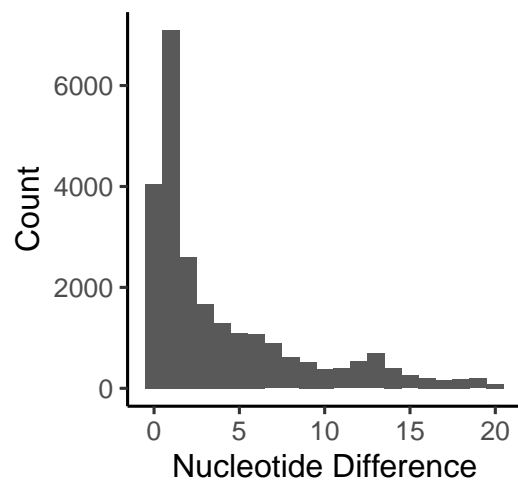
### IGHV7-4-1\*01

148 sequences assigned  
27 (18.2%) exact matches, in which:  
23 unique CDR3  
3 unique J



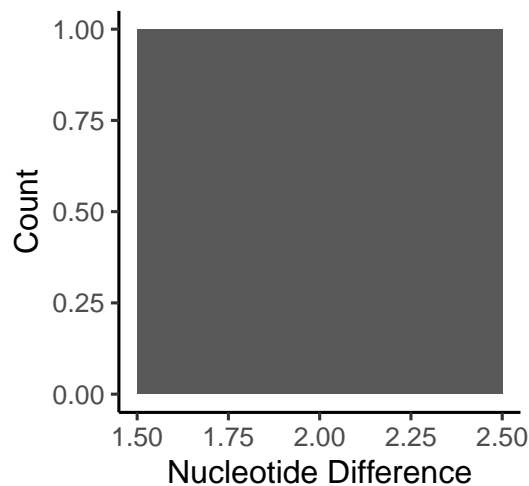
### IGHV5-51\*01\_03

25440 sequences assigned  
4045 (15.9%) exact matches, in which:  
2076 unique CDR3  
6 unique J



### IGHV7-81\*01

1 sequences assigned  
No exact matches.





Novel sequence(s)IGHV1-69\*01\_12\_13\_G238AIGHV3-48\*03\_T303G are not listed in the genotype and will be ignored.