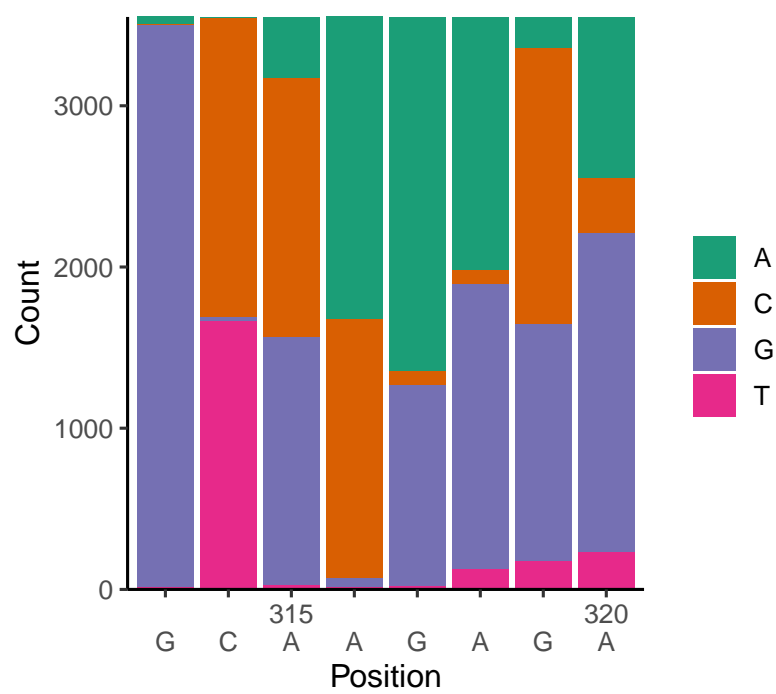
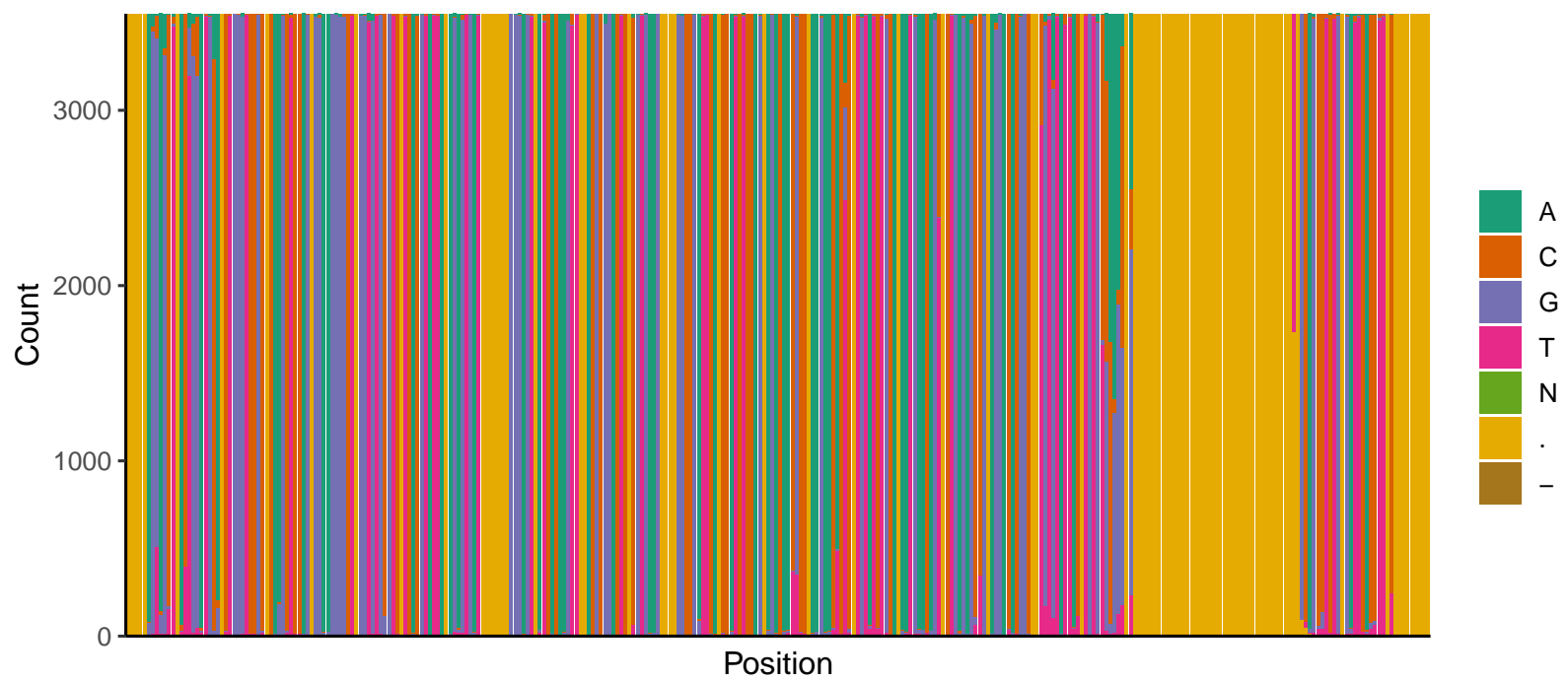
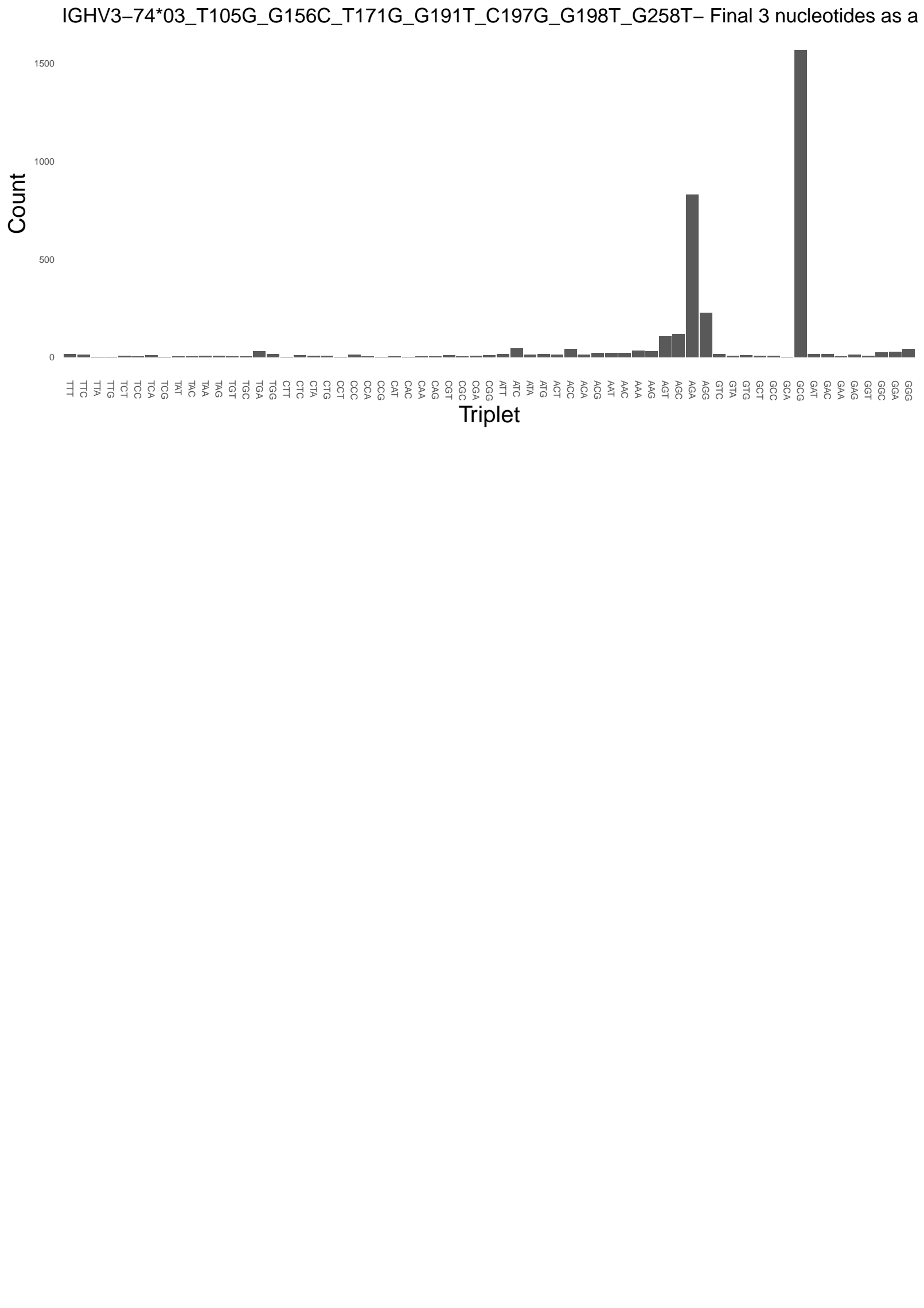


Gene IGHV3-74\*03\_T105G\_G156C\_T171G\_G191T\_C197G\_G198T\_G258T



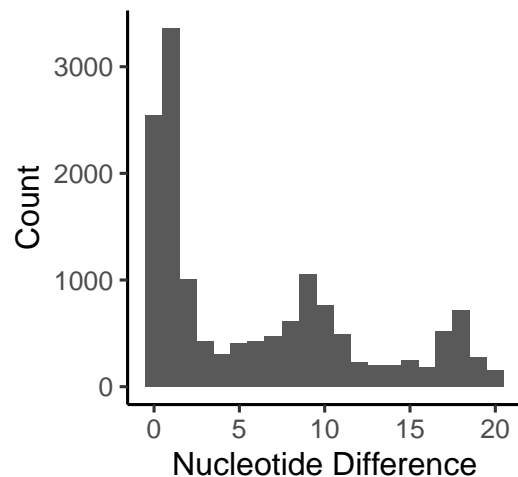
Gene IGHV3-74\*03\_T105G\_G156C\_T171G\_G191T\_C197G\_G198T\_G258T





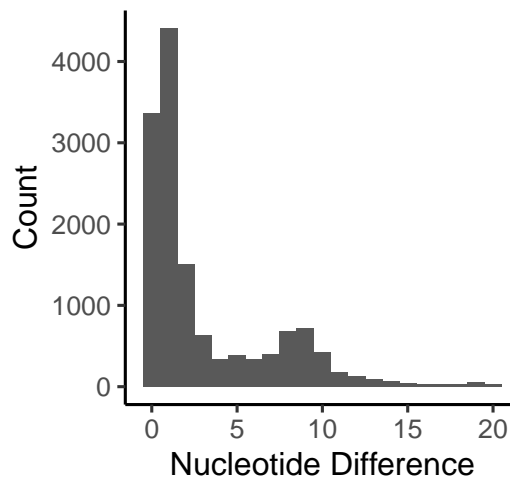
### IGHV1-2\*02

15166 sequences assigned  
2548 (16.8%) exact matches, in which:  
2007 unique CDR3  
6 unique J



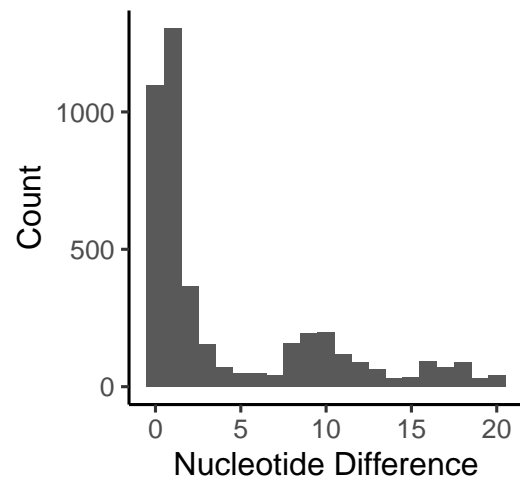
### IGHV1-8\*01

14702 sequences assigned  
3361 (22.9%) exact matches, in which:  
2676 unique CDR3  
6 unique J



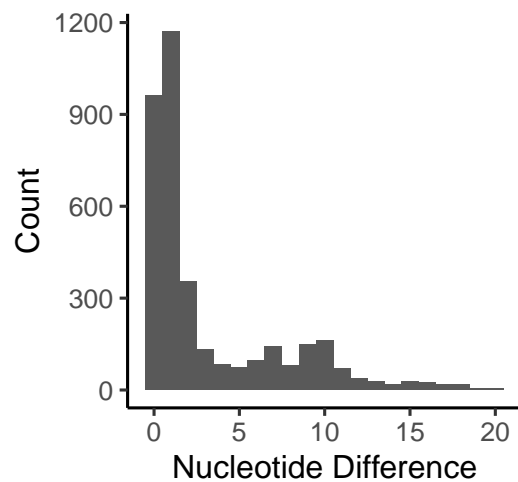
### IGHV1-24\*01

4830 sequences assigned  
1097 (22.7%) exact matches, in which:  
915 unique CDR3  
6 unique J



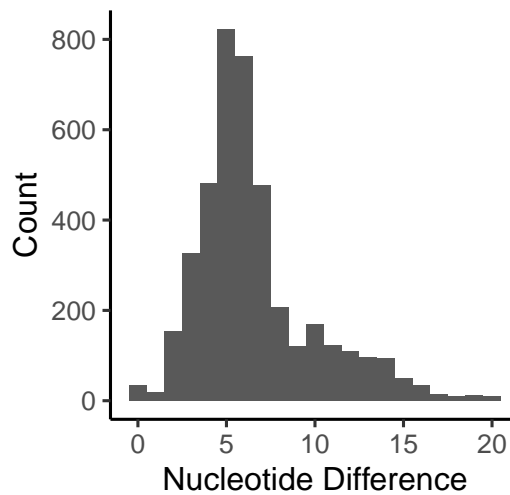
### IGHV1-2\*04

3672 sequences assigned  
961 (26.2%) exact matches, in which:  
807 unique CDR3  
6 unique J



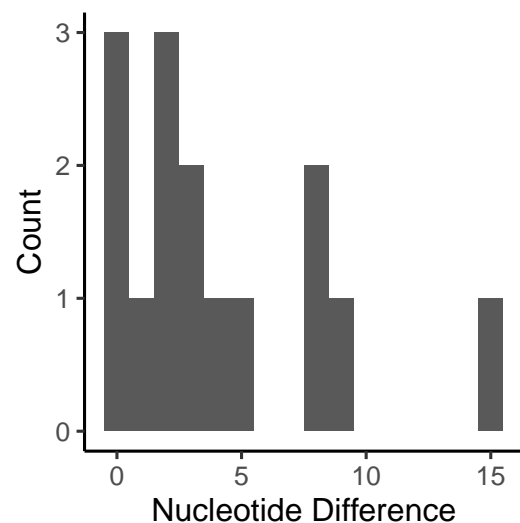
### IGHV1-8\*02

4246 sequences assigned  
35 (0.8%) exact matches, in which:  
35 unique CDR3  
4 unique J



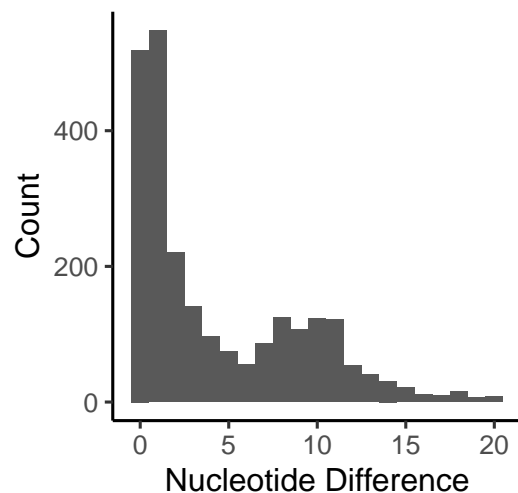
### IGHV1-45\*02

15 sequences assigned  
3 (20%) exact matches, in which:  
3 unique CDR3  
3 unique J



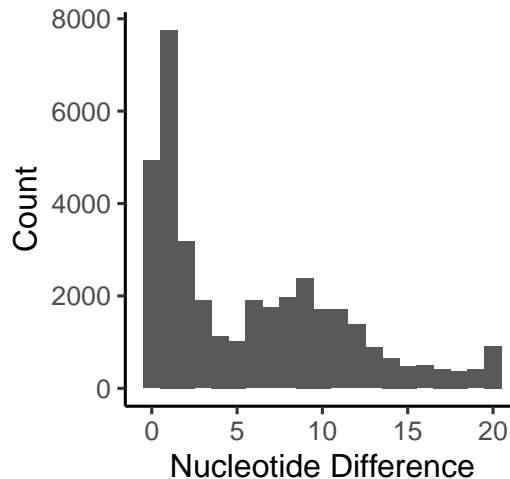
### IGHV1-3\*01\_05

2807 sequences assigned  
519 (18.5%) exact matches, in which:  
406 unique CDR3  
6 unique J



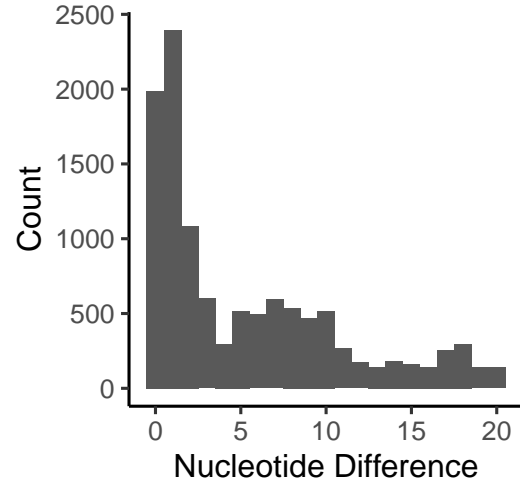
### IGHV1-18\*01

48125 sequences assigned  
4932 (10.2%) exact matches, in which:  
3694 unique CDR3  
6 unique J



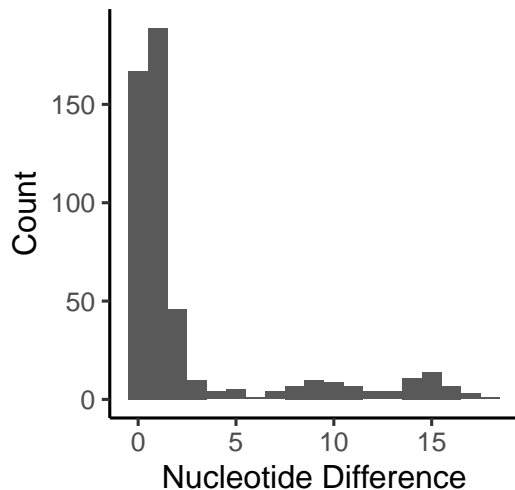
### IGHV1-46\*01

11988 sequences assigned  
1987 (16.6%) exact matches, in which:  
1599 unique CDR3  
6 unique J



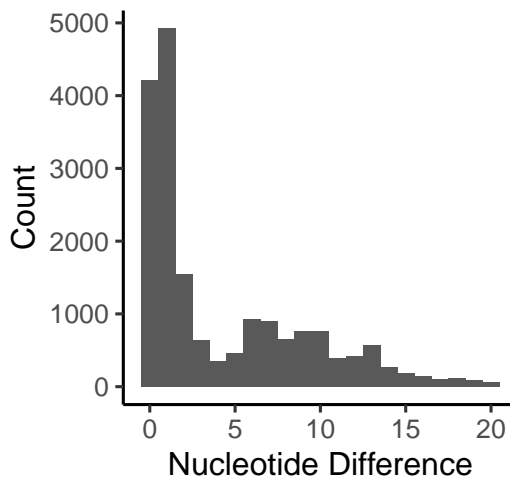
### IGHV1–58\*01\_03

525 sequences assigned  
167 (31.8%) exact matches, in which:  
137 unique CDR3  
6 unique J



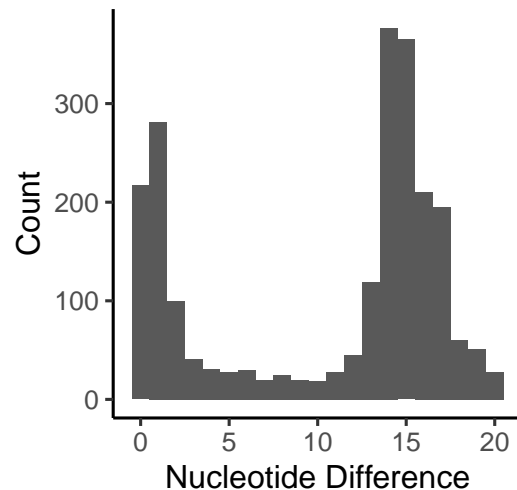
### IGHV1–69\*05

19147 sequences assigned  
4211 (22%) exact matches, in which:  
3429 unique CDR3  
6 unique J



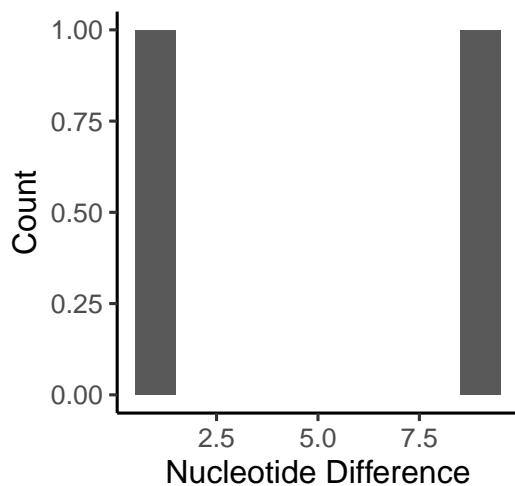
### IGHV2–5\*01

2362 sequences assigned  
217 (9.2%) exact matches, in which:  
180 unique CDR3  
6 unique J



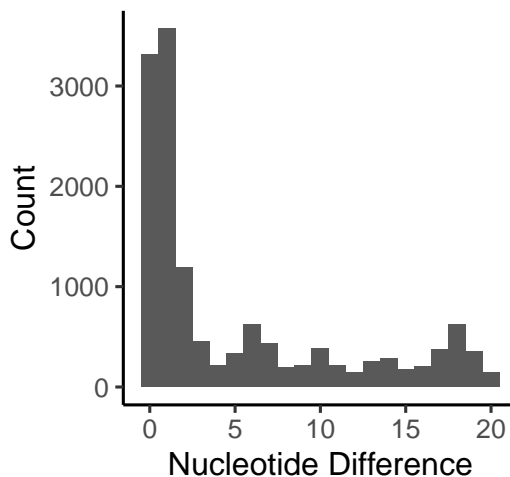
### IGHV1–68\*01

2 sequences assigned  
No exact matches.



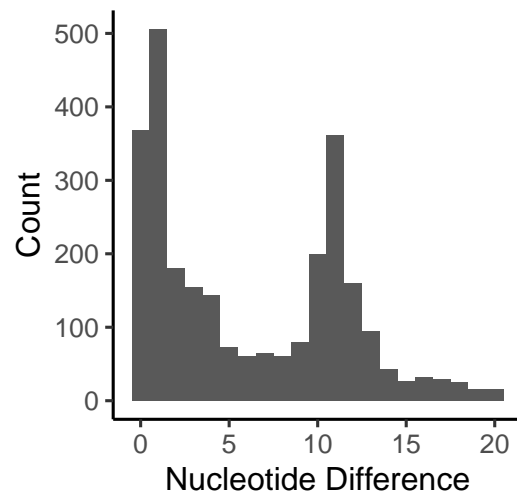
### IGHV1–69\*01\_12\_13

14587 sequences assigned  
3316 (22.7%) exact matches, in which:  
2721 unique CDR3  
6 unique J



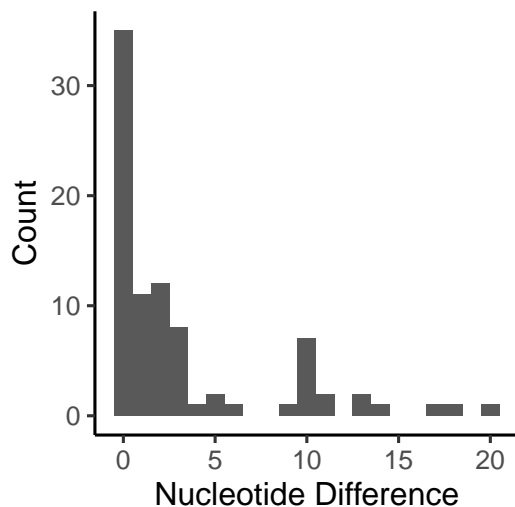
### IGHV2–5\*02

2804 sequences assigned  
368 (13.1%) exact matches, in which:  
257 unique CDR3  
6 unique J



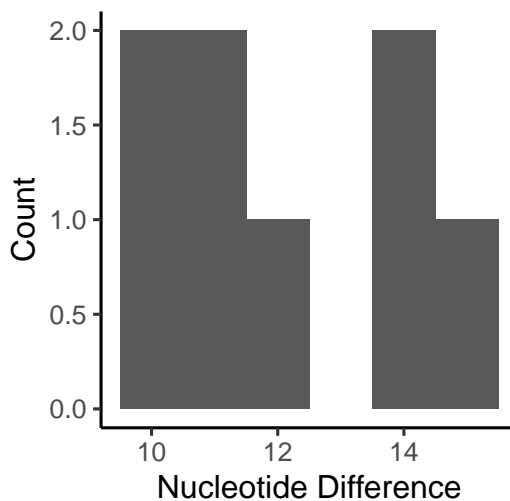
### IGHV1–69–2\*01

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



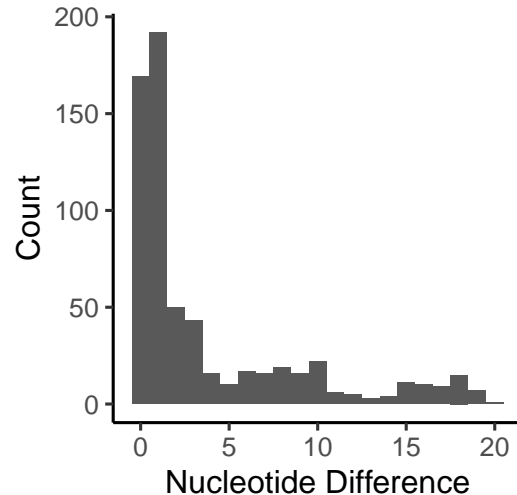
### IGHV1–NL1\*01

8 sequences assigned  
No exact matches.



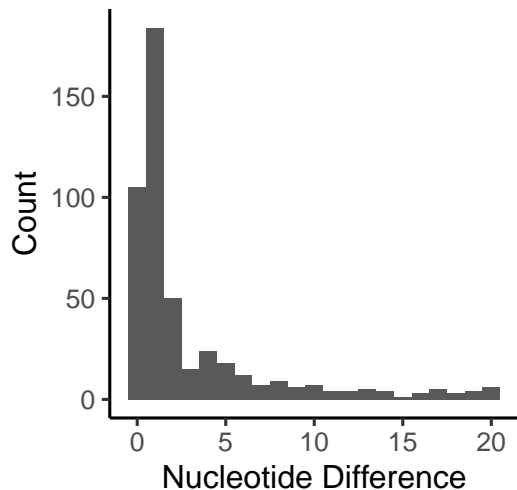
### IGHV2–26\*01

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



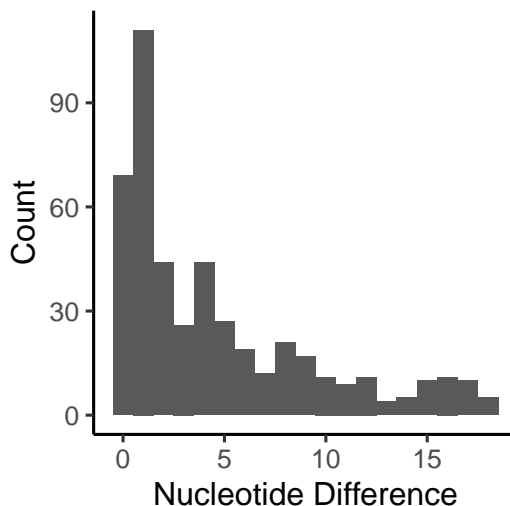
### IGHV2-70\*01

488 sequences assigned  
105 (21.5%) exact matches, in which:  
74 unique CDR3  
5 unique J



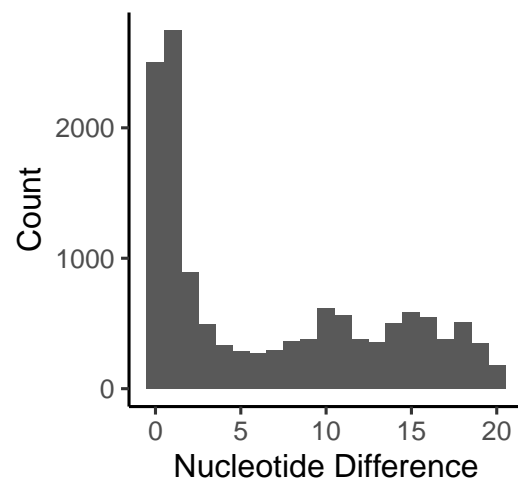
### IGHV2-70D\*14

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



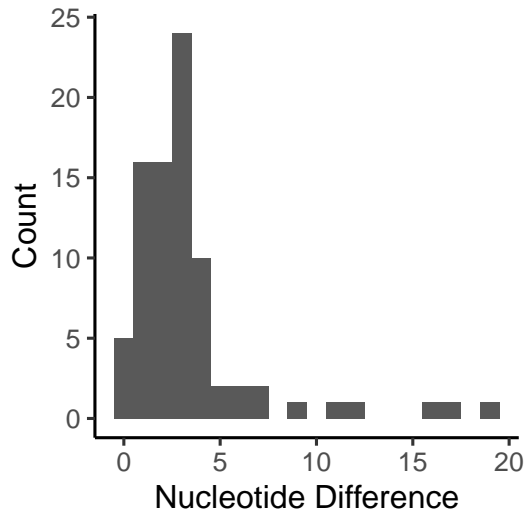
### IGHV3-9\*01

14401 sequences assigned  
2504 (17.4%) exact matches, in which:  
1415 unique CDR3  
6 unique J



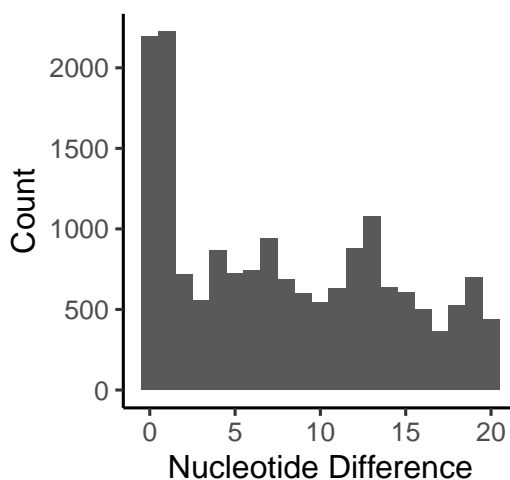
### IGHV2-70\*12

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



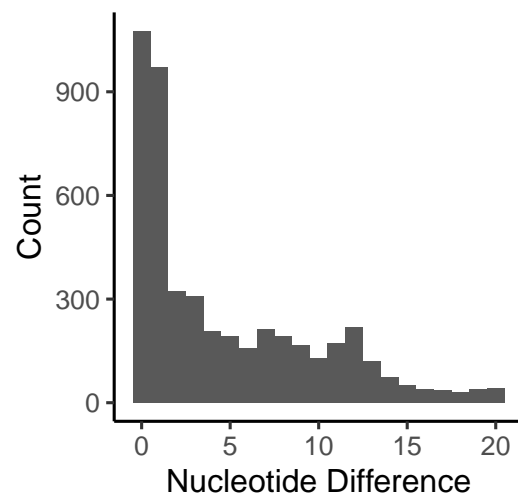
### IGHV3-7\*01

18024 sequences assigned  
2193 (12.2%) exact matches, in which:  
1492 unique CDR3  
6 unique J



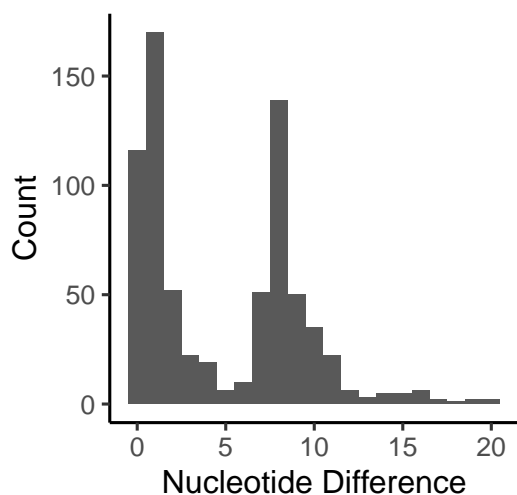
### IGHV3-11\*01

5859 sequences assigned  
1076 (18.4%) exact matches, in which:  
717 unique CDR3  
6 unique J



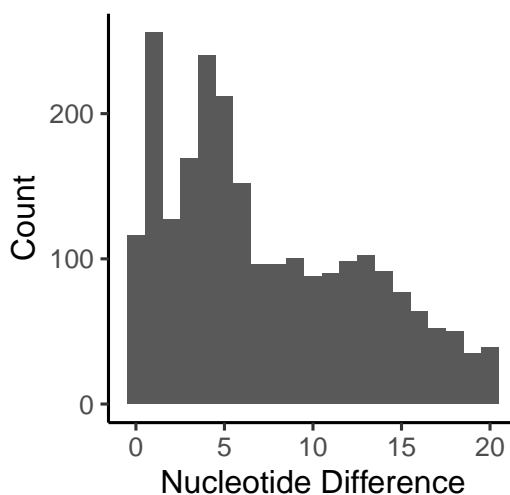
### IGHV2-70\*20

733 sequences assigned  
116 (15.8%) exact matches, in which:  
89 unique CDR3  
5 unique J



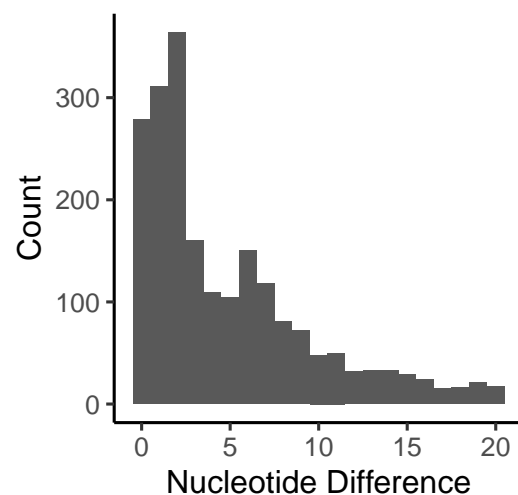
### IGHV3-7\*03

2622 sequences assigned  
116 (4.4%) exact matches, in which:  
106 unique CDR3  
5 unique J



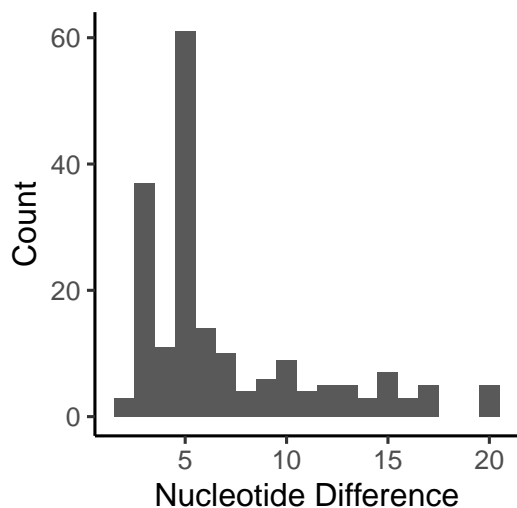
### IGHV3-11\*04

2179 sequences assigned  
279 (12.8%) exact matches, in which:  
264 unique CDR3  
6 unique J



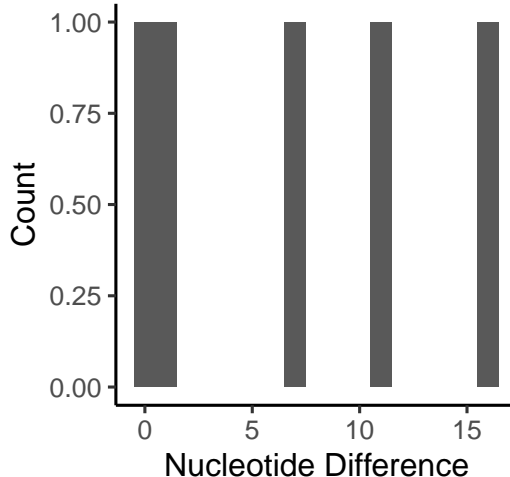
### IGHV3-11\*06

242 sequences assigned  
No exact matches.



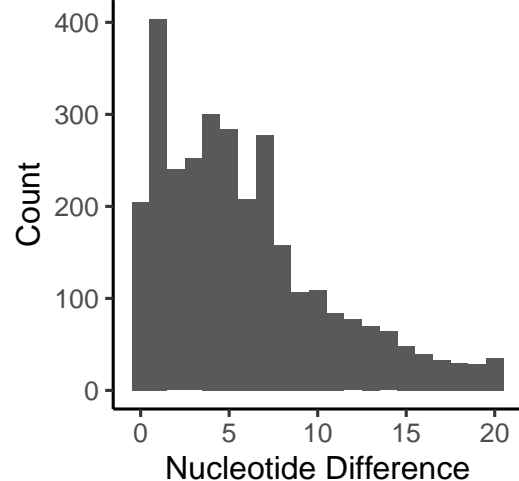
### IGHV3-19\*01

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



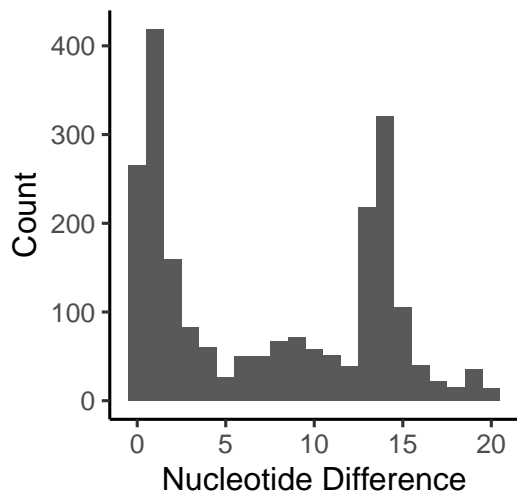
### IGHV3-21\*04

3400 sequences assigned  
205 (6%) exact matches, in which:  
180 unique CDR3  
6 unique J



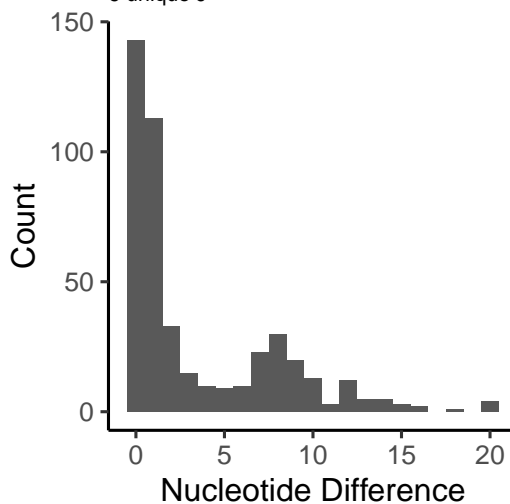
### IGHV3-13\*01

2279 sequences assigned  
265 (11.6%) exact matches, in which:  
178 unique CDR3  
6 unique J



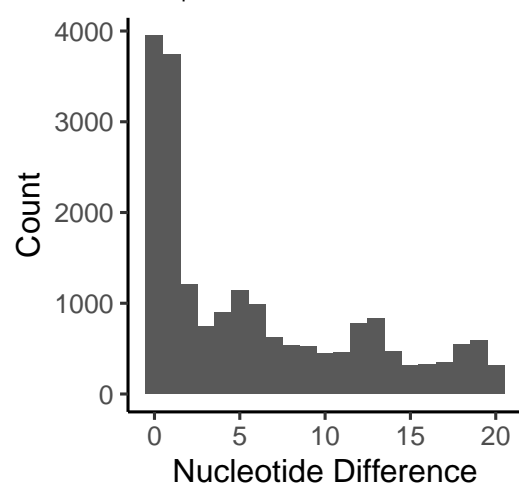
### IGHV3-20\*01\_02

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



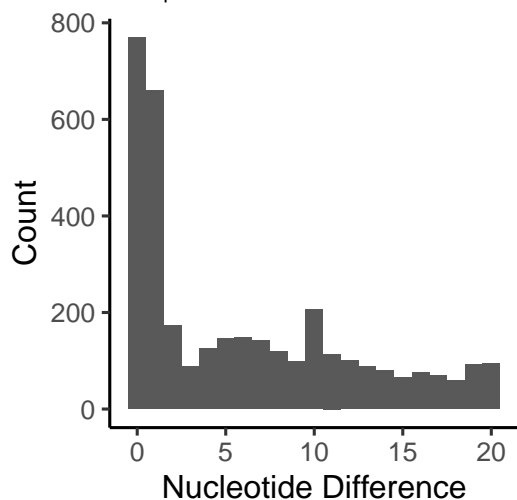
### IGHV3-21\*01\_02

25120 sequences assigned  
3948 (15.7%) exact matches, in which:  
2417 unique CDR3  
6 unique J



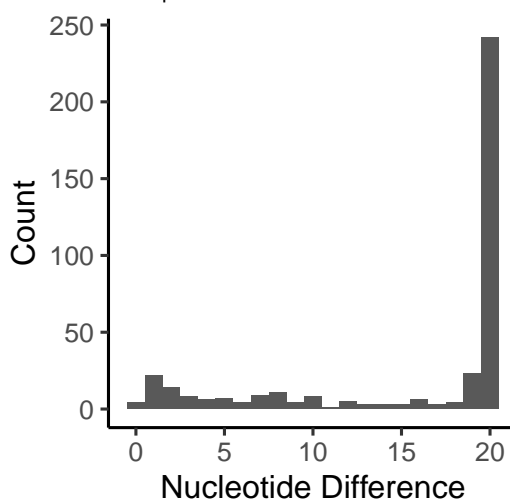
### IGHV3-15\*01\_02

5205 sequences assigned  
770 (14.8%) exact matches, in which:  
459 unique CDR3  
6 unique J



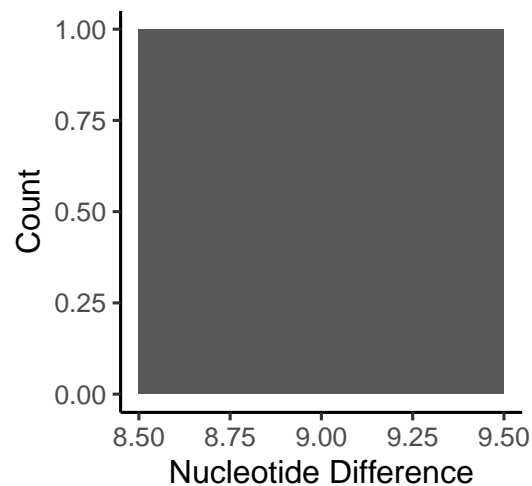
### IGHV3-20\*03\_04

1341 sequences assigned  
4 (0.3%) exact matches, in which:  
4 unique CDR3  
1 unique J



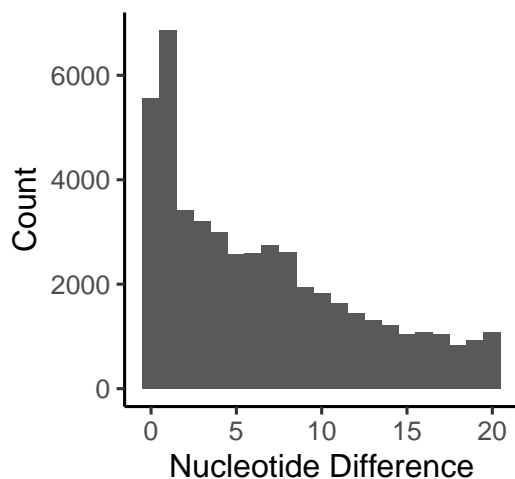
### IGHV3-22\*01\_02

1 sequences assigned  
No exact matches.



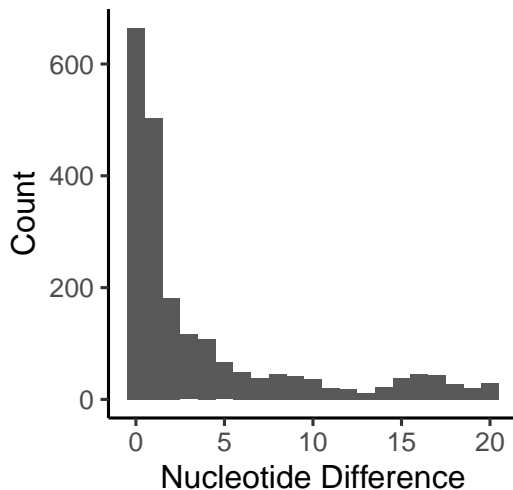
### IGHV3-23\*01\_04

58858 sequences assigned  
5557 (9.4%) exact matches, in which:  
3131 unique CDR3  
6 unique J



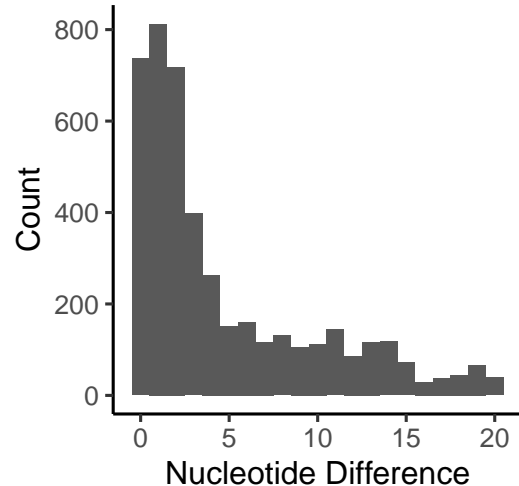
### IGHV3-30\*03

3820 sequences assigned  
665 (17.4%) exact matches, in which:  
574 unique CDR3  
6 unique J



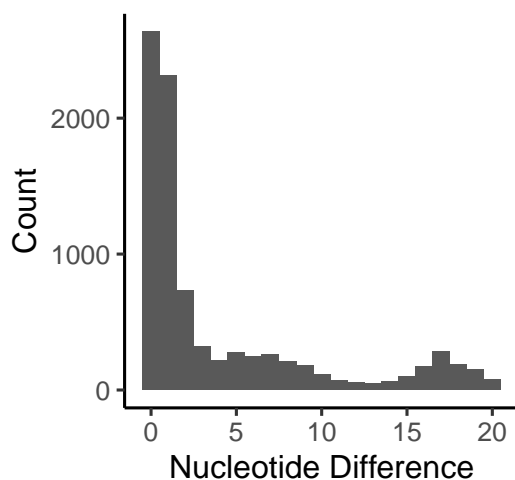
### IGHV3-33\*06

4687 sequences assigned  
737 (15.7%) exact matches, in which:  
496 unique CDR3  
6 unique J



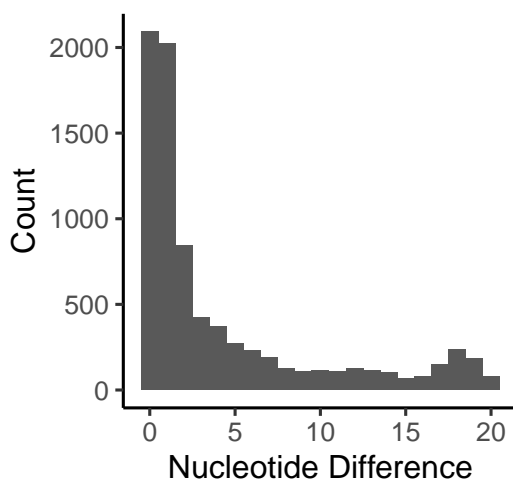
### IGHV3-30-3\*01

9423 sequences assigned  
2636 (28%) exact matches, in which:  
1734 unique CDR3  
6 unique J



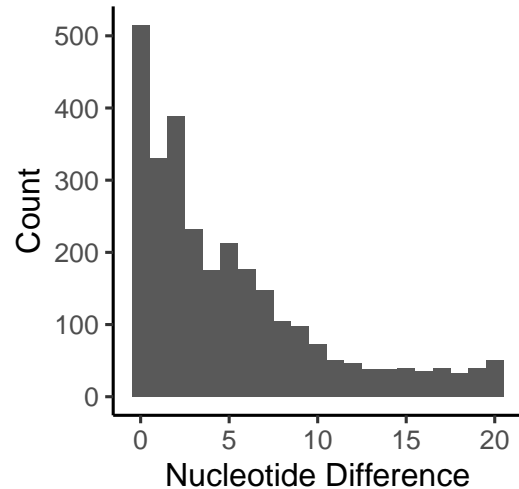
### IGHV3-33\*01

8620 sequences assigned  
2092 (24.3%) exact matches, in which:  
1394 unique CDR3  
6 unique J



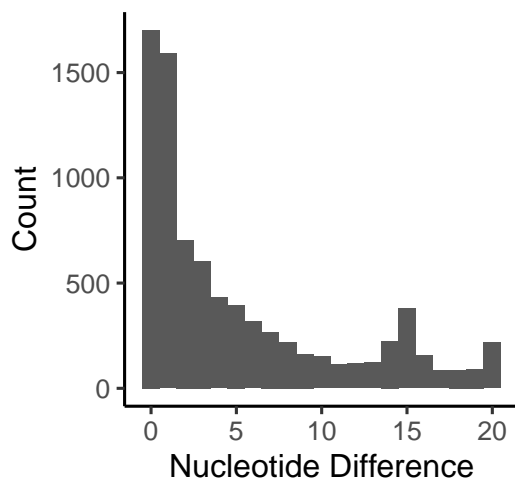
### IGHV3-33\*08

3145 sequences assigned  
515 (16.4%) exact matches, in which:  
376 unique CDR3  
6 unique J



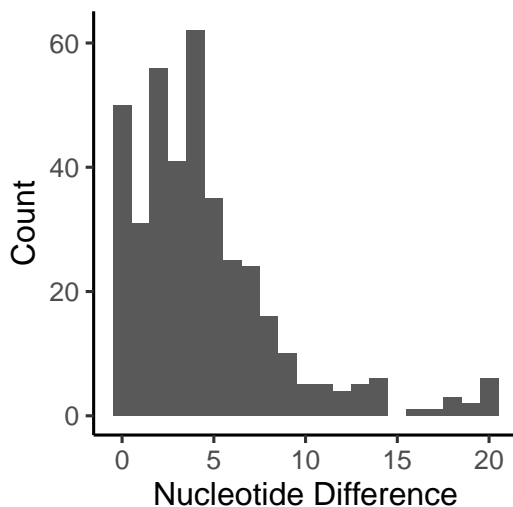
### IGHV3-30\*01

9706 sequences assigned  
1702 (17.5%) exact matches, in which:  
1161 unique CDR3  
6 unique J



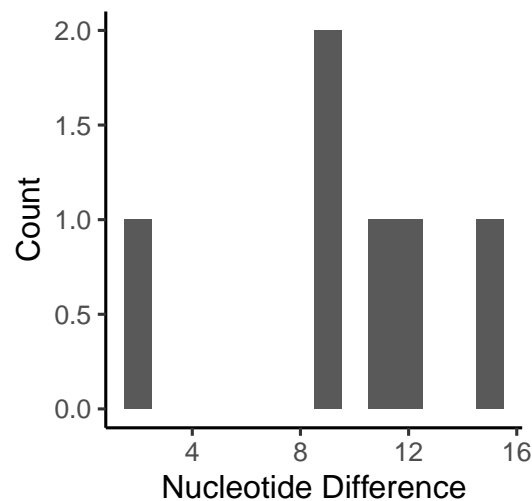
### IGHV3-33\*05

449 sequences assigned  
50 (11.1%) exact matches, in which:  
48 unique CDR3  
5 unique J



### IGHV3-35\*01

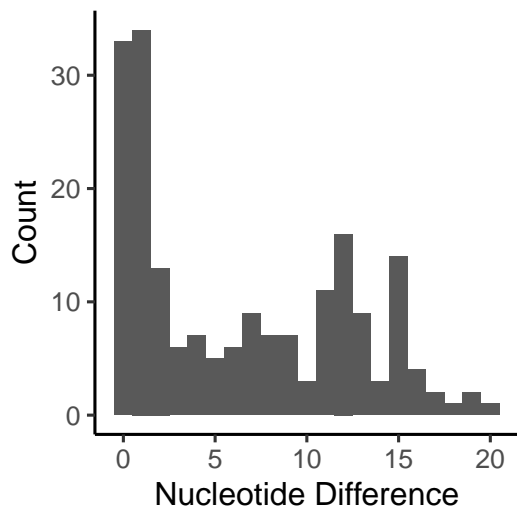
6 sequences assigned  
No exact matches.





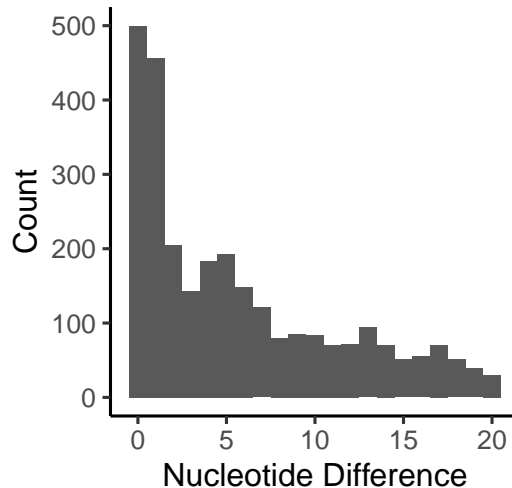
### IGHV3-43\*01

327 sequences assigned  
33 (10.1%) exact matches, in which:  
18 unique CDR3  
4 unique J



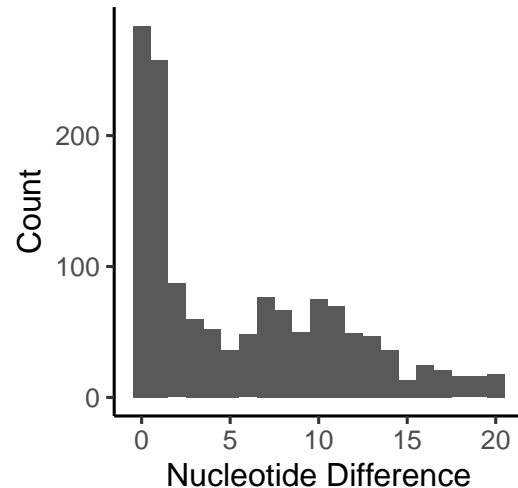
### IGHV3-48\*01

3078 sequences assigned  
500 (16.2%) exact matches, in which:  
350 unique CDR3  
6 unique J



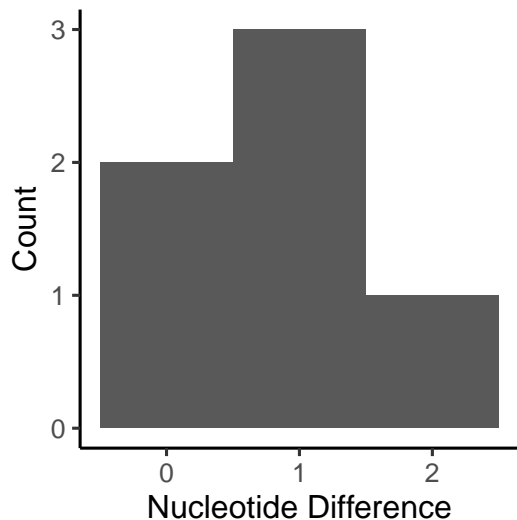
### IGHV3-49\*04

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



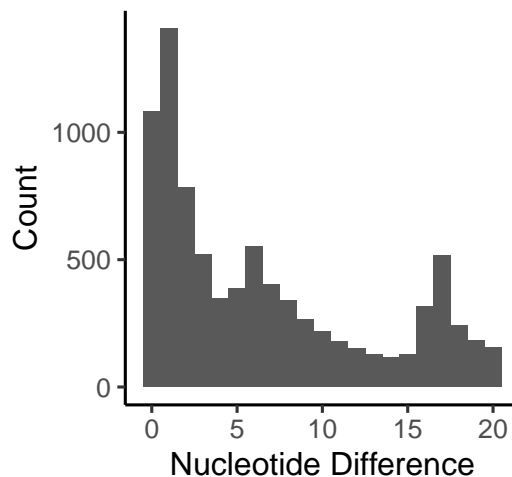
### IGHV3-47\*01

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



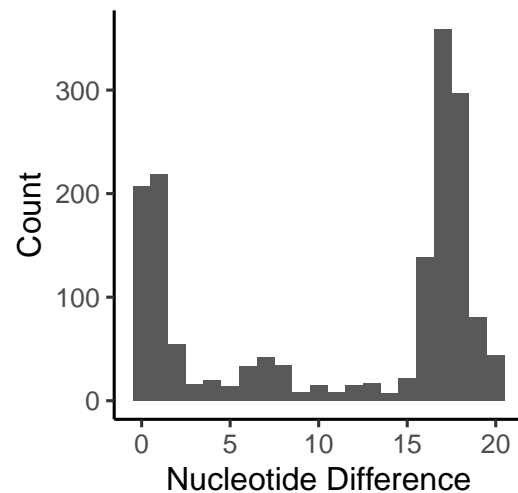
### IGHV3-48\*03

10544 sequences assigned  
1084 (10.3%) exact matches, in which:  
667 unique CDR3  
6 unique J



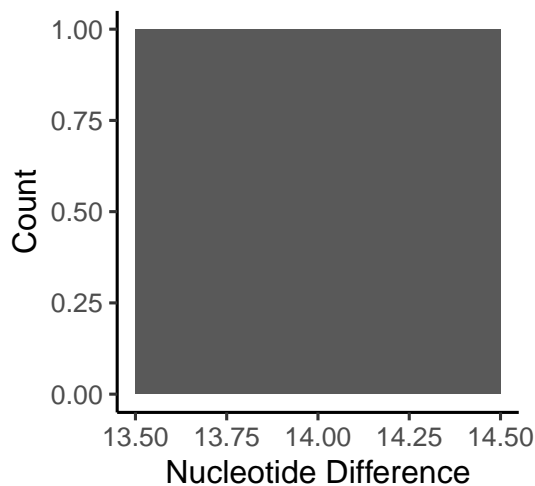
### IGHV3-49\*03\_05

1802 sequences assigned  
207 (11.5%) exact matches, in which:  
124 unique CDR3  
6 unique J



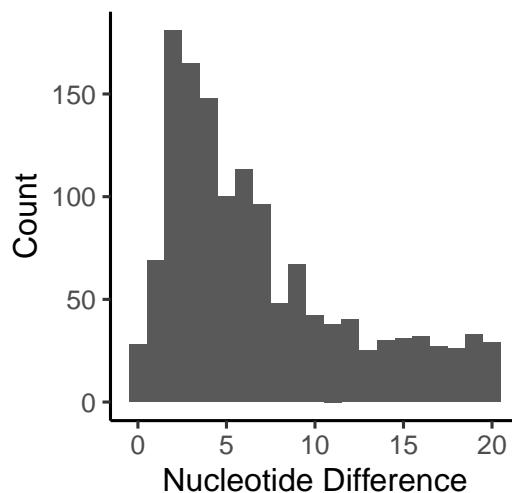
### IGHV3-47\*02

1 sequences assigned  
No exact matches.



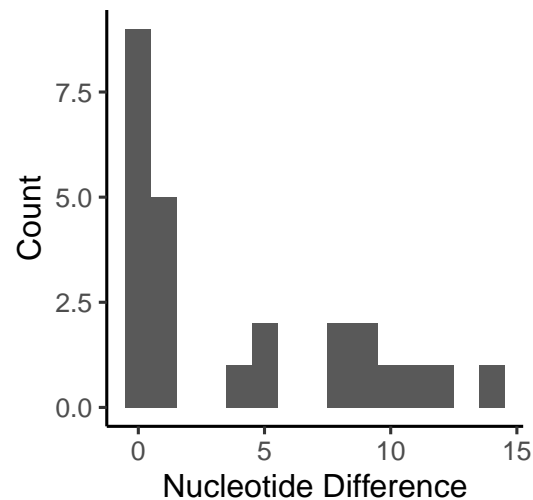
### IGHV3-48\*04

1558 sequences assigned  
28 (1.8%) exact matches, in which:  
28 unique CDR3  
5 unique J



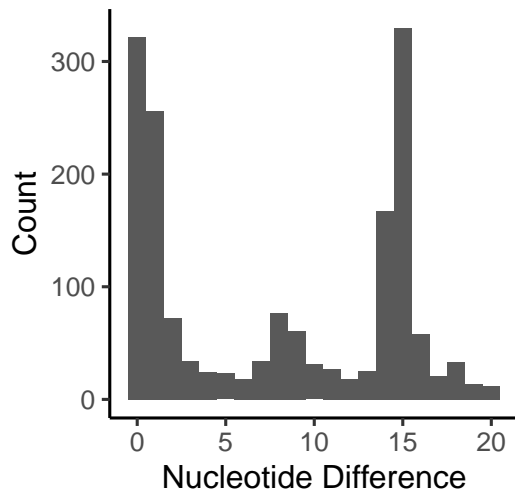
### IGHV3-52\*01\_03

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



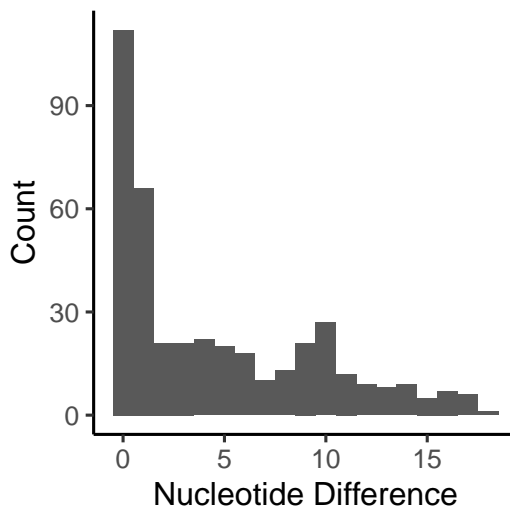
### IGHV3-53\*04

1702 sequences assigned  
322 (18.9%) exact matches, in which:  
225 unique CDR3  
6 unique J



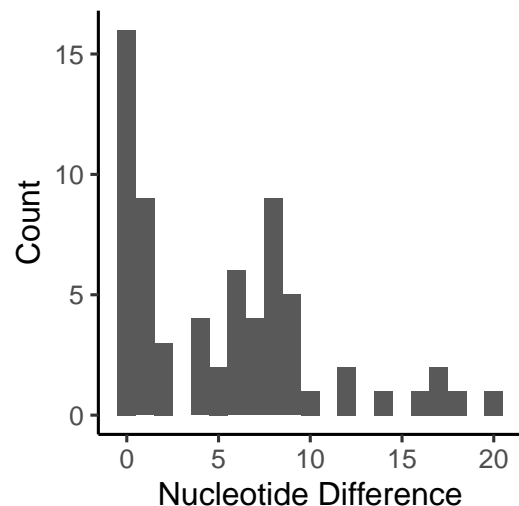
### IGHV3-64\*02\_07

441 sequences assigned  
112 (25.4%) exact matches, in which:  
80 unique CDR3  
6 unique J



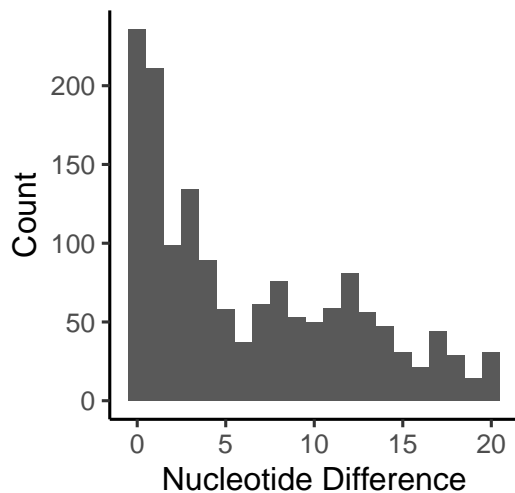
### IGHV3-66\*03

68 sequences assigned  
16 (23.5%) exact matches, in which:  
14 unique CDR3  
4 unique J



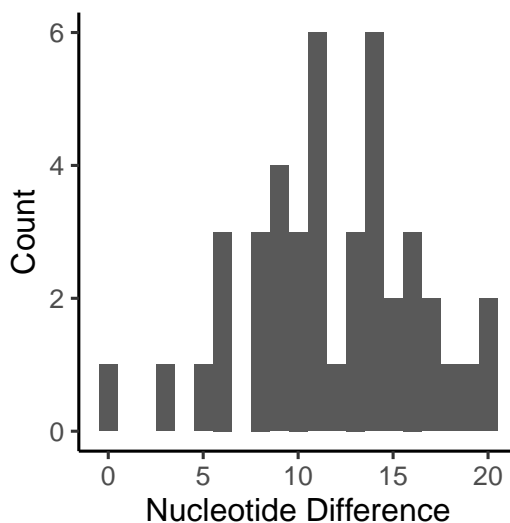
### IGHV3-53\*01\_02

1616 sequences assigned  
236 (14.6%) exact matches, in which:  
154 unique CDR3  
6 unique J



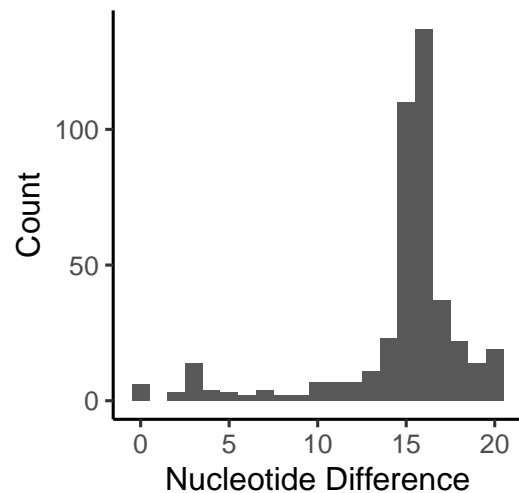
### IGHV3-66\*01

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



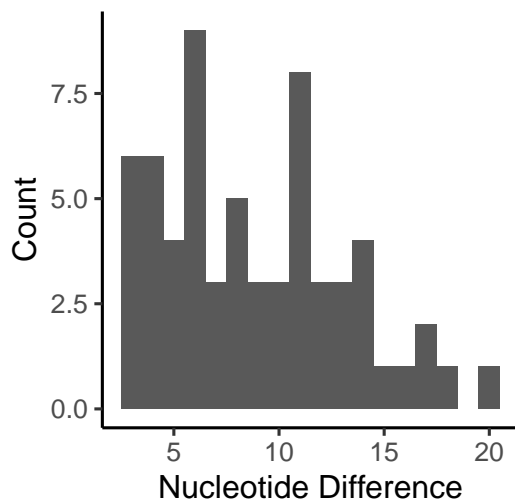
### IGHV3-69-1\*01

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



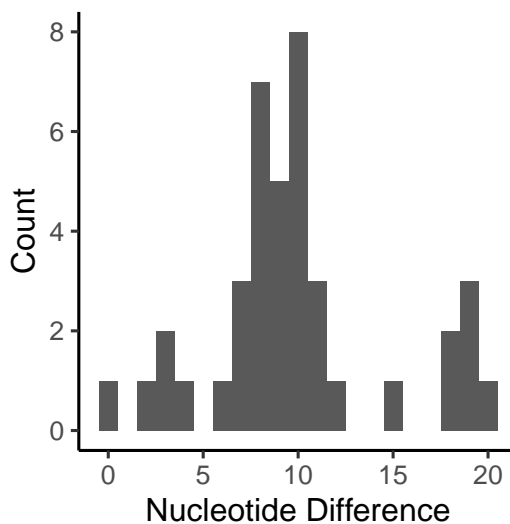
### IGHV3-64\*04

85 sequences assigned  
No exact matches.



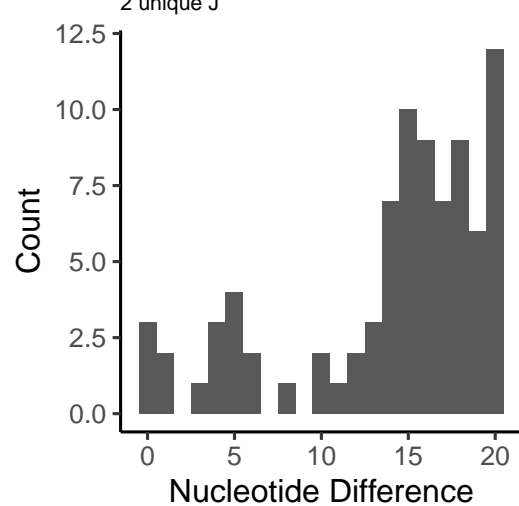
### IGHV3-66\*02

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



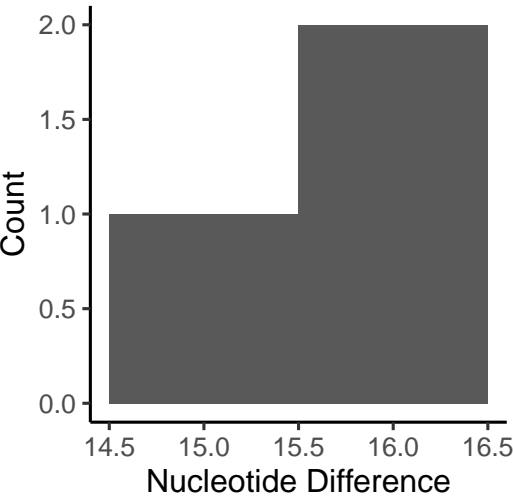
### IGHV3-69-1\*02

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



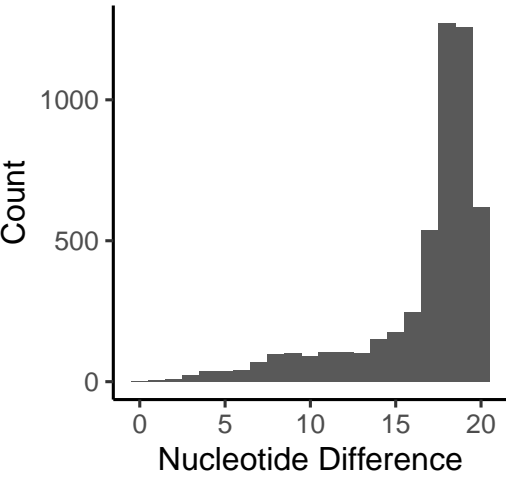
IGHV3-71\*01\_04

5 sequences assigned  
No exact matches.



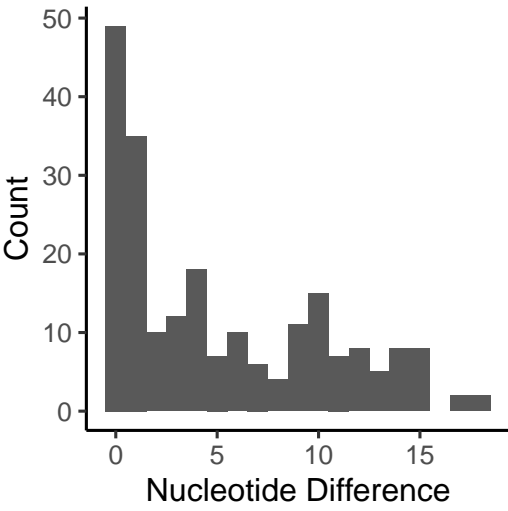
IGHV3-74\*03

6466 sequences assigned  
1 (0%) exact matches, in which:  
1 unique CDR3  
1 unique J



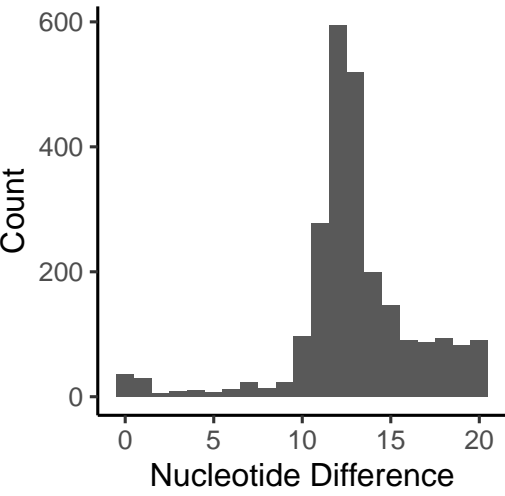
IGHV3-43D\*04

221 sequences assigned  
49 (22.2%) exact matches, in which:  
39 unique CDR3  
3 unique J



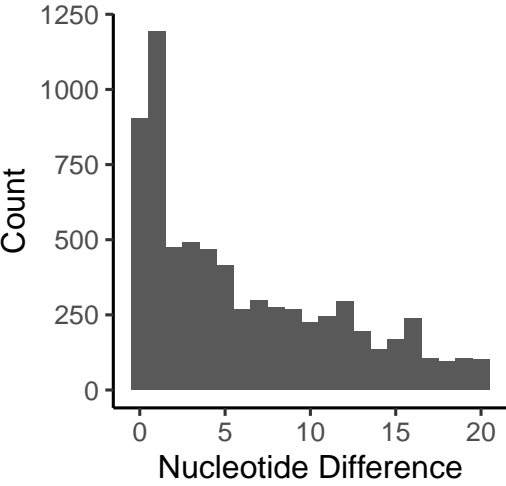
IGHV3-72\*01

2707 sequences assigned  
36 (1.3%) exact matches, in which:  
25 unique CDR3  
4 unique J



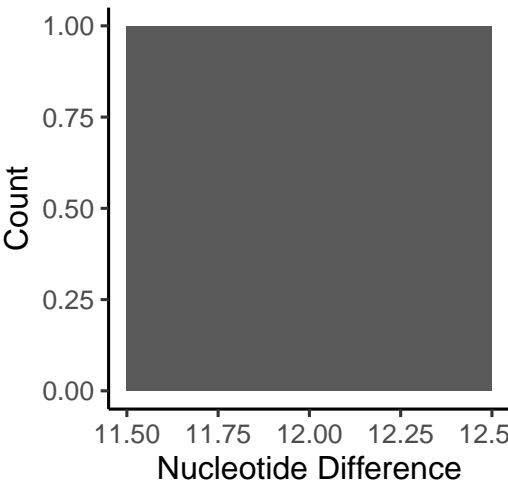
IGHV3-74\*01\_02

7338 sequences assigned  
902 (12.3%) exact matches, in which:  
606 unique CDR3  
6 unique J



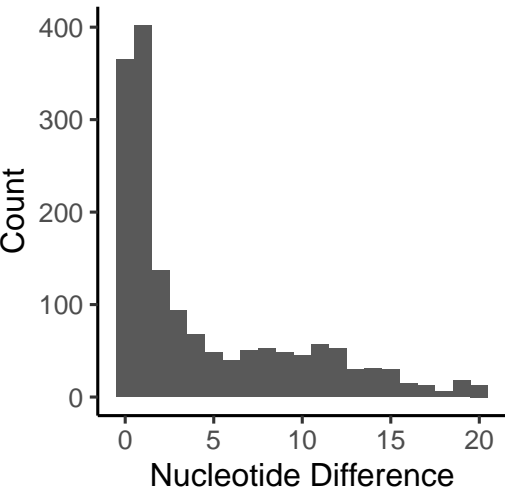
IGHV3-64D\*08

1 sequences assigned  
No exact matches.



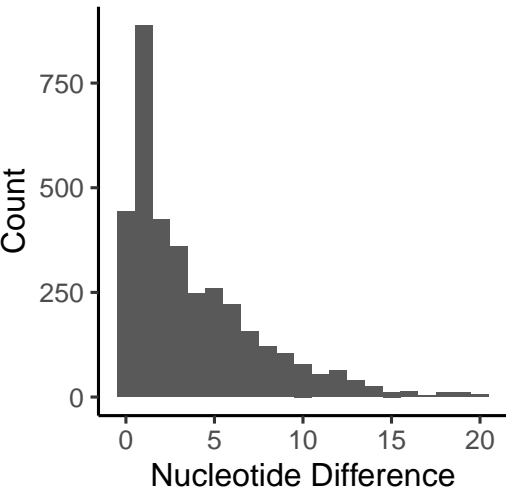
IGHV3-73\*01\_02

1935 sequences assigned  
365 (18.9%) exact matches, in which:  
237 unique CDR3  
6 unique J



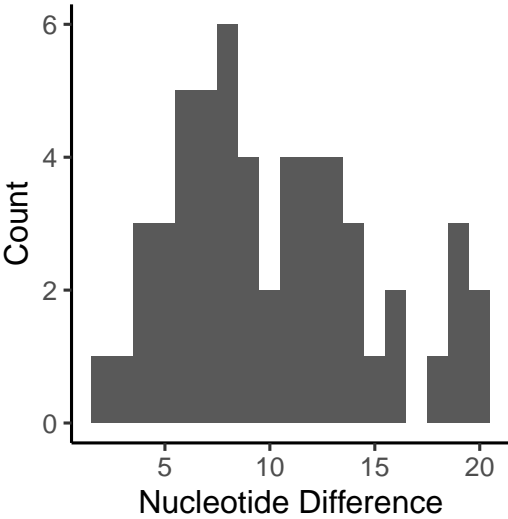
IGHV3-74\*03\_T105G\_G'

3551 sequences assigned  
444 (12.5%) exact matches, in which:  
300 unique CDR3  
6 unique J



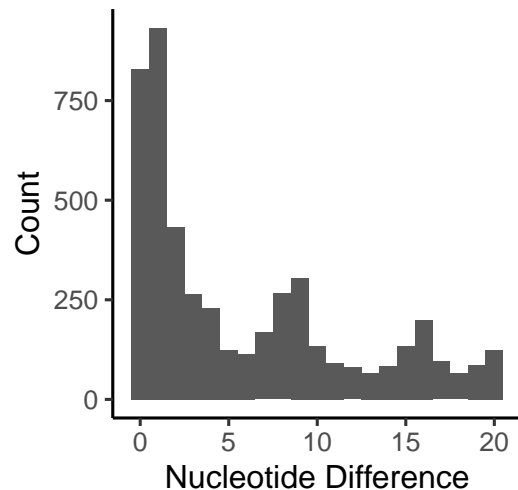
IGHV3-NL1\*01

76 sequences assigned  
No exact matches.



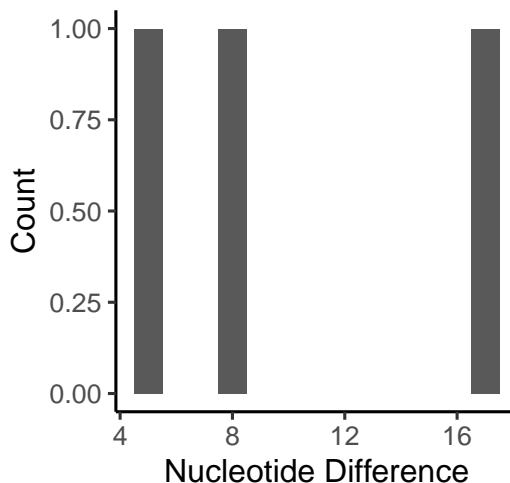
### IGHV4-4\*07

6124 sequences assigned  
829 (13.5%) exact matches, in which:  
641 unique CDR3  
6 unique J



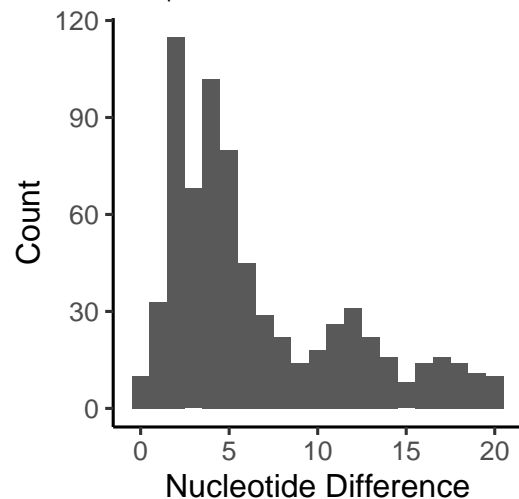
### IGHV4-28\*01\_07

4 sequences assigned  
No exact matches.



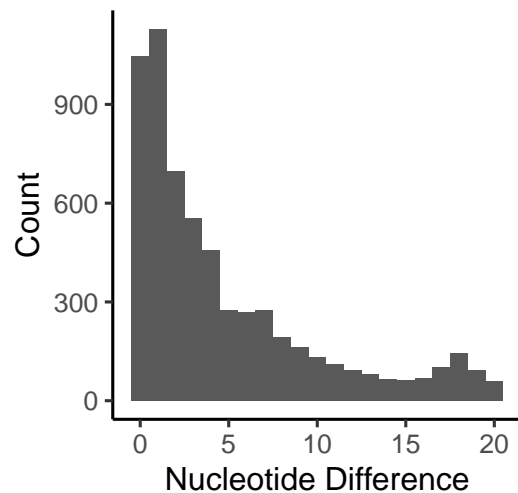
### IGHV4-30-4\*08

1131 sequences assigned  
10 (0.9%) exact matches, in which:  
9 unique CDR3  
3 unique J



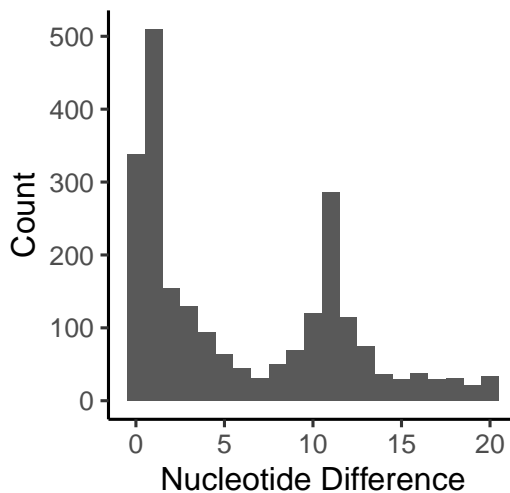
### IGHV4-4\*02\_03

6699 sequences assigned  
1046 (15.6%) exact matches, in which:  
757 unique CDR3  
6 unique J



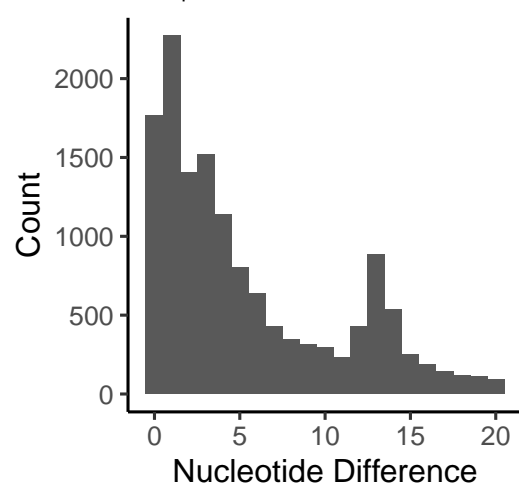
### IGHV4-30-4\*01

3362 sequences assigned  
338 (10.1%) exact matches, in which:  
230 unique CDR3  
6 unique J



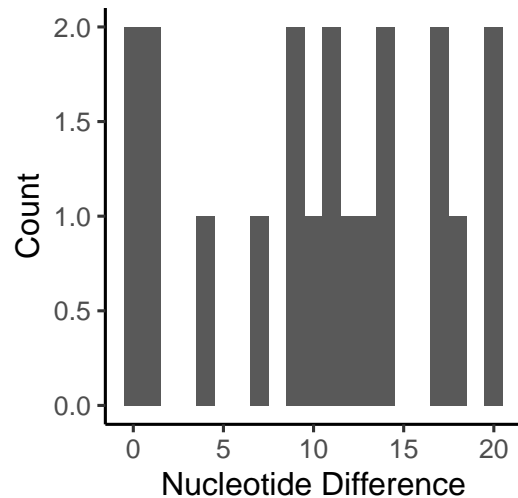
### IGHV4-31\*02

15319 sequences assigned  
1765 (11.5%) exact matches, in which:  
1369 unique CDR3  
6 unique J



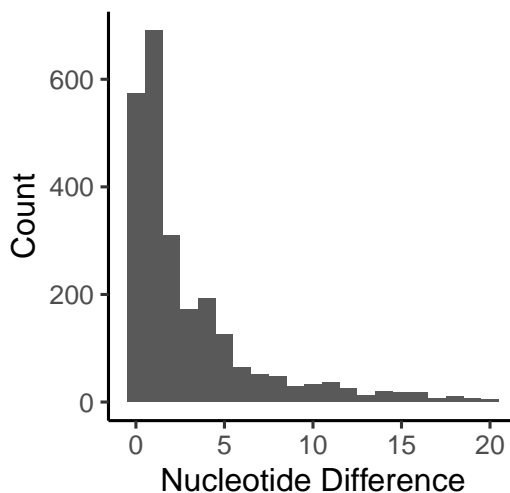
### IGHV4-28\*03

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



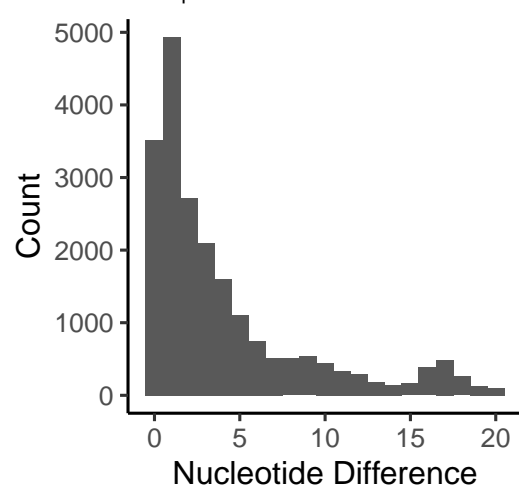
### IGHV4-30-2\*01

2632 sequences assigned  
573 (21.8%) exact matches, in which:  
400 unique CDR3  
6 unique J



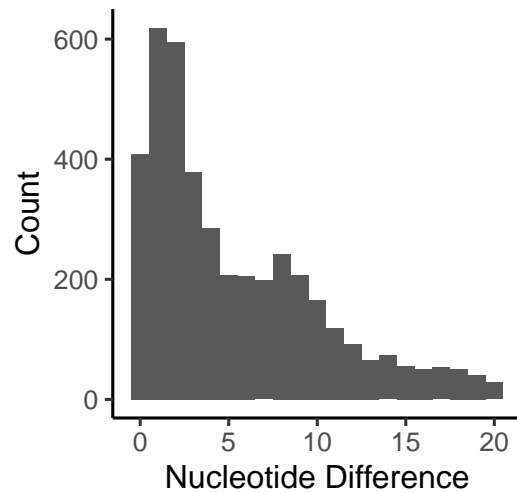
### IGHV4-34\*01\_02

22118 sequences assigned  
3514 (15.9%) exact matches, in which:  
2424 unique CDR3  
6 unique J



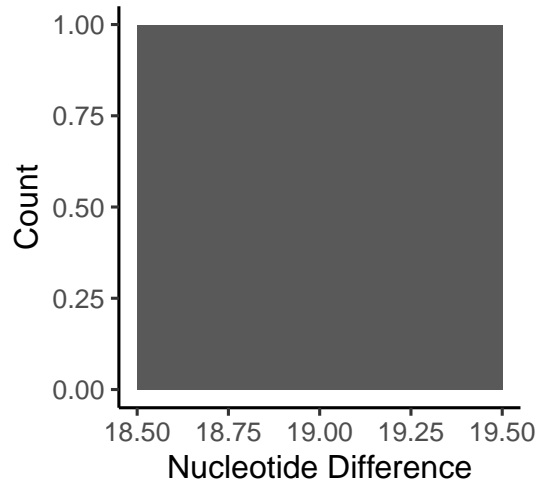
### IGHV4-38-2\*01

4393 sequences assigned  
408 (9.3%) exact matches, in which:  
337 unique CDR3  
6 unique J



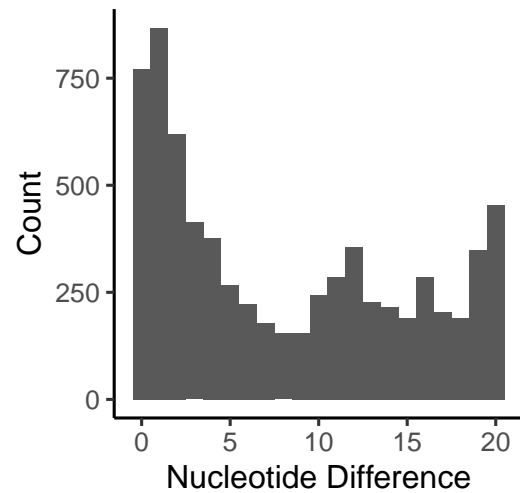
### IGHV4-55\*09

1 sequences assigned  
No exact matches.



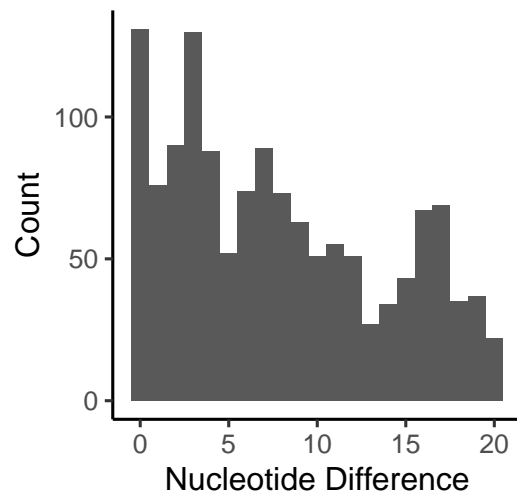
### IGHV4-61\*01

7660 sequences assigned  
771 (10.1%) exact matches, in which:  
659 unique CDR3  
6 unique J



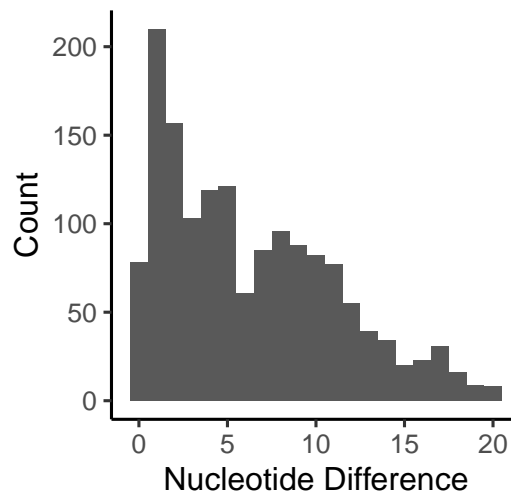
### IGHV4-38-2\*02

1584 sequences assigned  
131 (8.3%) exact matches, in which:  
105 unique CDR3  
6 unique J



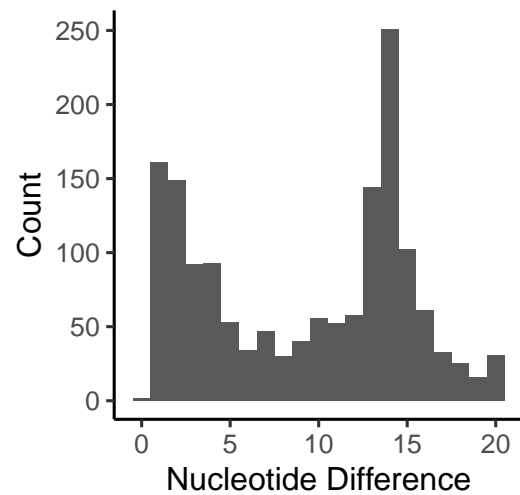
### IGHV4-59\*08

2253 sequences assigned  
78 (3.5%) exact matches, in which:  
70 unique CDR3  
6 unique J



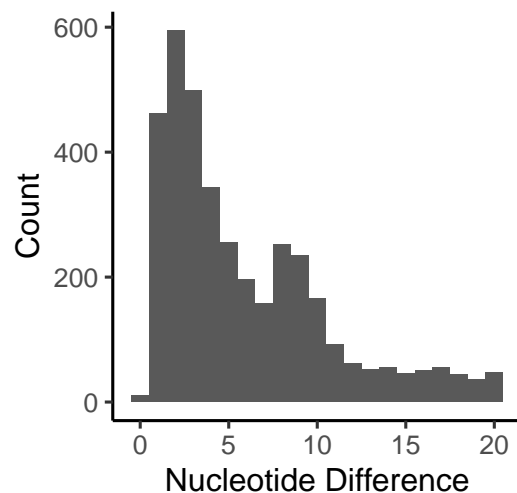
### IGHV4-61\*08

1722 sequences assigned  
2 (0.1%) exact matches, in which:  
2 unique CDR3  
2 unique J



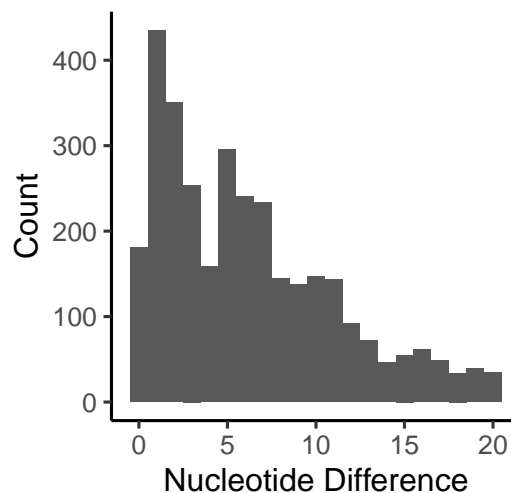
### IGHV4-39\*07

4000 sequences assigned  
10 (0.2%) exact matches, in which:  
10 unique CDR3  
5 unique J



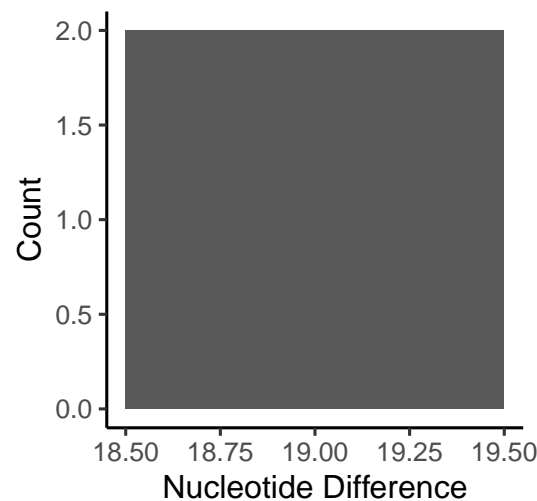
### IGHV4-59\*12

3574 sequences assigned  
181 (5.1%) exact matches, in which:  
178 unique CDR3  
6 unique J



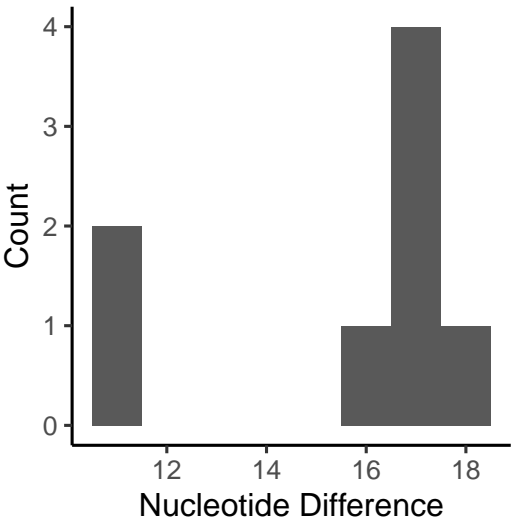
### IGHV1/OR15-1\*04

2 sequences assigned  
No exact matches.



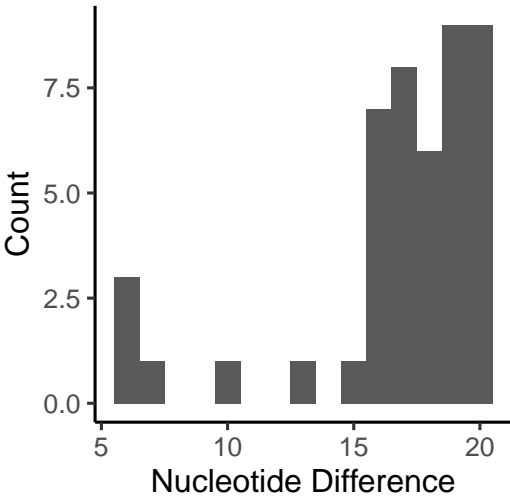
IGHV1/OR15-2\*02\_03

10 sequences assigned  
No exact matches.



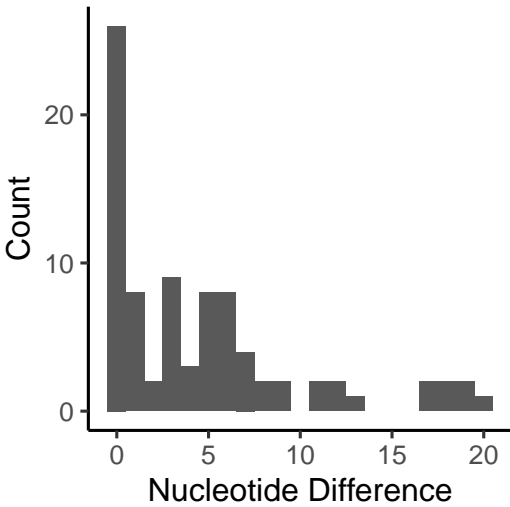
IGHV4/OR15-8\*02

1597 sequences assigned  
No exact matches.



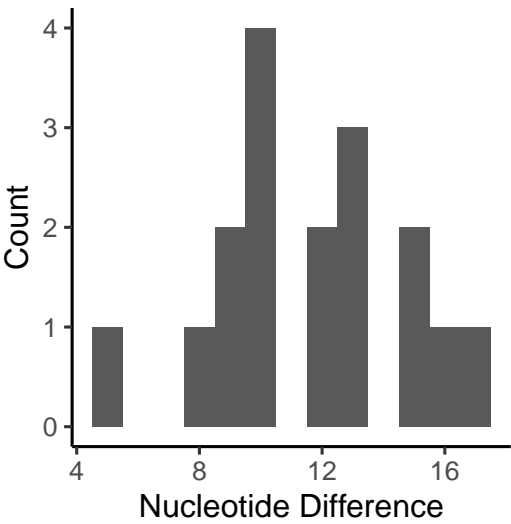
IGHV5-51\*04

119 sequences assigned  
26 (21.8%) exact matches, in which:  
26 unique CDR3  
4 unique J



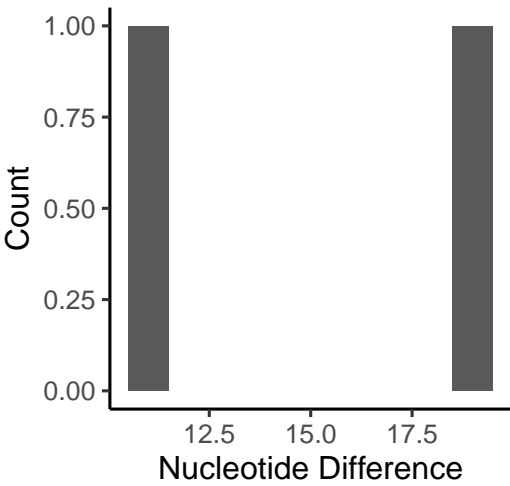
IGHV1/OR15-3\*02

17 sequences assigned  
No exact matches.



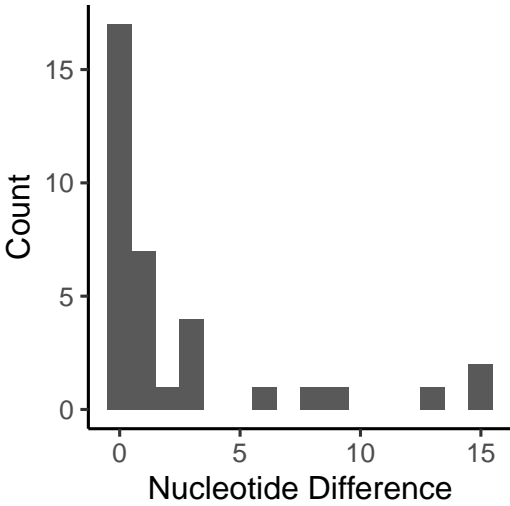
IGHV1/OR15-9\*01

2 sequences assigned  
No exact matches.



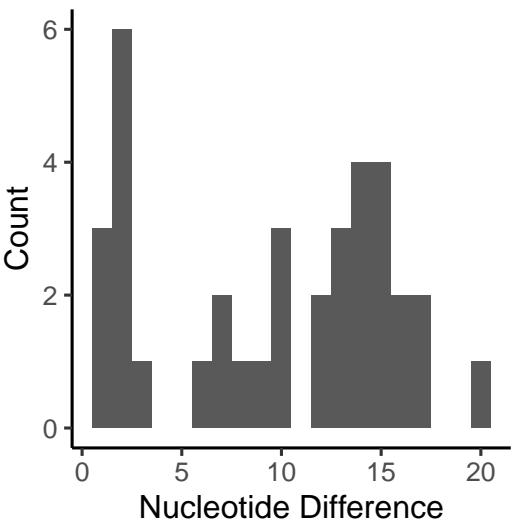
IGHV5-51\*06

37 sequences assigned  
17 (45.9%) exact matches, in which:  
17 unique CDR3  
4 unique J



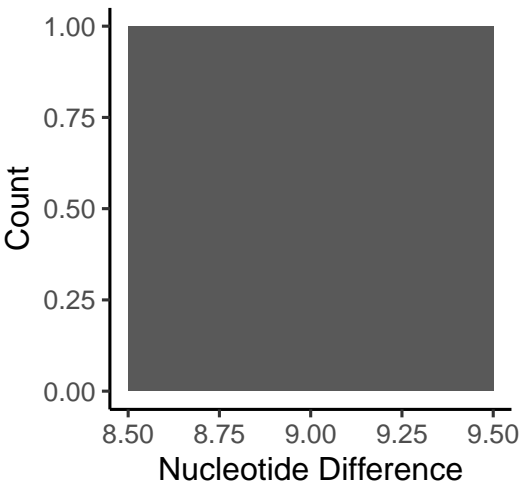
IGHV4/OR15-8\*01

45 sequences assigned  
No exact matches.



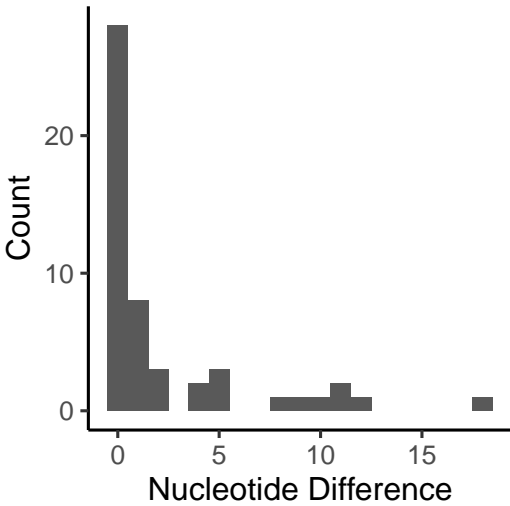
IGHV5-10-1\*01\_03

2 sequences assigned  
No exact matches.



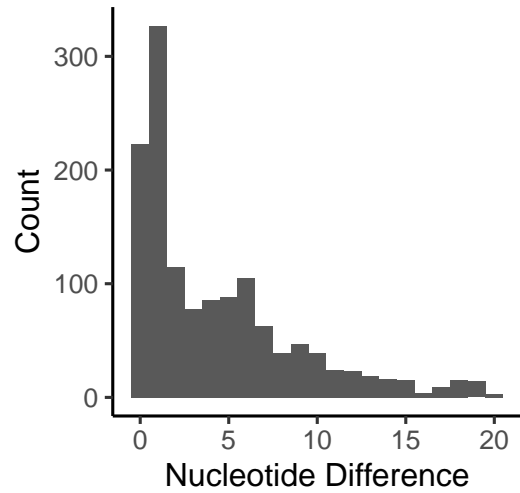
IGHV5-51\*07

56 sequences assigned  
28 (50%) exact matches, in which:  
28 unique CDR3  
4 unique J



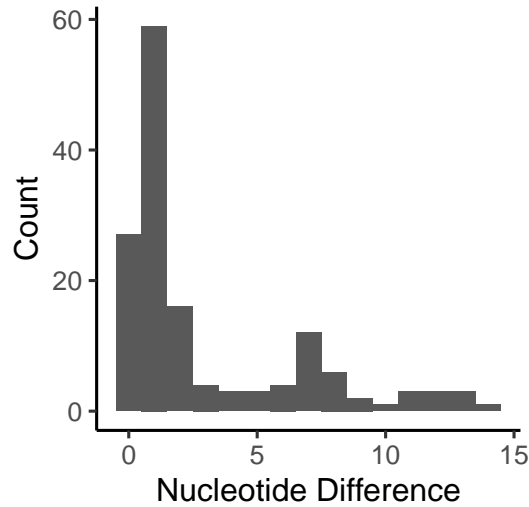
### IGHV6-1\*01\_02

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



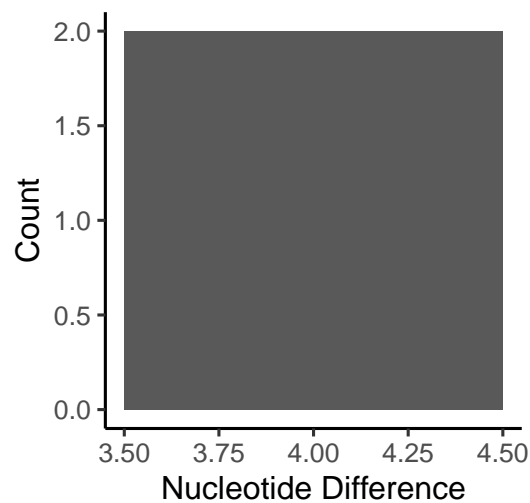
### IGHV7-4-1\*01

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



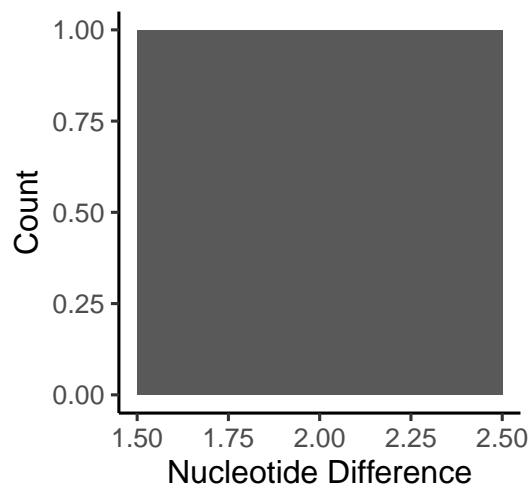
### IGHV3/OR16-9\*01

2 sequences assigned  
No exact matches.



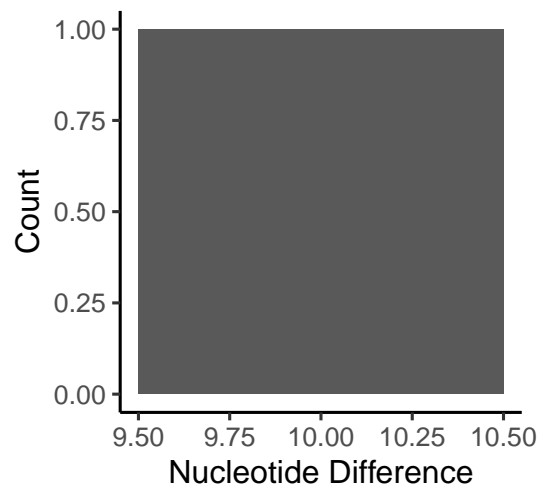
### IGHV7-81\*01

1 sequences assigned  
No exact matches.

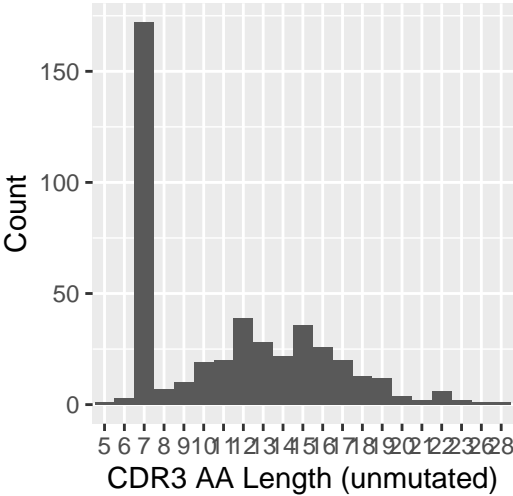


### IGHV3/OR16-13\*01

1 sequences assigned  
No exact matches.



IGHV3-74\*03\_T105G\_G156C\_T171G\_G191T\_C197G\_G198T\_G258T







[illegible]