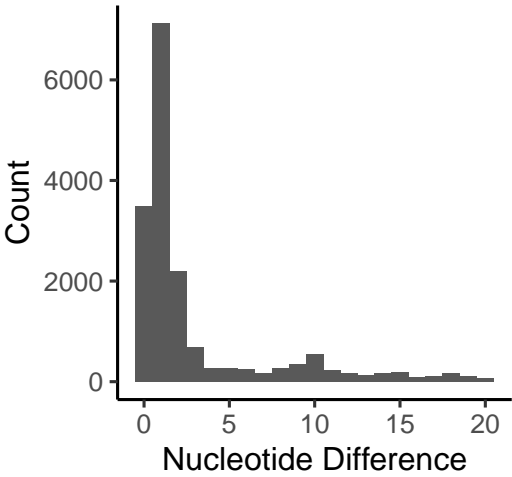


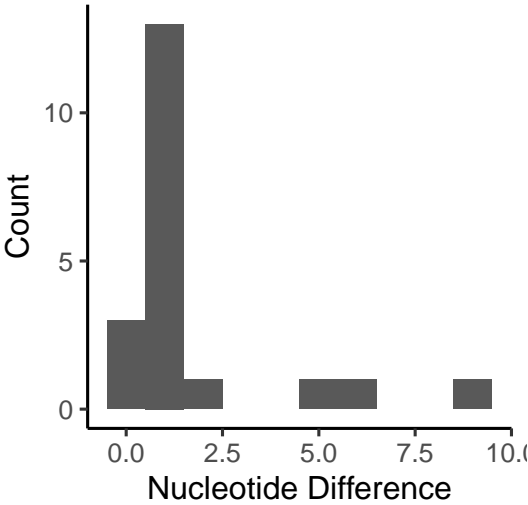
IGHV1-2\*02

17123 sequences assigned  
3495 (20.4%) exact matches, in which:  
2328 unique CDR3  
6 unique J



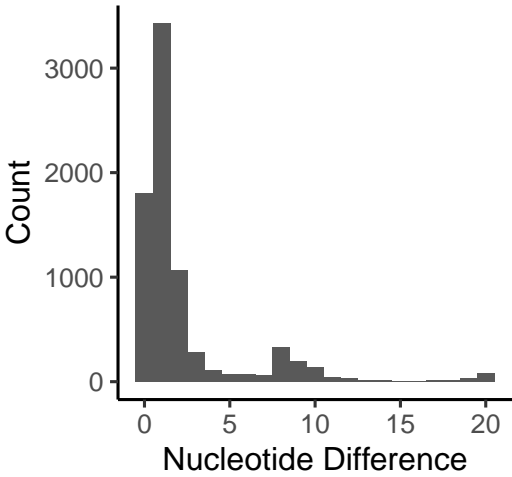
IGHV1-8\*01

21 sequences assigned  
3 (14.3%) exact matches, in which:  
3 unique CDR3  
1 unique J



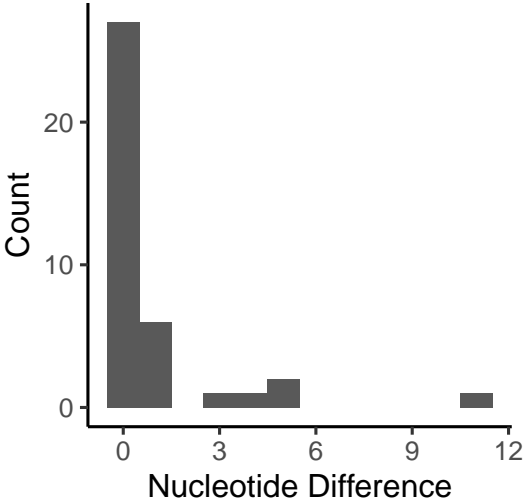
IGHV1-18\*04

7861 sequences assigned  
1801 (22.9%) exact matches, in which:  
1260 unique CDR3  
6 unique J



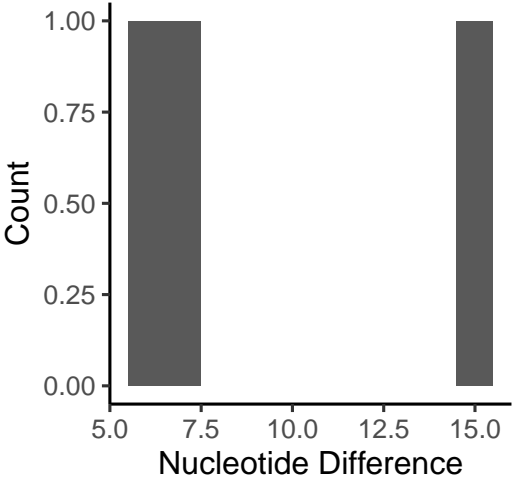
IGHV1-3\*02

40 sequences assigned  
27 (67.5%) exact matches, in which:  
25 unique CDR3  
4 unique J



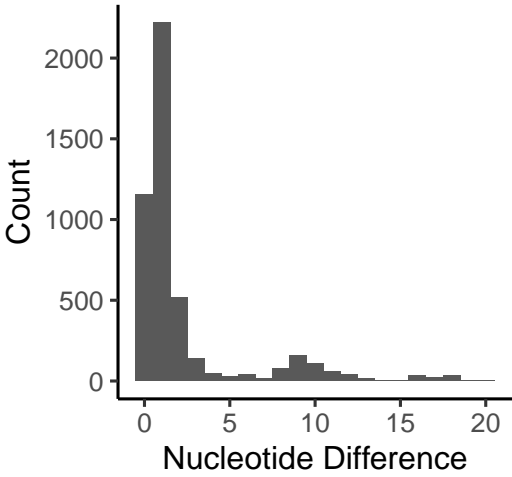
IGHV1-8\*02

3 sequences assigned  
No exact matches.



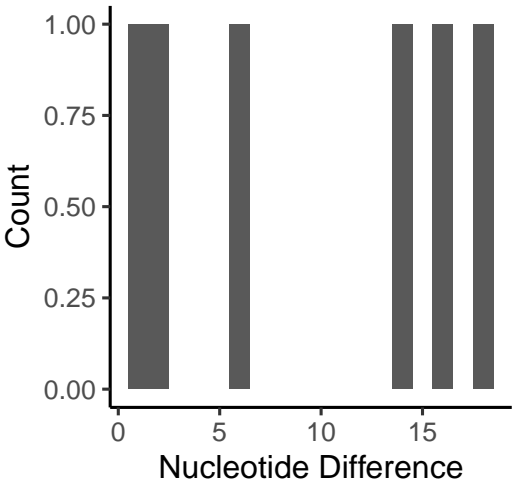
IGHV1-24\*01

4731 sequences assigned  
1155 (24.4%) exact matches, in which:  
793 unique CDR3  
6 unique J



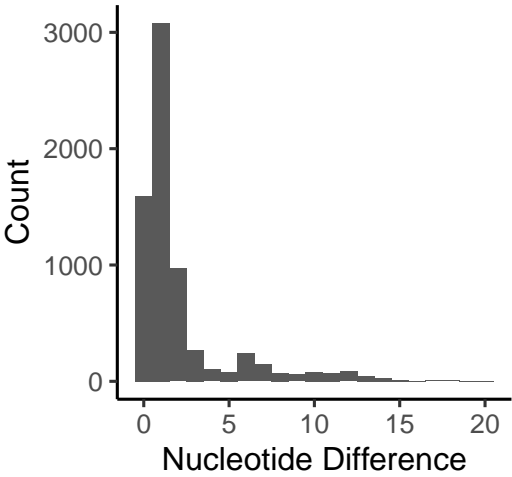
IGHV1-3\*01\_05

10 sequences assigned  
No exact matches.



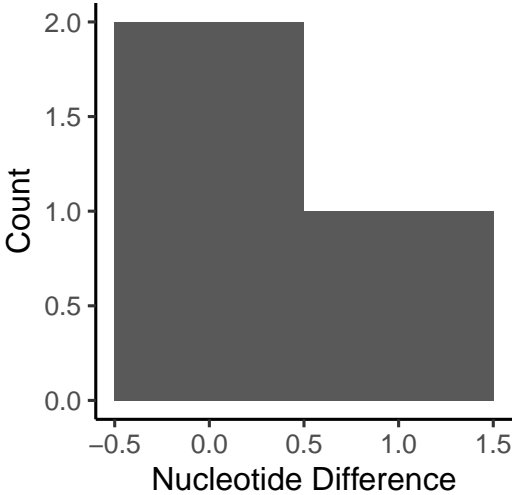
IGHV1-18\*01

6993 sequences assigned  
1591 (22.8%) exact matches, in which:  
1164 unique CDR3  
6 unique J



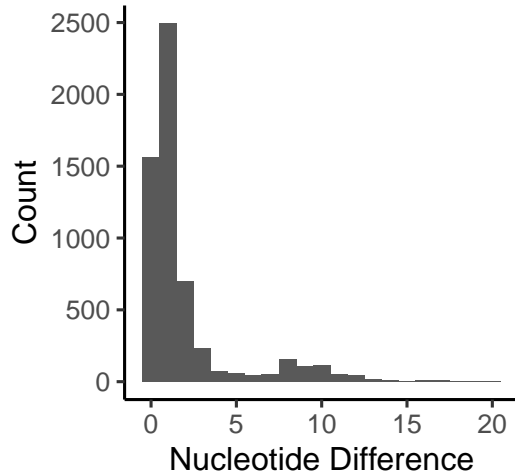
IGHV1-45\*02

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



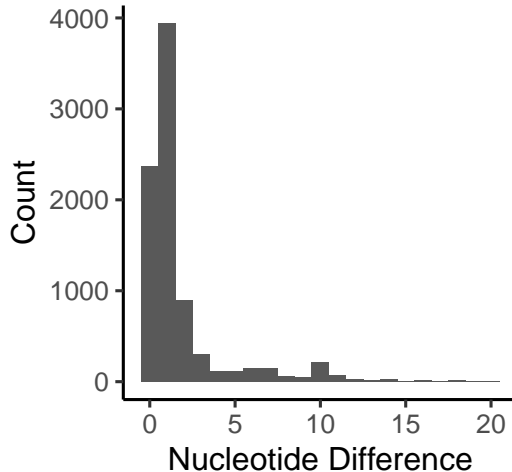
### IGHV1-46\*01

5786 sequences assigned  
1566 (27.1%) exact matches, in which:  
1150 unique CDR3  
6 unique J



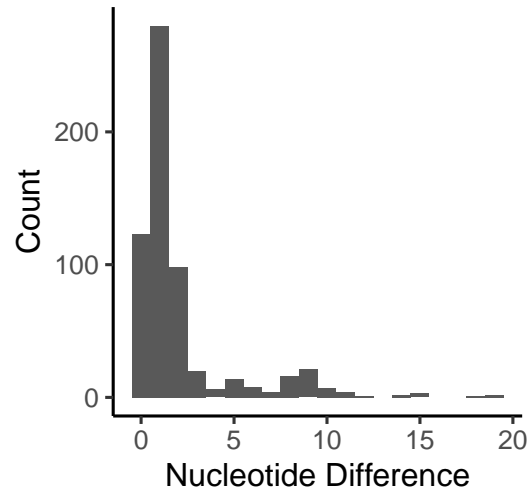
### IGHV1-69\*01\_12\_13

8630 sequences assigned  
2365 (27.4%) exact matches, in which:  
1731 unique CDR3  
6 unique J



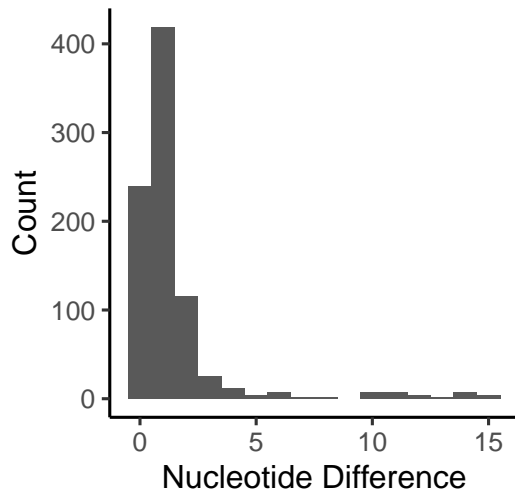
### IGHV2-5\*02

611 sequences assigned  
123 (20.1%) exact matches, in which:  
90 unique CDR3  
5 unique J



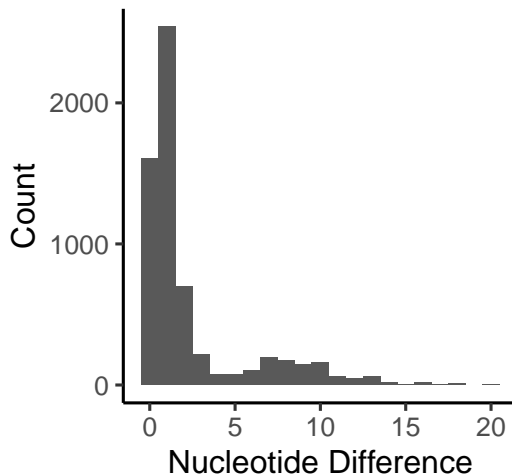
### IGHV1-58\*01\_03

862 sequences assigned  
240 (27.8%) exact matches, in which:  
172 unique CDR3  
5 unique J



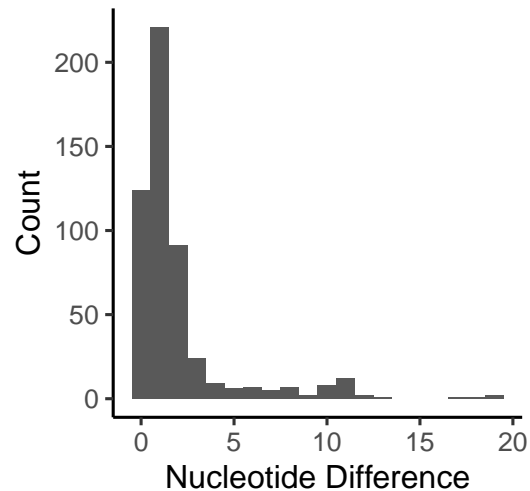
### IGHV1-69\*06\_14

6222 sequences assigned  
1603 (25.8%) exact matches, in which:  
1185 unique CDR3  
6 unique J



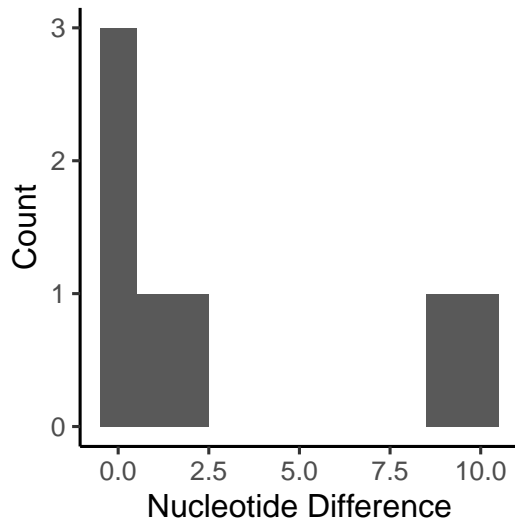
### IGHV2-26\*01

524 sequences assigned  
124 (23.7%) exact matches, in which:  
88 unique CDR3  
5 unique J



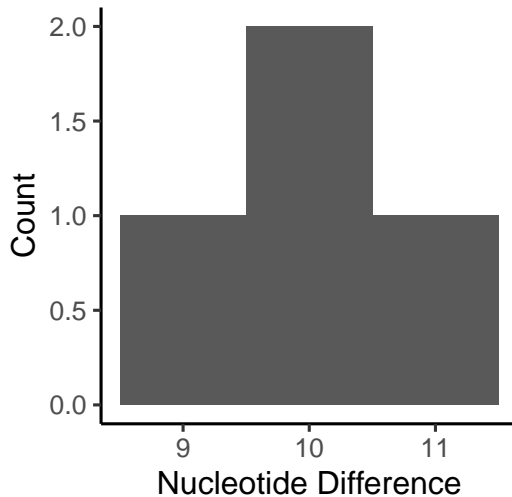
### IGHV1-69-2\*01

7 sequences assigned  
3 (42.9%) exact matches, in which:  
3 unique CDR3  
3 unique J



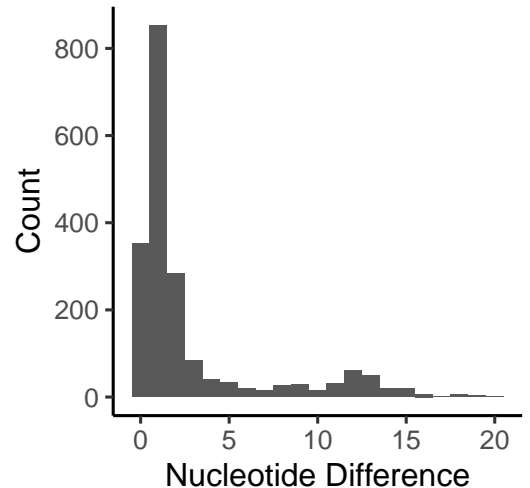
### IGHV1-NL1\*01

4 sequences assigned  
No exact matches.



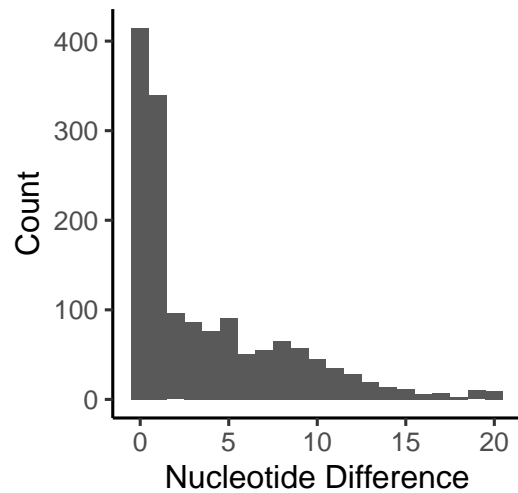
### IGHV2-70\*01

1992 sequences assigned  
352 (17.7%) exact matches, in which:  
200 unique CDR3  
5 unique J



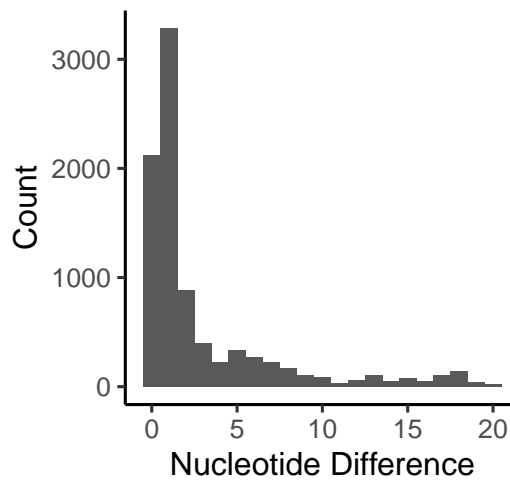
### IGHV3-7\*01

1532 sequences assigned  
415 (27.1%) exact matches, in which:  
336 unique CDR3  
6 unique J



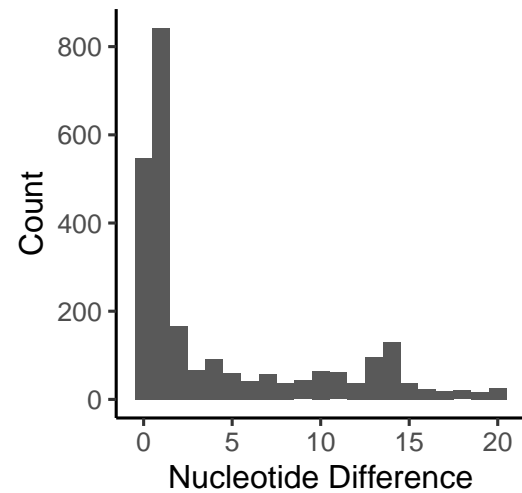
### IGHV3-11\*06

8832 sequences assigned  
2123 (24%) exact matches, in which:  
1249 unique CDR3  
6 unique J



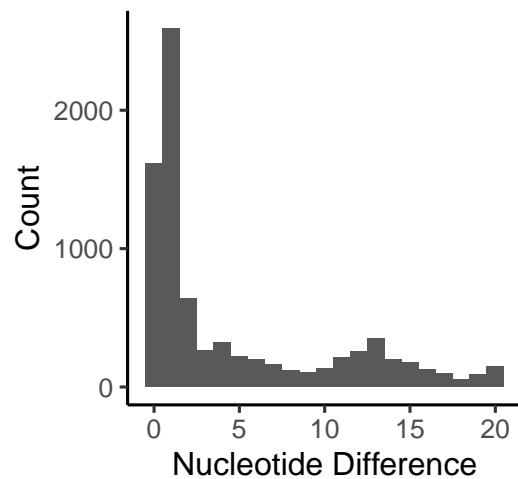
### IGHV3-15\*01\_02

2630 sequences assigned  
548 (20.8%) exact matches, in which:  
301 unique CDR3  
6 unique J



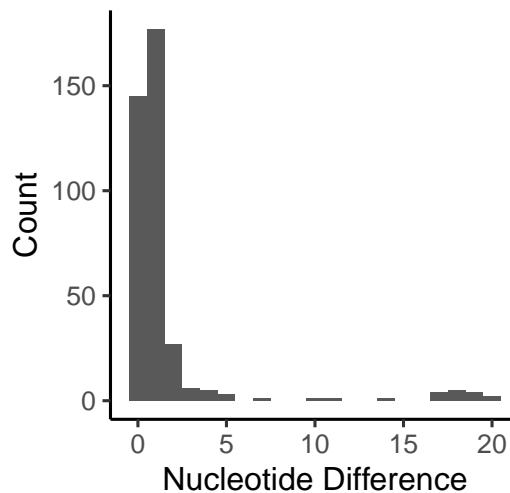
### IGHV3-7\*03

8668 sequences assigned  
1618 (18.7%) exact matches, in which:  
1025 unique CDR3  
6 unique J



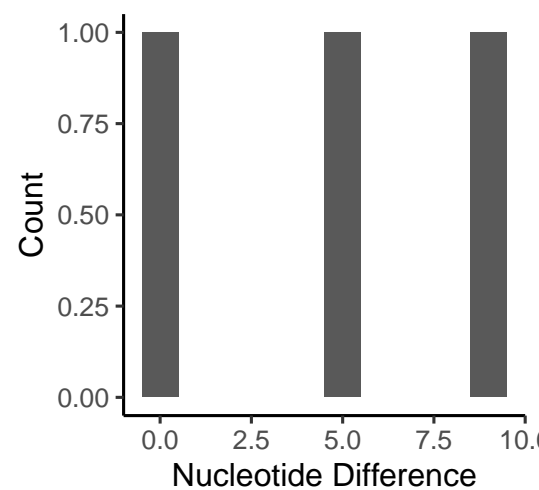
### IGHV3-13\*05

382 sequences assigned  
145 (38%) exact matches, in which:  
98 unique CDR3  
6 unique J



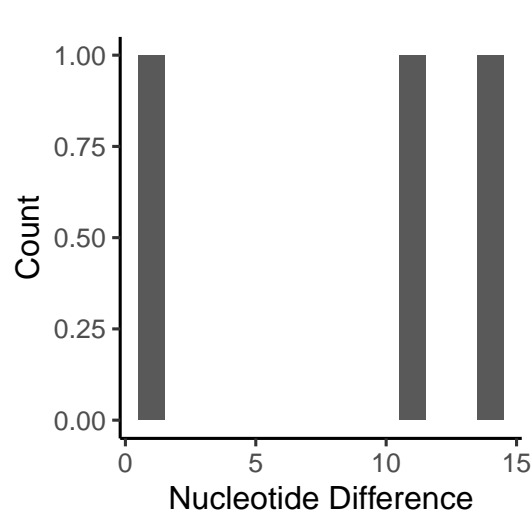
### IGHV3-19\*01

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



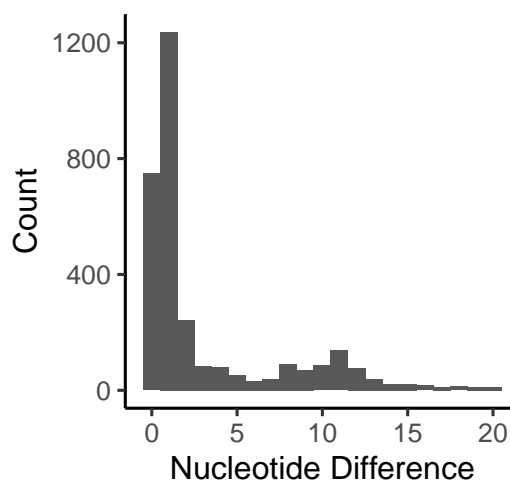
### IGHV3-9\*01

6 sequences assigned  
No exact matches.



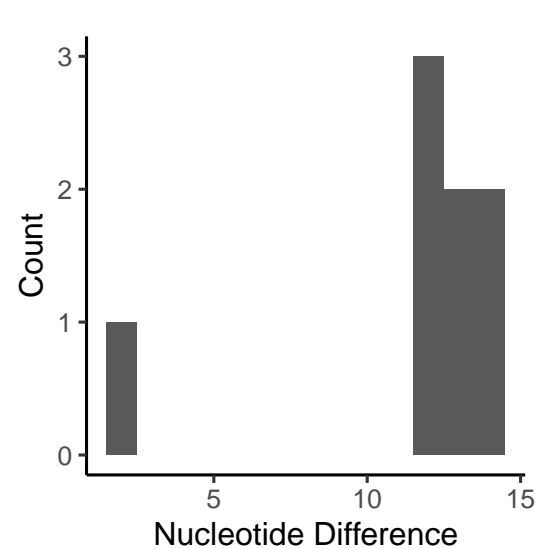
### IGHV3-15\*07

3222 sequences assigned  
749 (23.2%) exact matches, in which:  
405 unique CDR3  
6 unique J



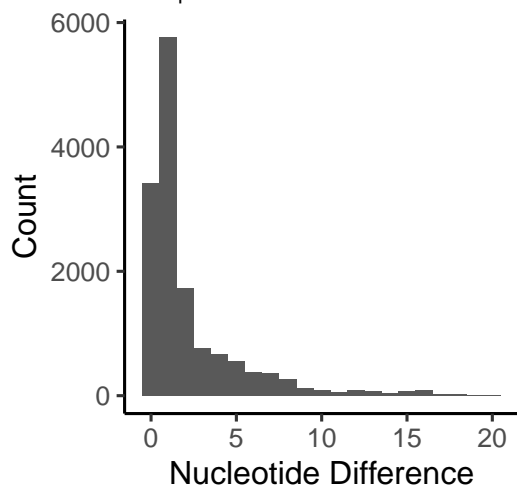
### IGHV3-20\*03\_04

9 sequences assigned  
No exact matches.



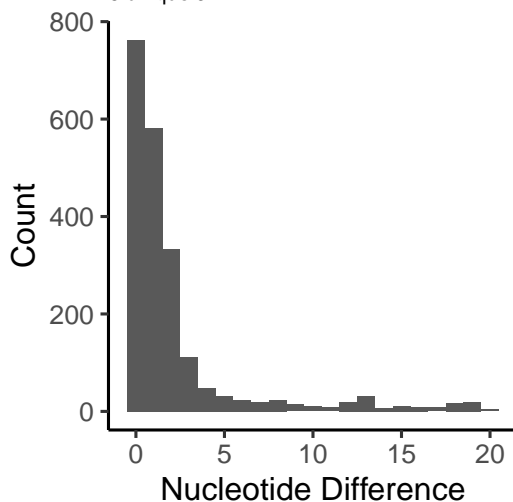
### IGHV3-21\*01\_02

14764 sequences assigned  
3419 (23.2%) exact matches, in which:  
1938 unique CDR3  
6 unique J



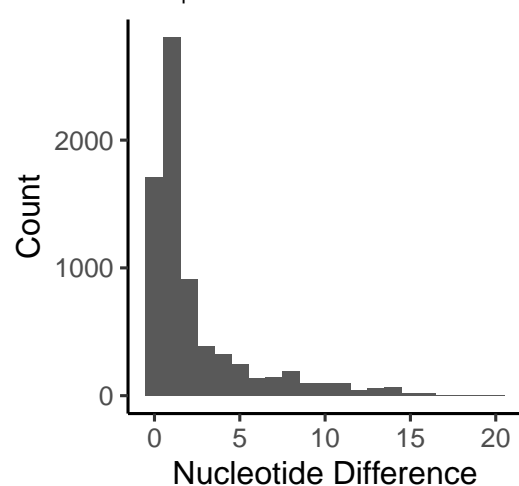
### IGHV3-30\*03

2119 sequences assigned  
763 (36%) exact matches, in which:  
572 unique CDR3  
6 unique J



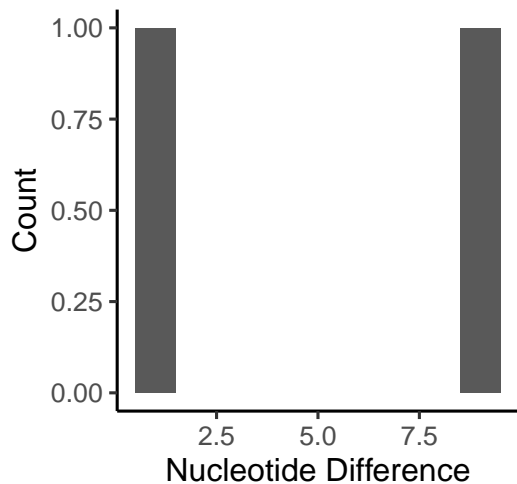
### IGHV3-48\*01

7424 sequences assigned  
1712 (23.1%) exact matches, in which:  
1017 unique CDR3  
6 unique J



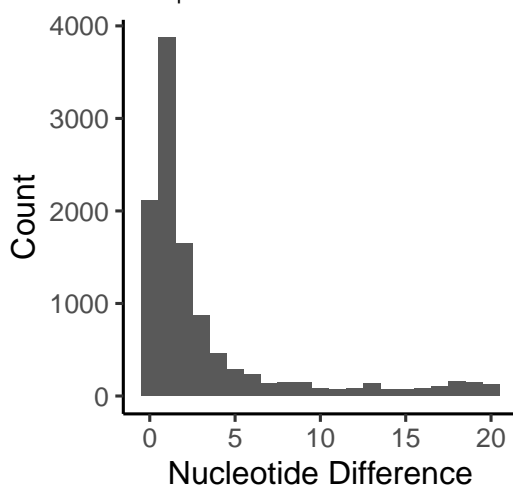
### IGHV3-22\*01\_02

2 sequences assigned  
No exact matches.



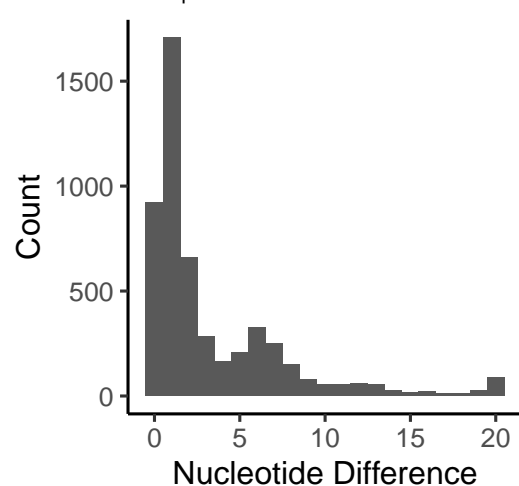
### IGHV3-33\*01

11361 sequences assigned  
2108 (18.6%) exact matches, in which:  
1319 unique CDR3  
6 unique J



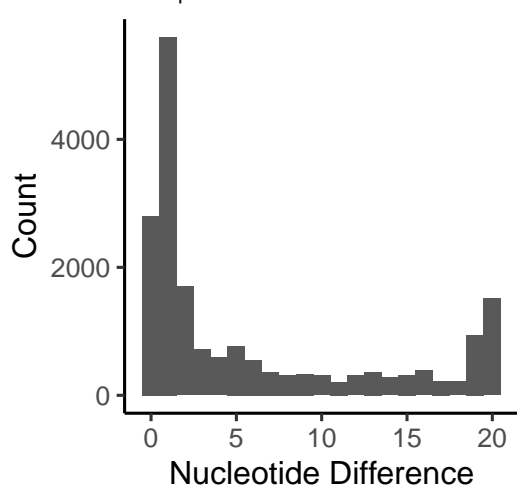
### IGHV3-48\*03

8210 sequences assigned  
923 (11.2%) exact matches, in which:  
517 unique CDR3  
6 unique J



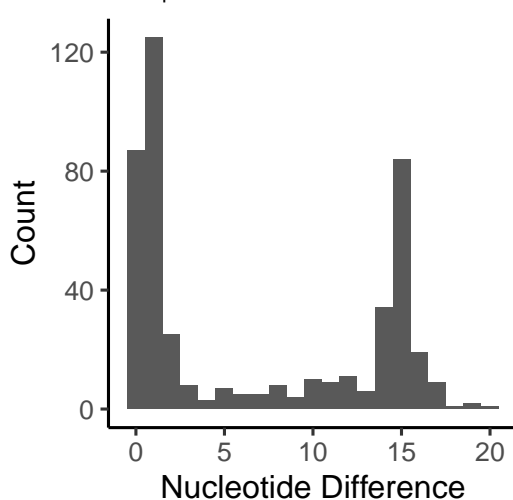
### IGHV3-23\*01\_04

21671 sequences assigned  
2800 (12.9%) exact matches, in which:  
1554 unique CDR3  
6 unique J



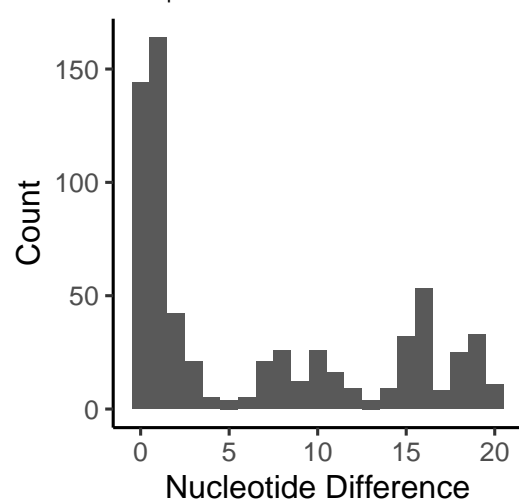
### IGHV3-43\*01

468 sequences assigned  
87 (18.6%) exact matches, in which:  
48 unique CDR3  
3 unique J



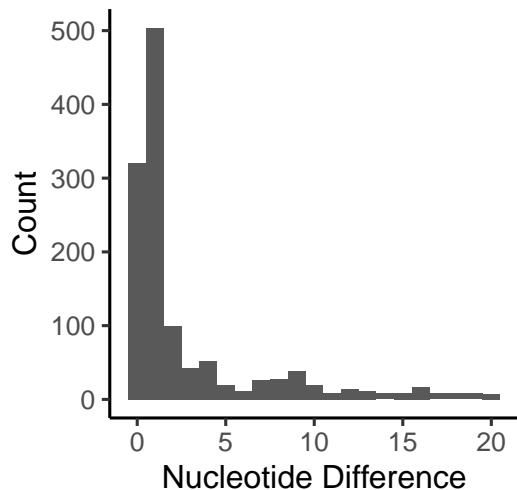
### IGHV3-49\*04

926 sequences assigned  
144 (15.6%) exact matches, in which:  
87 unique CDR3  
5 unique J



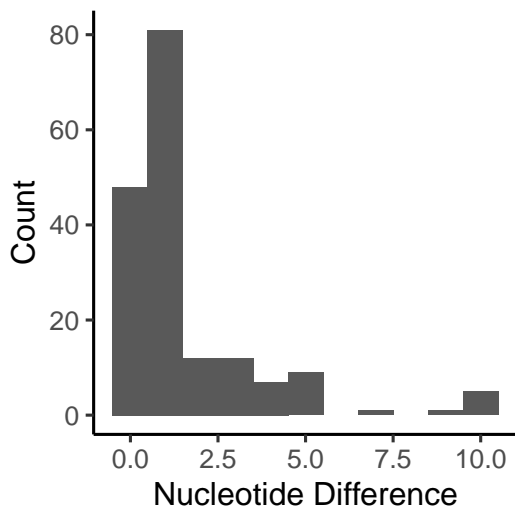
### IGHV3-49\*03\_05

1295 sequences assigned  
320 (24.7%) exact matches, in which:  
176 unique CDR3  
4 unique J



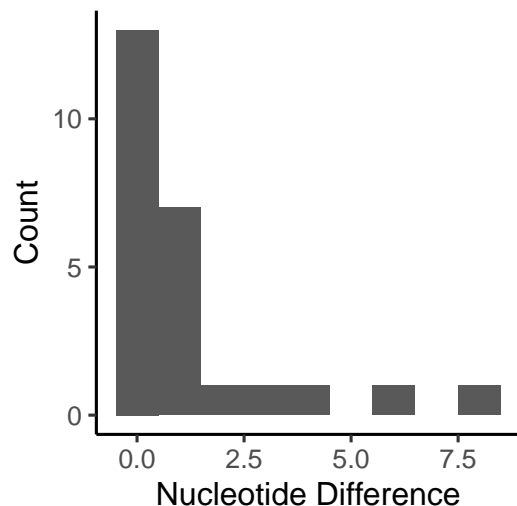
### IGHV3-64\*02\_07

178 sequences assigned  
48 (27%) exact matches, in which:  
25 unique CDR3  
3 unique J



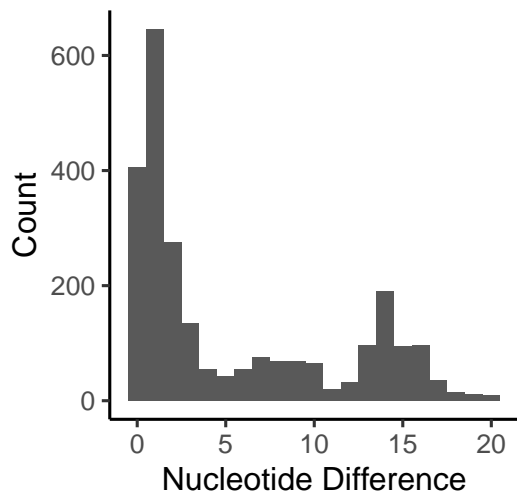
### IGHV3-66\*03

25 sequences assigned  
13 (52%) exact matches, in which:  
12 unique CDR3  
3 unique J



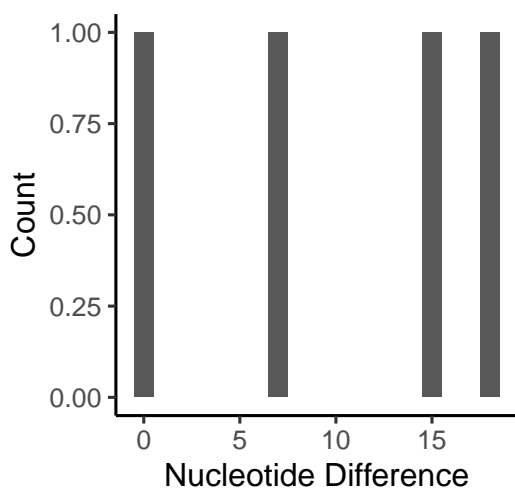
### IGHV3-53\*01\_02

2583 sequences assigned  
405 (15.7%) exact matches, in which:  
263 unique CDR3  
6 unique J



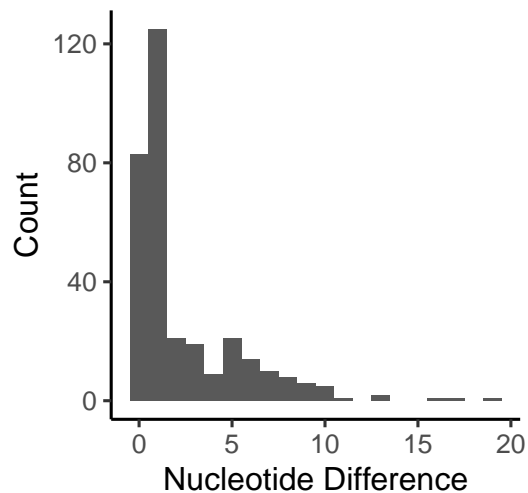
### IGHV3-66\*01

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



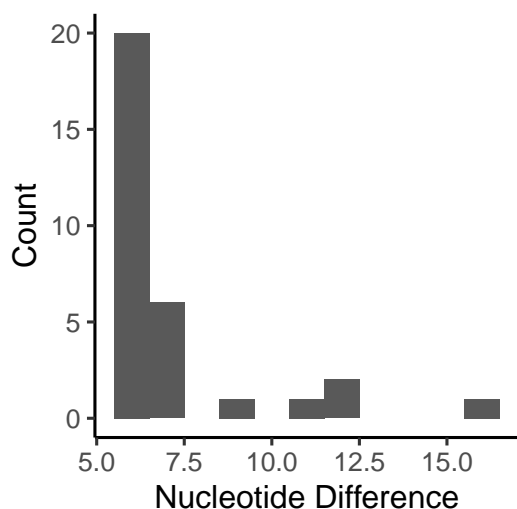
### IGHV3-69-1\*01

329 sequences assigned  
83 (25.2%) exact matches, in which:  
63 unique CDR3  
5 unique J



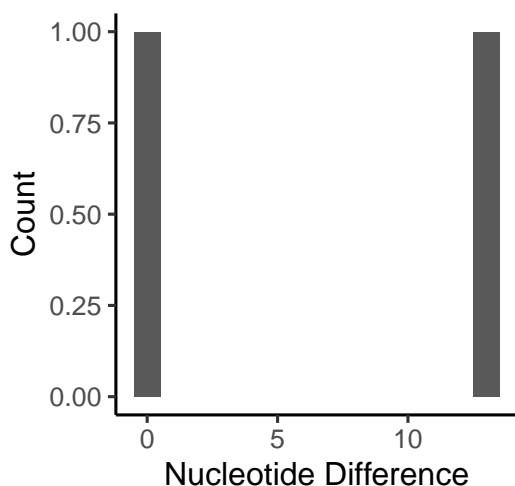
### IGHV3-64\*04

31 sequences assigned  
No exact matches.



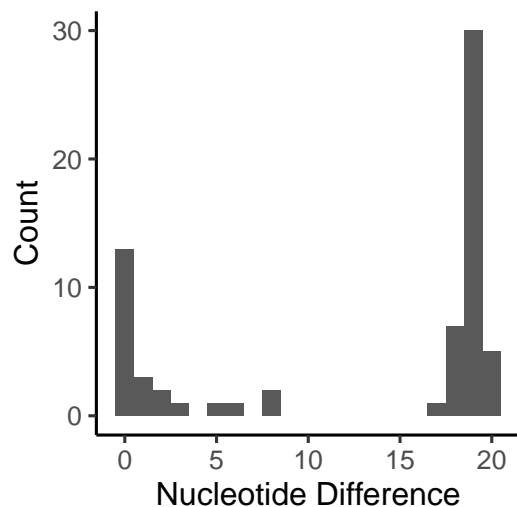
### IGHV3-66\*02

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



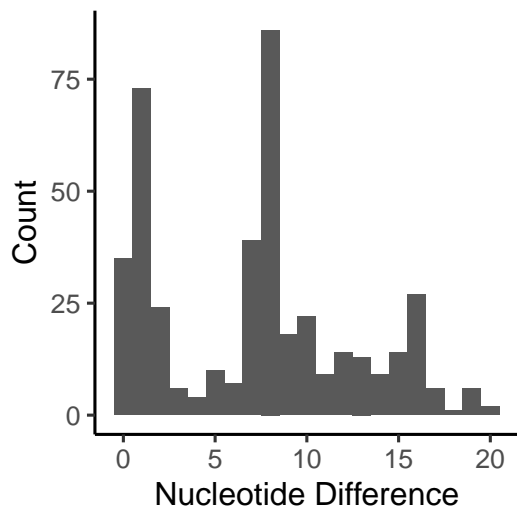
### IGHV3-69-1\*02

69 sequences assigned  
13 (18.8%) exact matches, in which:  
13 unique CDR3  
4 unique J



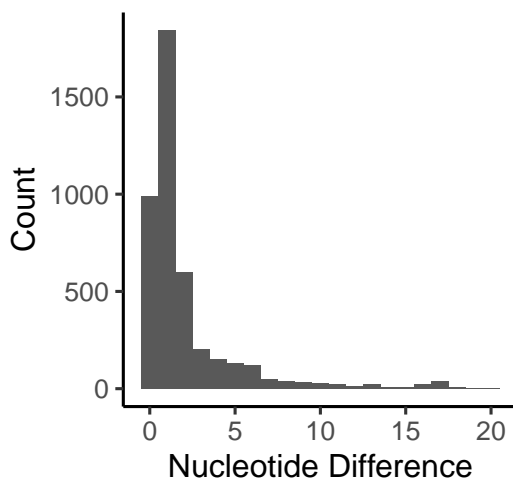
### IGHV3-72\*01

696 sequences assigned  
35 (5%) exact matches, in which:  
18 unique CDR3  
3 unique J



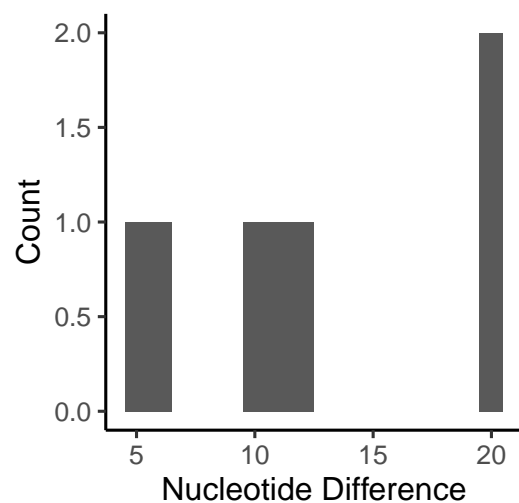
### IGHV3-74\*01\_02

4351 sequences assigned  
992 (22.8%) exact matches, in which:  
603 unique CDR3  
6 unique J



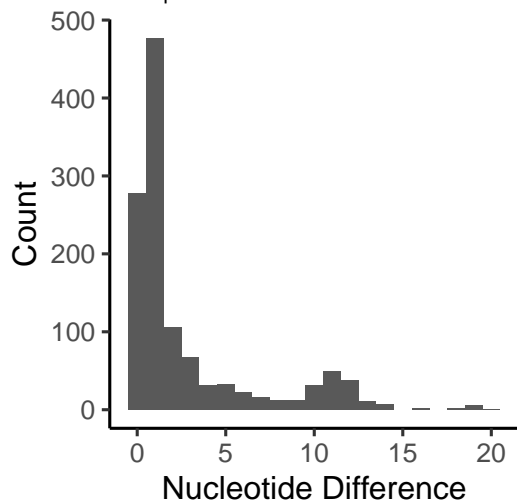
### IGHV3-NL1\*01

8 sequences assigned  
No exact matches.



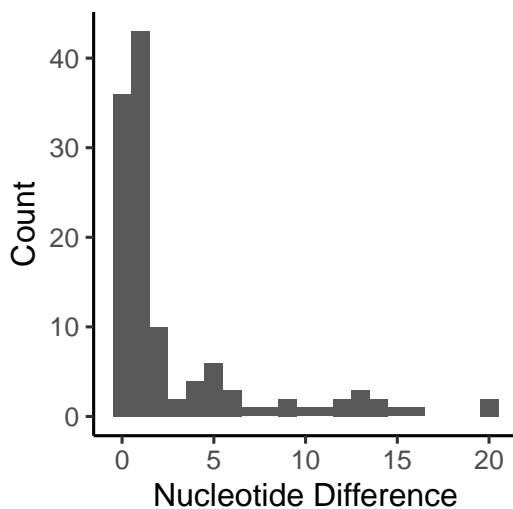
### IGHV3-73\*01\_02

1205 sequences assigned  
278 (23.1%) exact matches, in which:  
160 unique CDR3  
6 unique J



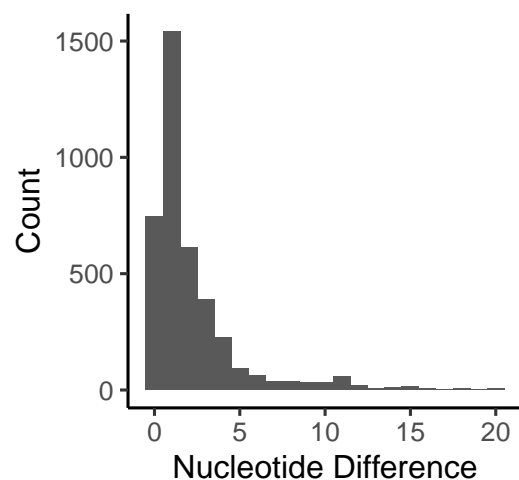
### IGHV3-43D\*04

148 sequences assigned  
36 (24.3%) exact matches, in which:  
24 unique CDR3  
2 unique J



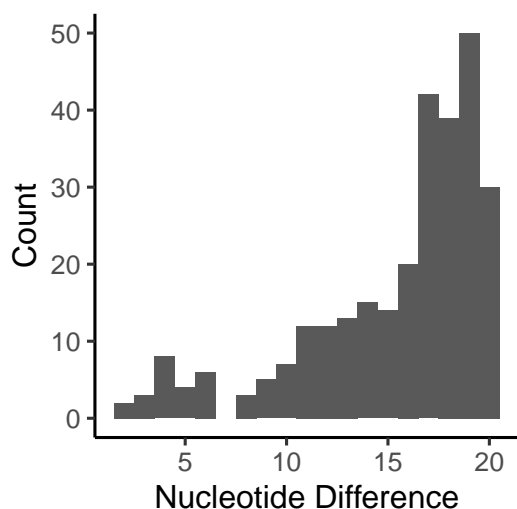
### IGHV4-4\*07

4039 sequences assigned  
744 (18.4%) exact matches, in which:  
515 unique CDR3  
6 unique J



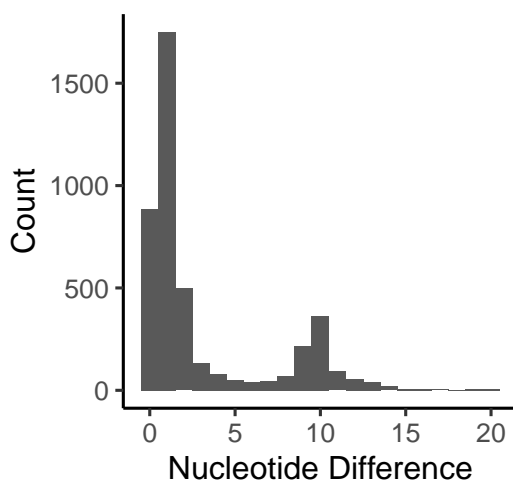
### IGHV3-74\*03

3358 sequences assigned  
No exact matches.



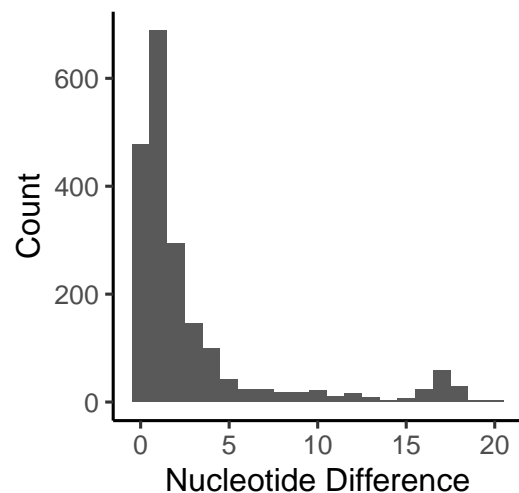
### IGHV3-64D\*06

4468 sequences assigned  
885 (19.8%) exact matches, in which:  
441 unique CDR3  
6 unique J



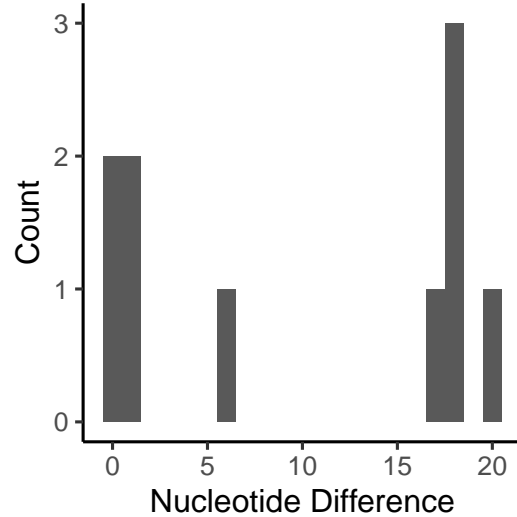
### IGHV4-4\*02\_03

2025 sequences assigned  
478 (23.6%) exact matches, in which:  
333 unique CDR3  
6 unique J



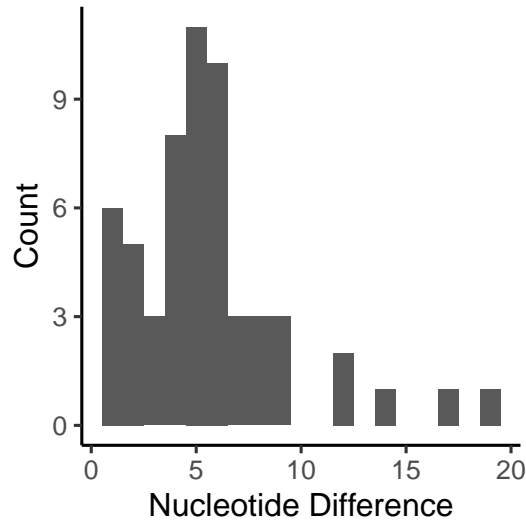
### IGHV4-28\*03

10 sequences assigned  
2 (20%) exact matches, in which:  
1 unique CDR3  
1 unique J



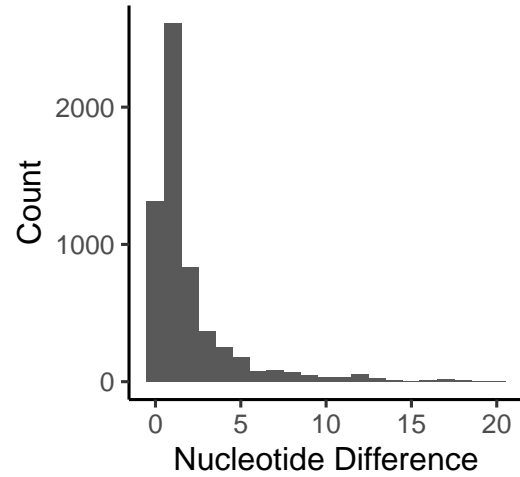
### IGHV4-30-2\*03

57 sequences assigned  
No exact matches.



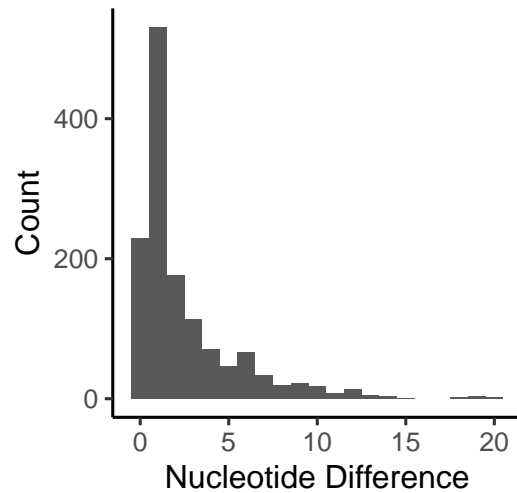
### IGHV4-31\*02

6095 sequences assigned  
1317 (21.6%) exact matches, in which:  
895 unique CDR3  
6 unique J



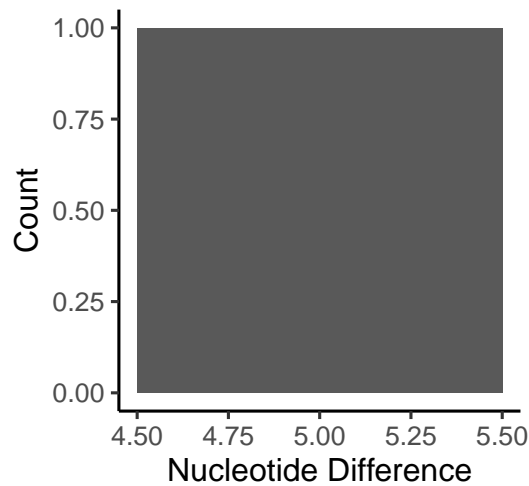
### IGHV4-30-2\*01

1437 sequences assigned  
229 (15.9%) exact matches, in which:  
127 unique CDR3  
6 unique J



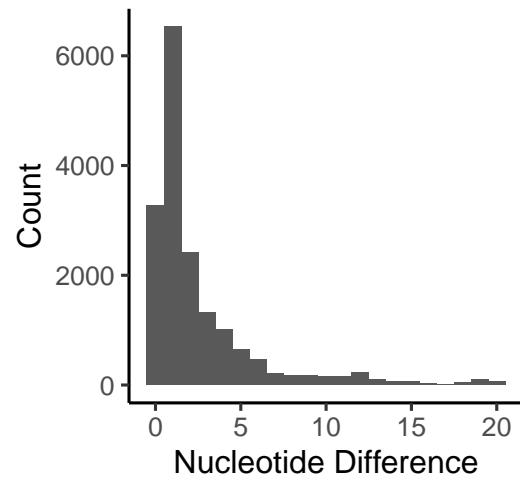
### IGHV4-30-2\*04

1 sequences assigned  
No exact matches.



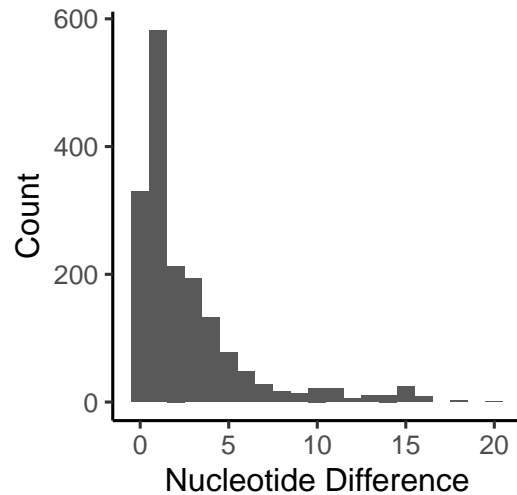
### IGHV4-34\*01\_02

17501 sequences assigned  
3277 (18.7%) exact matches, in which:  
2108 unique CDR3  
6 unique J



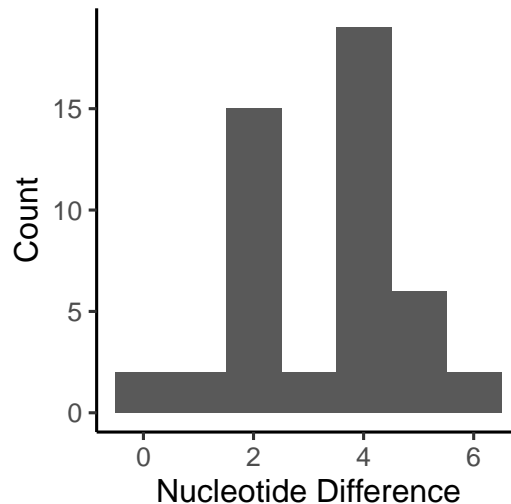
### IGHV4-30-4\*01

1757 sequences assigned  
329 (18.7%) exact matches, in which:  
236 unique CDR3  
6 unique J



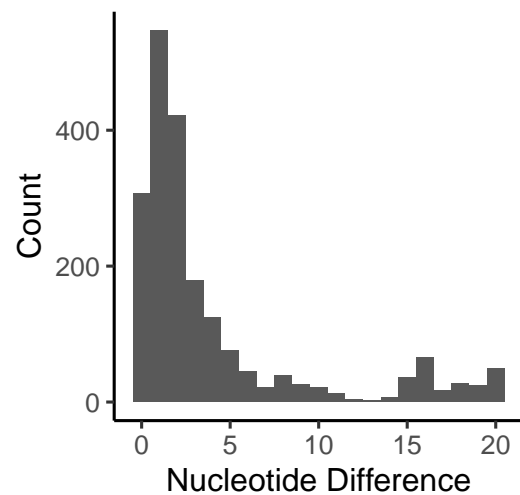
### IGHV4-30-2\*05

48 sequences assigned  
2 (4.2%) exact matches, in which:  
2 unique CDR3  
2 unique J



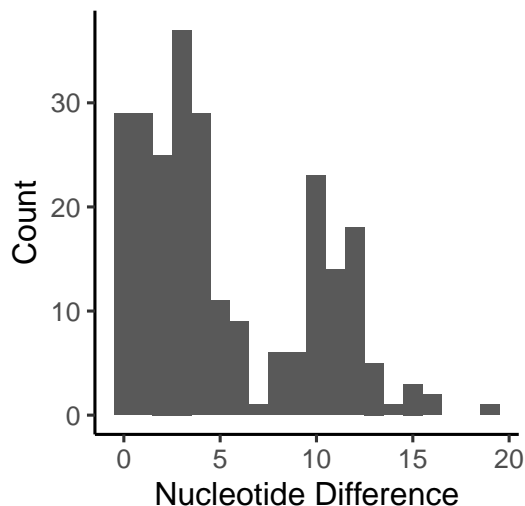
### IGHV4-38-2\*01

2101 sequences assigned  
307 (14.6%) exact matches, in which:  
249 unique CDR3  
6 unique J



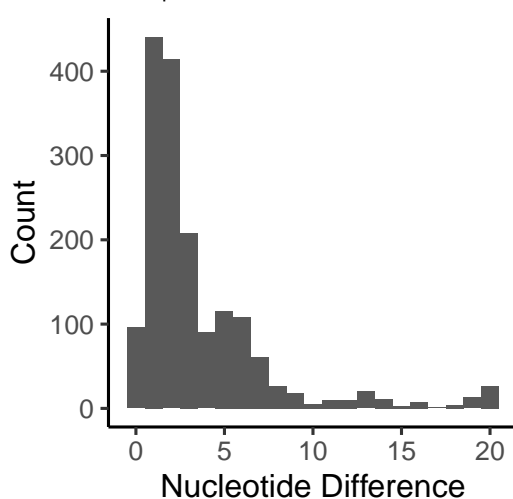
### IGHV4-38-2\*02

278 sequences assigned  
29 (10.4%) exact matches, in which:  
23 unique CDR3  
6 unique J



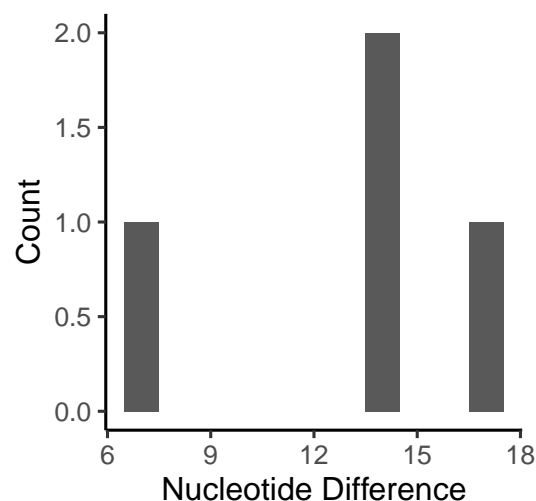
### IGHV4-59\*12

2442 sequences assigned  
96 (3.9%) exact matches, in which:  
93 unique CDR3  
6 unique J



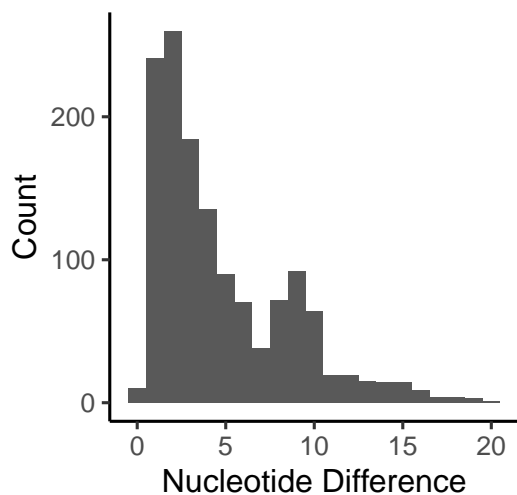
### IGHV4/OR15-8\*01

4 sequences assigned  
No exact matches.



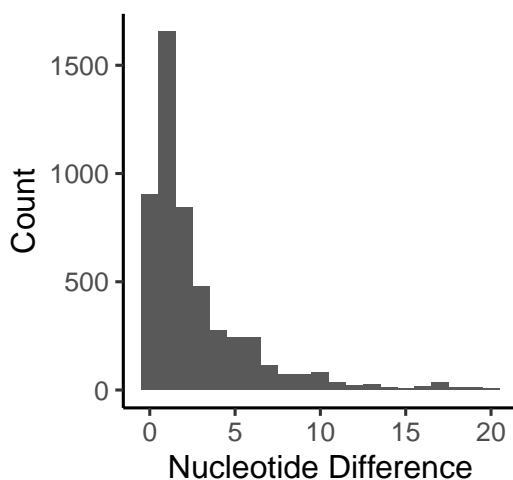
### IGHV4-39\*07

1370 sequences assigned  
10 (0.7%) exact matches, in which:  
10 unique CDR3  
3 unique J



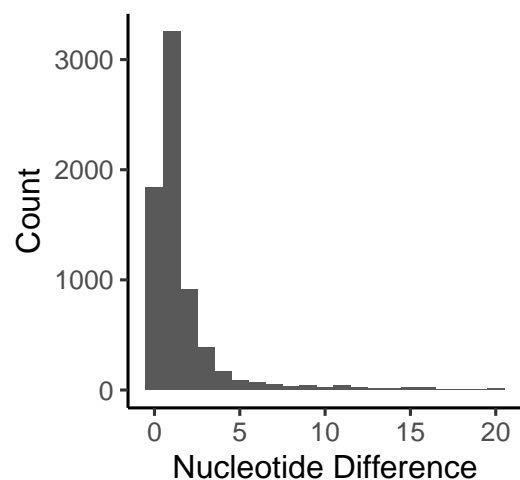
### IGHV4-61\*01

5256 sequences assigned  
903 (17.2%) exact matches, in which:  
698 unique CDR3  
6 unique J



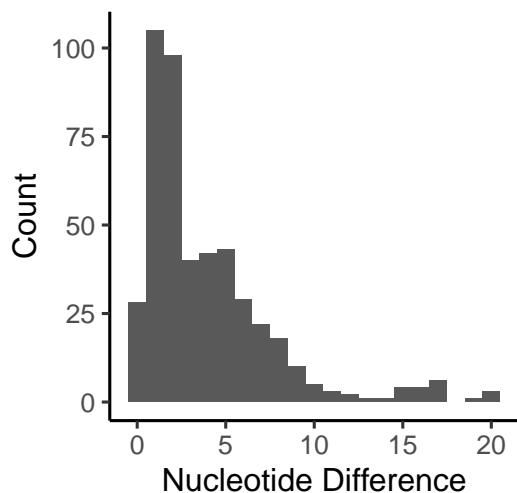
### IGHV5-10-1\*01\_03

7067 sequences assigned  
1842 (26.1%) exact matches, in which:  
1024 unique CDR3  
6 unique J



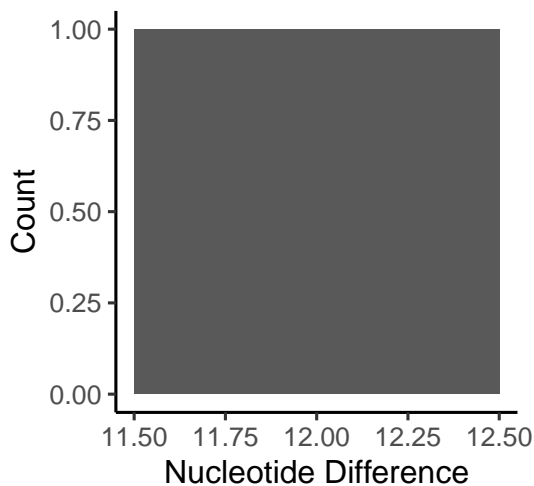
### IGHV4-59\*08

483 sequences assigned  
28 (5.8%) exact matches, in which:  
26 unique CDR3  
5 unique J



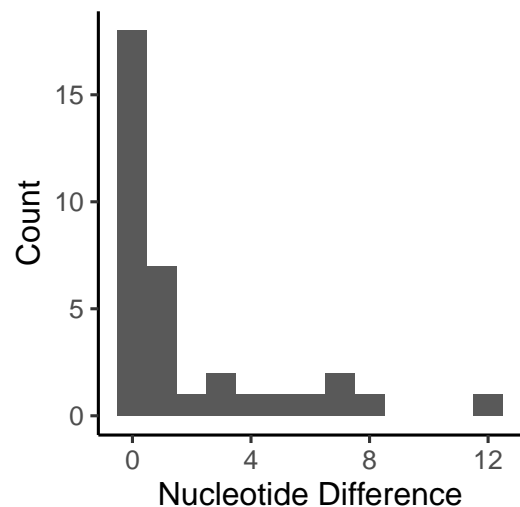
### IGHV1/OR15-1\*04

1 sequences assigned  
No exact matches.



### IGHV5-51\*04

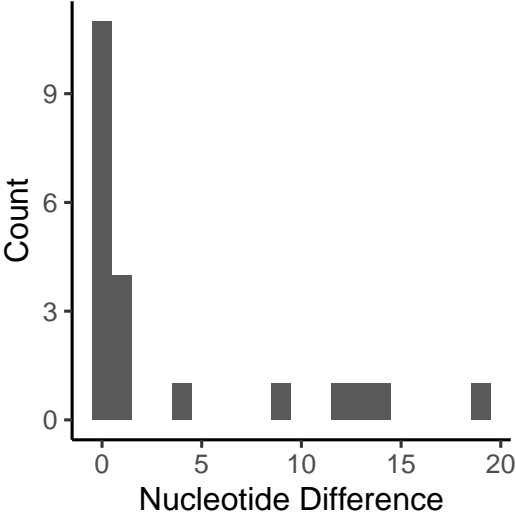
35 sequences assigned  
18 (51.4%) exact matches, in which:  
17 unique CDR3  
5 unique J





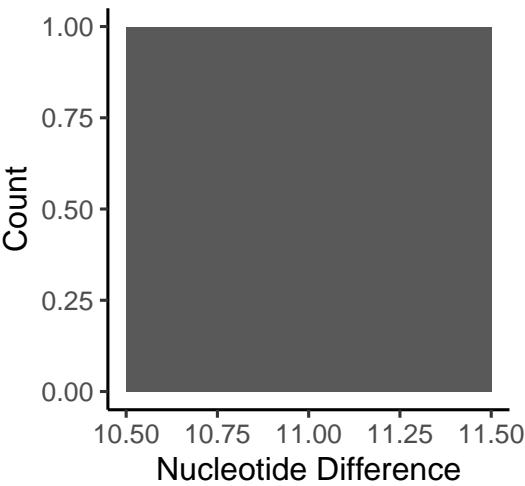
IGHV5-51\*06

21 sequences assigned  
11 (52.4%) exact matches, in which:  
11 unique CDR3  
3 unique J



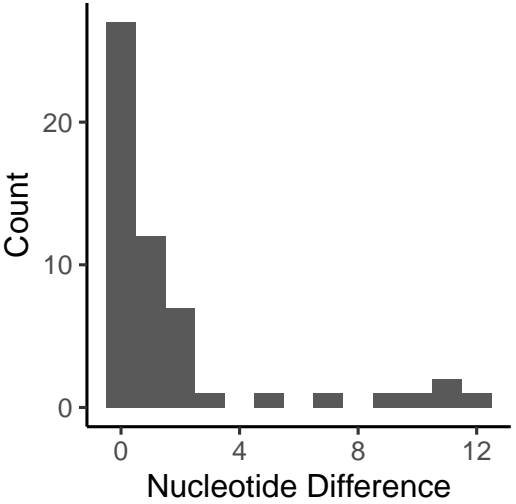
IGHV3/OR16-9\*01

1 sequences assigned  
No exact matches.



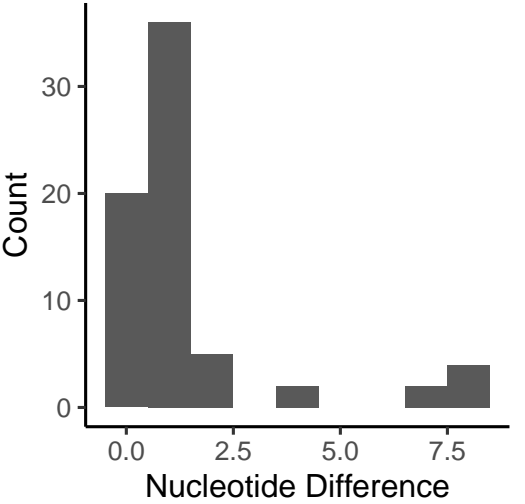
IGHV5-51\*07

56 sequences assigned  
27 (48.2%) exact matches, in which:  
23 unique CDR3  
4 unique J



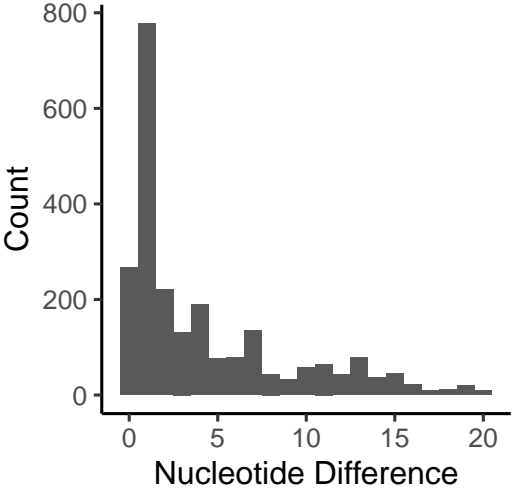
IGHV7-4-1\*01

69 sequences assigned  
20 (29%) exact matches, in which:  
16 unique CDR3  
4 unique J



IGHV6-1\*01\_02

2464 sequences assigned  
267 (10.8%) exact matches, in which:  
169 unique CDR3  
5 unique J





[illegible]