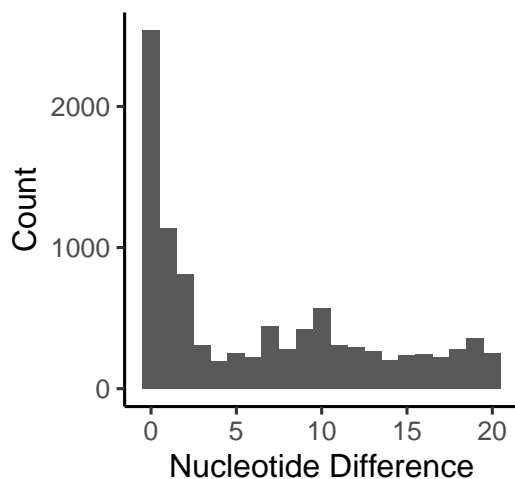


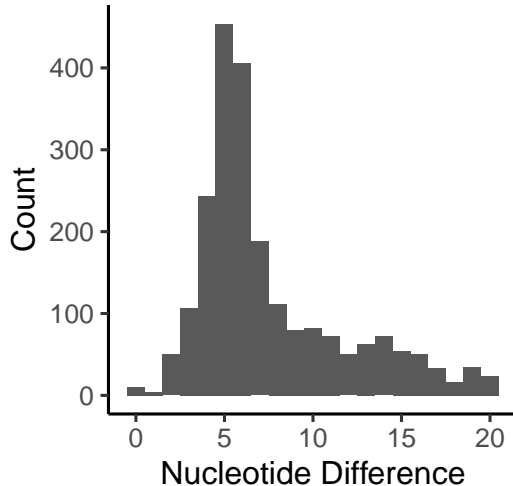
### IGHV1-2\*02

12221 sequences assigned  
2539 (20.8%) exact matches, in which:  
2427 unique CDR3  
6 unique J



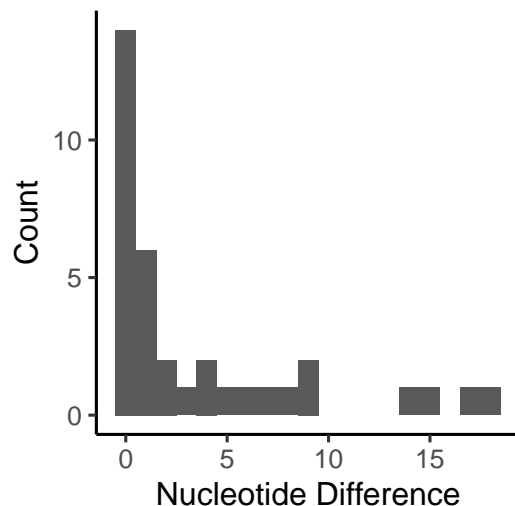
### IGHV1-8\*02

2559 sequences assigned  
10 (0.4%) exact matches, in which:  
10 unique CDR3  
2 unique J



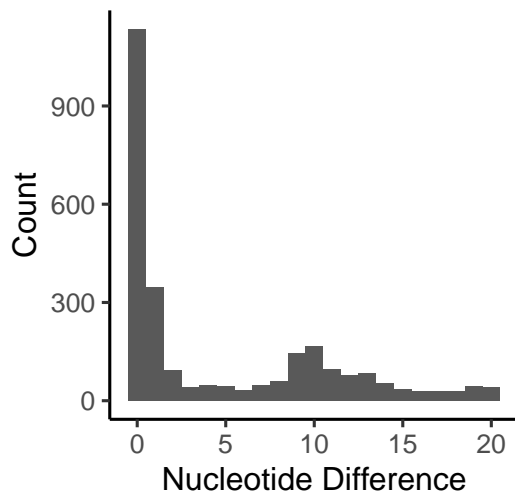
### IGHV1-45\*02

36 sequences assigned  
14 (38.9%) exact matches, in which:  
13 unique CDR3  
4 unique J



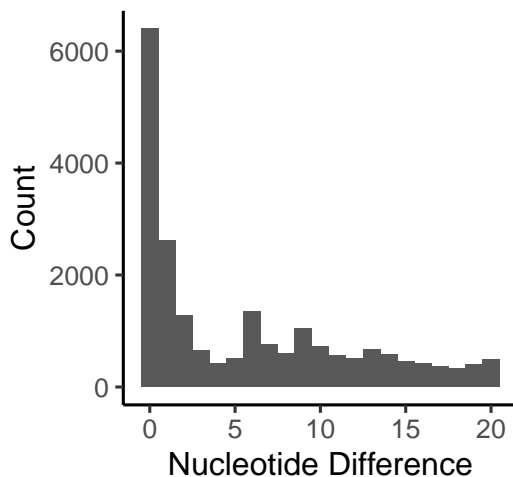
### IGHV1-3\*01\_05

3179 sequences assigned  
1135 (35.7%) exact matches, in which:  
1081 unique CDR3  
6 unique J



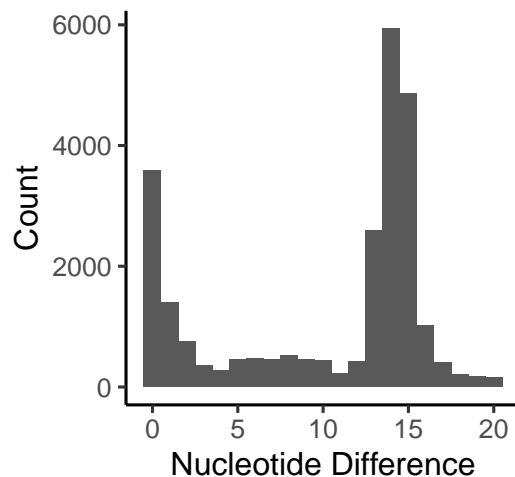
### IGHV1-18\*01

25511 sequences assigned  
6400 (25.1%) exact matches, in which:  
6036 unique CDR3  
6 unique J



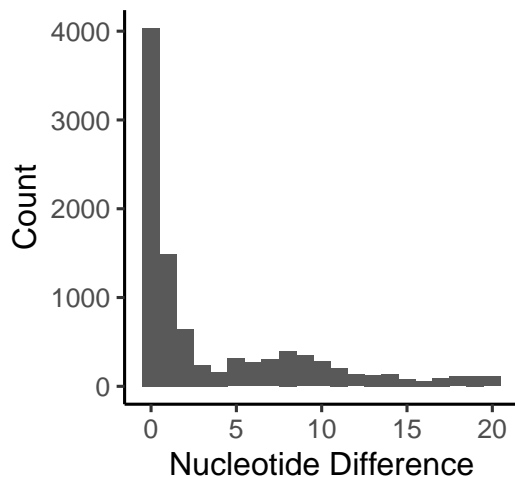
### IGHV1-46\*01

27444 sequences assigned  
3590 (13.1%) exact matches, in which:  
3473 unique CDR3  
6 unique J



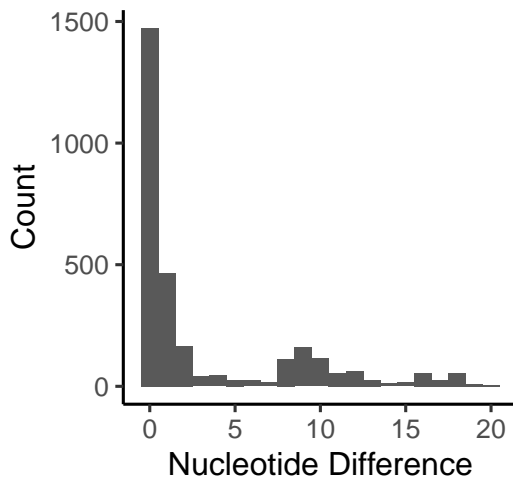
### IGHV1-8\*01

10282 sequences assigned  
4035 (39.2%) exact matches, in which:  
3884 unique CDR3  
6 unique J



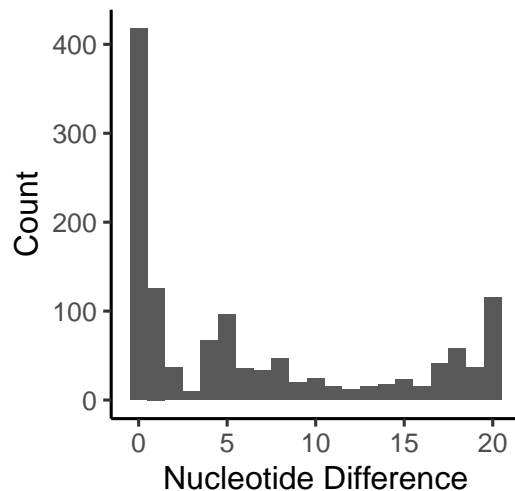
### IGHV1-24\*01

3476 sequences assigned  
1473 (42.4%) exact matches, in which:  
1431 unique CDR3  
6 unique J



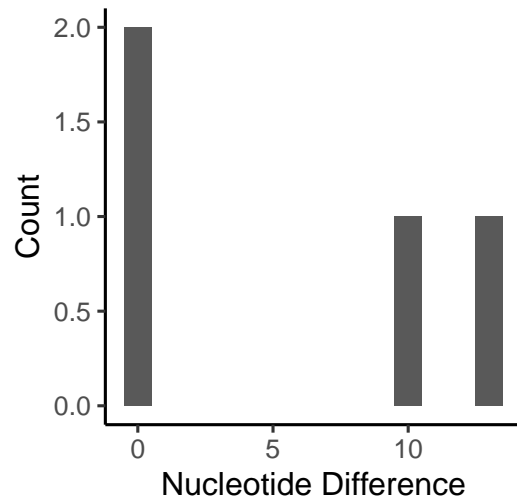
### IGHV1-58\*01\_03

1549 sequences assigned  
418 (27%) exact matches, in which:  
403 unique CDR3  
6 unique J



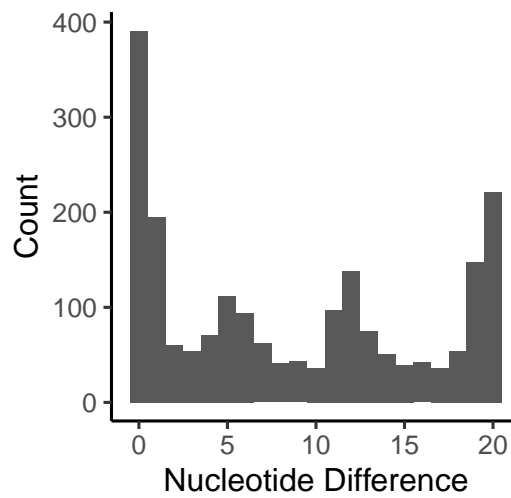
### IGHV1-68\*01

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



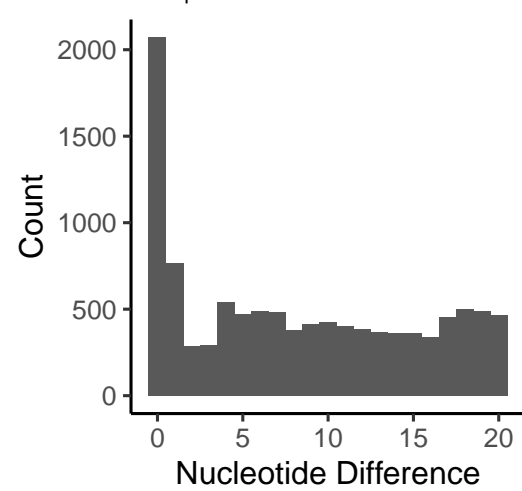
### IGHV2-5\*02

2542 sequences assigned  
391 (15.4%) exact matches, in which:  
376 unique CDR3  
6 unique J



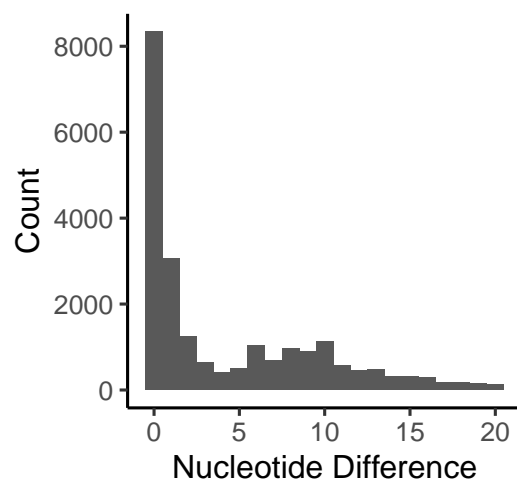
### IGHV3-7\*01

13704 sequences assigned  
2071 (15.1%) exact matches, in which:  
1802 unique CDR3  
6 unique J



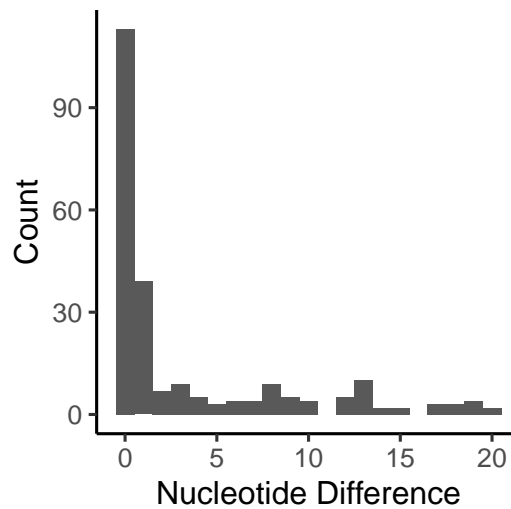
### IGHV1-69\*01\_12\_13

24091 sequences assigned  
8338 (34.6%) exact matches, in which:  
8041 unique CDR3  
6 unique J



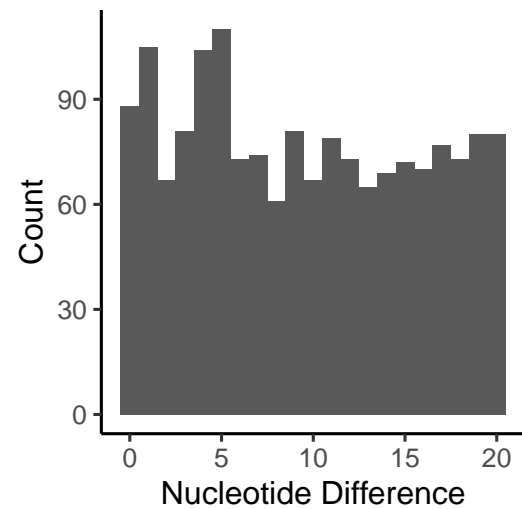
### IGHV2-26\*01

364 sequences assigned  
113 (31%) exact matches, in which:  
103 unique CDR3  
6 unique J



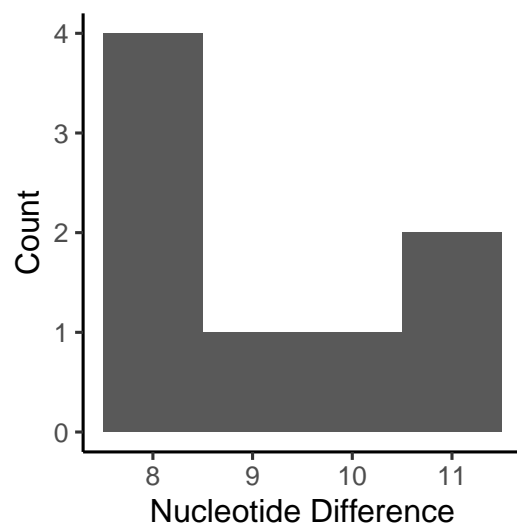
### IGHV3-7\*03

2403 sequences assigned  
88 (3.7%) exact matches, in which:  
85 unique CDR3  
5 unique J



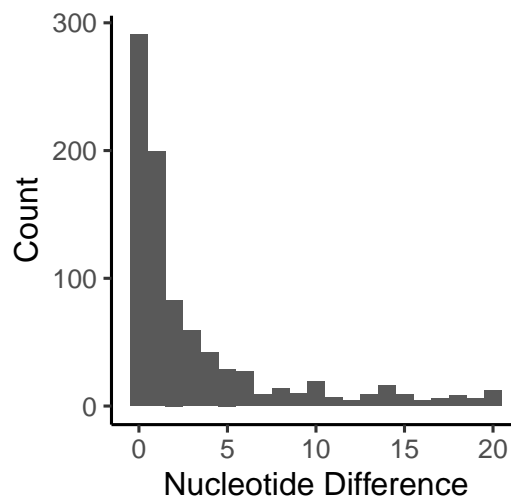
### IGHV1-NL1\*01

8 sequences assigned  
No exact matches.



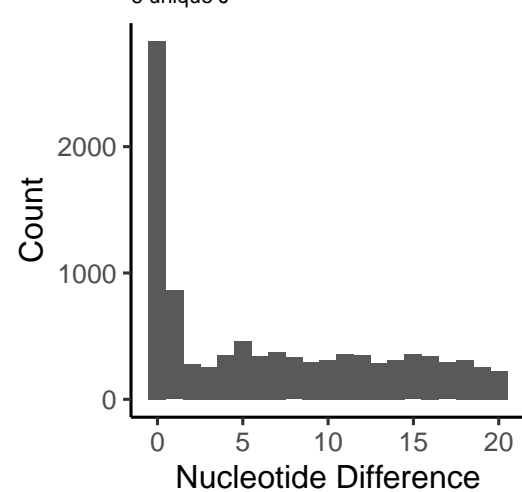
### IGHV2-70\*01

960 sequences assigned  
291 (30.3%) exact matches, in which:  
272 unique CDR3  
6 unique J



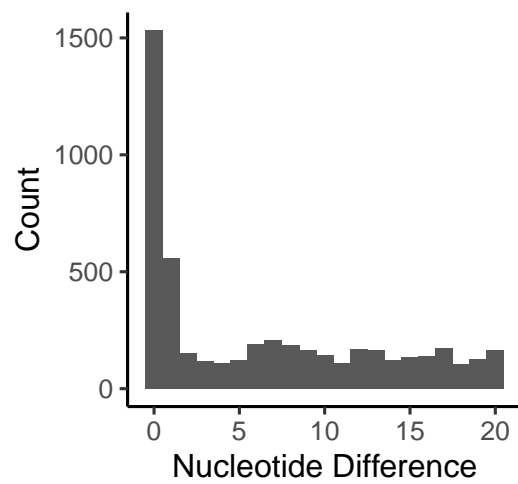
### IGHV3-9\*01

12339 sequences assigned  
2836 (23%) exact matches, in which:  
2385 unique CDR3  
6 unique J



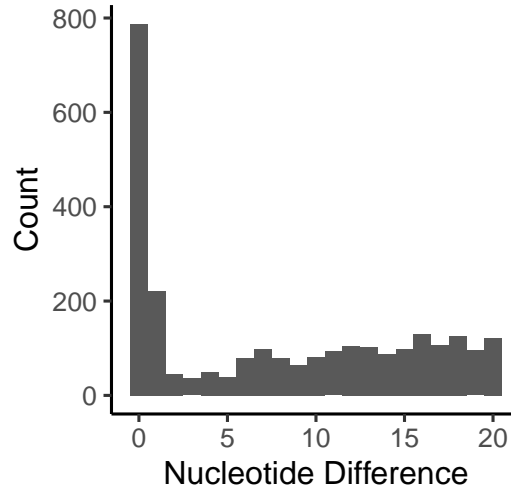
### IGHV3-11\*01

6979 sequences assigned  
1532 (22%) exact matches, in which:  
1320 unique CDR3  
6 unique J



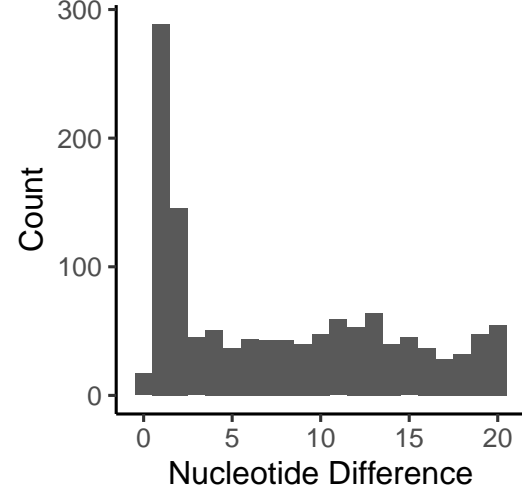
### IGHV3-15\*01\_02

4435 sequences assigned  
788 (17.8%) exact matches, in which:  
666 unique CDR3  
6 unique J



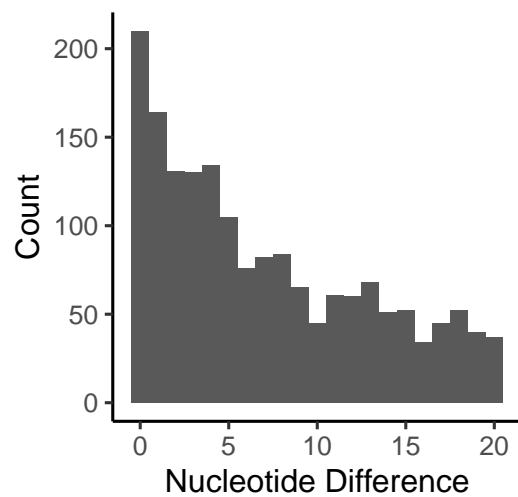
### IGHV3-20\*03\_04

2269 sequences assigned  
17 (0.7%) exact matches, in which:  
12 unique CDR3  
3 unique J



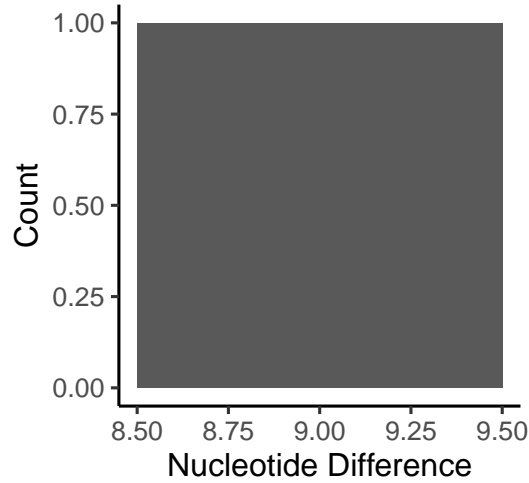
### IGHV3-11\*04

2091 sequences assigned  
210 (10%) exact matches, in which:  
207 unique CDR3  
6 unique J



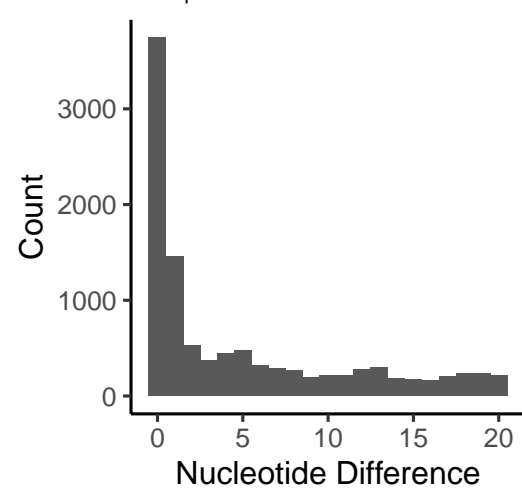
### IGHV3-16\*01\_02

1 sequences assigned  
No exact matches.



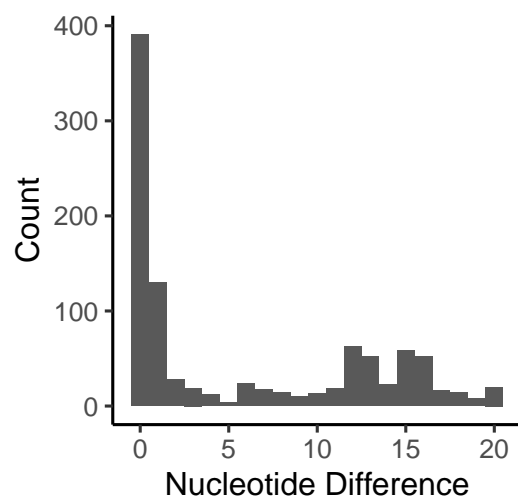
### IGHV3-21\*01\_02

12974 sequences assigned  
3743 (28.9%) exact matches, in which:  
3186 unique CDR3  
6 unique J



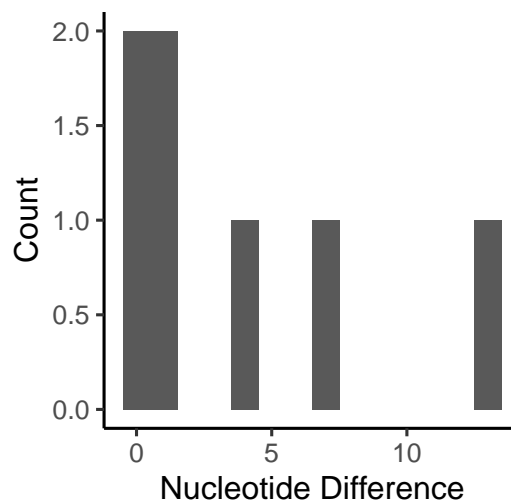
### IGHV3-13\*01

1212 sequences assigned  
391 (32.3%) exact matches, in which:  
342 unique CDR3  
6 unique J



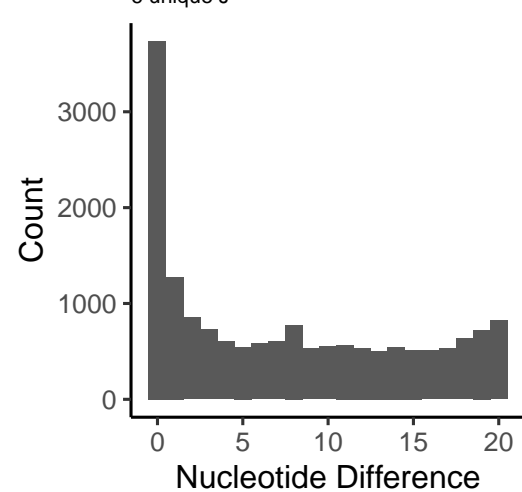
### IGHV3-19\*01

7 sequences assigned  
2 (28.6%) exact matches, in which:  
2 unique CDR3  
2 unique J



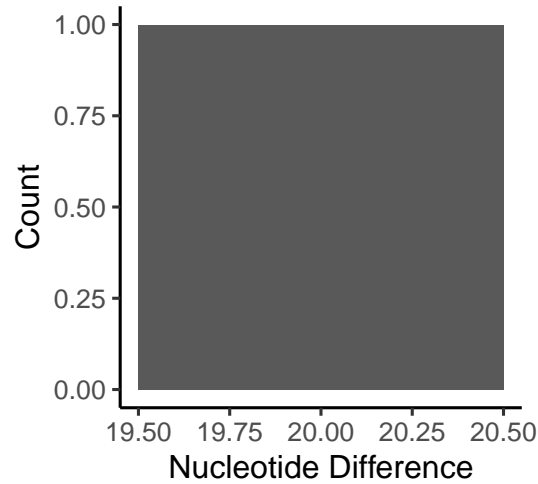
### IGHV3-23\*01\_04

34167 sequences assigned  
3738 (10.9%) exact matches, in which:  
3162 unique CDR3  
6 unique J



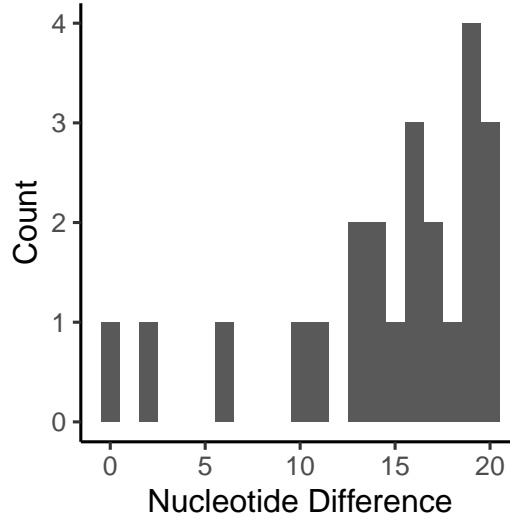
### IGHV3-30-3\*01

7 sequences assigned  
No exact matches.



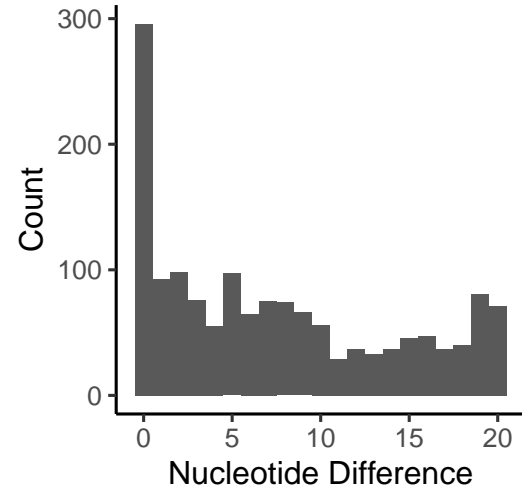
### IGHV3-30-3\*03

38 sequences assigned  
1 (2.6%) exact matches, in which:  
1 unique CDR3  
1 unique J



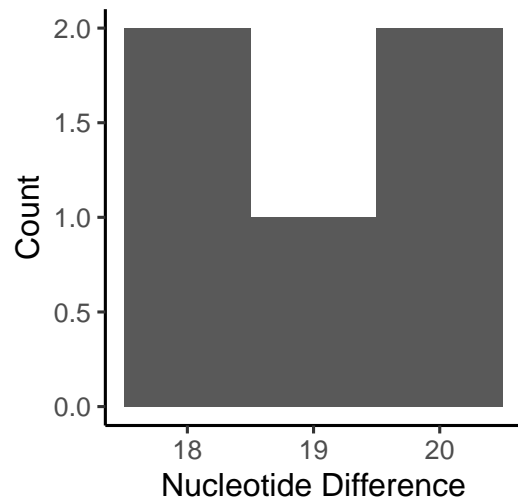
### IGHV3-33\*08

2304 sequences assigned  
296 (12.8%) exact matches, in which:  
291 unique CDR3  
6 unique J



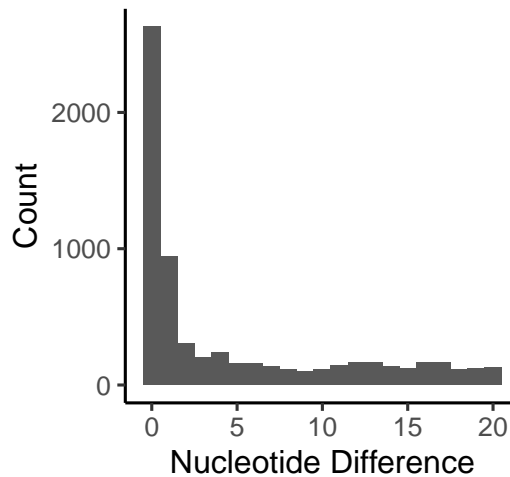
### IGHV3-30-3\*02

15 sequences assigned  
No exact matches.



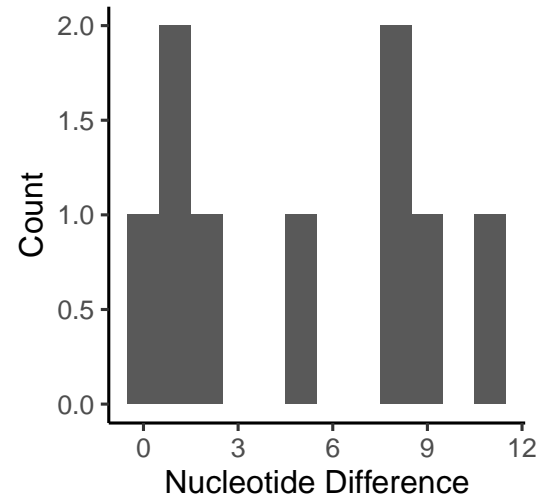
### IGHV3-33\*01

8602 sequences assigned  
2629 (30.6%) exact matches, in which:  
2297 unique CDR3  
6 unique J



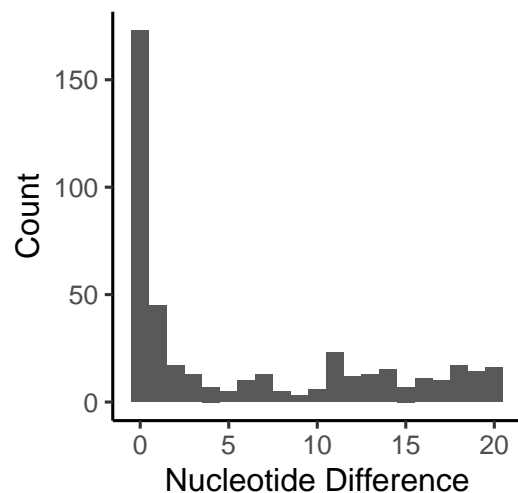
### IGHV3-35\*01

9 sequences assigned  
1 (11.1%) exact matches, in which:  
1 unique CDR3  
1 unique J



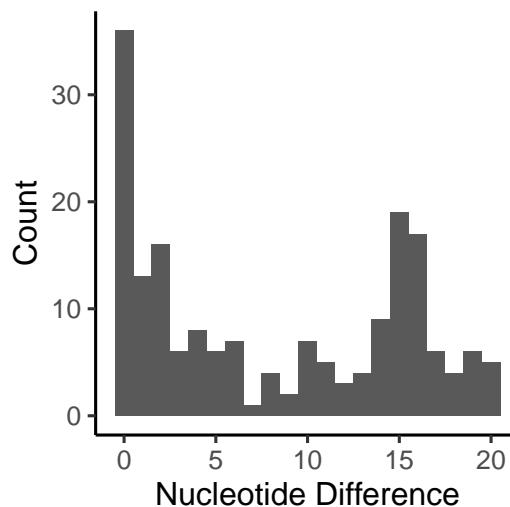
### IGHV3-30\*03

702 sequences assigned  
173 (24.6%) exact matches, in which:  
165 unique CDR3  
6 unique J



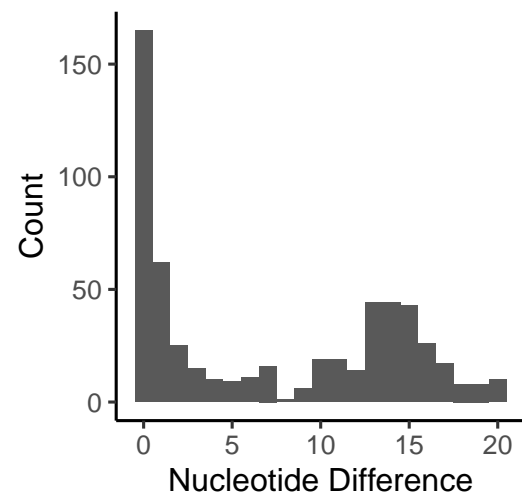
### IGHV3-33\*05

239 sequences assigned  
36 (15.1%) exact matches, in which:  
35 unique CDR3  
5 unique J



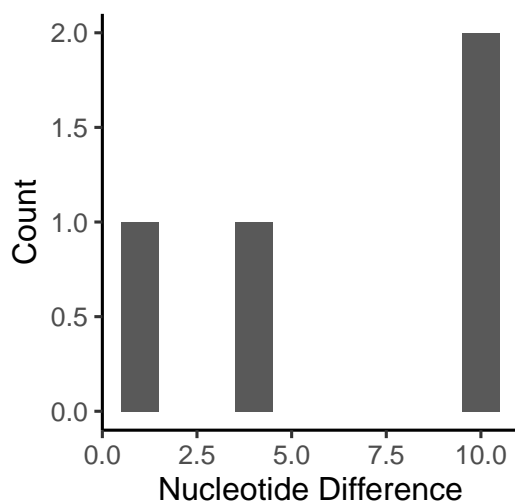
### IGHV3-43\*01

782 sequences assigned  
165 (21.1%) exact matches, in which:  
137 unique CDR3  
6 unique J



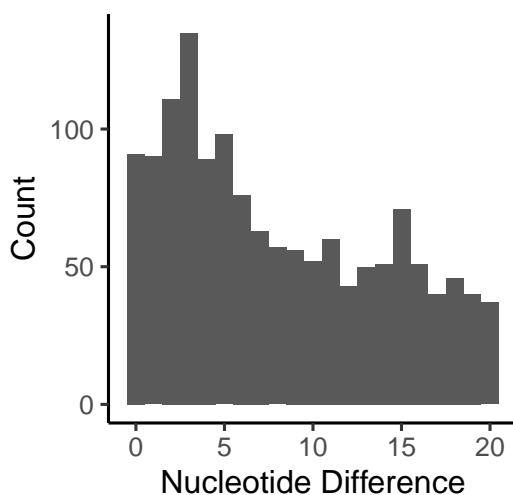
### IGHV3-47\*02

4 sequences assigned  
No exact matches.



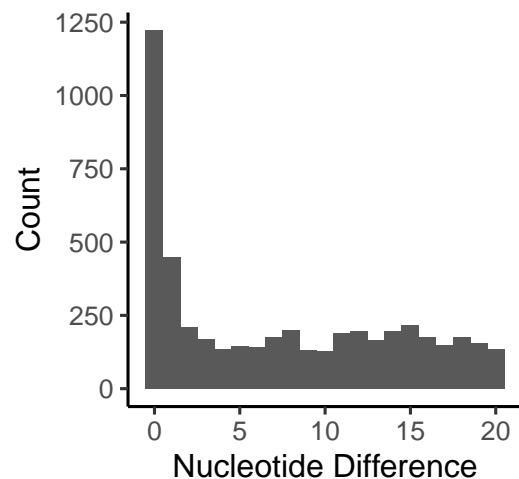
### IGHV3-48\*04

1904 sequences assigned  
91 (4.8%) exact matches, in which:  
91 unique CDR3  
5 unique J



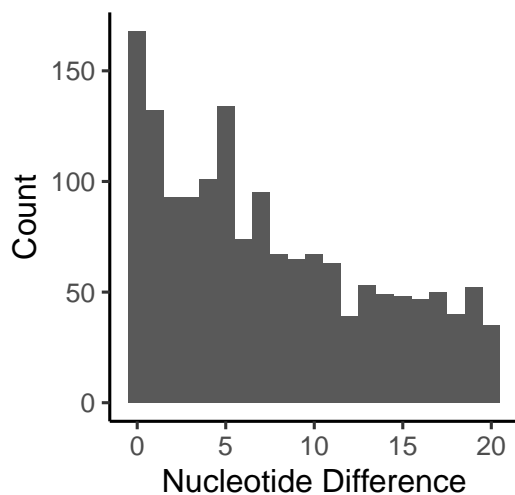
### IGHV3-53\*01\_02

7694 sequences assigned  
1222 (15.9%) exact matches, in which:  
1052 unique CDR3  
6 unique J



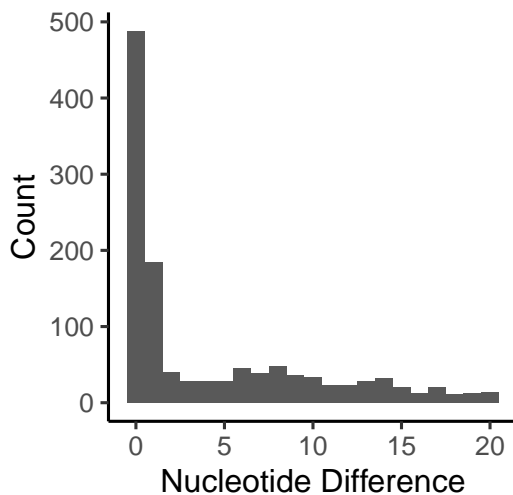
### IGHV3-48\*01

1907 sequences assigned  
168 (8.8%) exact matches, in which:  
167 unique CDR3  
6 unique J



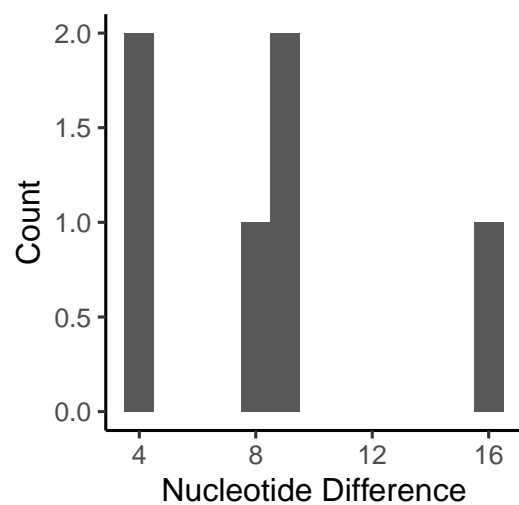
### IGHV3-49\*03\_05

1731 sequences assigned  
488 (28.2%) exact matches, in which:  
406 unique CDR3  
6 unique J



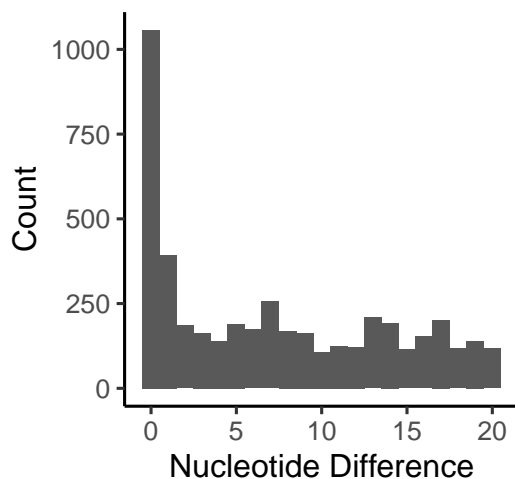
### IGHV3-64\*04

6 sequences assigned  
No exact matches.



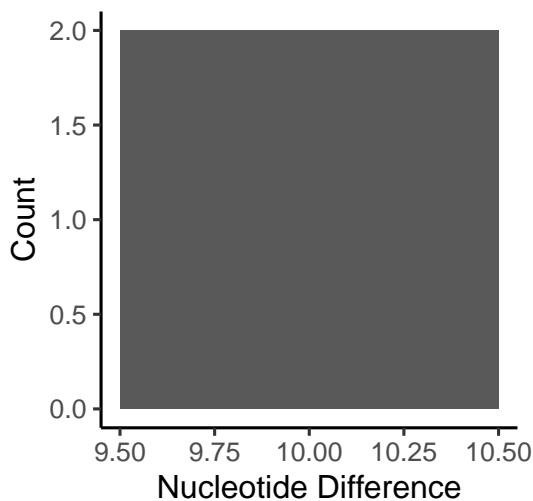
### IGHV3-48\*02

6220 sequences assigned  
1057 (17%) exact matches, in which:  
898 unique CDR3  
6 unique J



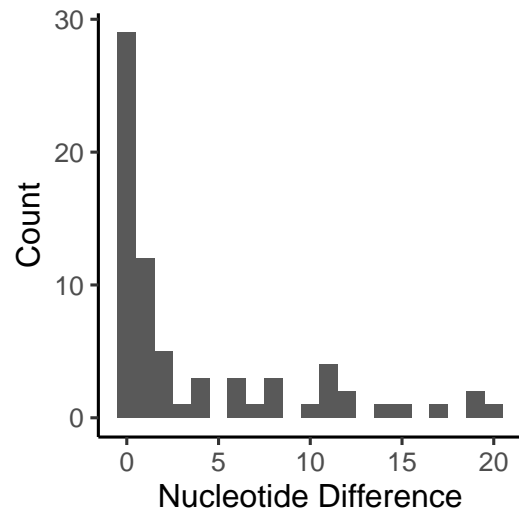
### IGHV3-52\*01\_03

2 sequences assigned  
No exact matches.



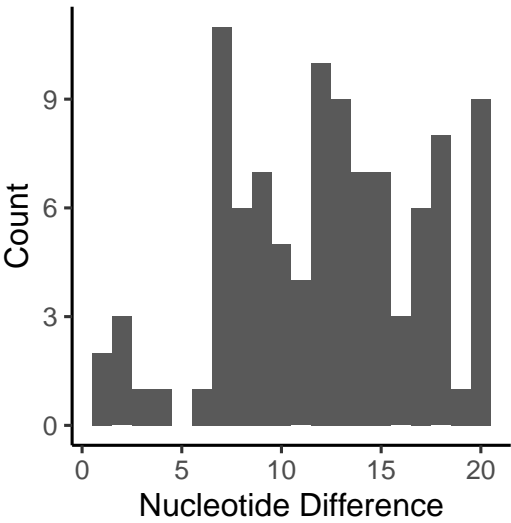
### IGHV3-64\*02\_07

73 sequences assigned  
29 (39.7%) exact matches, in which:  
20 unique CDR3  
4 unique J



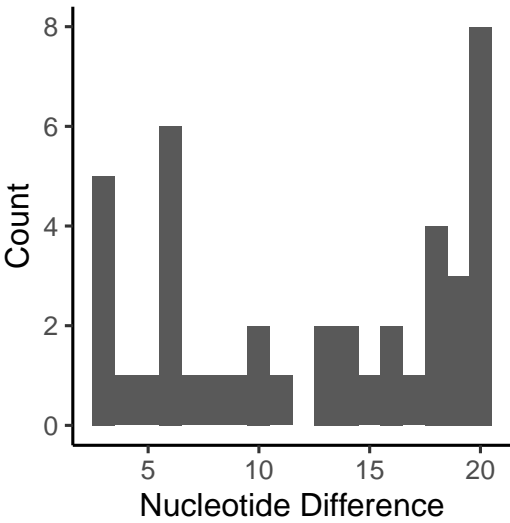
IGHV3-66\*01

171 sequences assigned  
No exact matches.



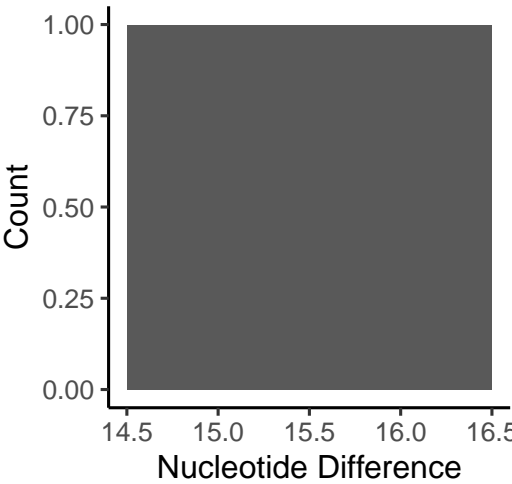
IGHV3-69-1\*01

97 sequences assigned  
No exact matches.



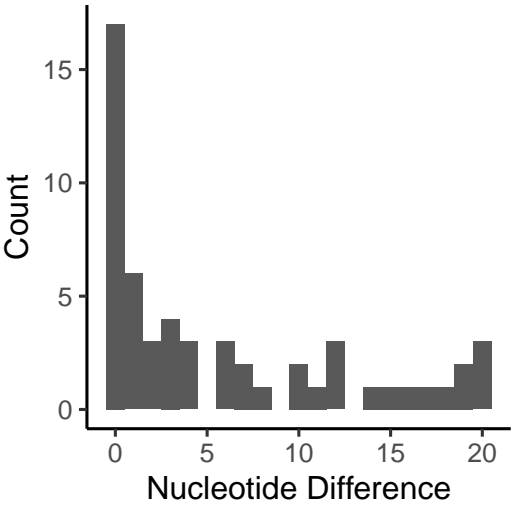
IGHV3-71\*01\_04

5 sequences assigned  
No exact matches.



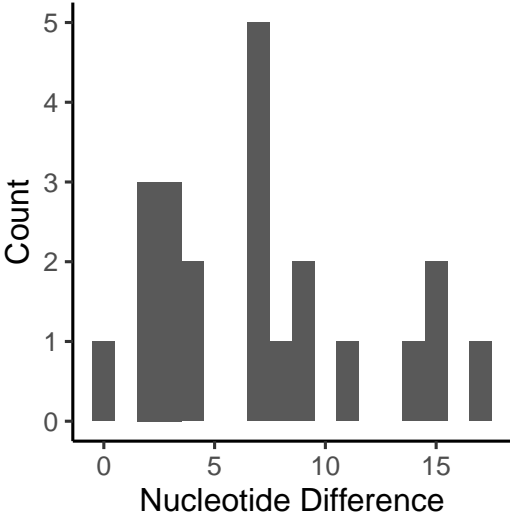
IGHV3-66\*03

115 sequences assigned  
17 (14.8%) exact matches, in which:  
17 unique CDR3  
4 unique J



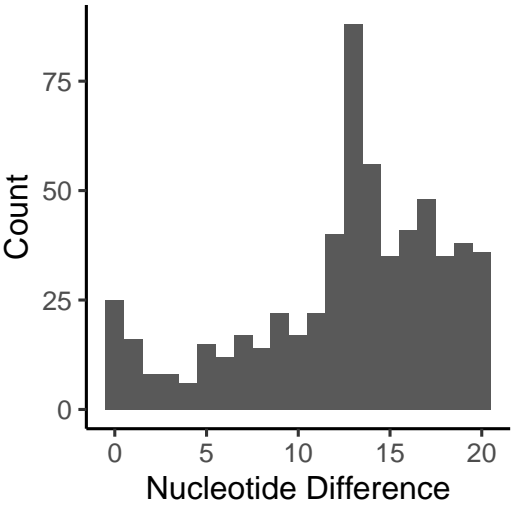
IGHV3-69-1\*02

145 sequences assigned  
1 (0.7%) exact matches, in which:  
1 unique CDR3  
1 unique J



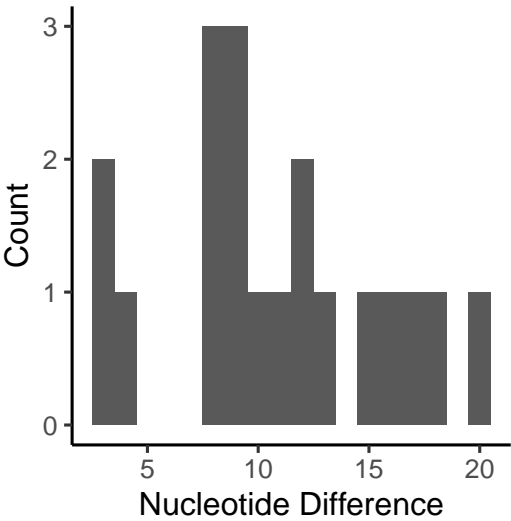
IGHV3-72\*01

974 sequences assigned  
25 (2.6%) exact matches, in which:  
22 unique CDR3  
5 unique J



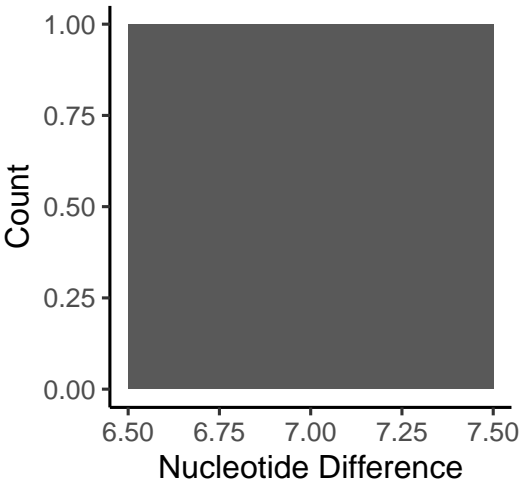
IGHV3-66\*04

32 sequences assigned  
No exact matches.



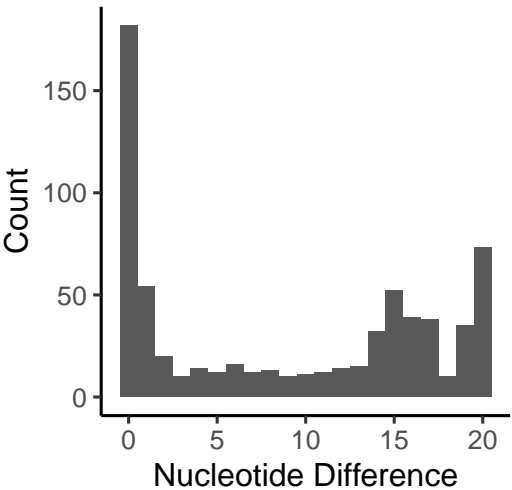
IGHV3-71\*03

1 sequences assigned  
No exact matches.



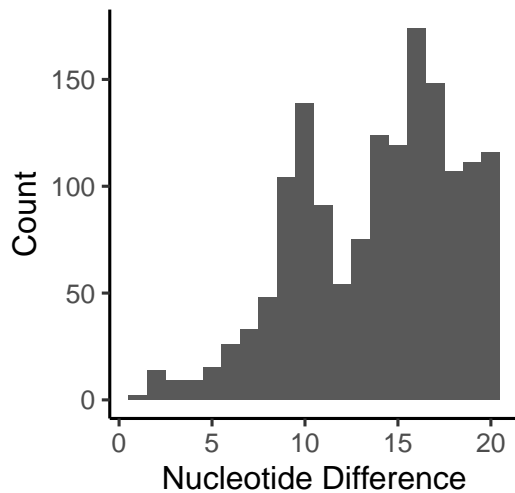
IGHV3-73\*01\_02

1378 sequences assigned  
182 (13.2%) exact matches, in which:  
164 unique CDR3  
5 unique J



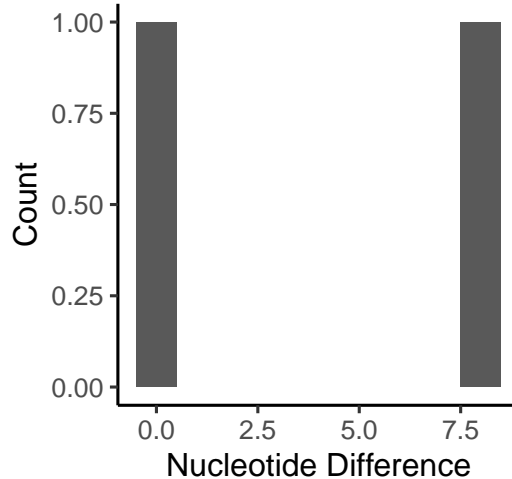
### IGHV3-74\*03

2852 sequences assigned  
No exact matches.



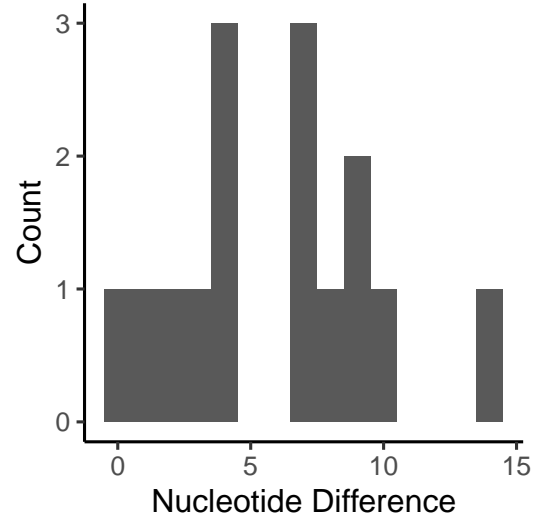
### IGHV3-64D\*06

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



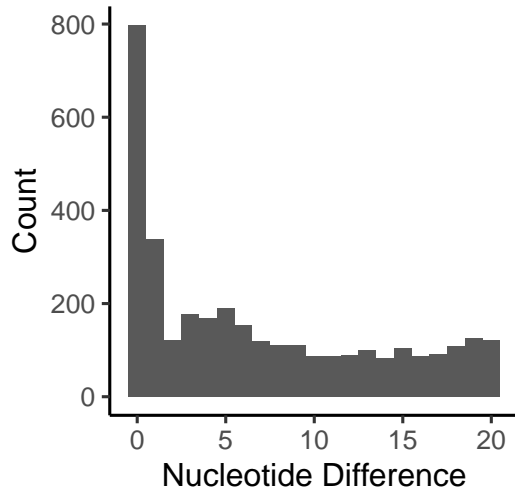
### IGHV4-28\*03

17 sequences assigned  
1 (5.9%) exact matches, in which:  
1 unique CDR3  
1 unique J



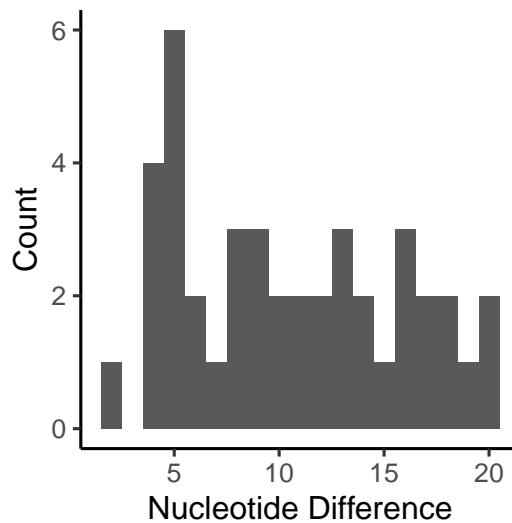
### IGHV3-74\*01\_02

4393 sequences assigned  
798 (18.2%) exact matches, in which:  
662 unique CDR3  
6 unique J



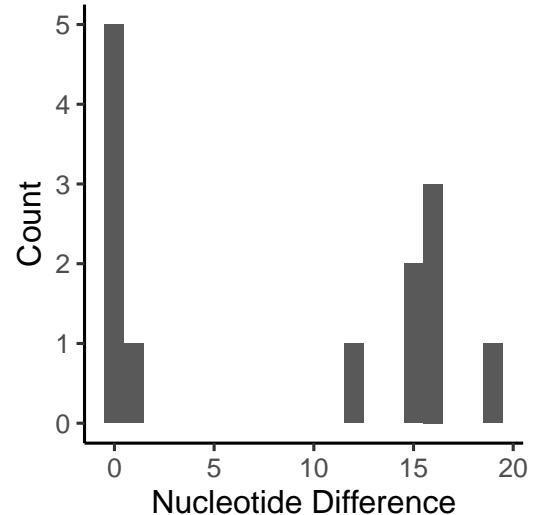
### IGHV3-NL1\*01

103 sequences assigned  
No exact matches.



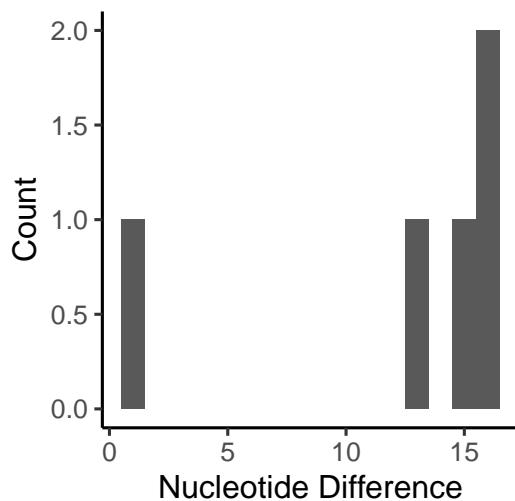
### IGHV4-28\*01\_07

15 sequences assigned  
5 (33.3%) exact matches, in which:  
5 unique CDR3  
3 unique J



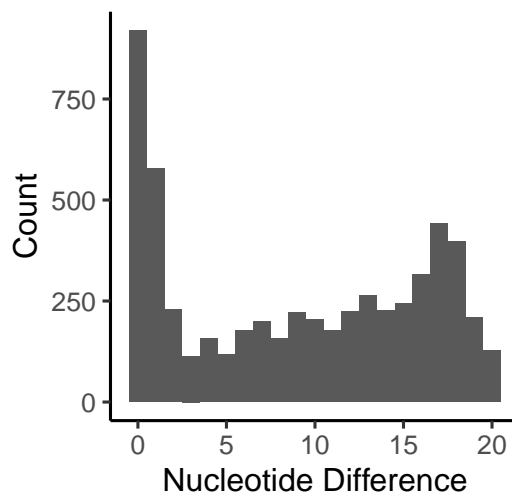
### IGHV3-43D\*04

146 sequences assigned  
No exact matches.



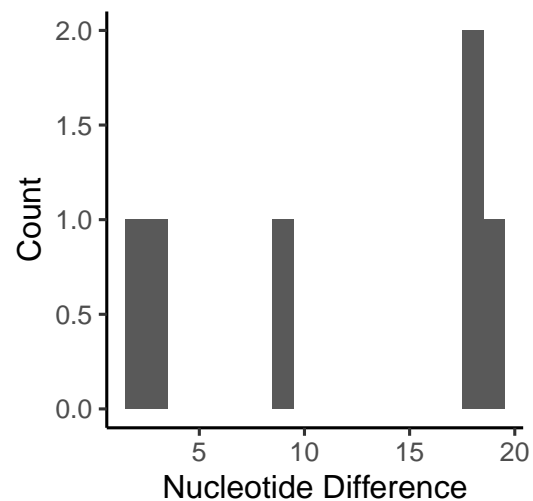
### IGHV4-4\*07

7025 sequences assigned  
920 (13.1%) exact matches, in which:  
871 unique CDR3  
6 unique J



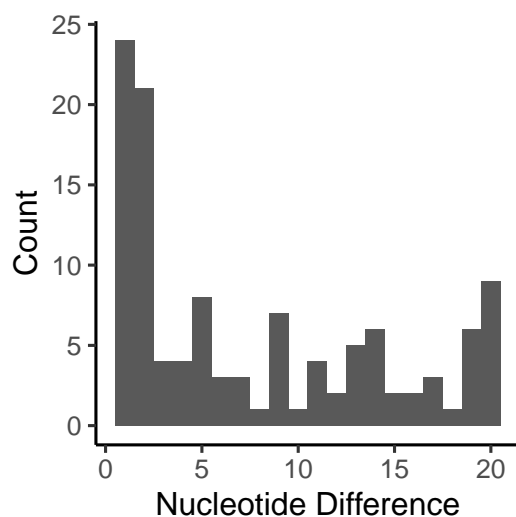
### IGHV4-30-4\*01

175 sequences assigned  
No exact matches.



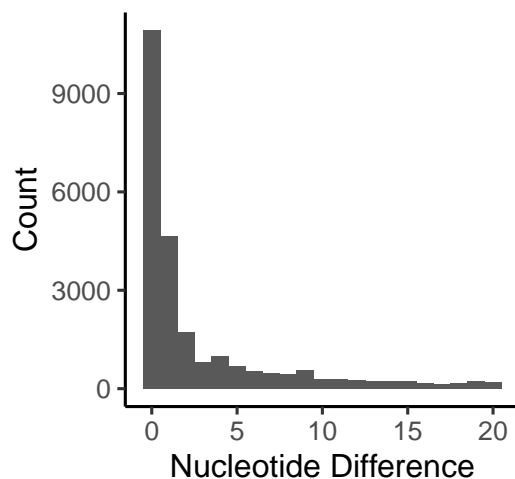
### IGHV4-30-2\*03

153 sequences assigned  
No exact matches.



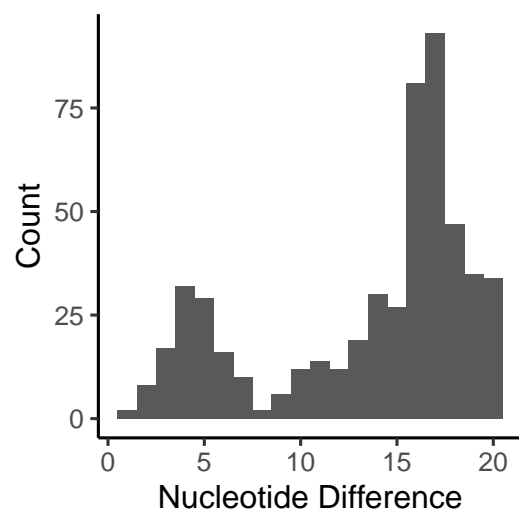
### IGHV4-34\*01\_02

26492 sequences assigned  
10925 (41.2%) exact matches, in which:  
10179 unique CDR3  
6 unique J



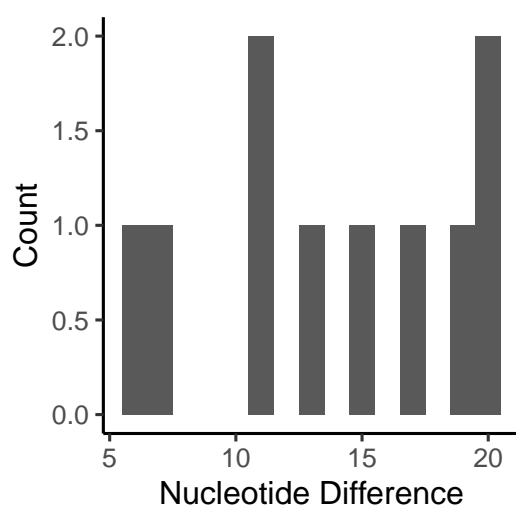
### IGHV4-39\*02

830 sequences assigned  
No exact matches.



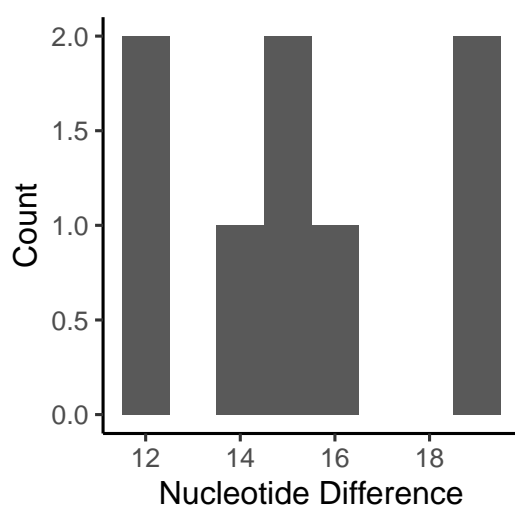
### IGHV4-30-4\*08

33 sequences assigned  
No exact matches.



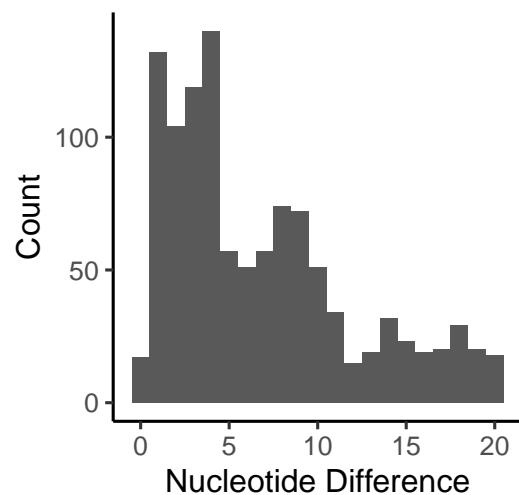
### IGHV4-38-2\*01

29 sequences assigned  
No exact matches.



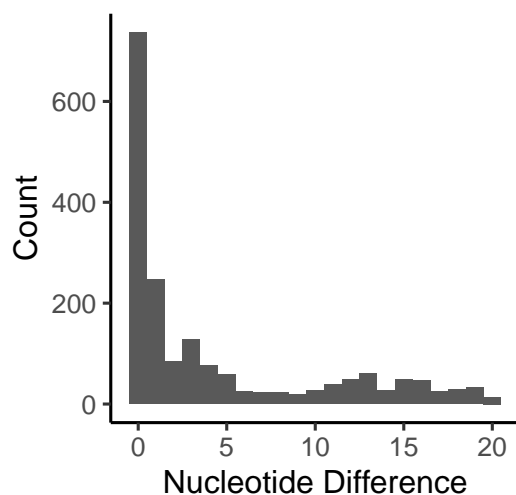
### IGHV4-39\*07

1201 sequences assigned  
17 (1.4%) exact matches, in which:  
17 unique CDR3  
4 unique J



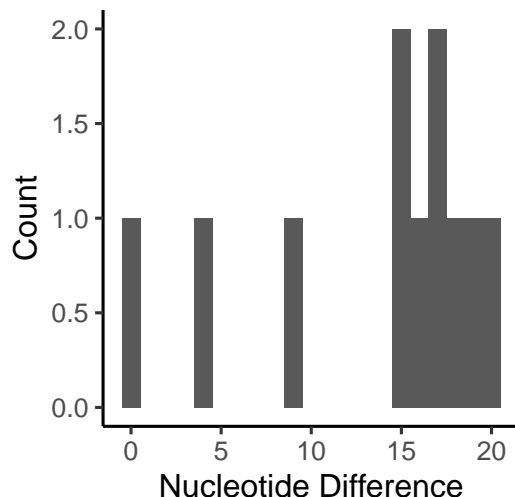
### IGHV4-31\*02

2550 sequences assigned  
737 (28.9%) exact matches, in which:  
707 unique CDR3  
6 unique J



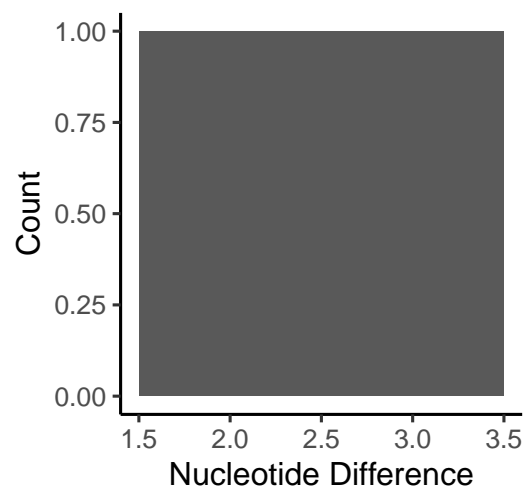
### IGHV4-38-2\*02

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



### IGHV4-55\*09

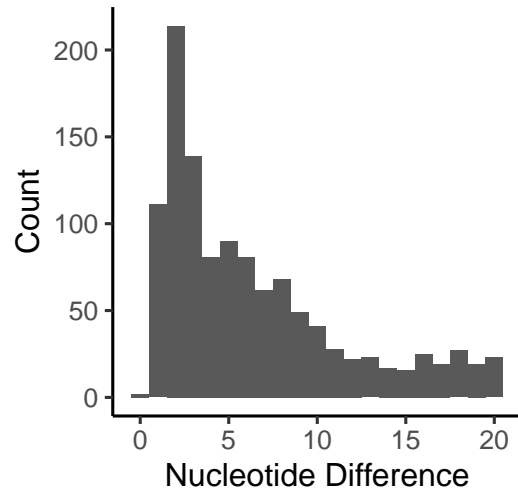
3 sequences assigned  
No exact matches.





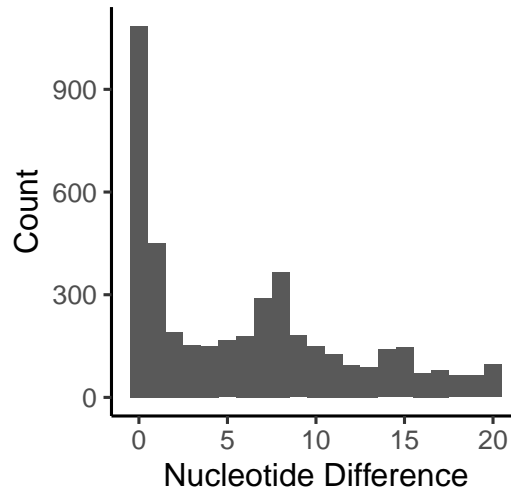
### IGHV4-59\*08

1509 sequences assigned  
2 (0.1%) exact matches, in which:  
2 unique CDR3  
2 unique J



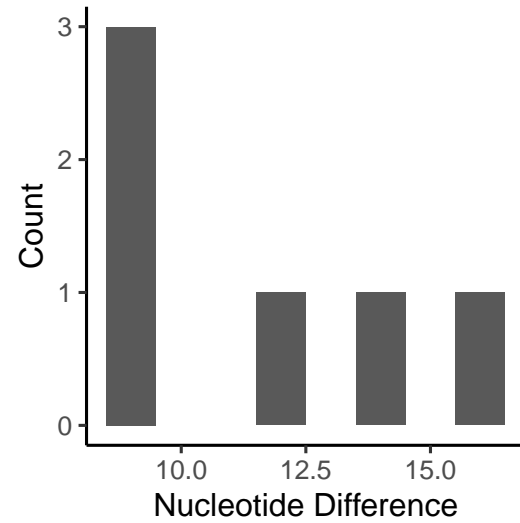
### IGHV4-61\*01

5629 sequences assigned  
1086 (19.3%) exact matches, in which:  
1044 unique CDR3  
6 unique J



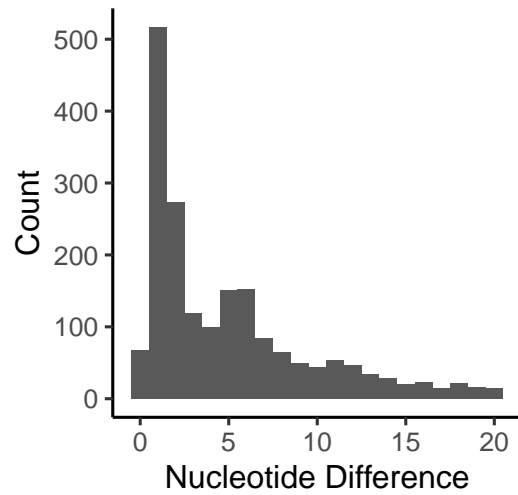
### IGHV1/OR15-3\*02

8 sequences assigned  
No exact matches.



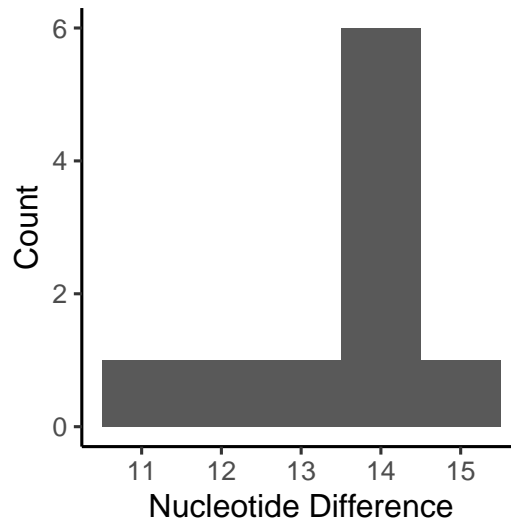
### IGHV4-59\*12

2491 sequences assigned  
67 (2.7%) exact matches, in which:  
67 unique CDR3  
5 unique J



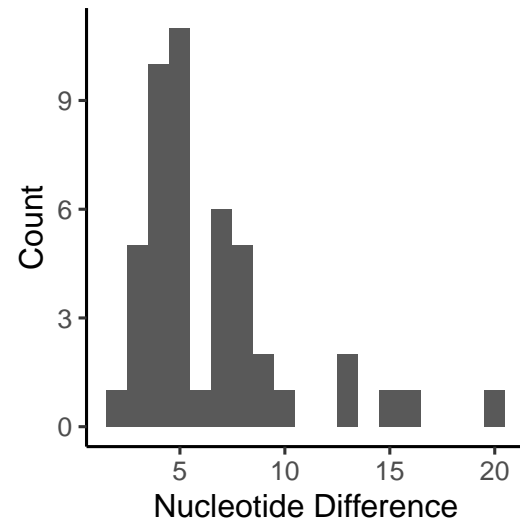
### IGHV1/OR15-1\*04

18 sequences assigned  
No exact matches.



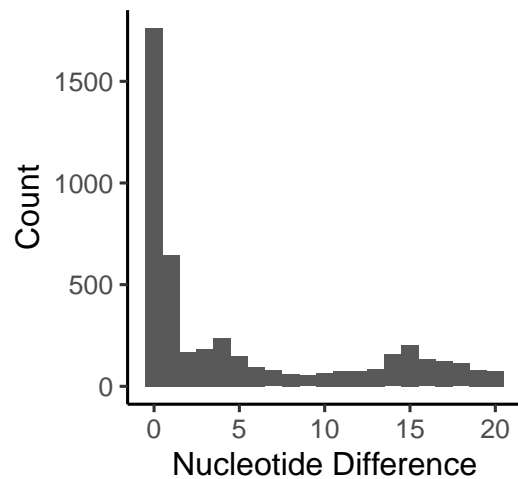
### IGHV4/OR15-8\*01

51 sequences assigned  
No exact matches.



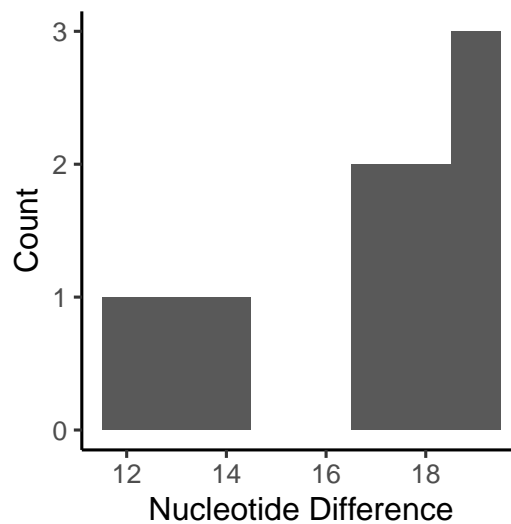
### IGHV4-59\*13

6583 sequences assigned  
1762 (26.8%) exact matches, in which:  
1714 unique CDR3  
6 unique J



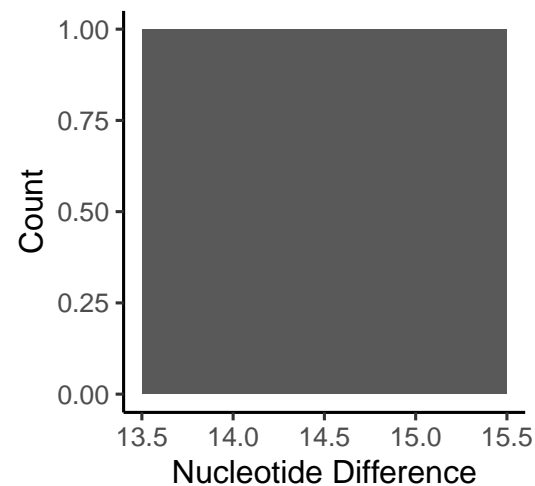
### IGHV1/OR15-2\*02\_03

19 sequences assigned  
No exact matches.



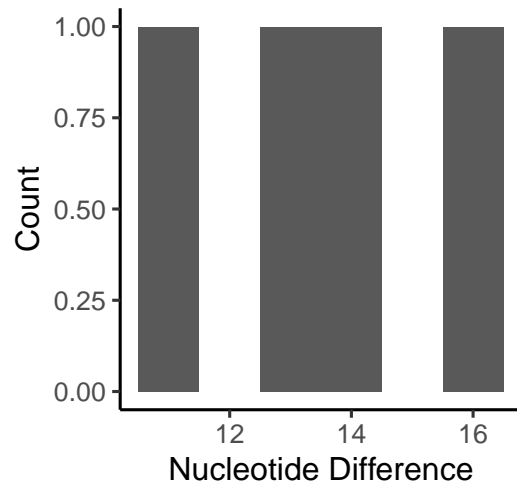
### IGHV4/OR15-8\*02

5 sequences assigned  
No exact matches.



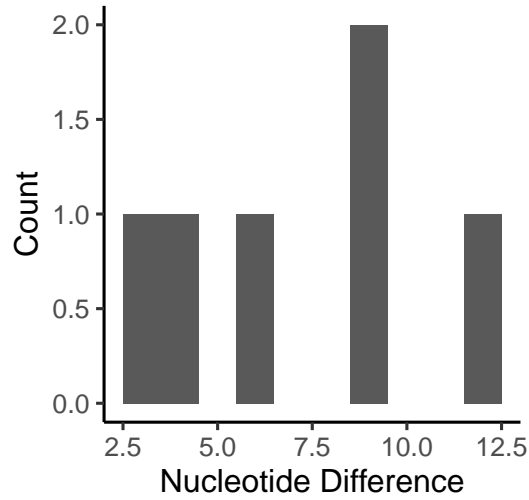
### IGHV5-10-1\*01\_03

4 sequences assigned  
No exact matches.



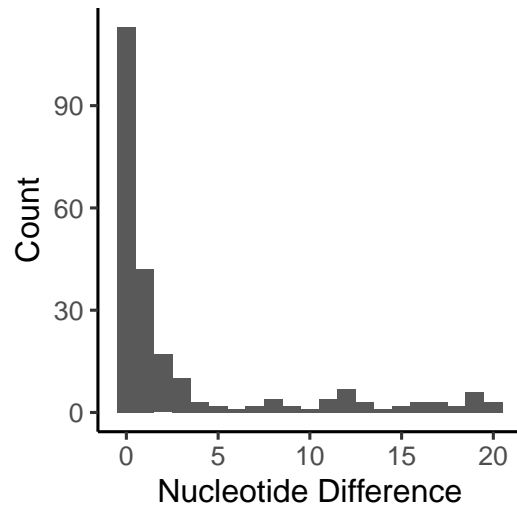
### IGHV3/OR16-9\*01

7 sequences assigned  
No exact matches.



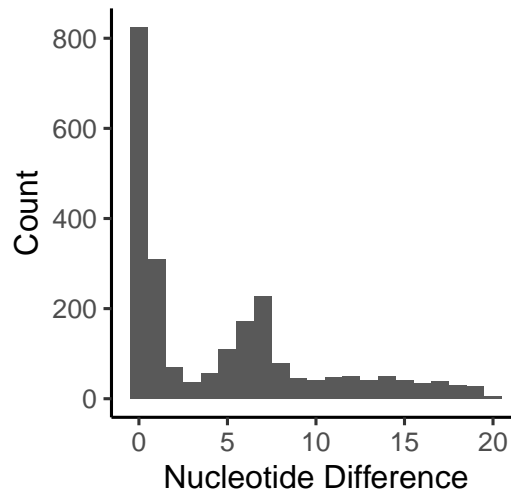
### IGHV5-51\*07

253 sequences assigned  
113 (44.7%) exact matches, in which:  
108 unique CDR3  
6 unique J



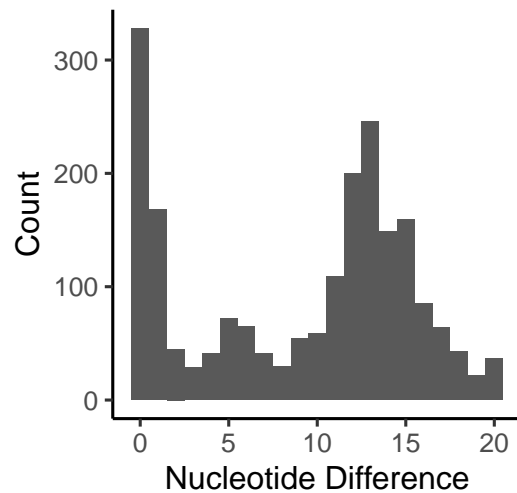
### IGHV7-4-1\*02

2949 sequences assigned  
825 (28%) exact matches, in which:  
793 unique CDR3  
6 unique J



### IGHV6-1\*01\_02

2357 sequences assigned  
328 (13.9%) exact matches, in which:  
316 unique CDR3  
6 unique J





Novel sequence(s)IGHV3-20\*03\_04\_A104G are not listed in the genotype and will be ignored.