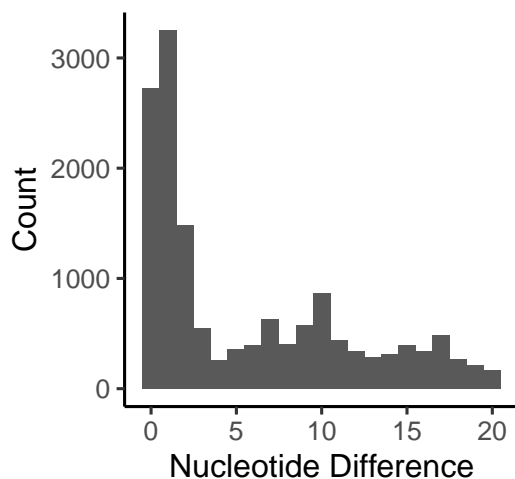


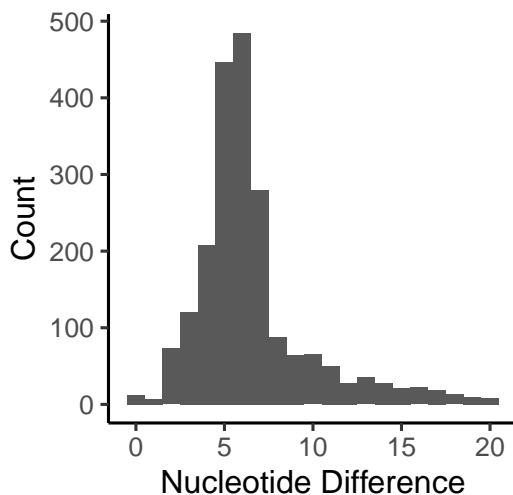
## IGHV1-2\*02

16320 sequences assigned  
2728 (16.7%) exact matches, in which:  
2243 unique CDR3  
6 unique J



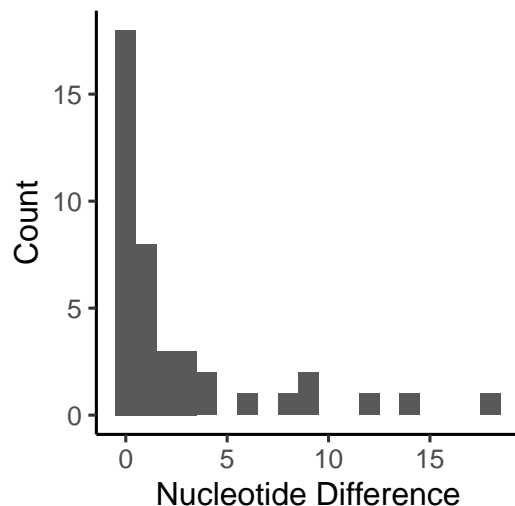
## IGHV1-8\*02

2148 sequences assigned  
12 (0.6%) exact matches, in which:  
12 unique CDR3  
4 unique J



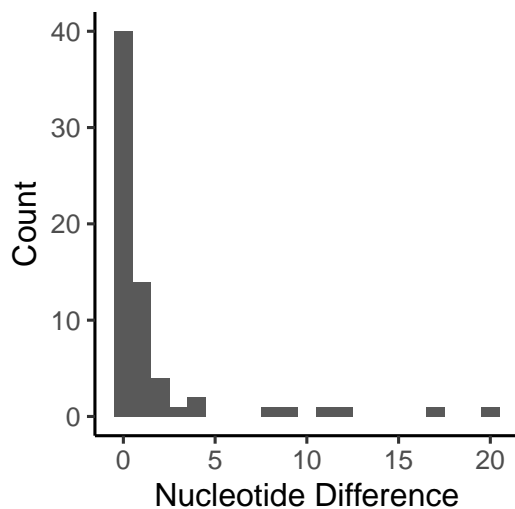
## IGHV1-45\*02

52 sequences assigned  
18 (34.6%) exact matches, in which:  
15 unique CDR3  
4 unique J



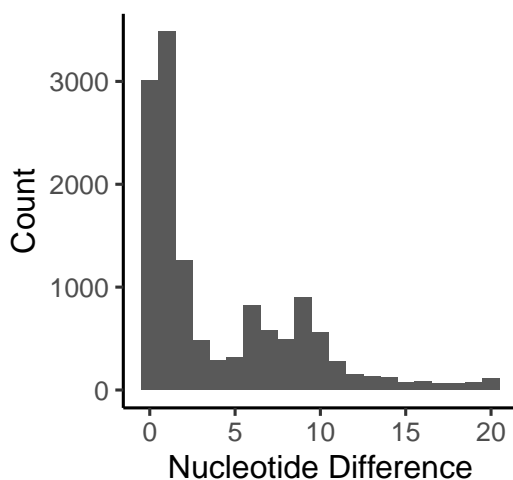
## IGHV1-3\*02

67 sequences assigned  
40 (59.7%) exact matches, in which:  
40 unique CDR3  
5 unique J



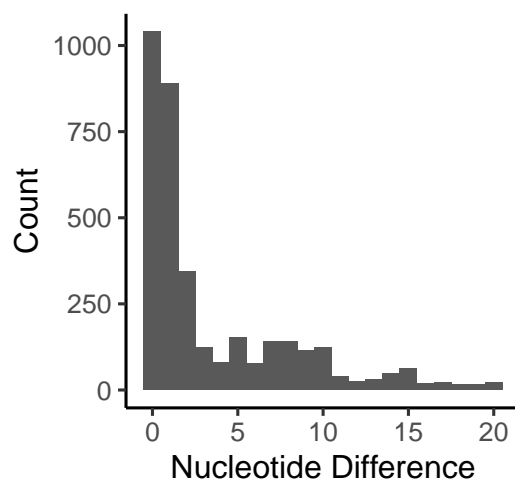
## IGHV1-18\*01

13851 sequences assigned  
3011 (21.7%) exact matches, in which:  
2458 unique CDR3  
6 unique J



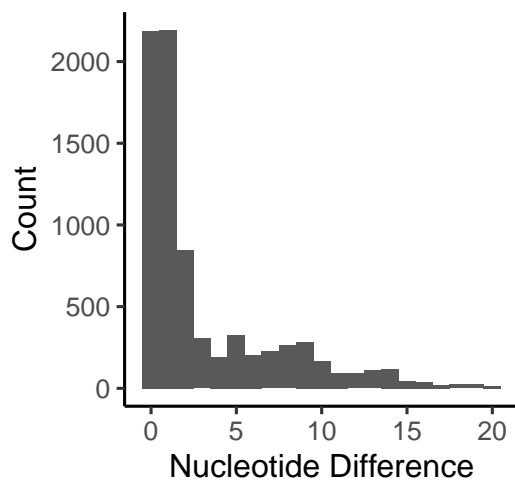
## IGHV1-46\*01

3640 sequences assigned  
1040 (28.6%) exact matches, in which:  
932 unique CDR3  
6 unique J



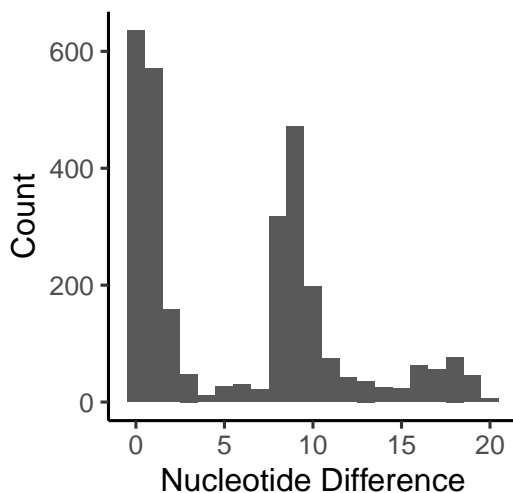
## IGHV1-8\*01

8477 sequences assigned  
2187 (25.8%) exact matches, in which:  
1863 unique CDR3  
6 unique J



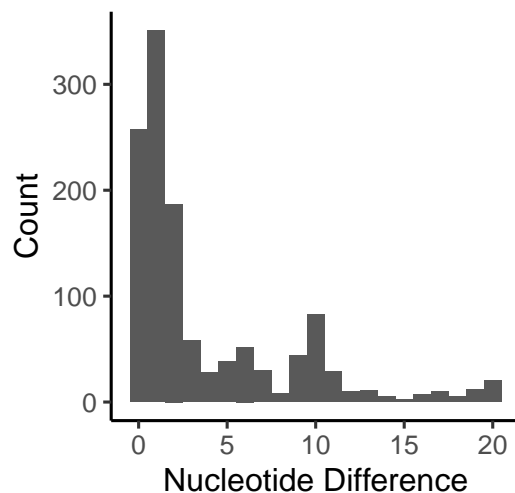
## IGHV1-24\*01

2972 sequences assigned  
636 (21.4%) exact matches, in which:  
550 unique CDR3  
6 unique J



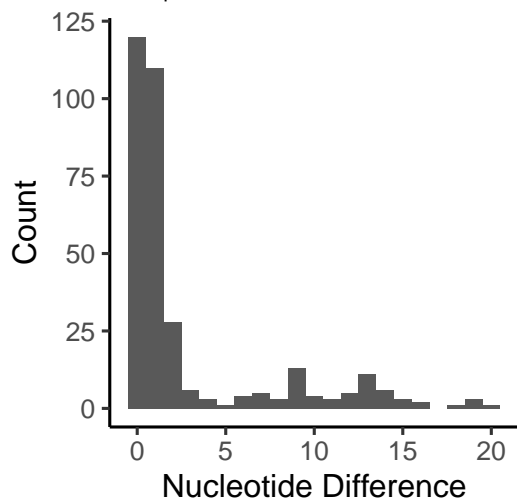
## IGHV1-46\*03

1804 sequences assigned  
257 (14.2%) exact matches, in which:  
194 unique CDR3  
6 unique J



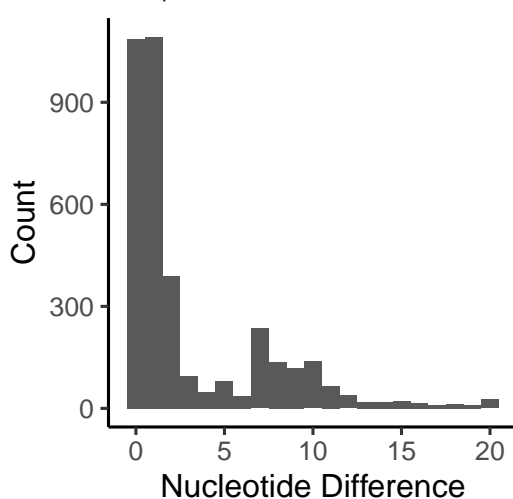
### IGHV1–58\*02

344 sequences assigned  
120 (34.9%) exact matches, in which:  
104 unique CDR3  
5 unique J



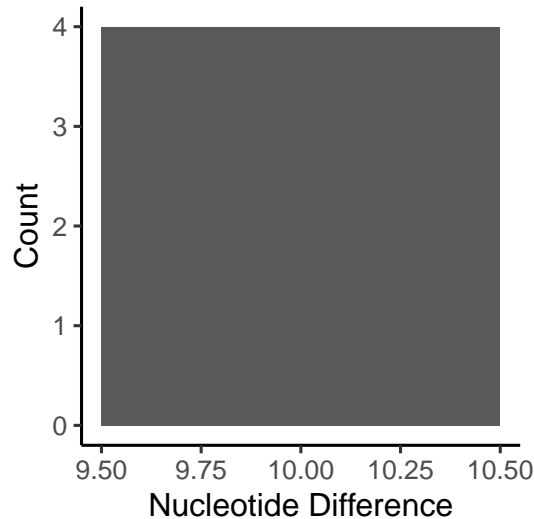
### IGHV1–69\*02

3793 sequences assigned  
1087 (28.7%) exact matches, in which:  
976 unique CDR3  
6 unique J



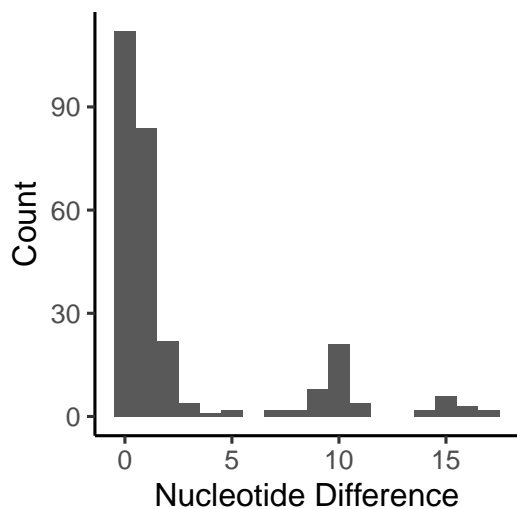
### IGHV1–NL1\*01

4 sequences assigned  
No exact matches.



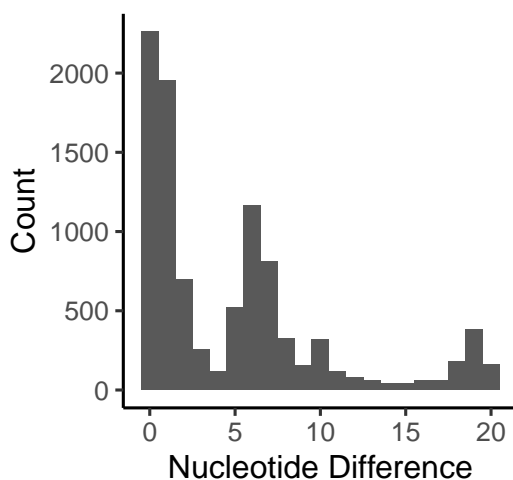
### IGHV1–58\*01\_03

289 sequences assigned  
112 (38.8%) exact matches, in which:  
106 unique CDR3  
5 unique J



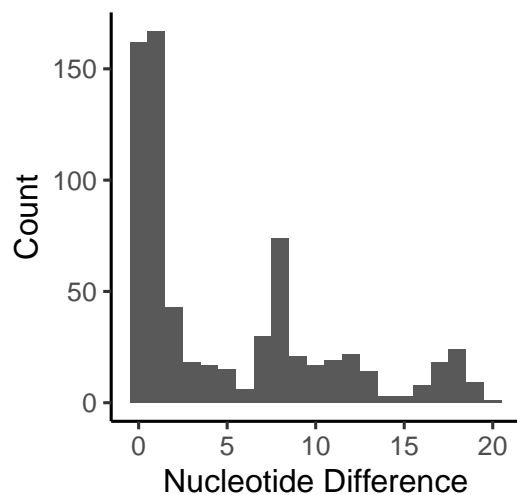
### IGHV1–69\*01\_12\_13

9999 sequences assigned  
2261 (22.6%) exact matches, in which:  
2021 unique CDR3  
6 unique J



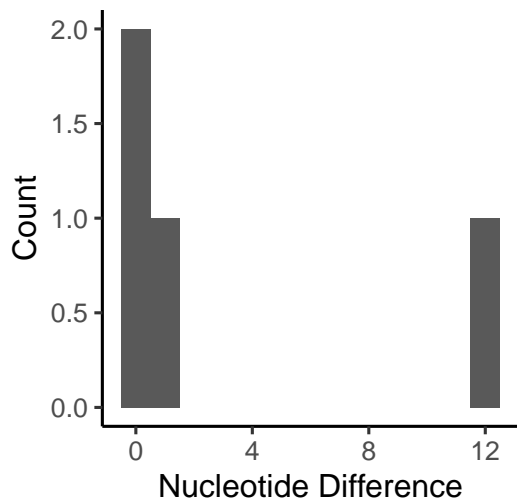
### IGHV2–5\*01

729 sequences assigned  
162 (22.2%) exact matches, in which:  
137 unique CDR3  
5 unique J



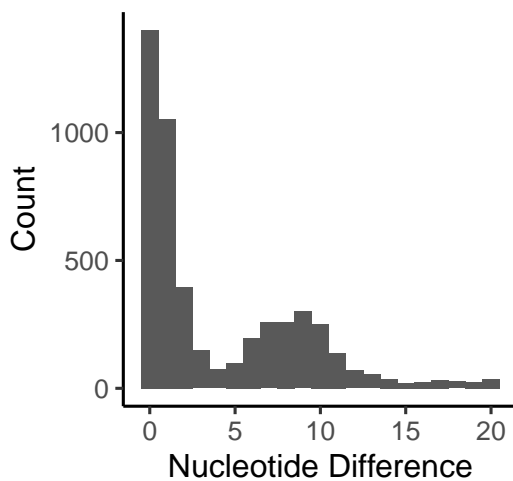
### IGHV1–69–2\*01

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



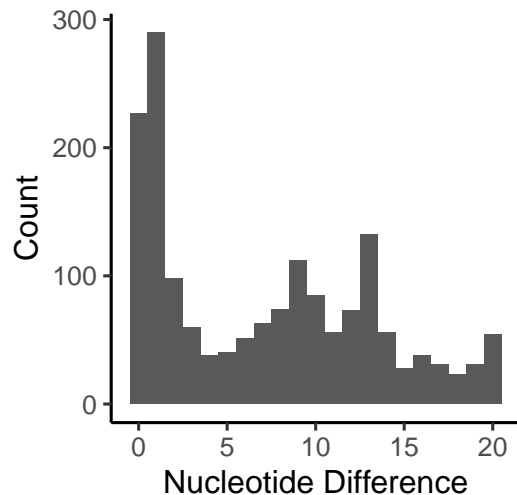
### IGHV1–69\*06\_14

5019 sequences assigned  
1401 (27.9%) exact matches, in which:  
1268 unique CDR3  
6 unique J



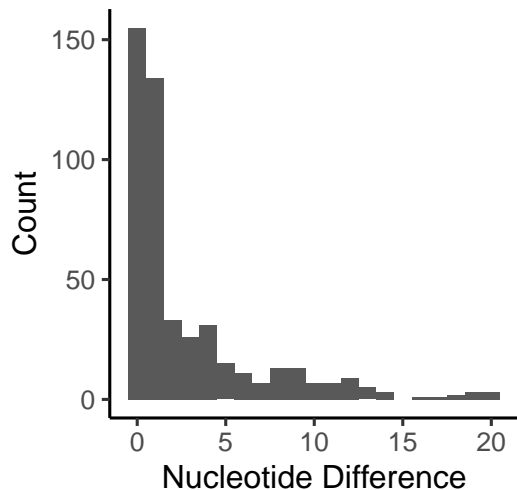
### IGHV2–5\*02

2831 sequences assigned  
227 (8%) exact matches, in which:  
174 unique CDR3  
5 unique J



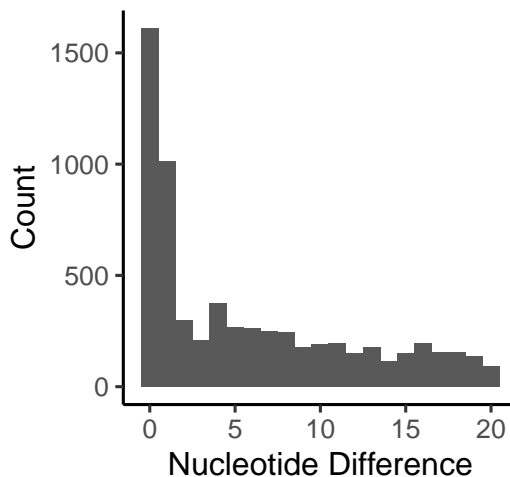
### IGHV2-26\*01

492 sequences assigned  
155 (31.5%) exact matches, in which:  
121 unique CDR3  
6 unique J



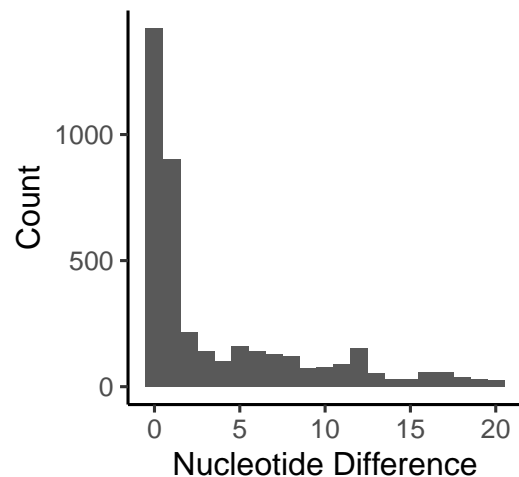
### IGHV3-7\*01

6879 sequences assigned  
1610 (23.4%) exact matches, in which:  
1122 unique CDR3  
6 unique J



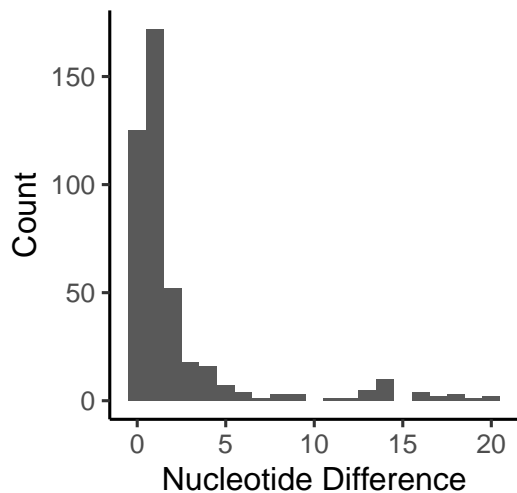
### IGHV3-11\*01

4997 sequences assigned  
1421 (28.4%) exact matches, in which:  
953 unique CDR3  
6 unique J



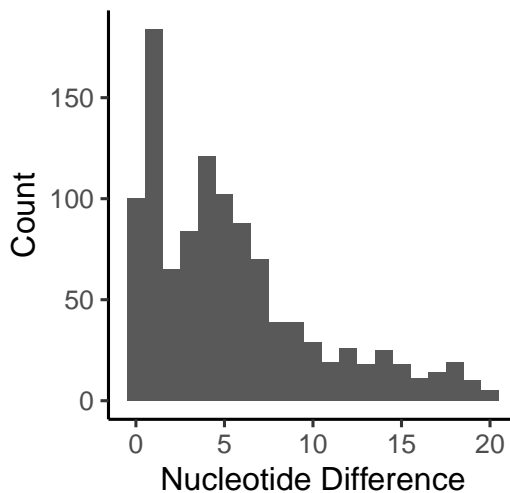
### IGHV2-70\*01

436 sequences assigned  
125 (28.7%) exact matches, in which:  
100 unique CDR3  
5 unique J



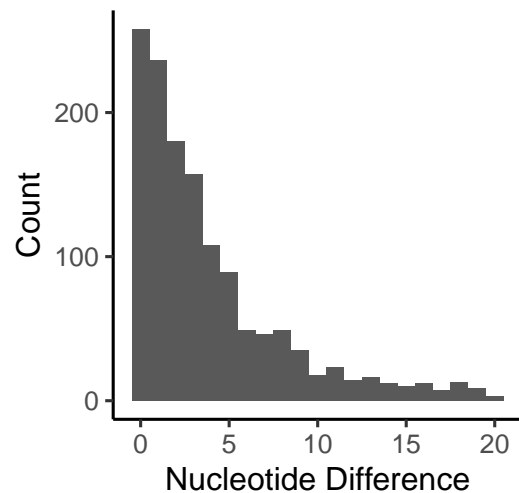
### IGHV3-7\*03

1159 sequences assigned  
100 (8.6%) exact matches, in which:  
97 unique CDR3  
6 unique J



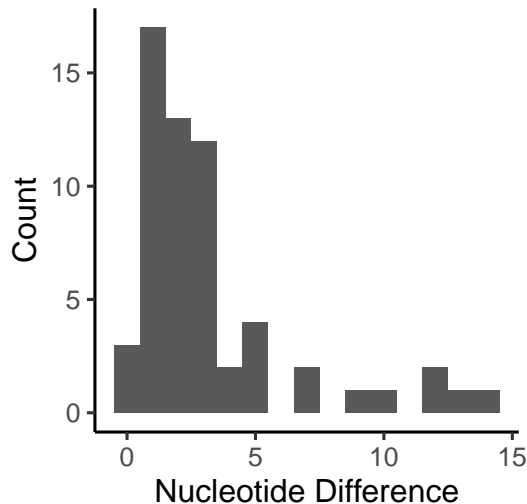
### IGHV3-11\*04

1432 sequences assigned  
258 (18%) exact matches, in which:  
243 unique CDR3  
6 unique J



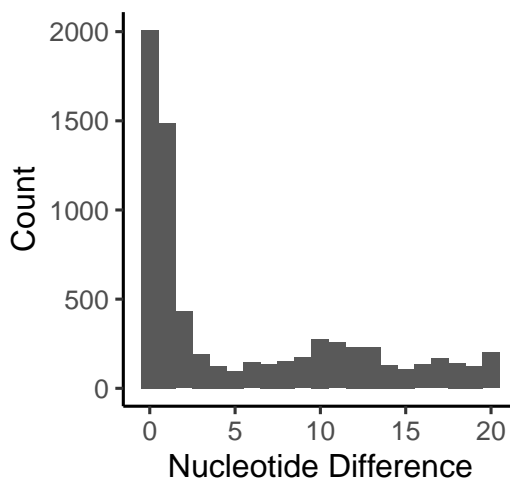
### IGHV2-70\*12

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



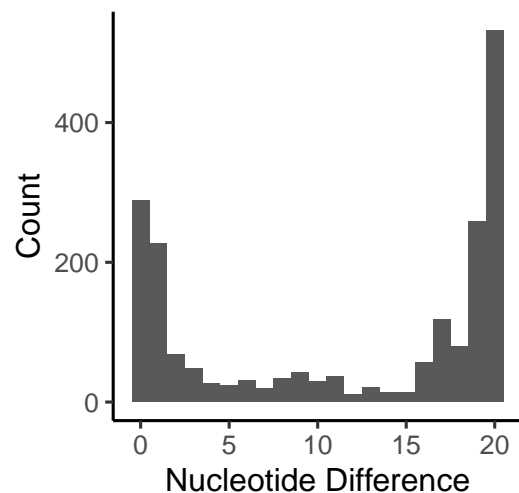
### IGHV3-9\*01

8647 sequences assigned  
2009 (23.2%) exact matches, in which:  
1170 unique CDR3  
6 unique J



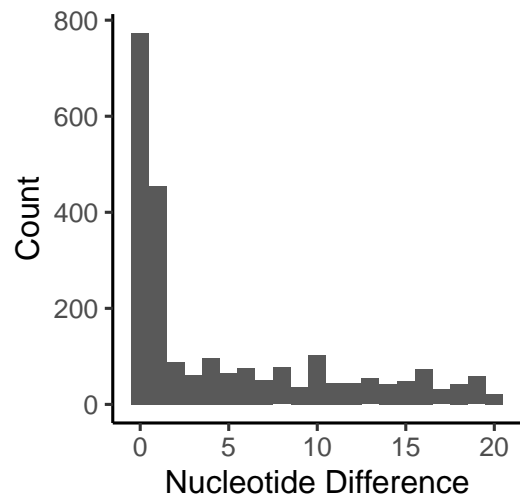
### IGHV3-13\*01

2568 sequences assigned  
288 (11.2%) exact matches, in which:  
189 unique CDR3  
6 unique J



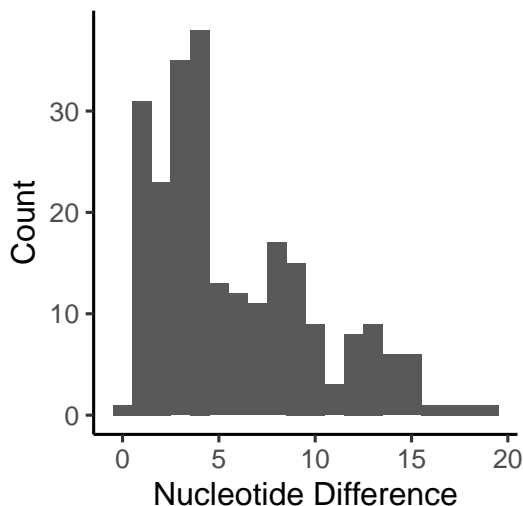
### IGHV3-15\*01\_02

3700 sequences assigned  
774 (20.9%) exact matches, in which:  
457 unique CDR3  
6 unique J



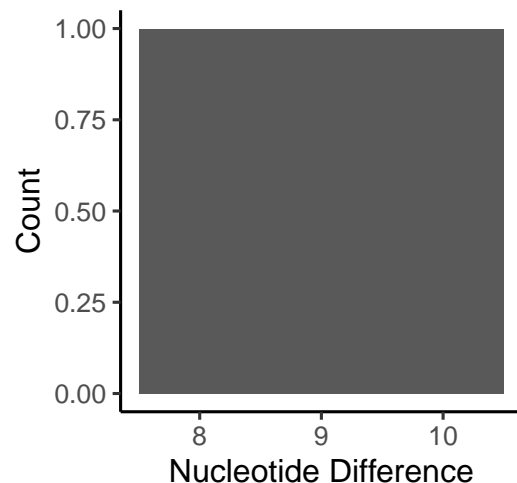
### IGHV3-20\*03\_04

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



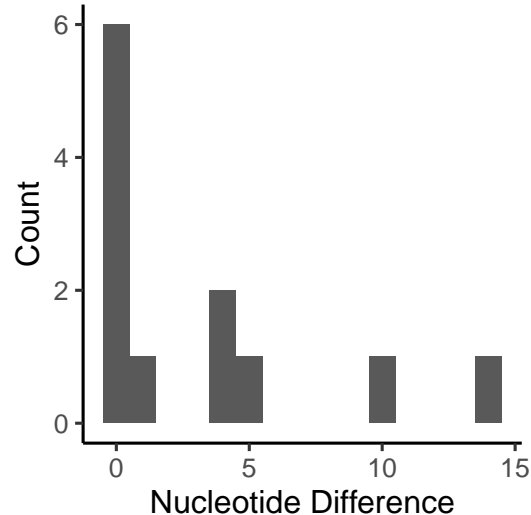
### IGHV3-22\*01\_02

3 sequences assigned  
No exact matches.



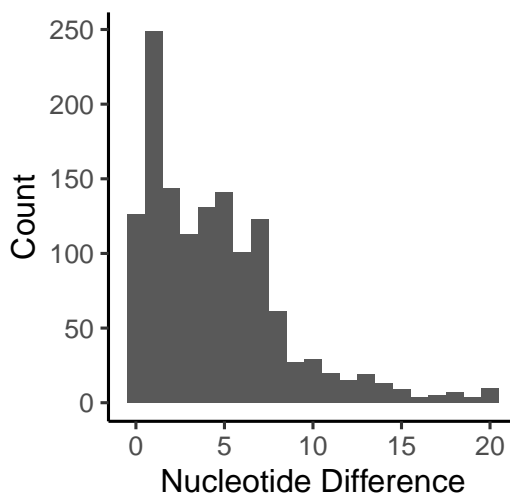
### IGHV3-19\*01

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



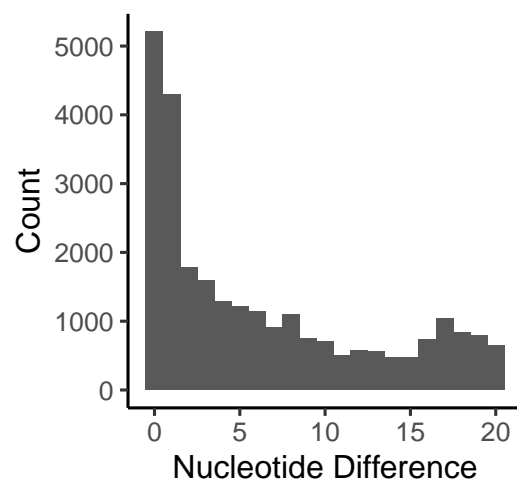
### IGHV3-21\*04

1435 sequences assigned  
126 (8.8%) exact matches, in which:  
116 unique CDR3  
5 unique J



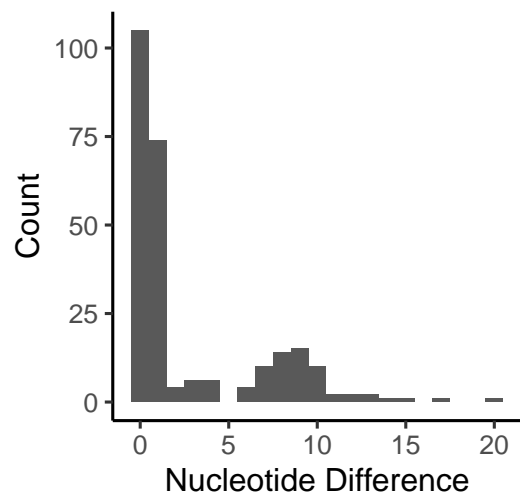
### IGHV3-23\*01\_04

34351 sequences assigned  
5208 (15.2%) exact matches, in which:  
2963 unique CDR3  
6 unique J



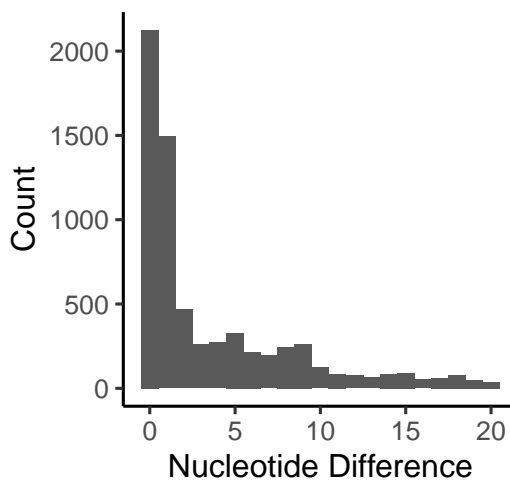
### IGHV3-20\*01\_02

258 sequences assigned  
105 (40.7%) exact matches, in which:  
64 unique CDR3  
5 unique J



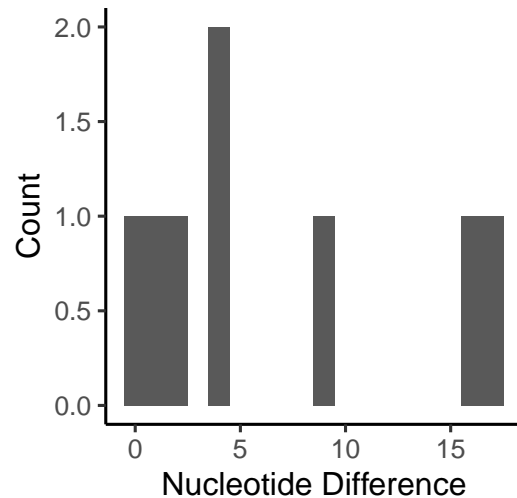
### IGHV3-21\*01\_02

7630 sequences assigned  
2125 (27.9%) exact matches, in which:  
1368 unique CDR3  
6 unique J



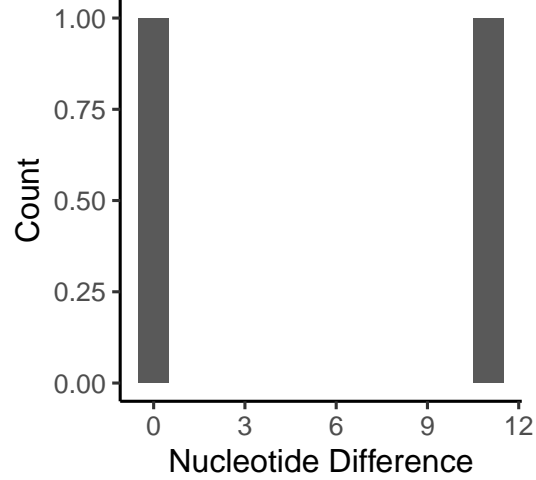
### IGHV3-30-3\*01

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



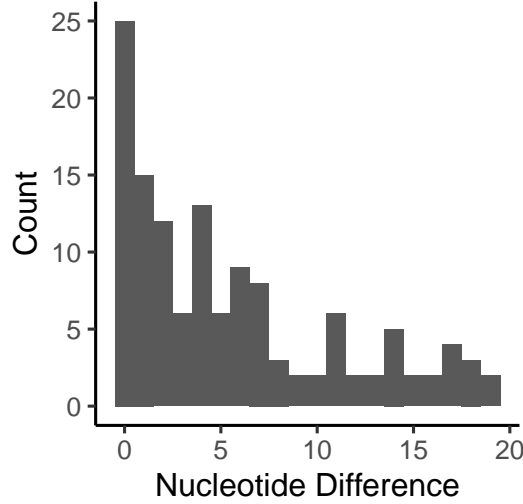
### IGHV3-30-3\*02

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



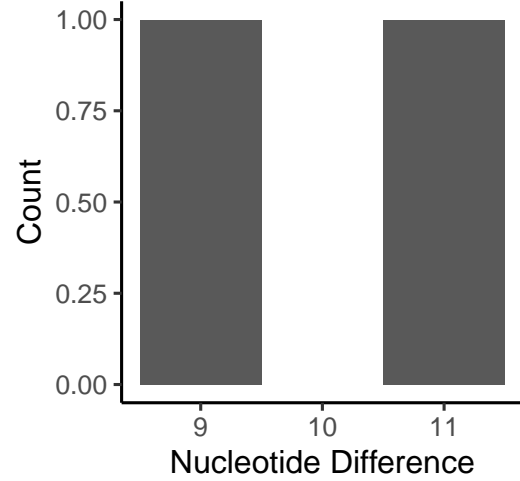
### IGHV3-33\*05

136 sequences assigned  
25 (18.4%) exact matches, in which:  
25 unique CDR3  
4 unique J



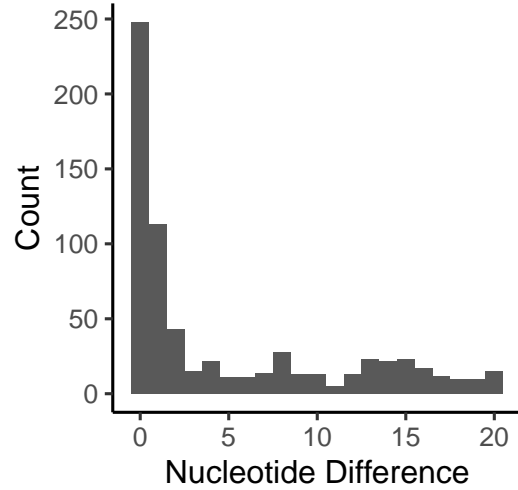
### IGHV3-35\*01

2 sequences assigned  
No exact matches.



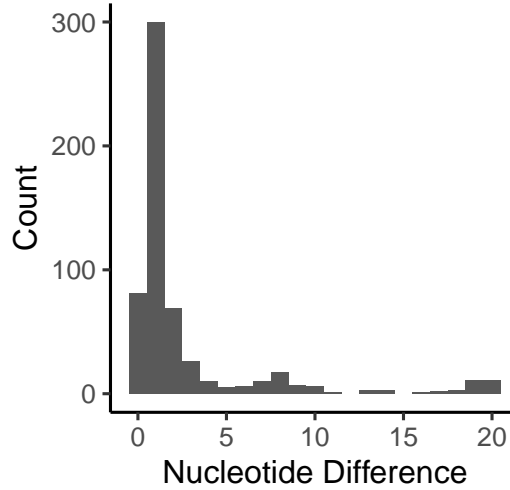
### IGHV3-30\*03

712 sequences assigned  
248 (34.8%) exact matches, in which:  
232 unique CDR3  
5 unique J



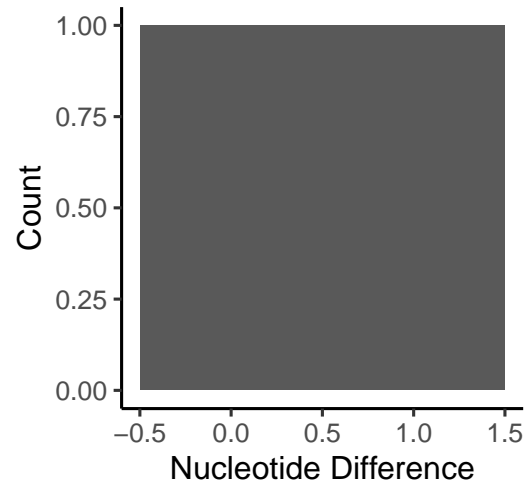
### IGHV3-33\*06

578 sequences assigned  
81 (14%) exact matches, in which:  
78 unique CDR3  
6 unique J



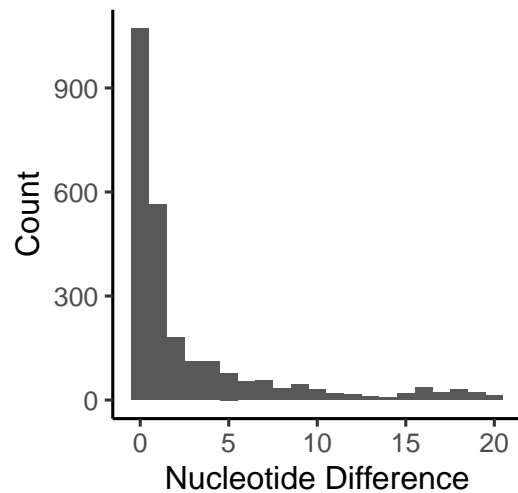
### IGHV3-35\*02

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



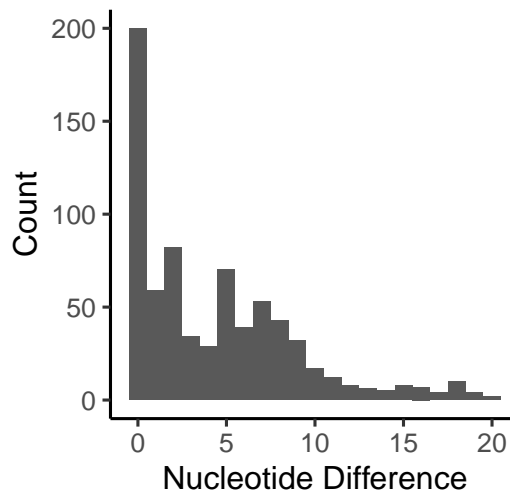
### IGHV3-33\*01

2631 sequences assigned  
1072 (40.7%) exact matches, in which:  
720 unique CDR3  
6 unique J



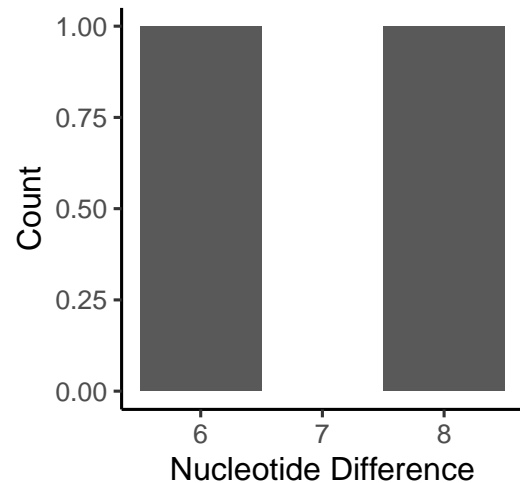
### IGHV3-33\*08

764 sequences assigned  
200 (26.2%) exact matches, in which:  
174 unique CDR3  
6 unique J



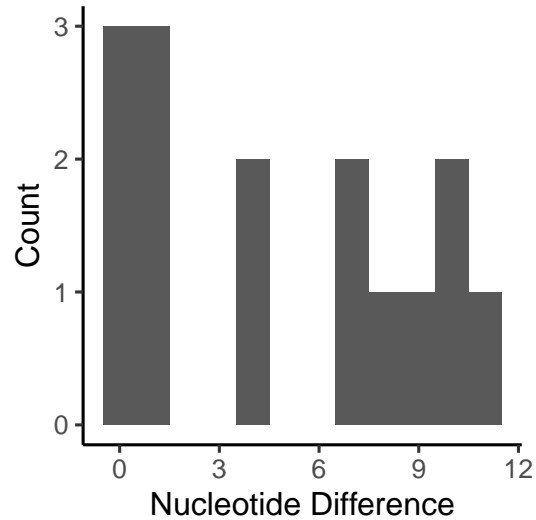
### IGHV3-38-3\*01

2 sequences assigned  
No exact matches.



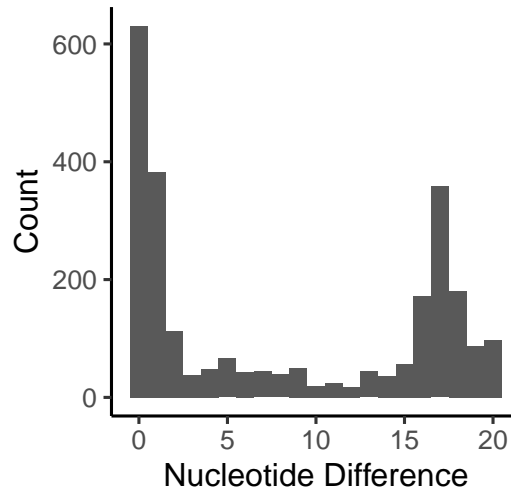
### IGHV3-38\*02

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



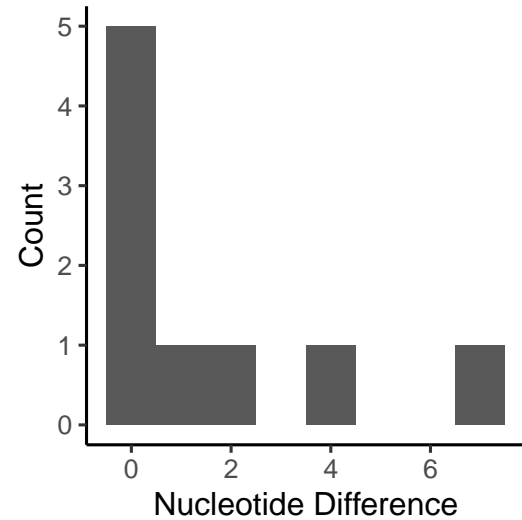
### IGHV3-48\*02

3194 sequences assigned  
631 (19.8%) exact matches, in which:  
418 unique CDR3  
6 unique J



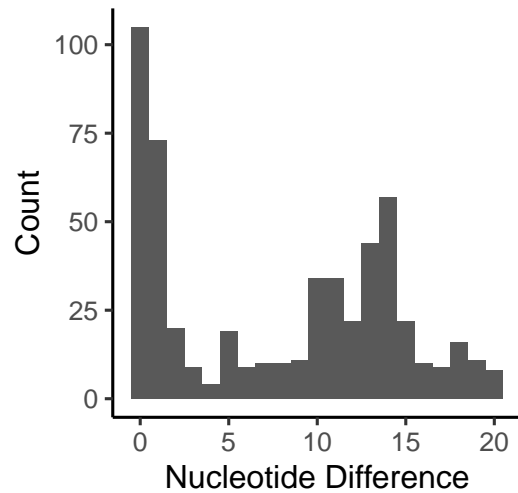
### IGHV3-52\*02

9 sequences assigned  
5 (55.6%) exact matches, in which:  
4 unique CDR3  
2 unique J



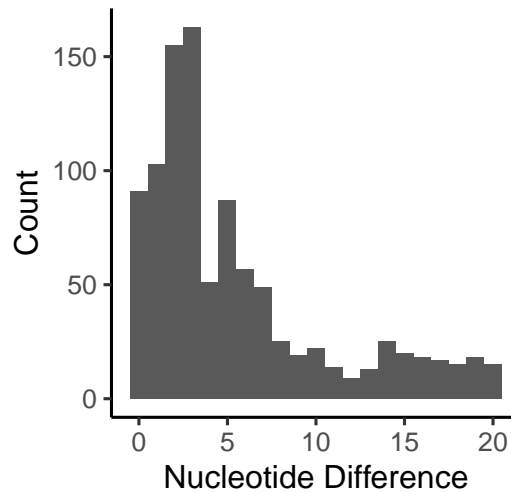
### IGHV3-43\*01

618 sequences assigned  
105 (17%) exact matches, in which:  
62 unique CDR3  
4 unique J



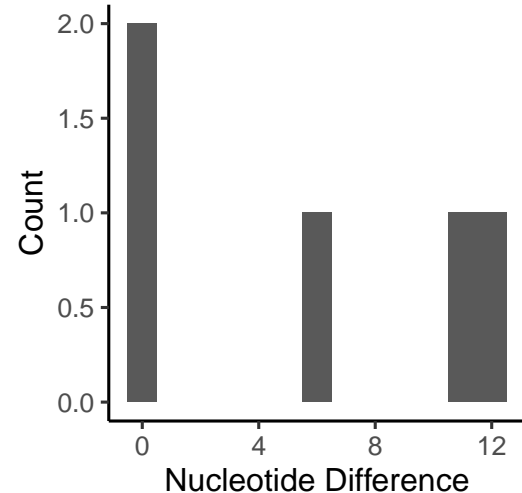
### IGHV3-48\*04

1237 sequences assigned  
91 (7.4%) exact matches, in which:  
85 unique CDR3  
5 unique J



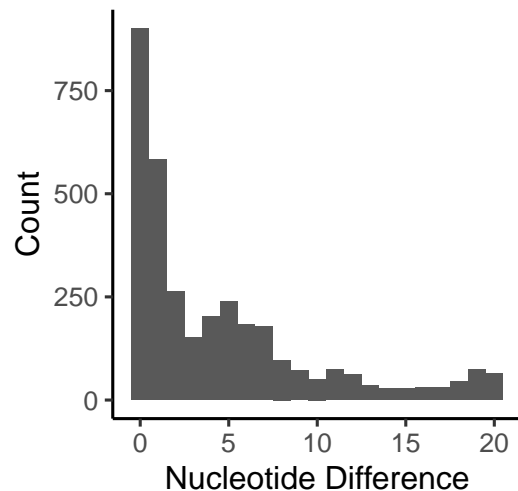
### IGHV3-52\*01\_03

5 sequences assigned  
2 (40%) exact matches, in which:  
2 unique CDR3  
2 unique J



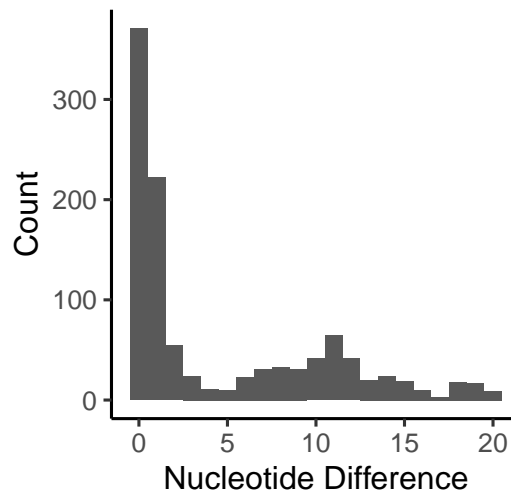
### IGHV3-48\*01

3588 sequences assigned  
901 (25.1%) exact matches, in which:  
621 unique CDR3  
6 unique J



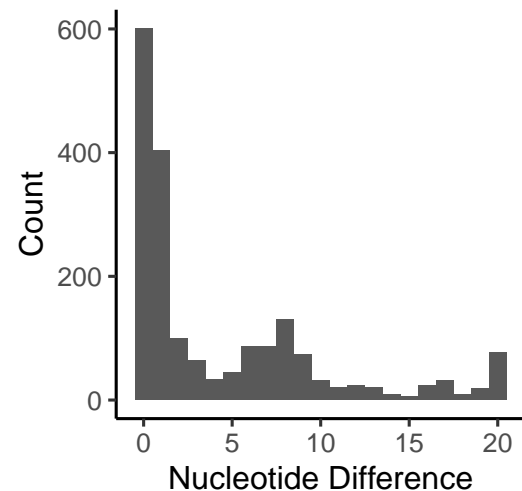
### IGHV3-49\*03\_05

2445 sequences assigned  
371 (15.2%) exact matches, in which:  
229 unique CDR3  
6 unique J



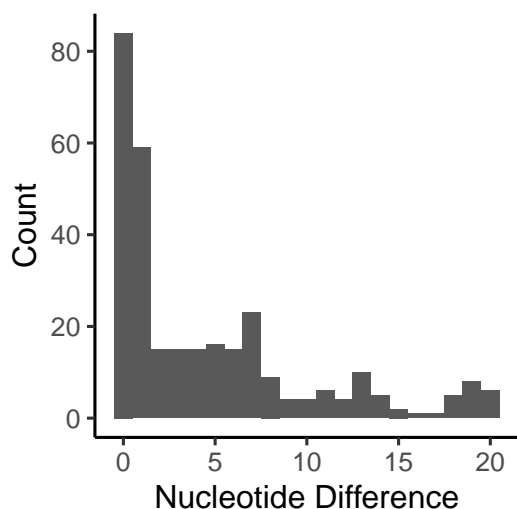
### IGHV3-53\*01\_02

2636 sequences assigned  
601 (22.8%) exact matches, in which:  
399 unique CDR3  
6 unique J



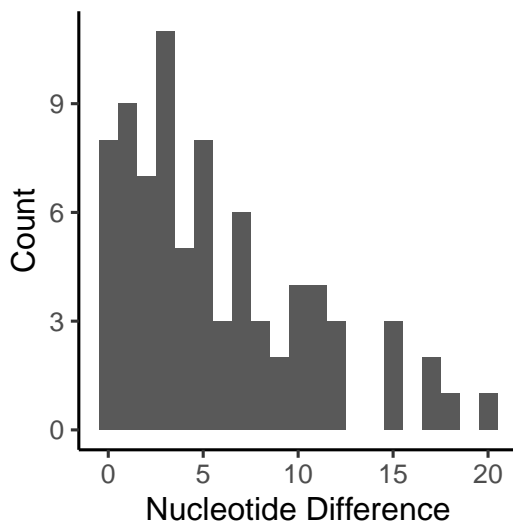
### IGHV3-64\*01

316 sequences assigned  
84 (26.6%) exact matches, in which:  
59 unique CDR3  
6 unique J



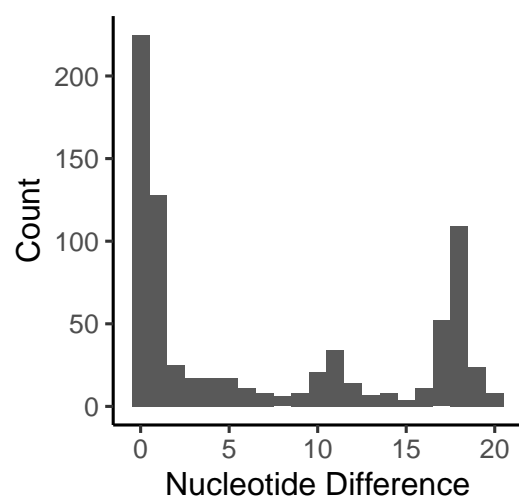
### IGHV3-69-1\*01

91 sequences assigned  
8 (8.8%) exact matches, in which:  
8 unique CDR3  
5 unique J



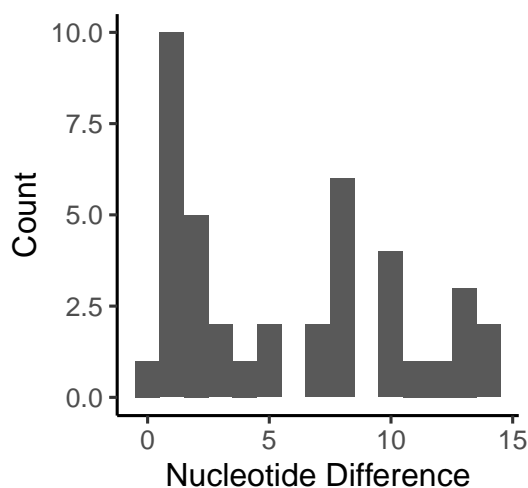
### IGHV3-73\*01\_02

781 sequences assigned  
225 (28.8%) exact matches, in which:  
139 unique CDR3  
6 unique J



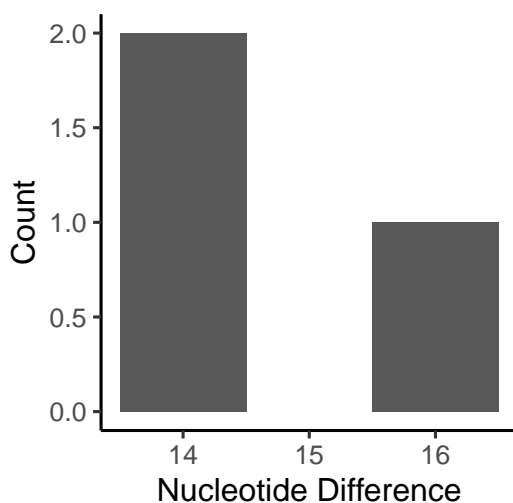
### IGHV3-66\*01

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



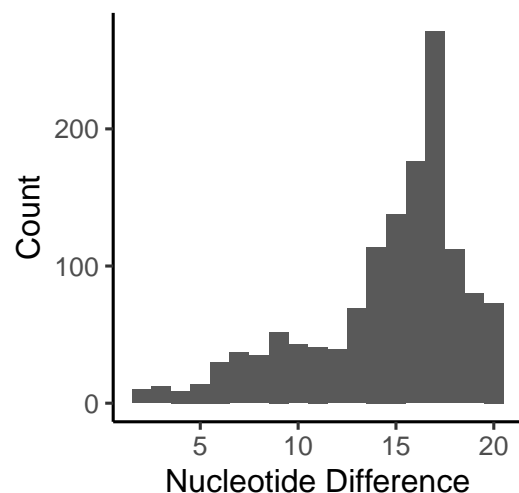
### IGHV3-71\*01\_04

4 sequences assigned  
No exact matches.



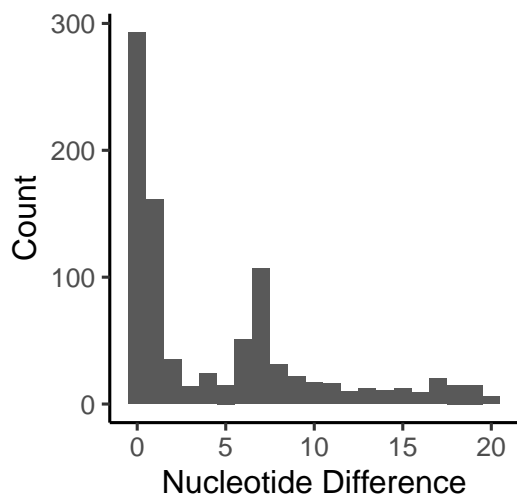
### IGHV3-74\*03

2290 sequences assigned  
No exact matches.



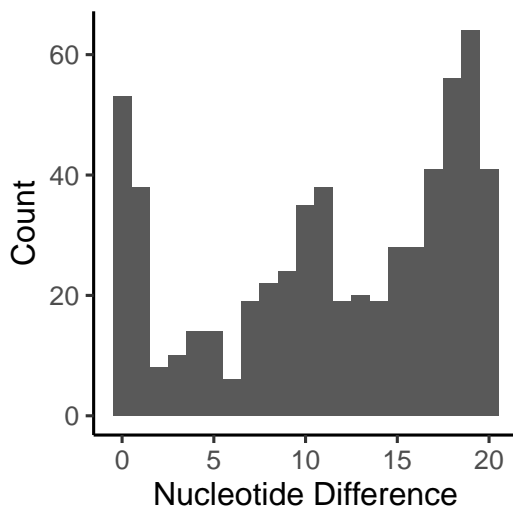
### IGHV3-66\*02

1021 sequences assigned  
293 (28.7%) exact matches, in which:  
202 unique CDR3  
6 unique J



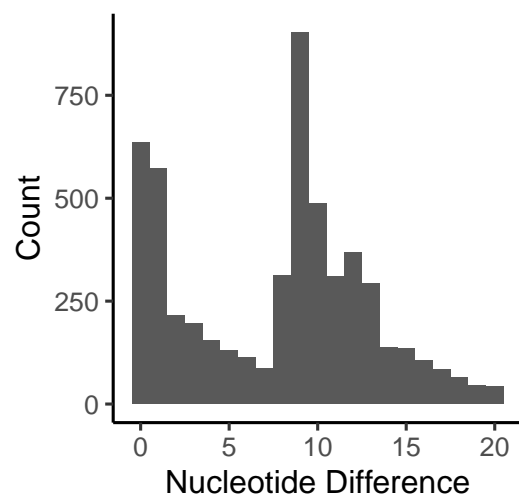
### IGHV3-72\*01

677 sequences assigned  
53 (7.8%) exact matches, in which:  
35 unique CDR3  
6 unique J



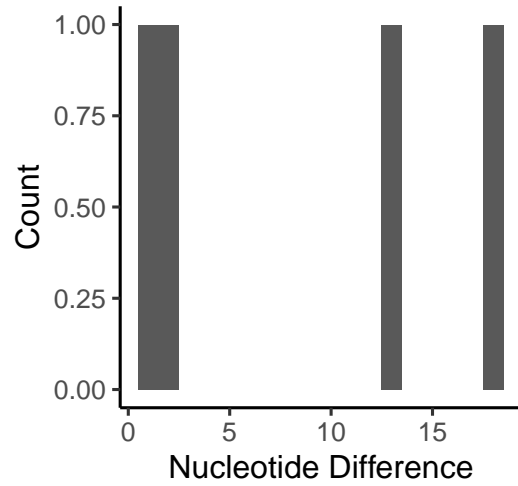
### IGHV3-74\*01\_02

6067 sequences assigned  
635 (10.5%) exact matches, in which:  
420 unique CDR3  
6 unique J



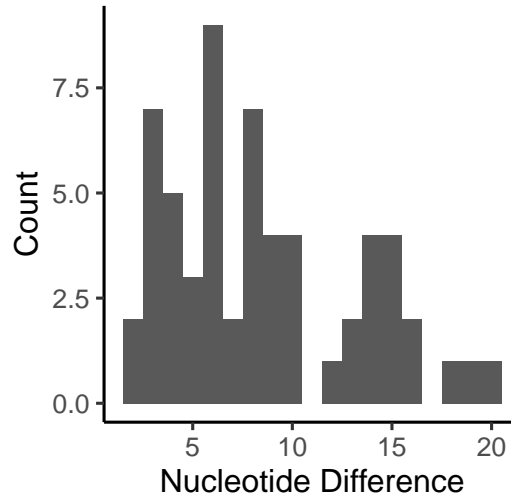
### IGHV3-43D\*04

6 sequences assigned  
No exact matches.



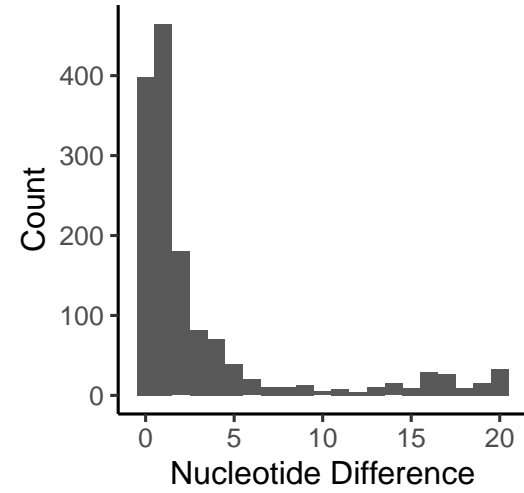
### IGHV3-NL1\*01

64 sequences assigned  
No exact matches.



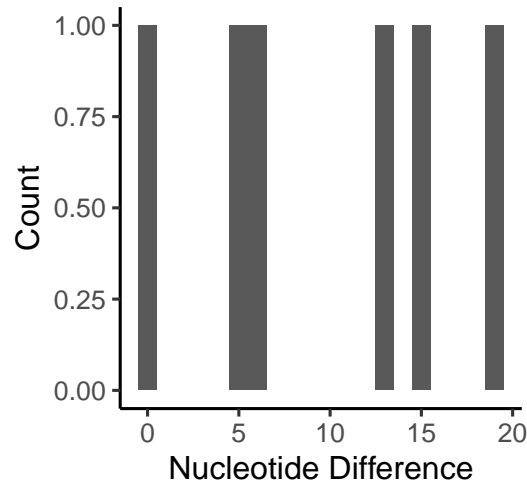
### IGHV4-30-2\*01

1515 sequences assigned  
398 (26.3%) exact matches, in which:  
243 unique CDR3  
6 unique J



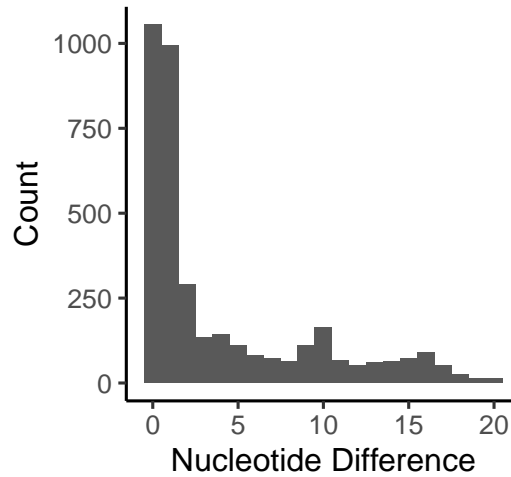
### IGHV3-64D\*06

15 sequences assigned  
1 (6.7%) exact matches, in which:  
1 unique CDR3  
1 unique J



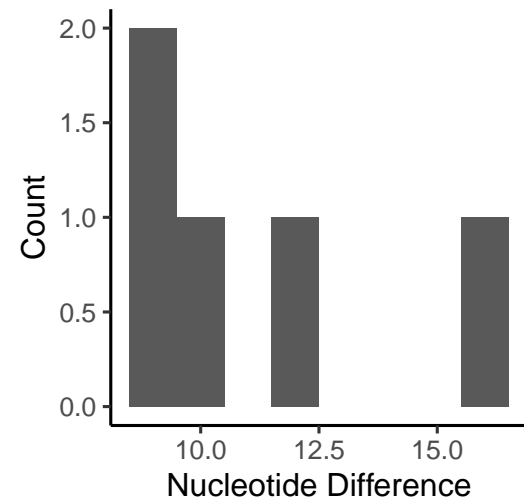
### IGHV4-4\*07

4197 sequences assigned  
1055 (25.1%) exact matches, in which:  
882 unique CDR3  
6 unique J



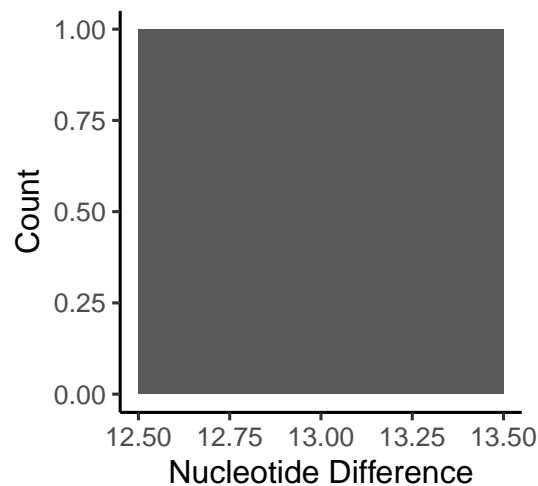
### IGHV4-30-4\*01

7 sequences assigned  
No exact matches.



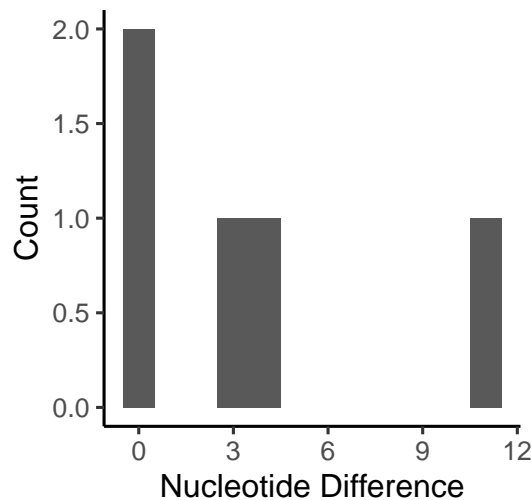
### IGHV3-64D\*09

1 sequences assigned  
No exact matches.



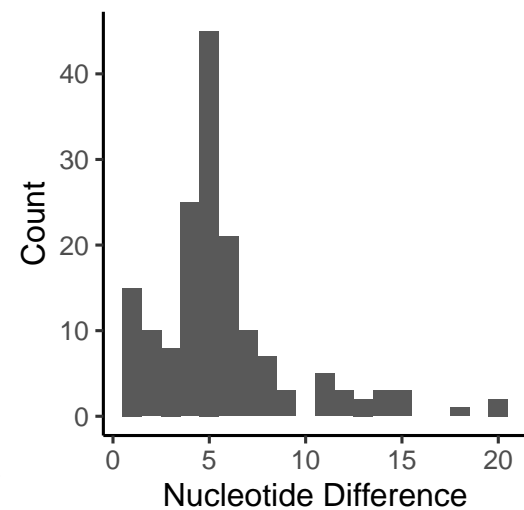
### IGHV4-28\*03

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



### IGHV4-30-2\*03

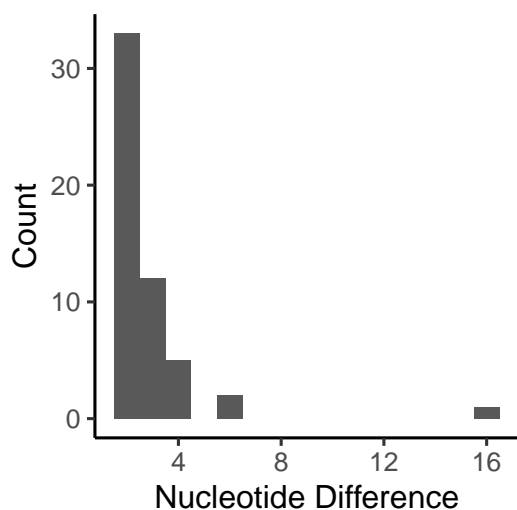
173 sequences assigned  
No exact matches.





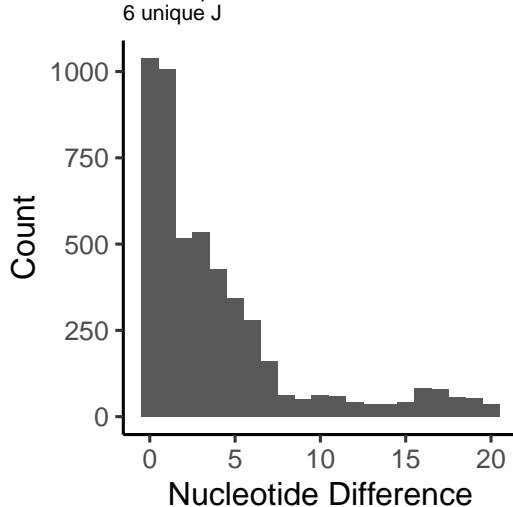
### IGHV4-30-2\*05

53 sequences assigned  
No exact matches.



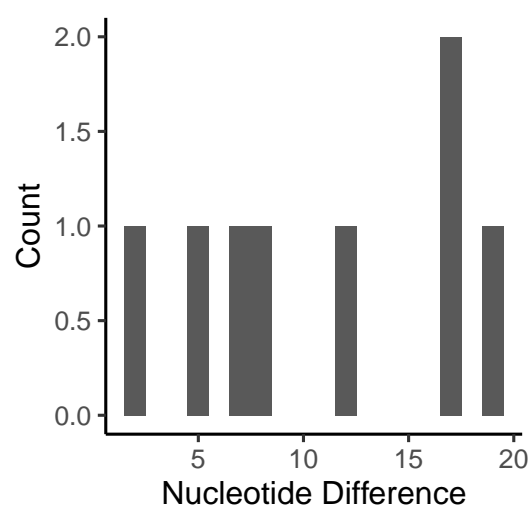
### IGHV4-31\*02

5525 sequences assigned  
1038 (18.8%) exact matches, in which:  
867 unique CDR3  
6 unique J



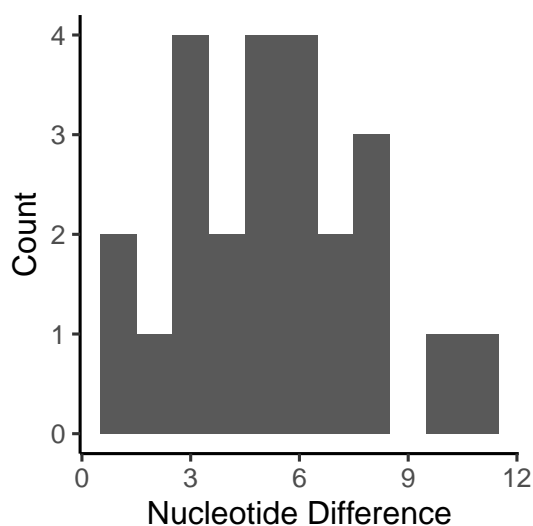
### IGHV4-38-2\*02

10 sequences assigned  
No exact matches.



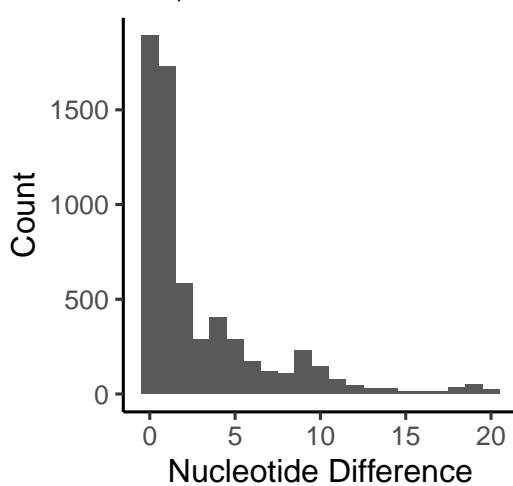
### IGHV4-30-4\*07

27 sequences assigned  
No exact matches.



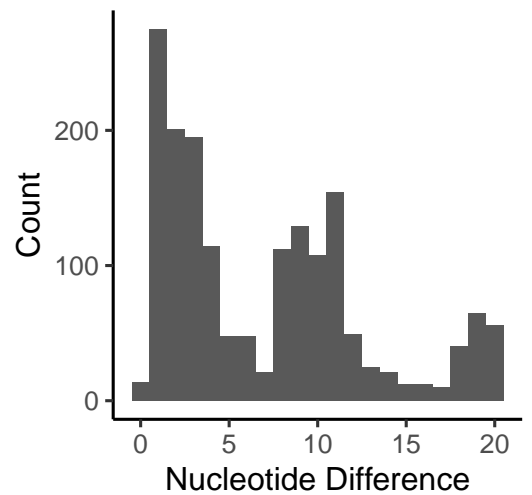
### IGHV4-34\*01\_02

6471 sequences assigned  
1891 (29.2%) exact matches, in which:  
1411 unique CDR3  
6 unique J



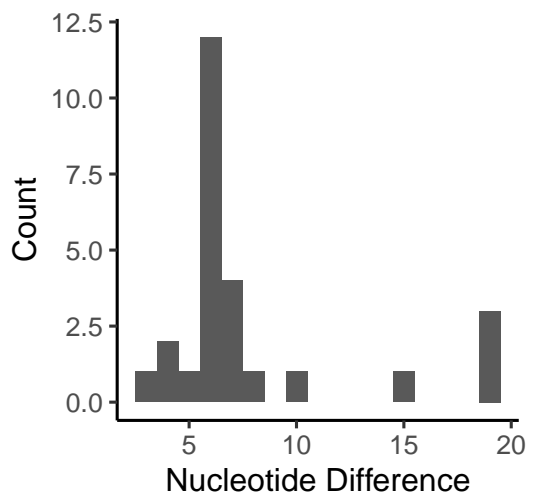
### IGHV4-39\*07

1859 sequences assigned  
14 (0.8%) exact matches, in which:  
14 unique CDR3  
5 unique J



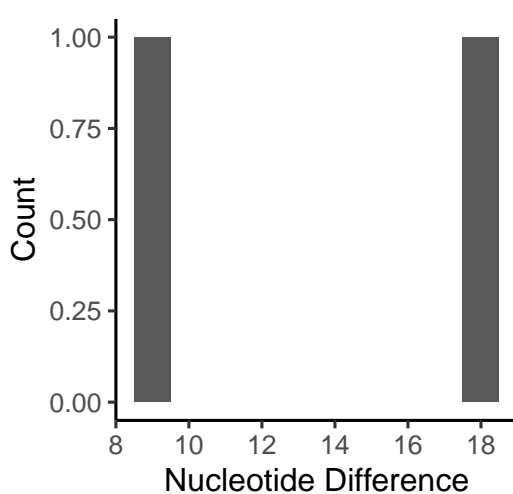
### IGHV4-30-4\*08

28 sequences assigned  
No exact matches.



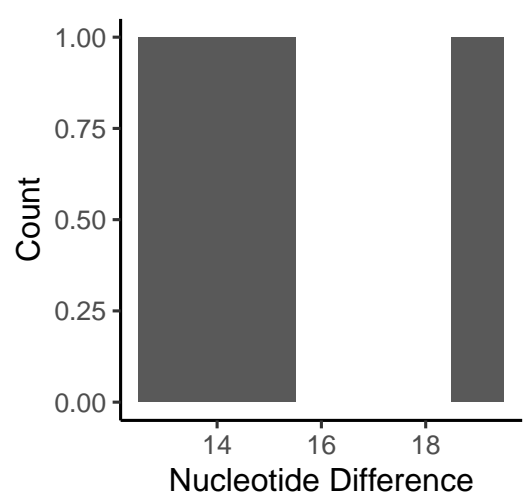
### IGHV4-38-2\*01

4 sequences assigned  
No exact matches.



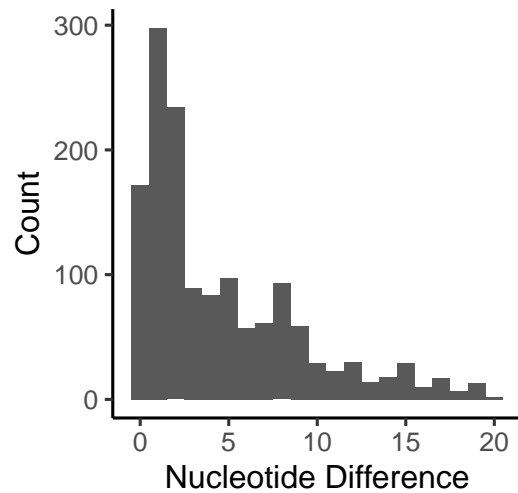
### IGHV4-55\*09

4 sequences assigned  
No exact matches.



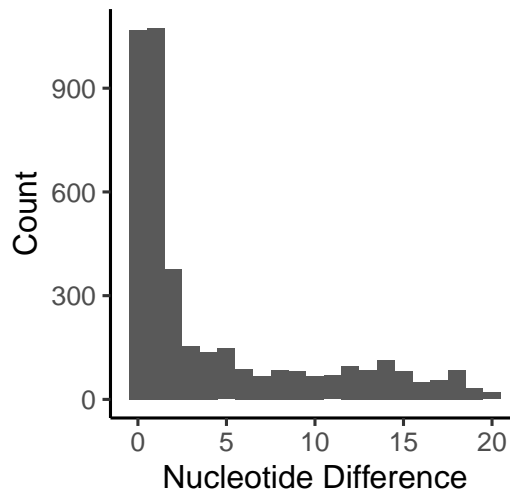
### IGHV4–59\*08

1484 sequences assigned  
172 (11.6%) exact matches, in which:  
161 unique CDR3  
5 unique J



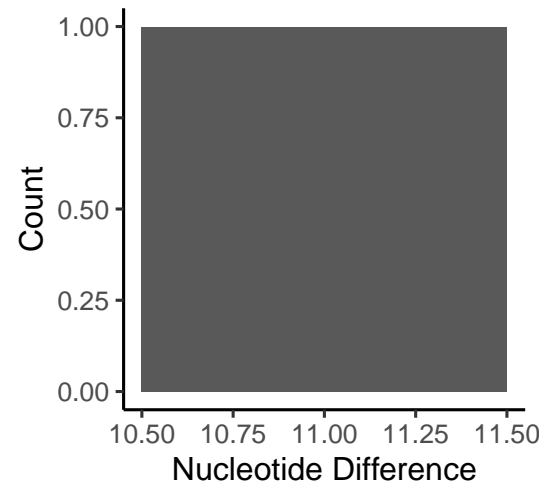
### IGHV4–61\*02

5888 sequences assigned  
1069 (18.2%) exact matches, in which:  
905 unique CDR3  
6 unique J



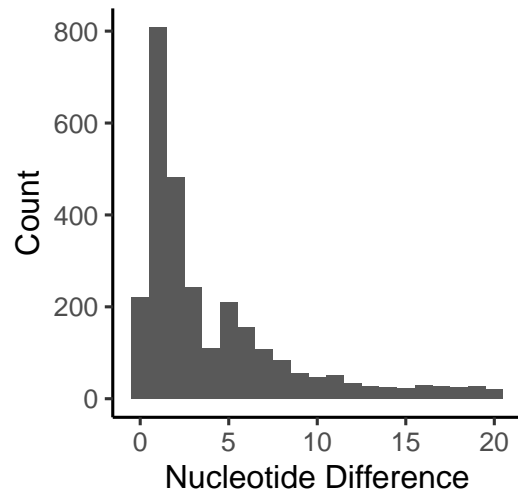
### IGHV1/OR15–9\*01

1 sequences assigned  
No exact matches.



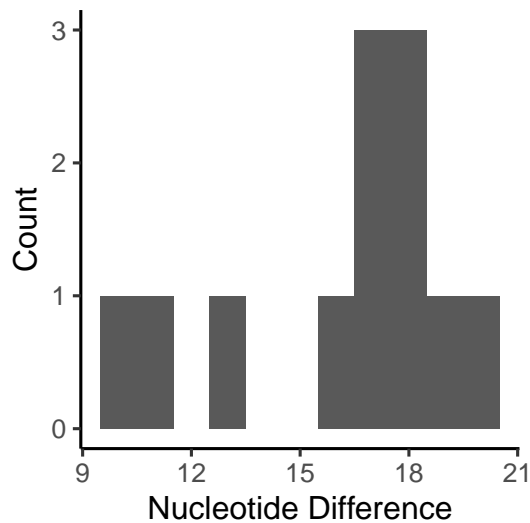
### IGHV4–59\*12

3595 sequences assigned  
222 (6.2%) exact matches, in which:  
211 unique CDR3  
5 unique J



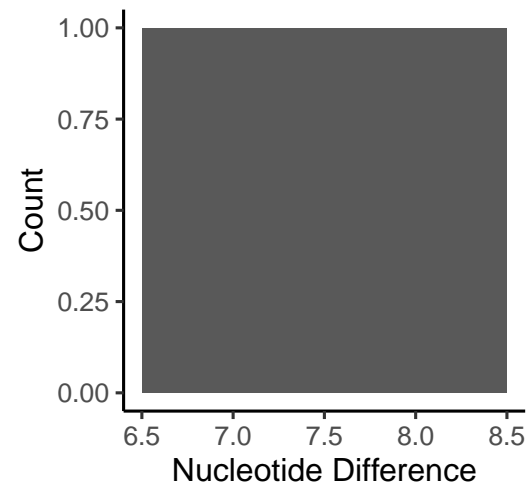
### IGHV1/OR15–2\*02\_03

13 sequences assigned  
No exact matches.



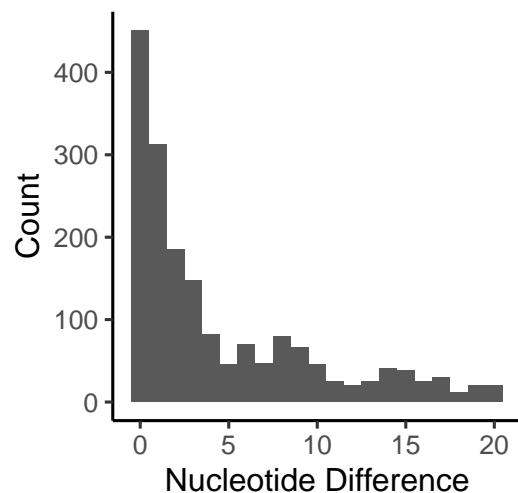
### IGHV5–10–1\*01\_03

2 sequences assigned  
No exact matches.



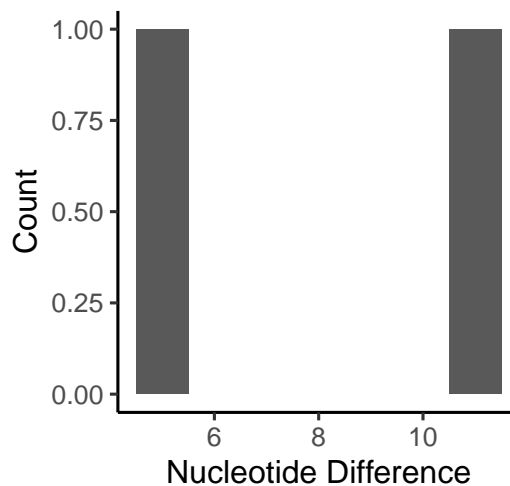
### IGHV4–61\*01

1846 sequences assigned  
451 (24.4%) exact matches, in which:  
414 unique CDR3  
6 unique J



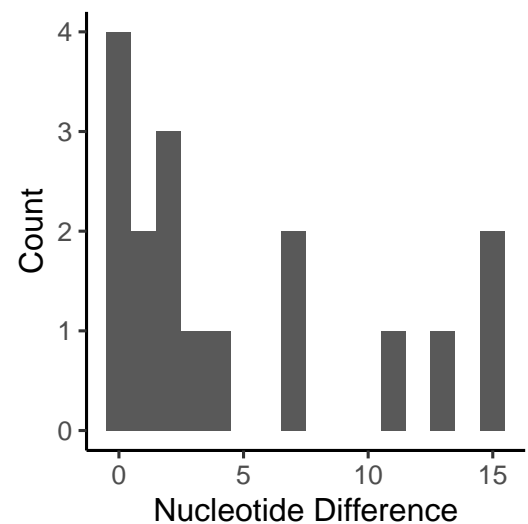
### IGHV4/OR15–8\*01

4 sequences assigned  
No exact matches.



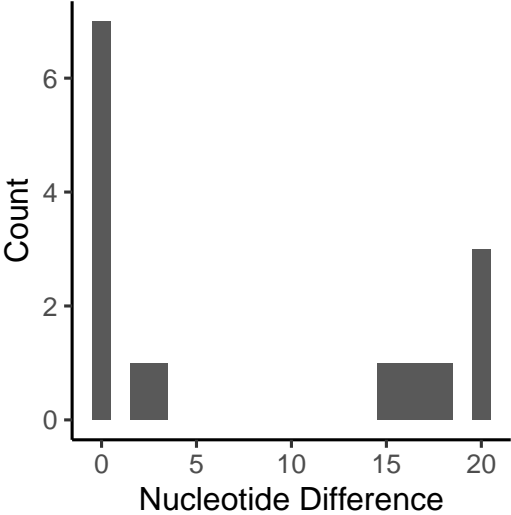
### IGHV5–51\*04

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



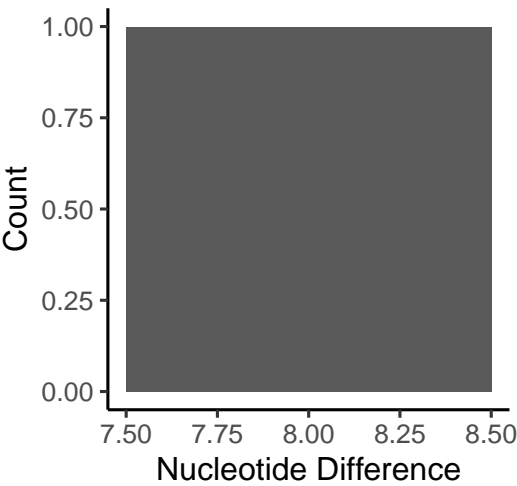
IGHV5-51\*06

96 sequences assigned  
7 (7.3%) exact matches, in which:  
7 unique CDR3  
3 unique J



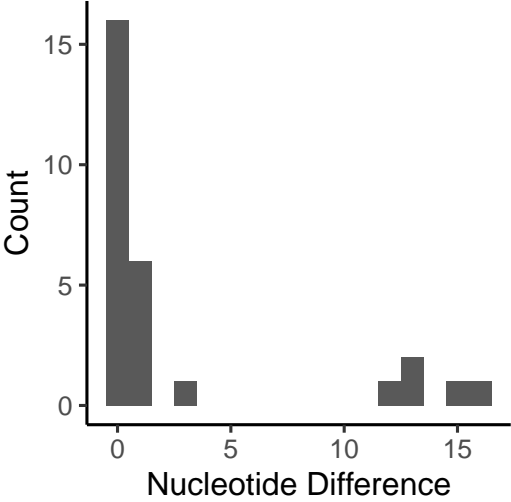
IGHV3/OR16-6\*02

2 sequences assigned  
No exact matches.



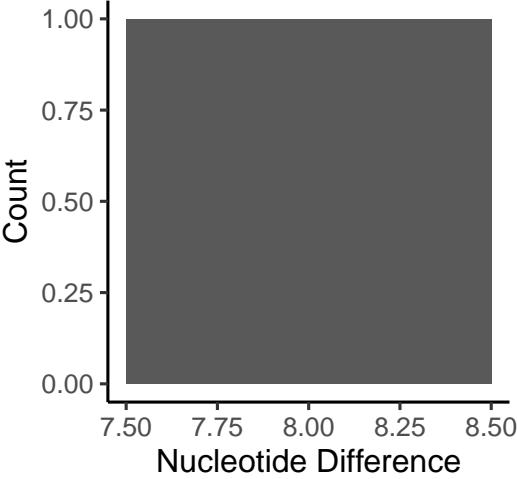
IGHV5-51\*07

28 sequences assigned  
16 (57.1%) exact matches, in which:  
14 unique CDR3  
5 unique J



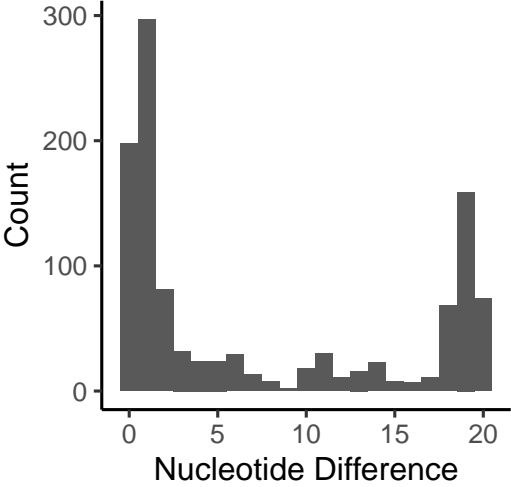
IGHV3/OR16-10\*01\_03

1 sequences assigned  
No exact matches.



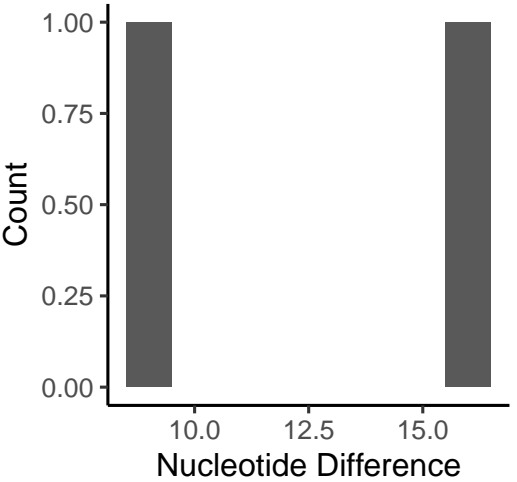
IGHV6-1\*01\_02

1233 sequences assigned  
198 (16.1%) exact matches, in which:  
160 unique CDR3  
6 unique J



IGHV7-4-1\*02

2 sequences assigned  
No exact matches.





[illegible]