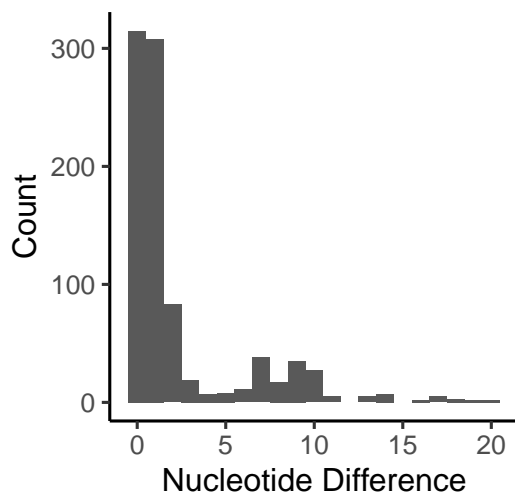


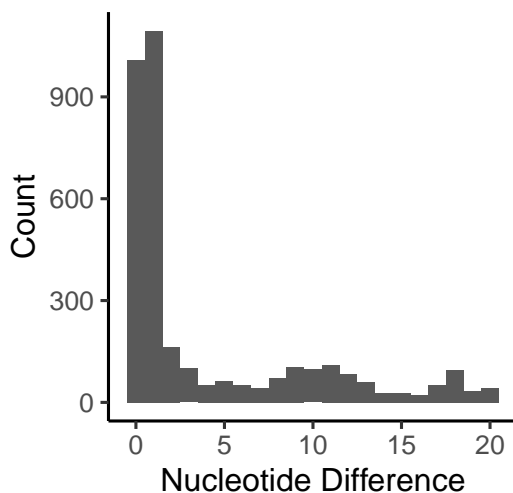
### IGHV1-2\*04

1002 sequences assigned  
315 (31.4%) exact matches, in which:  
269 unique CDR3  
6 unique J



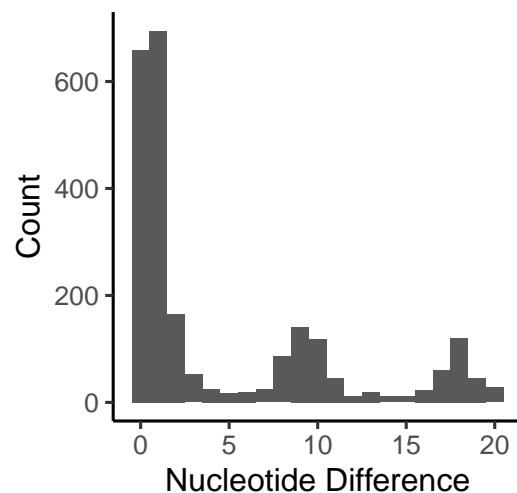
### IGHV1-3\*01\_05

3976 sequences assigned  
1009 (25.4%) exact matches, in which:  
823 unique CDR3  
6 unique J



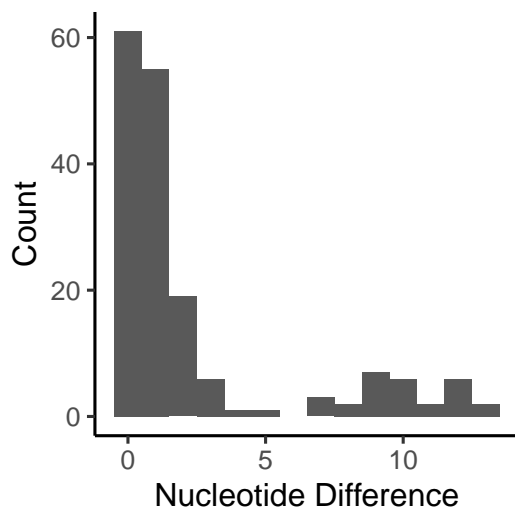
### IGHV1-24\*01

2681 sequences assigned  
659 (24.6%) exact matches, in which:  
545 unique CDR3  
6 unique J



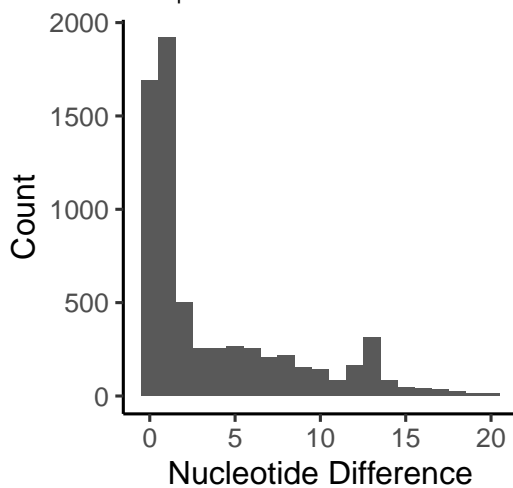
### IGHV1-2\*05

171 sequences assigned  
61 (35.7%) exact matches, in which:  
50 unique CDR3  
5 unique J



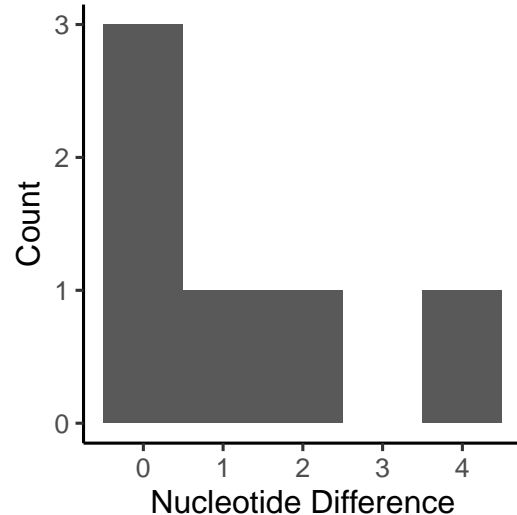
### IGHV1-8\*01

7869 sequences assigned  
1688 (21.5%) exact matches, in which:  
1420 unique CDR3  
6 unique J



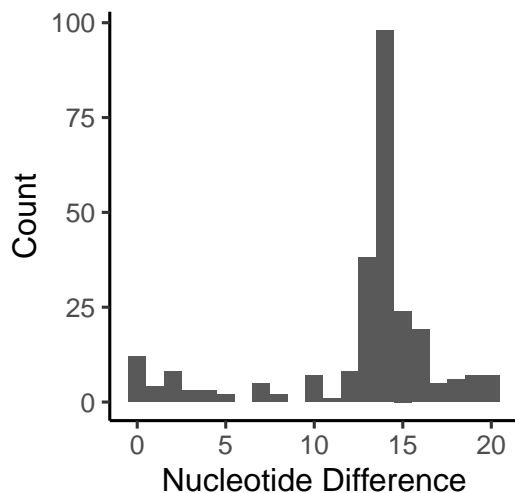
### IGHV1-45\*02

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



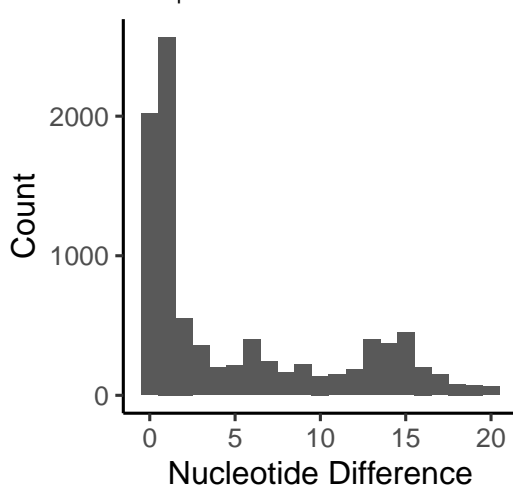
### IGHV1-2\*06

278 sequences assigned  
12 (4.3%) exact matches, in which:  
12 unique CDR3  
4 unique J



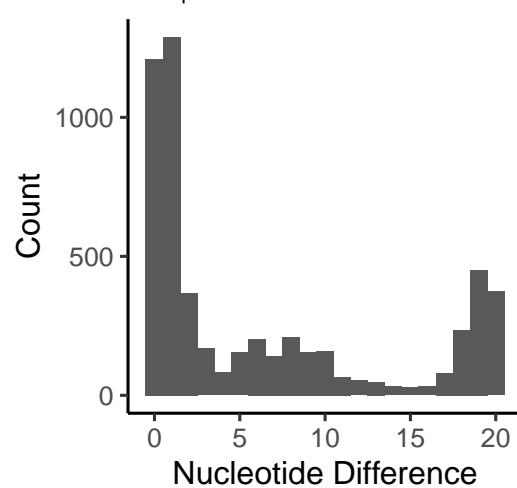
### IGHV1-18\*01

10381 sequences assigned  
2020 (19.5%) exact matches, in which:  
1630 unique CDR3  
6 unique J



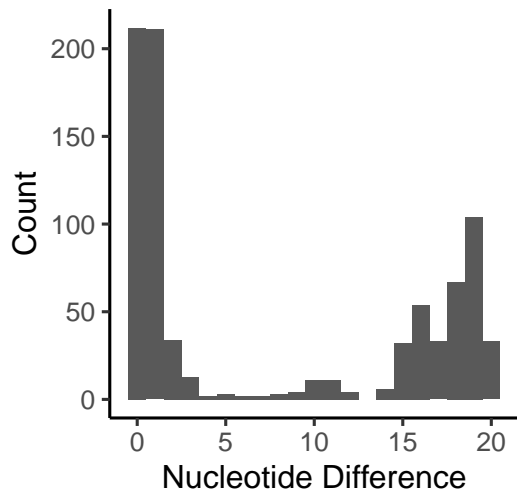
### IGHV1-46\*01

6366 sequences assigned  
1209 (19%) exact matches, in which:  
1021 unique CDR3  
6 unique J



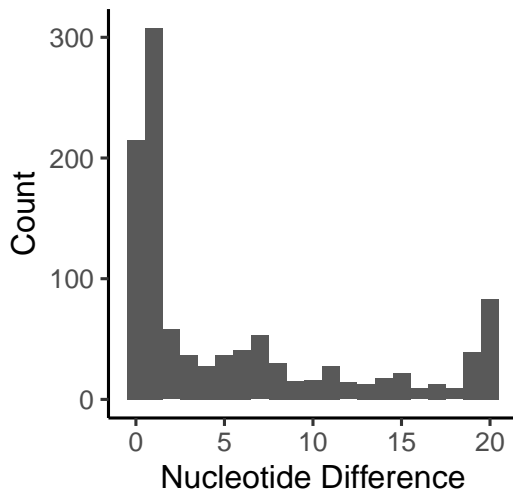
### IGHV1–58\*01\_03

1077 sequences assigned  
212 (19.7%) exact matches, in which:  
175 unique CDR3  
6 unique J



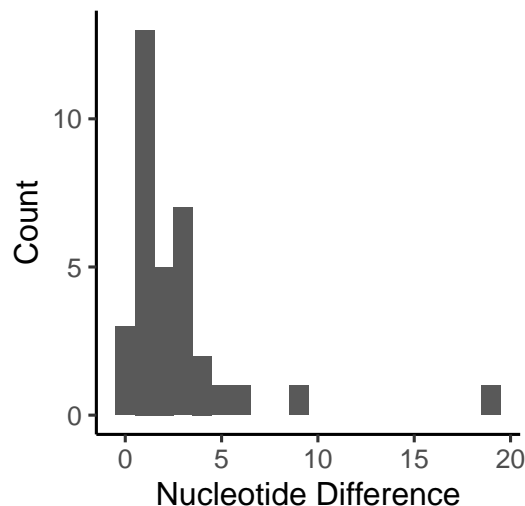
### IGHV2–5\*02

1251 sequences assigned  
215 (17.2%) exact matches, in which:  
175 unique CDR3  
6 unique J



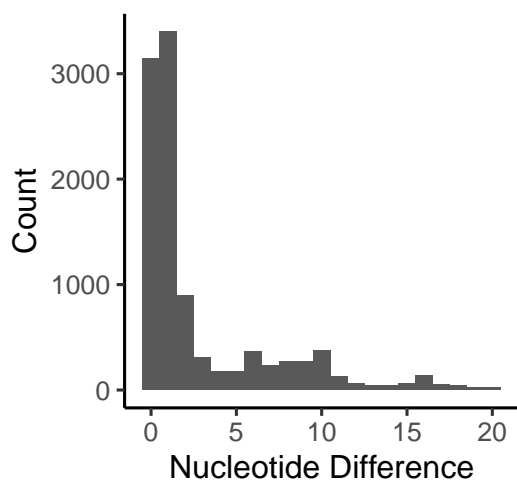
### IGHV2–70\*12

34 sequences assigned  
3 (8.8%) exact matches, in which:  
3 unique CDR3  
3 unique J



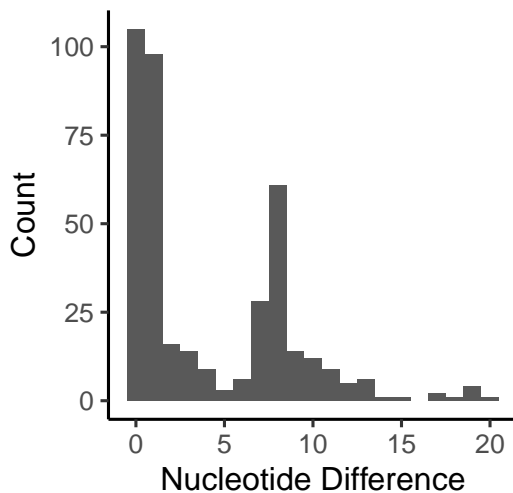
### IGHV1–69\*01\_12\_13

10789 sequences assigned  
3141 (29.1%) exact matches, in which:  
2635 unique CDR3  
6 unique J



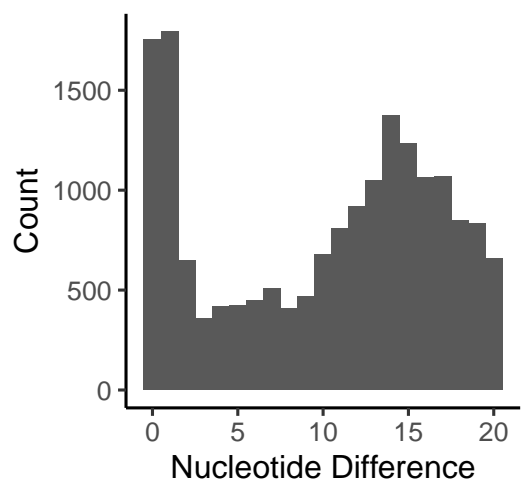
### IGHV2–26\*01

404 sequences assigned  
105 (26%) exact matches, in which:  
92 unique CDR3  
5 unique J



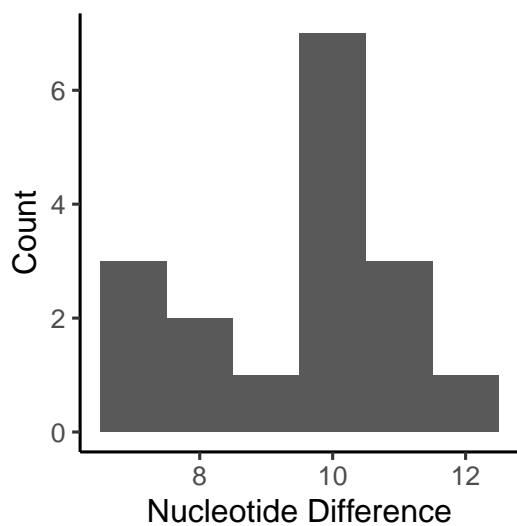
### IGHV3–7\*01

21918 sequences assigned  
1754 (8%) exact matches, in which:  
1150 unique CDR3  
6 unique J



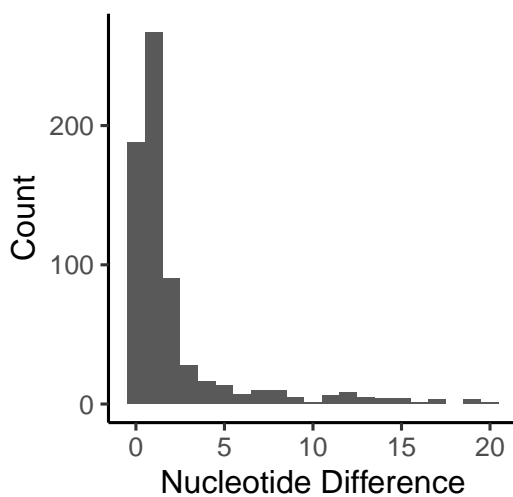
### IGHV1–NL1\*01

17 sequences assigned  
No exact matches.



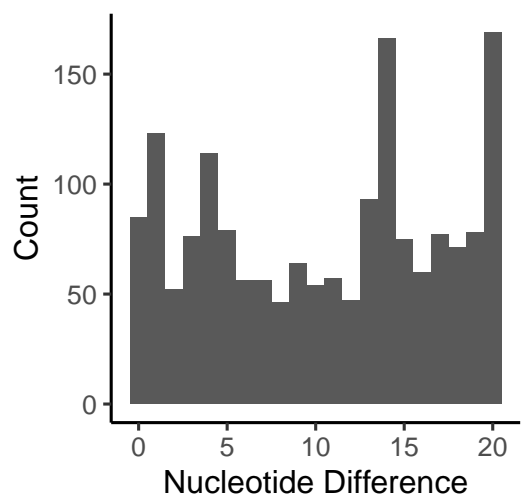
### IGHV2–70\*01

682 sequences assigned  
188 (27.6%) exact matches, in which:  
151 unique CDR3  
4 unique J



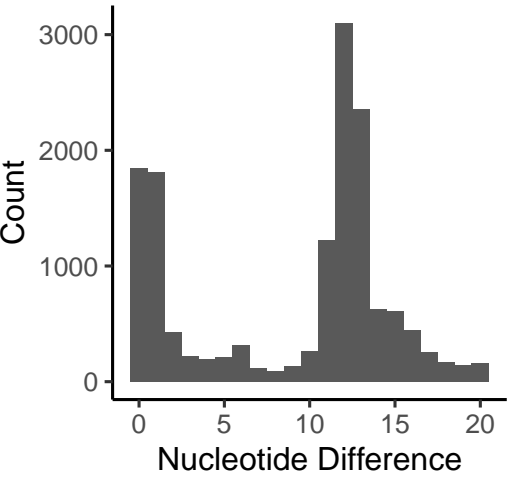
### IGHV3–7\*03

2474 sequences assigned  
85 (3.4%) exact matches, in which:  
76 unique CDR3  
6 unique J



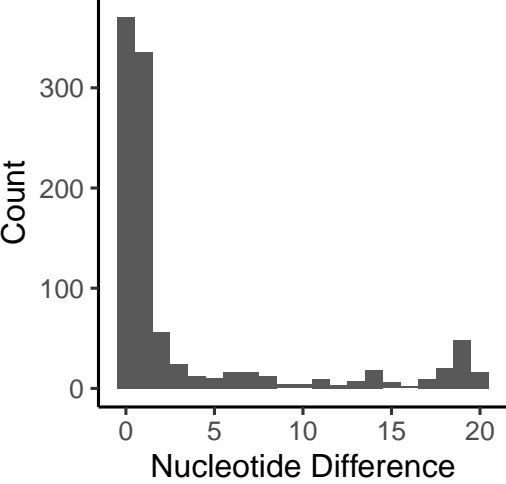
IGHV3-9\*01

15598 sequences assigned  
1844 (11.8%) exact matches, in which:  
1022 unique CDR3  
6 unique J



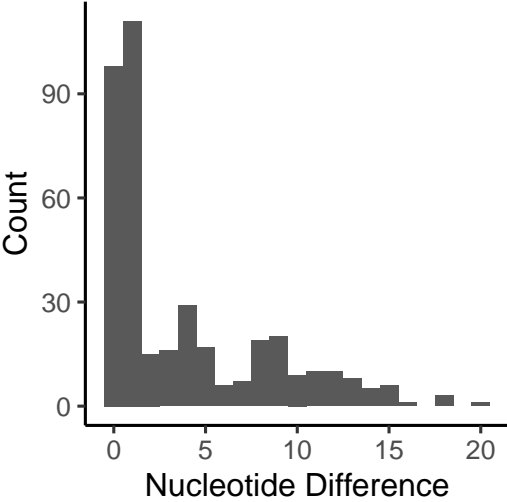
IGHV3-13\*01

1099 sequences assigned  
371 (33.8%) exact matches, in which:  
233 unique CDR3  
5 unique J



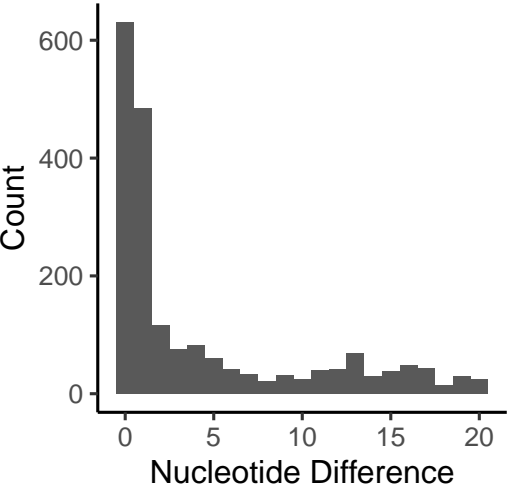
IGHV3-20\*01\_02

447 sequences assigned  
98 (21.9%) exact matches, in which:  
59 unique CDR3  
5 unique J



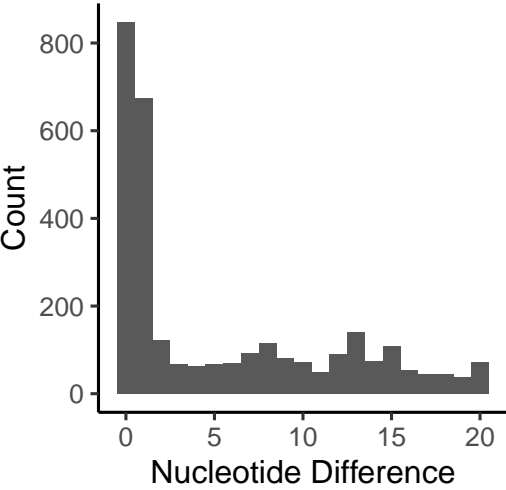
IGHV3-11\*01

2399 sequences assigned  
631 (26.3%) exact matches, in which:  
419 unique CDR3  
6 unique J



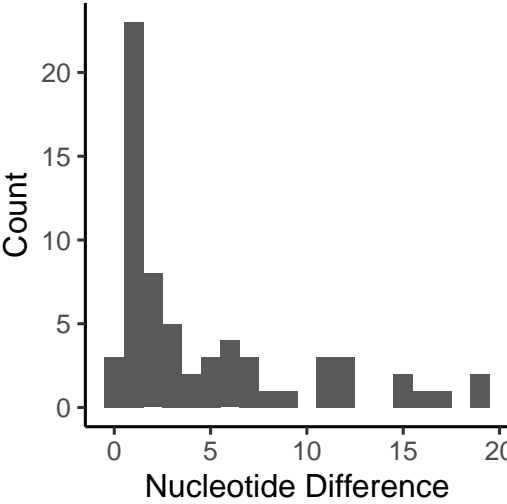
IGHV3-15\*01\_02

4385 sequences assigned  
848 (19.3%) exact matches, in which:  
490 unique CDR3  
6 unique J



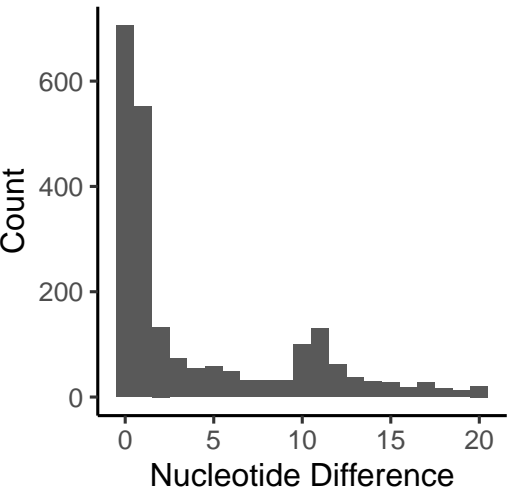
IGHV3-20\*03\_04

171 sequences assigned  
3 (1.8%) exact matches, in which:  
3 unique CDR3  
2 unique J



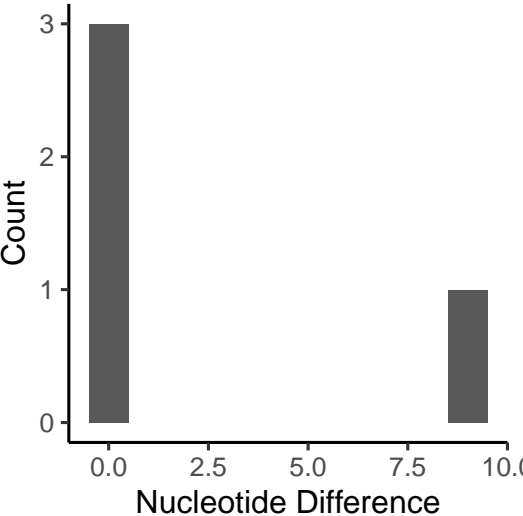
IGHV3-11\*04

2639 sequences assigned  
706 (26.8%) exact matches, in which:  
516 unique CDR3  
6 unique J



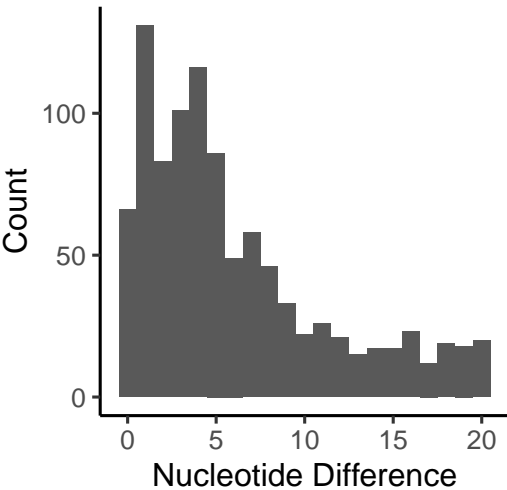
IGHV3-19\*01

4 sequences assigned  
3 (75%) exact matches, in which:  
3 unique CDR3  
2 unique J



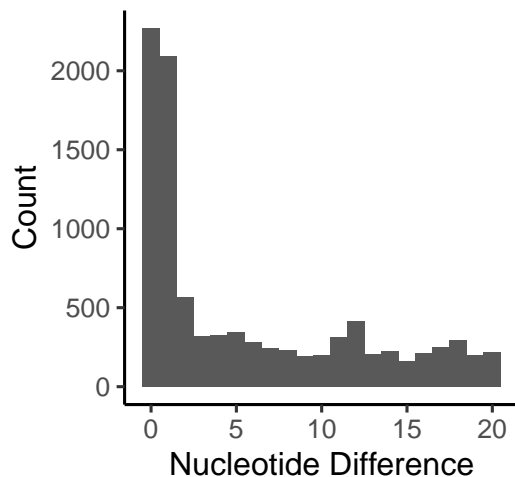
IGHV3-21\*04

1098 sequences assigned  
66 (6%) exact matches, in which:  
63 unique CDR3  
6 unique J



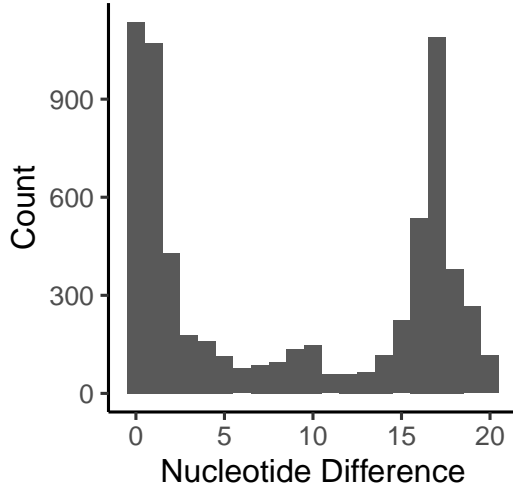
### IGHV3-21\*01\_02

12856 sequences assigned  
2268 (17.6%) exact matches, in which:  
1412 unique CDR3  
6 unique J



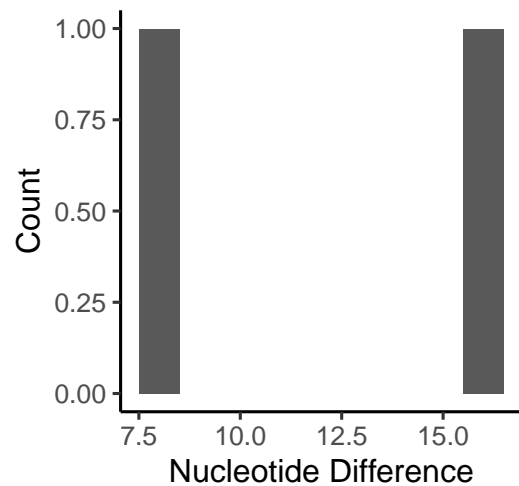
### IGHV3-33\*01

7932 sequences assigned  
1137 (14.3%) exact matches, in which:  
753 unique CDR3  
6 unique J



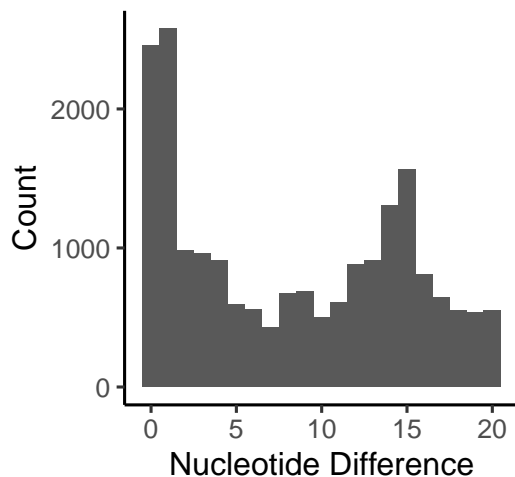
### IGHV3-35\*01

2 sequences assigned  
No exact matches.



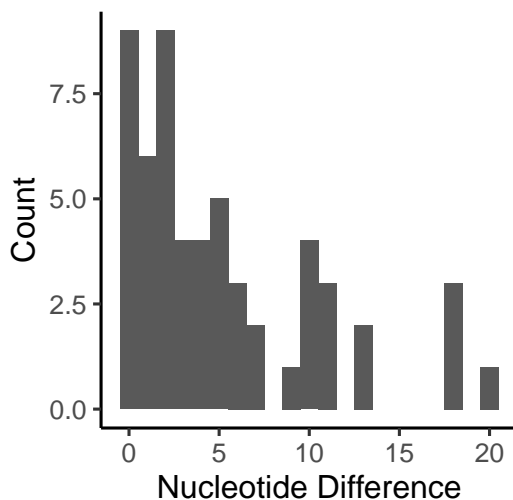
### IGHV3-23\*01\_04

26692 sequences assigned  
2459 (9.2%) exact matches, in which:  
1404 unique CDR3  
6 unique J



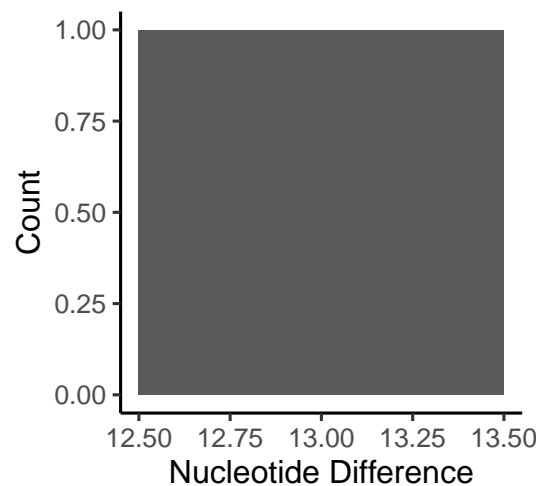
### IGHV3-33\*05

84 sequences assigned  
9 (10.7%) exact matches, in which:  
9 unique CDR3  
3 unique J



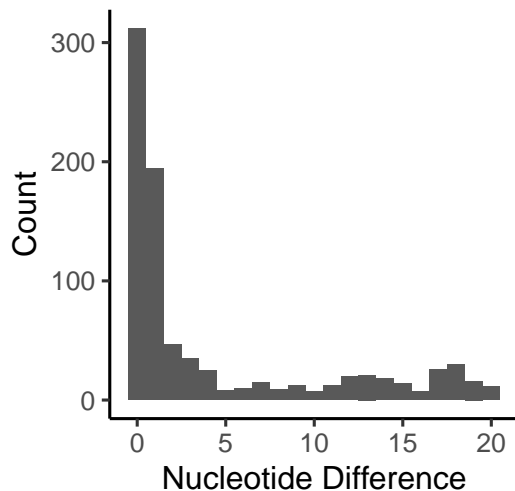
### IGHV3-38\*01

1 sequences assigned  
No exact matches.



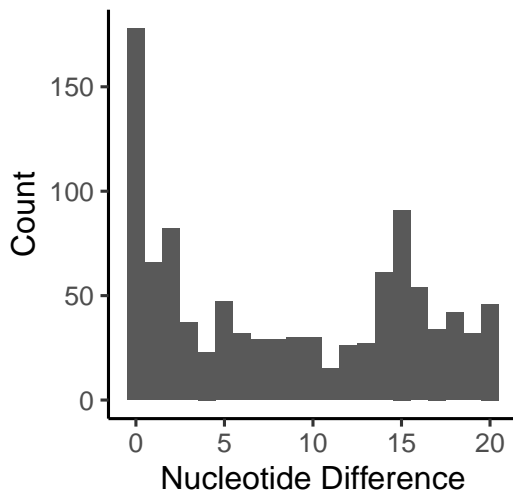
### IGHV3-30\*03

1079 sequences assigned  
312 (28.9%) exact matches, in which:  
288 unique CDR3  
6 unique J



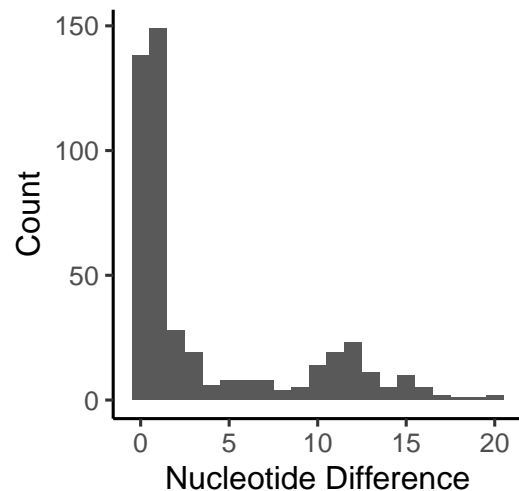
### IGHV3-33\*08

1315 sequences assigned  
178 (13.5%) exact matches, in which:  
144 unique CDR3  
6 unique J



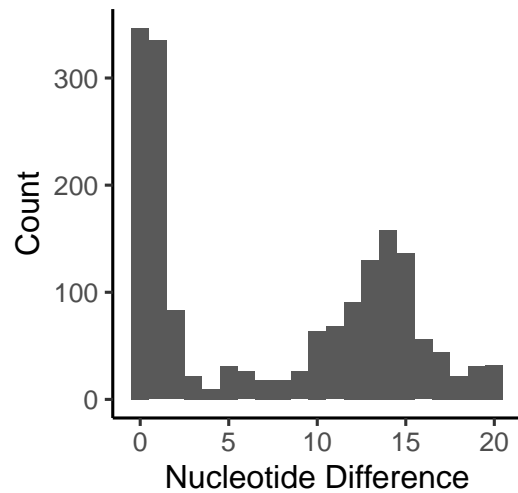
### IGHV3-43\*01

577 sequences assigned  
138 (23.9%) exact matches, in which:  
89 unique CDR3  
6 unique J



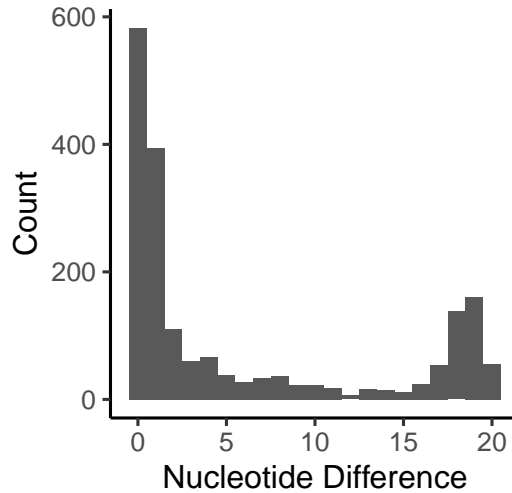
### IGHV3-43\*02

2062 sequences assigned  
347 (16.8%) exact matches, in which:  
112 unique CDR3  
6 unique J



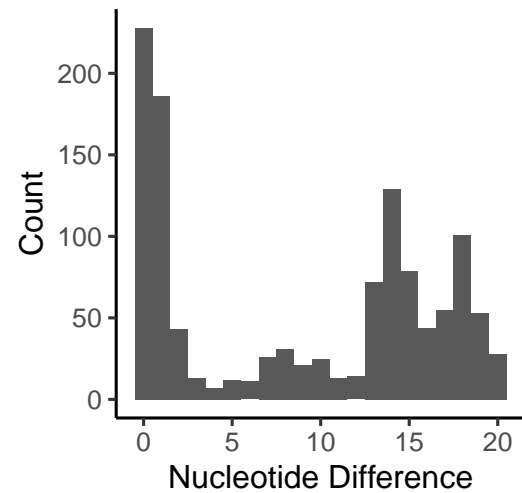
### IGHV3-48\*02

2185 sequences assigned  
583 (26.7%) exact matches, in which:  
363 unique CDR3  
6 unique J



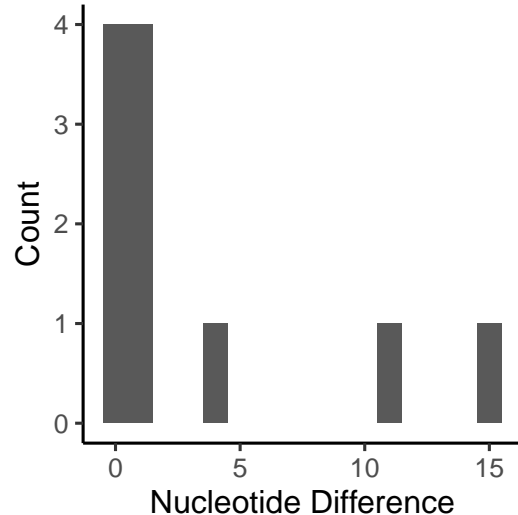
### IGHV3-49\*04

1449 sequences assigned  
228 (15.7%) exact matches, in which:  
133 unique CDR3  
6 unique J



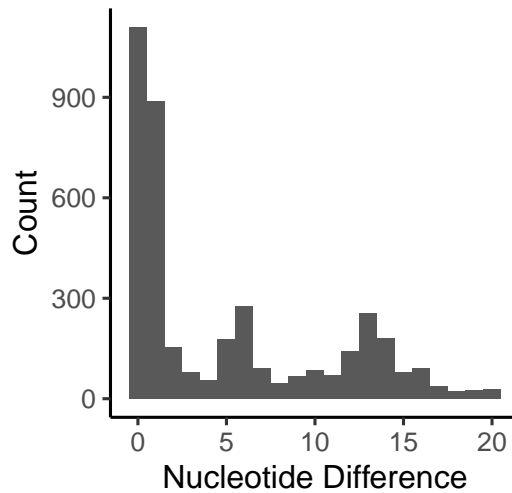
### IGHV3-47\*01

11 sequences assigned  
4 (36.4%) exact matches, in which:  
2 unique CDR3  
2 unique J



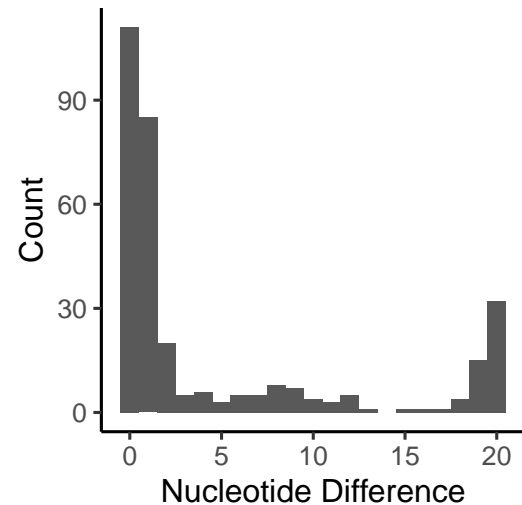
### IGHV3-48\*03

4483 sequences assigned  
1110 (24.8%) exact matches, in which:  
654 unique CDR3  
6 unique J



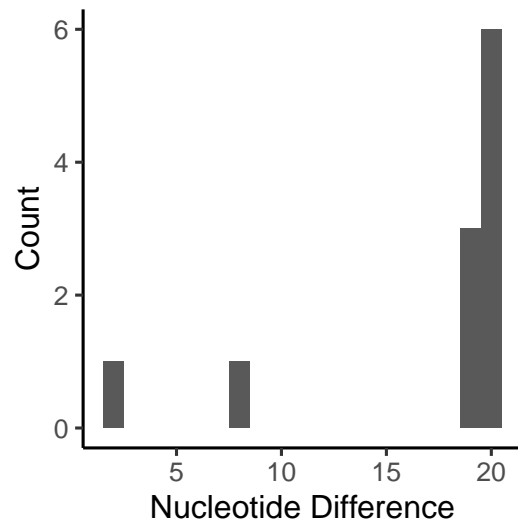
### IGHV3-49\*03\_05

352 sequences assigned  
111 (31.5%) exact matches, in which:  
66 unique CDR3  
5 unique J



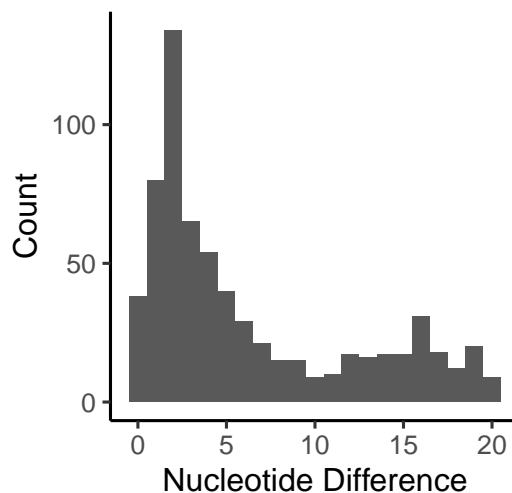
### IGHV3-47\*02

11 sequences assigned  
No exact matches.



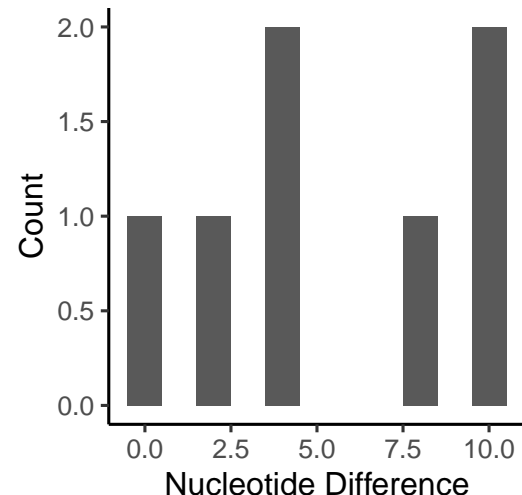
### IGHV3-48\*04

742 sequences assigned  
38 (5.1%) exact matches, in which:  
38 unique CDR3  
4 unique J



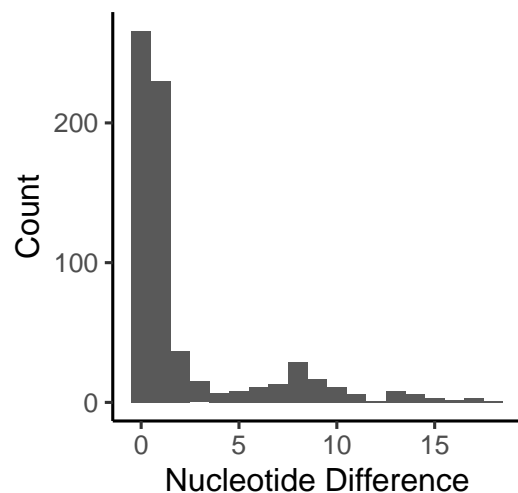
### IGHV3-52\*01\_03

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



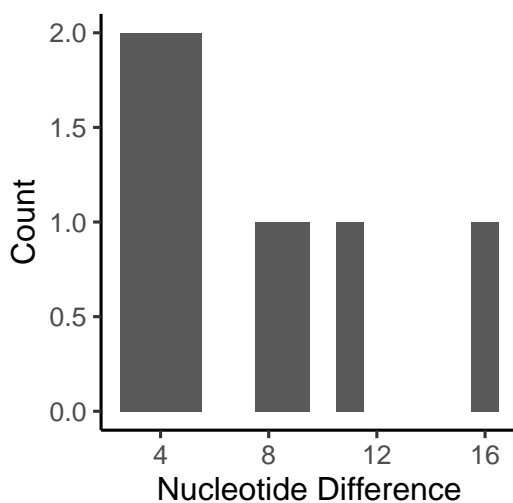
### IGHV3-53\*04

831 sequences assigned  
266 (32%) exact matches, in which:  
171 unique CDR3  
5 unique J



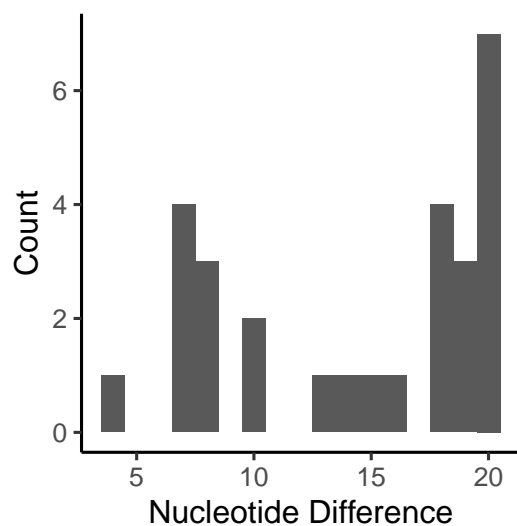
### IGHV3-64\*04

13 sequences assigned  
No exact matches.



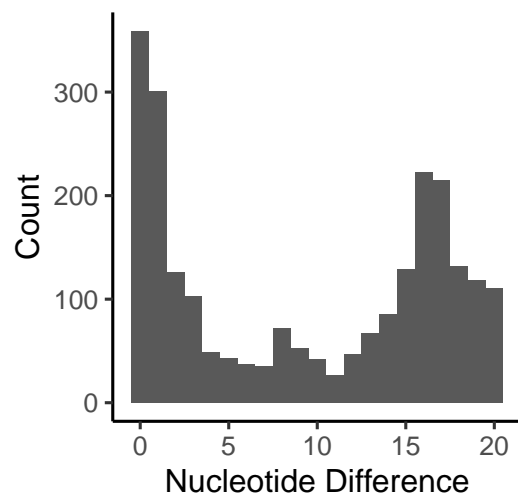
### IGHV3-66\*02

166 sequences assigned  
No exact matches.



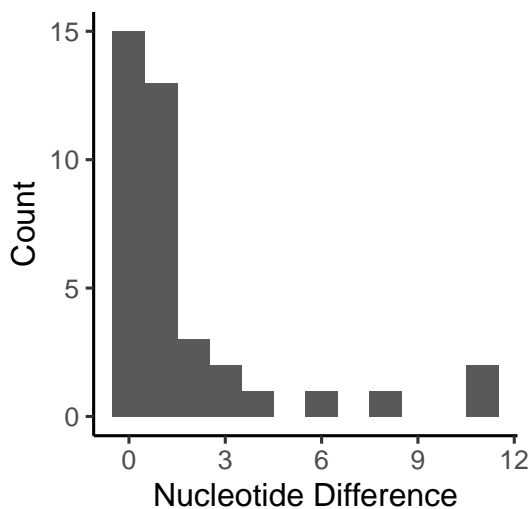
### IGHV3-53\*01\_02

4549 sequences assigned  
359 (7.9%) exact matches, in which:  
240 unique CDR3  
6 unique J



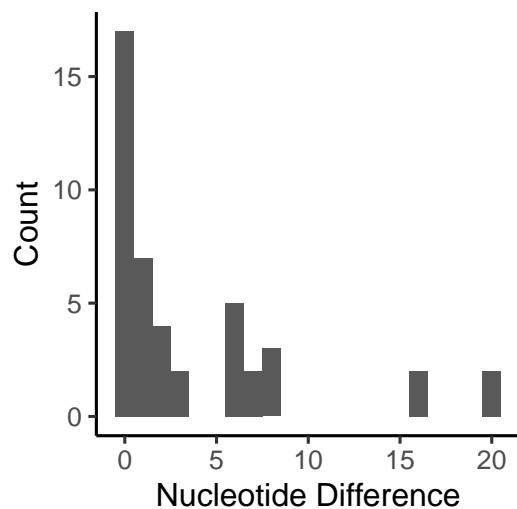
### IGHV3-64\*02\_07

39 sequences assigned  
15 (38.5%) exact matches, in which:  
12 unique CDR3  
2 unique J



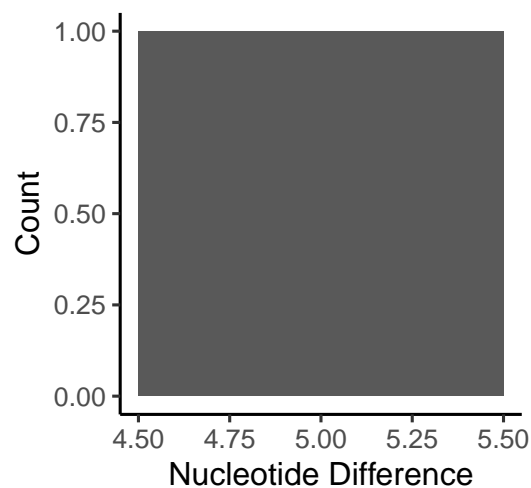
### IGHV3-66\*03

47 sequences assigned  
17 (36.2%) exact matches, in which:  
16 unique CDR3  
3 unique J



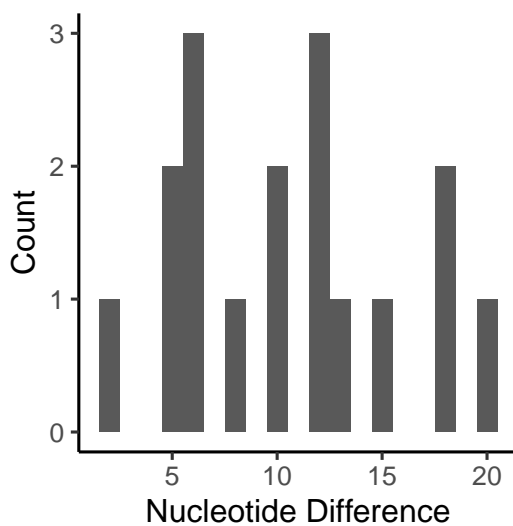
### IGHV3-62\*03

1 sequences assigned  
No exact matches.



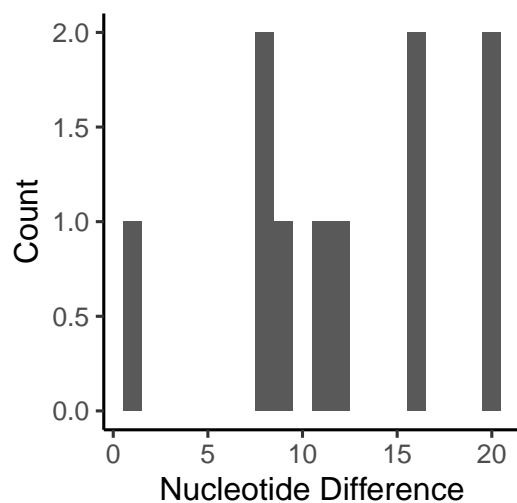
### IGHV3-66\*01

31 sequences assigned  
No exact matches.



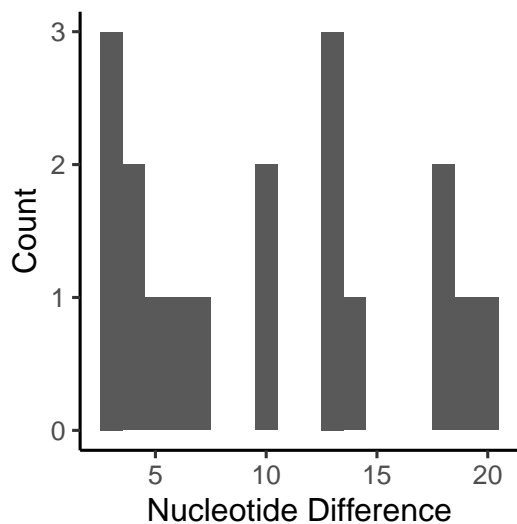
### IGHV3-66\*04

14 sequences assigned  
No exact matches.



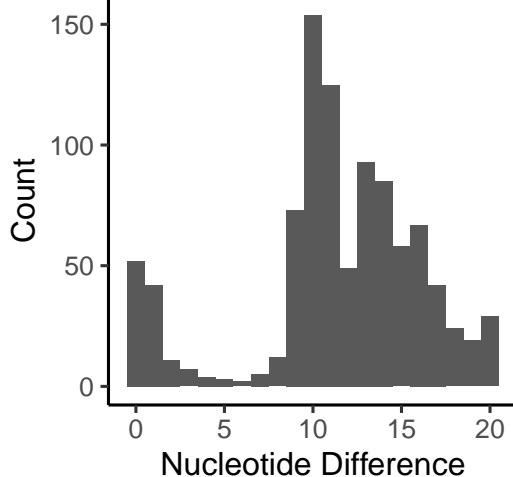
### IGHV3-69-1\*01

40 sequences assigned  
No exact matches.



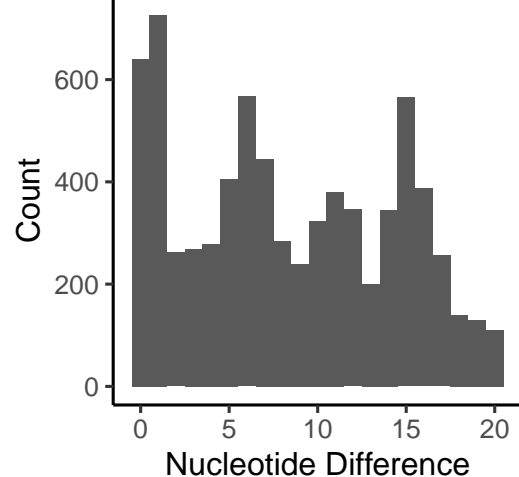
### IGHV3-72\*01

1488 sequences assigned  
52 (3.5%) exact matches, in which:  
30 unique CDR3  
5 unique J



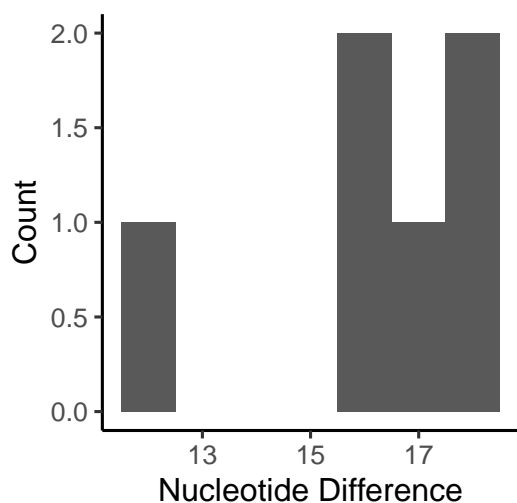
### IGHV3-74\*01\_02

8242 sequences assigned  
640 (7.8%) exact matches, in which:  
433 unique CDR3  
6 unique J



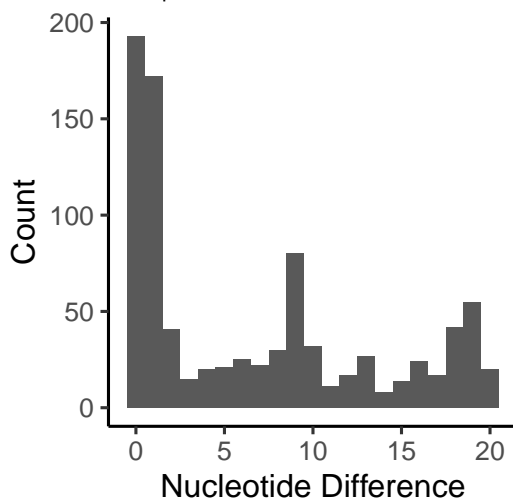
### IGHV3-69-1\*02

16 sequences assigned  
No exact matches.



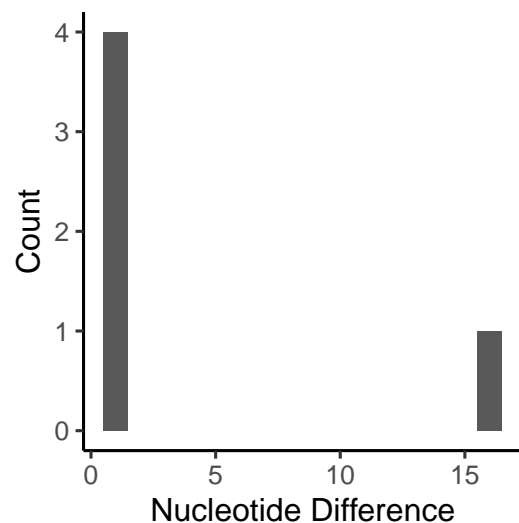
### IGHV3-73\*01\_02

1365 sequences assigned  
193 (14.1%) exact matches, in which:  
121 unique CDR3  
6 unique J



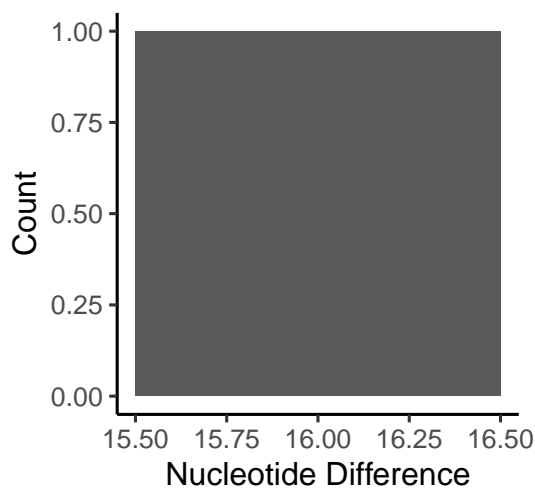
### IGHV3-43D\*04

5 sequences assigned  
No exact matches.



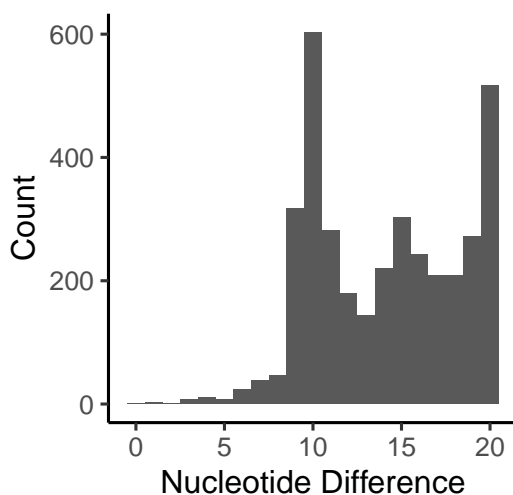
### IGHV3-71\*01\_04

2 sequences assigned  
No exact matches.



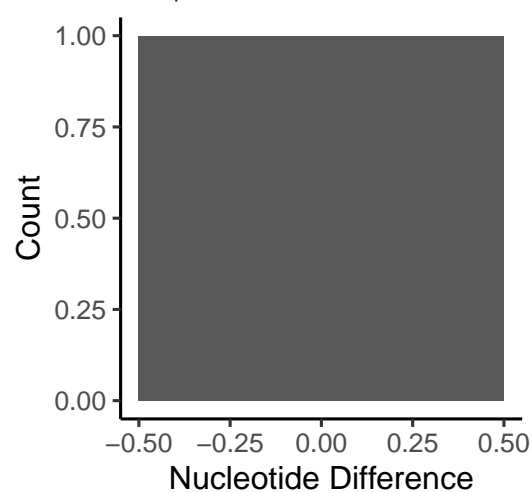
### IGHV3-74\*03

6415 sequences assigned  
1 (0%) exact matches, in which:  
1 unique CDR3  
1 unique J



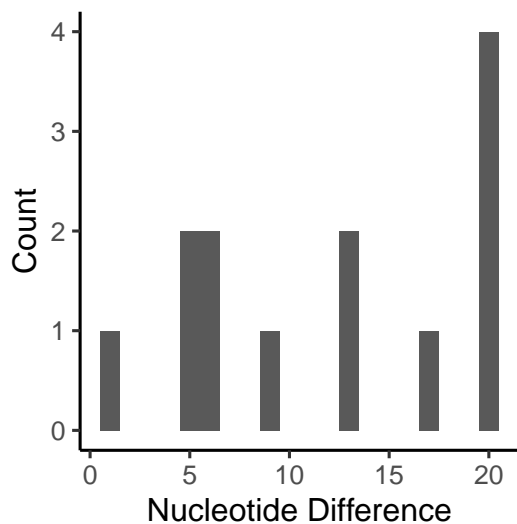
### IGHV3-64D\*06

80 sequences assigned  
1 (1.2%) exact matches, in which:  
1 unique CDR3  
1 unique J



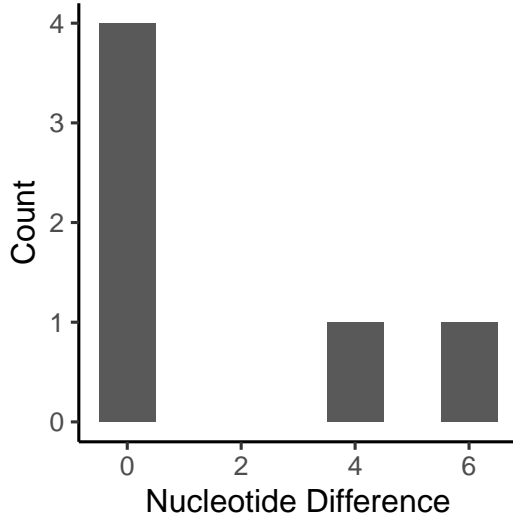
### IGHV3–NL1\*01

44 sequences assigned  
No exact matches.



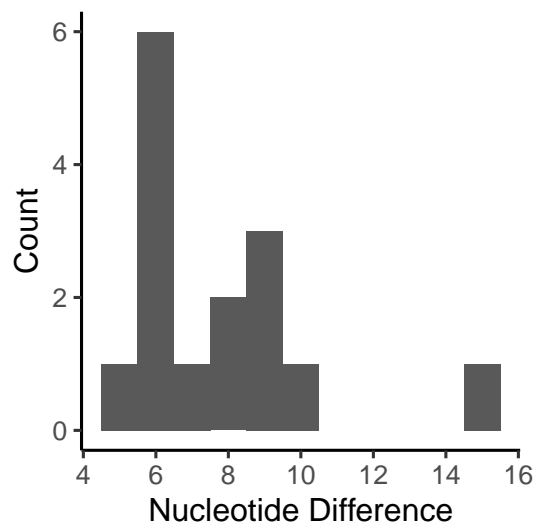
### IGHV4–30–4\*01

10 sequences assigned  
4 (40%) exact matches, in which:  
4 unique CDR3  
3 unique J



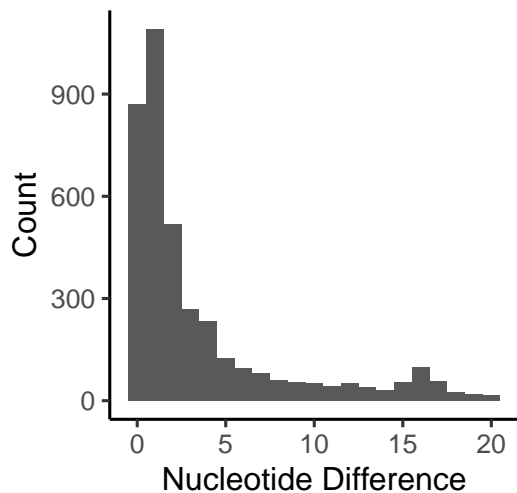
### IGHV4–30–4\*08

18 sequences assigned  
No exact matches.



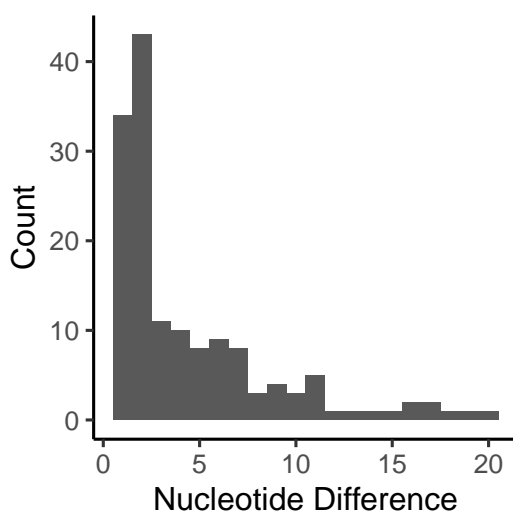
### IGHV4–4\*07

4727 sequences assigned  
870 (18.4%) exact matches, in which:  
674 unique CDR3  
6 unique J



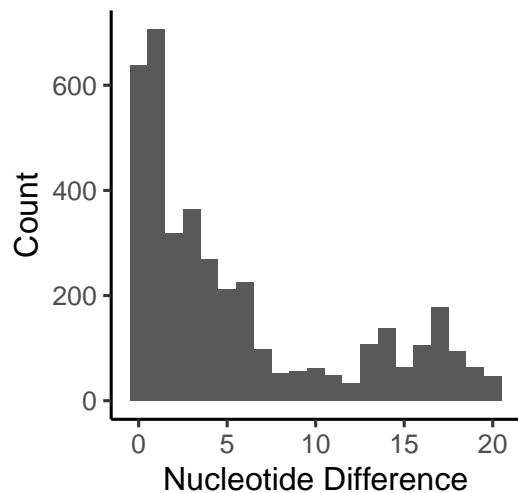
### IGHV4–30–2\*03

186 sequences assigned  
No exact matches.



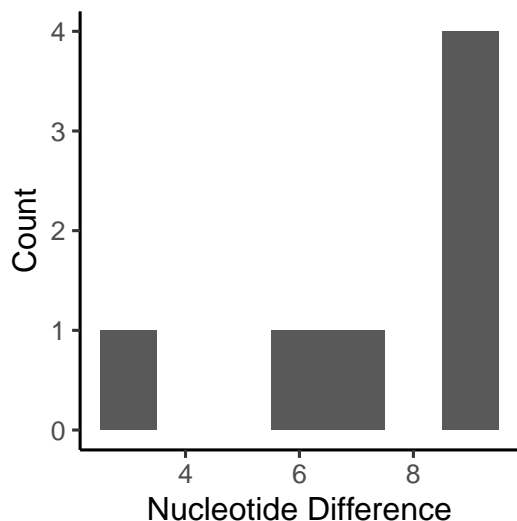
### IGHV4–31\*02

4908 sequences assigned  
639 (13%) exact matches, in which:  
528 unique CDR3  
6 unique J



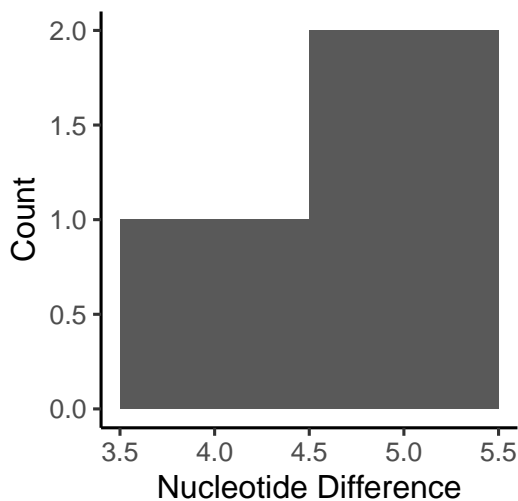
### IGHV4–28\*02\_05

7 sequences assigned  
No exact matches.



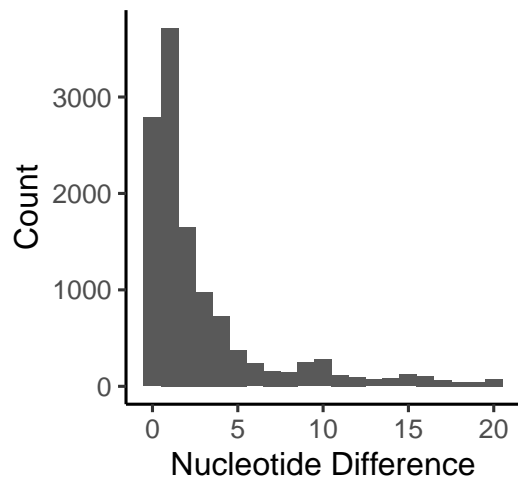
### IGHV4–30–2\*04

3 sequences assigned  
No exact matches.



### IGHV4–34\*01\_02

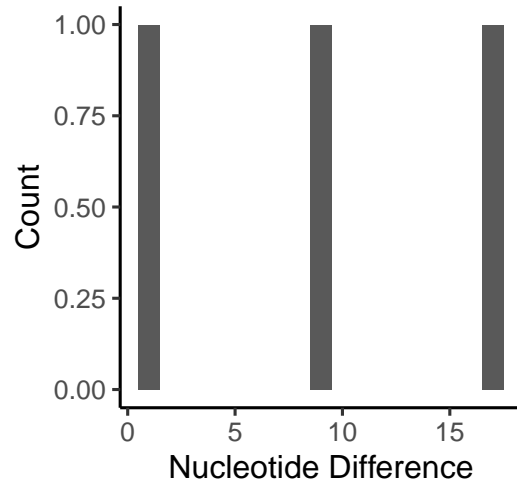
13408 sequences assigned  
2788 (20.8%) exact matches, in which:  
1969 unique CDR3  
6 unique J





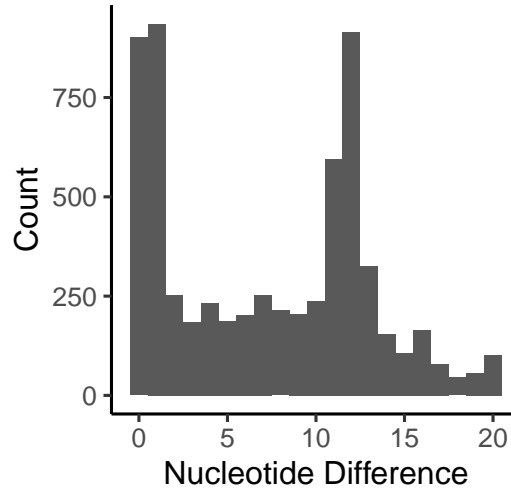
### IGHV4-38-2\*01

4 sequences assigned  
No exact matches.



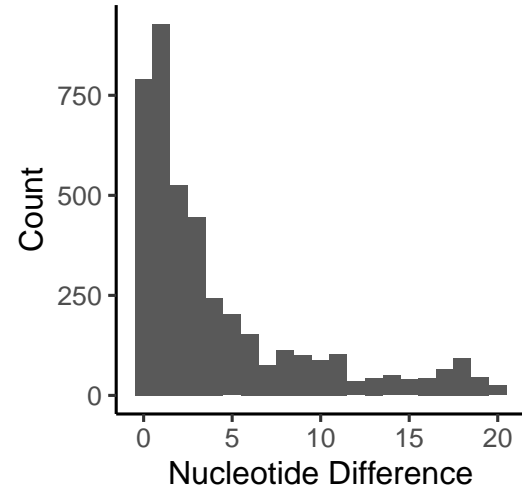
### IGHV4-59\*01\_07

6760 sequences assigned  
901 (13.3%) exact matches, in which:  
758 unique CDR3  
6 unique J



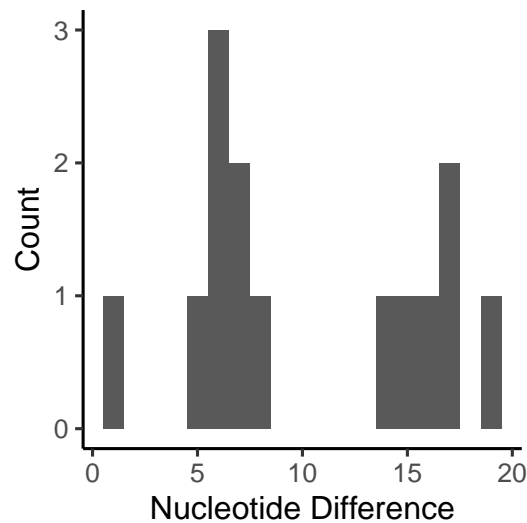
### IGHV4-61\*01

5455 sequences assigned  
791 (14.5%) exact matches, in which:  
680 unique CDR3  
6 unique J



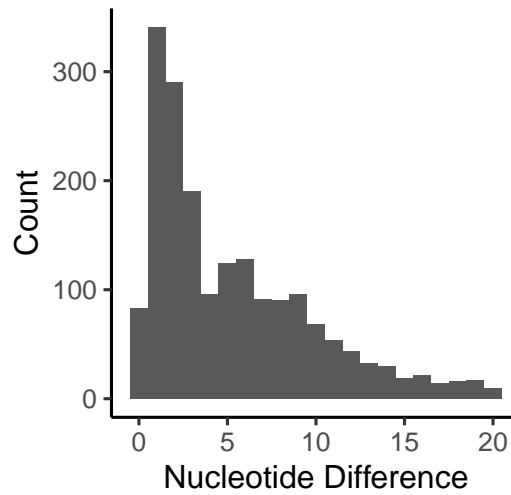
### IGHV4-38-2\*02

48 sequences assigned  
No exact matches.



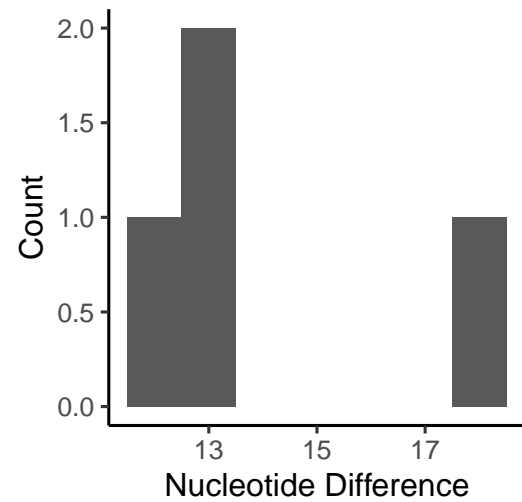
### IGHV4-59\*12

2116 sequences assigned  
83 (3.9%) exact matches, in which:  
82 unique CDR3  
6 unique J



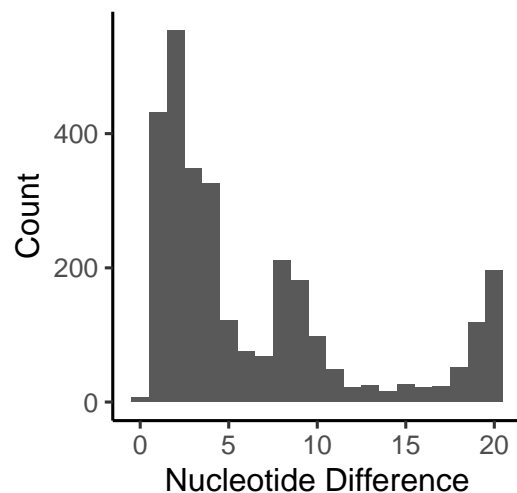
### IGHV1/OR15-2\*02\_03

5 sequences assigned  
No exact matches.



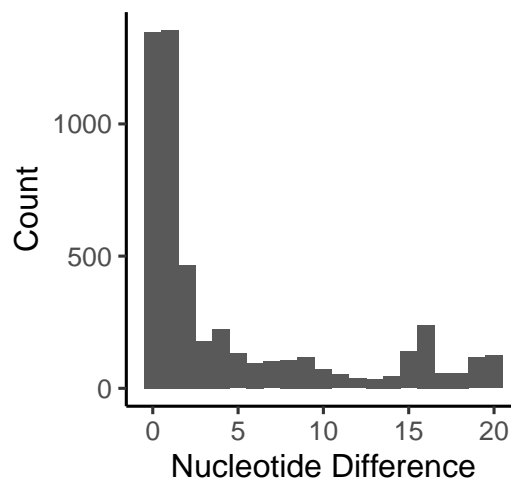
### IGHV4-39\*07

3431 sequences assigned  
7 (0.2%) exact matches, in which:  
7 unique CDR3  
5 unique J



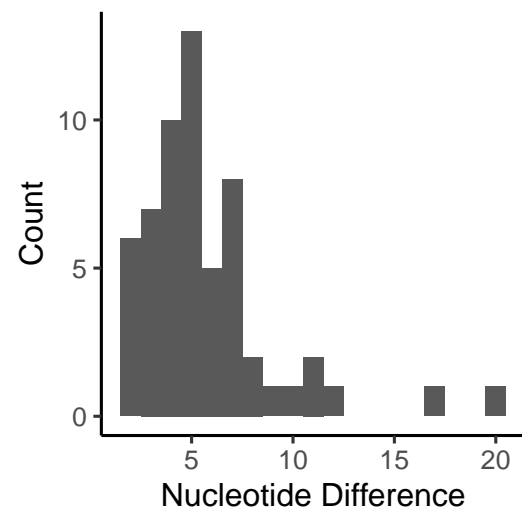
### IGHV4-59\*13

6754 sequences assigned  
1347 (19.9%) exact matches, in which:  
1137 unique CDR3  
6 unique J



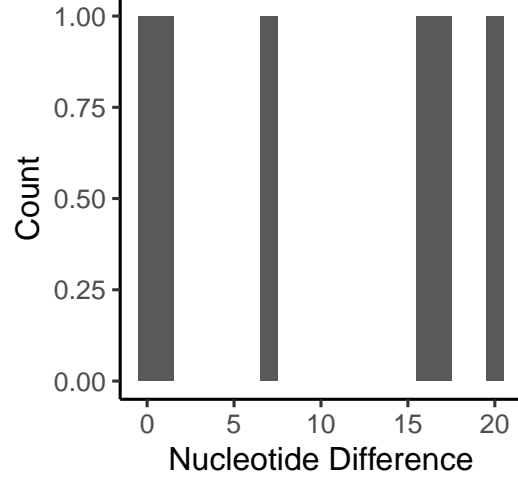
### IGHV4/OR15-8\*01

68 sequences assigned  
No exact matches.



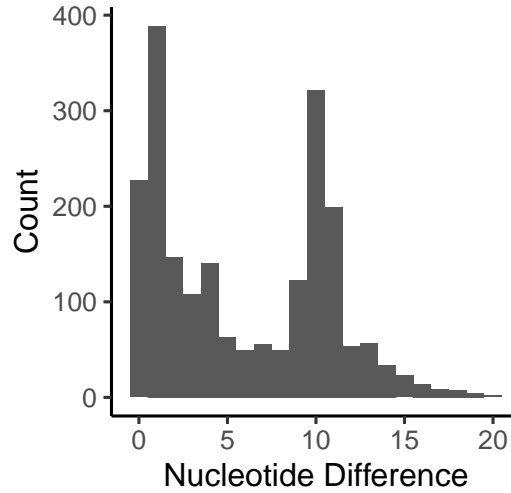
### IGHV5-10-1\*01\_03

6 sequences assigned  
1 (16.7%) exact matches, in which:  
1 unique CDR3  
1 unique J



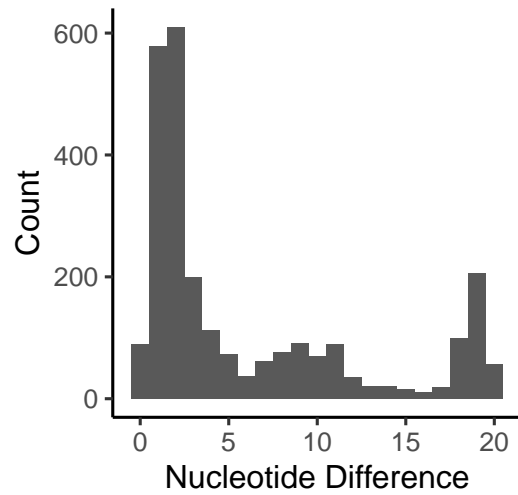
### IGHV6-1\*01\_02

2241 sequences assigned  
227 (10.1%) exact matches, in which:  
184 unique CDR3  
5 unique J



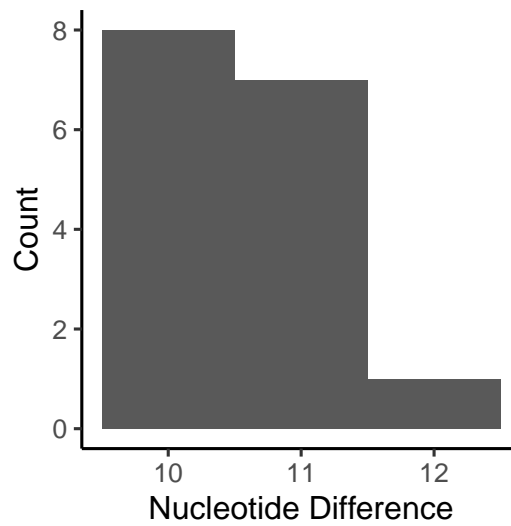
### IGHV5-51\*07

2696 sequences assigned  
89 (3.3%) exact matches, in which:  
64 unique CDR3  
5 unique J



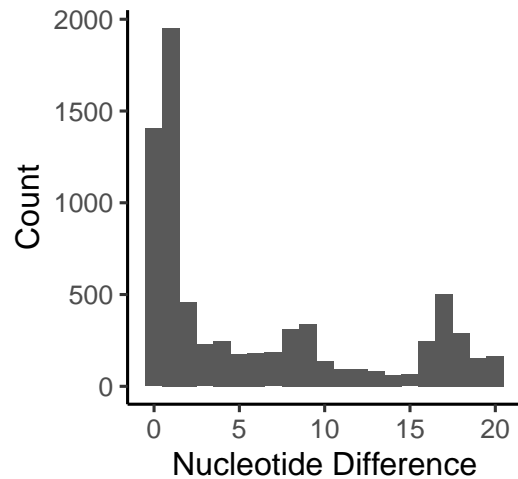
### IGHV3/OR16-9\*01

16 sequences assigned  
No exact matches.



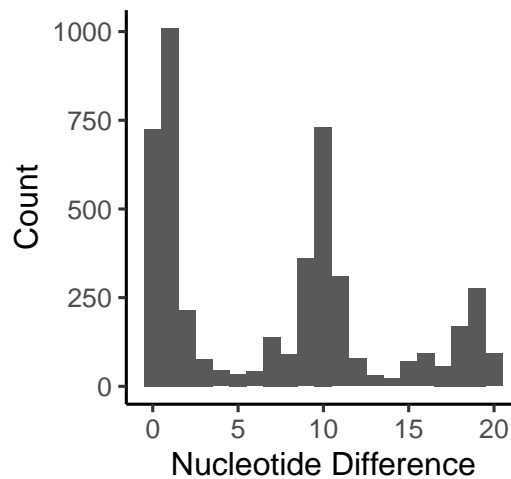
### IGHV5-51\*01\_03

8528 sequences assigned  
1405 (16.5%) exact matches, in which:  
739 unique CDR3  
6 unique J



### IGHV7-4-1\*02

5178 sequences assigned  
725 (14%) exact matches, in which:  
587 unique CDR3  
6 unique J





[illegible]