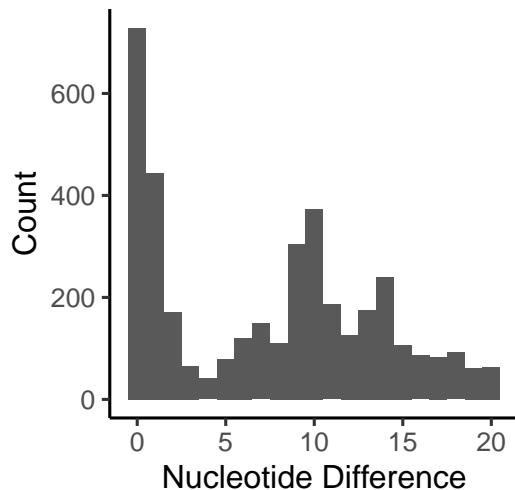


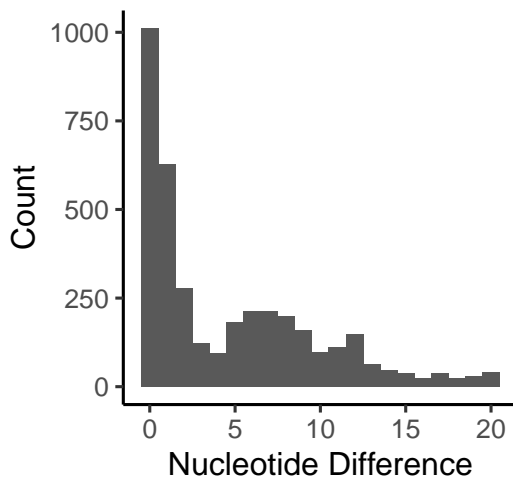
### IGHV1-2\*02

4349 sequences assigned  
729 (16.8%) exact matches, in which:  
673 unique CDR3  
6 unique J



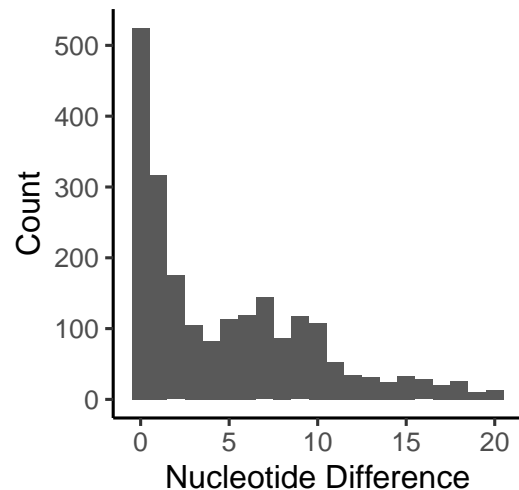
### IGHV1-8\*01

4077 sequences assigned  
1011 (24.8%) exact matches, in which:  
925 unique CDR3  
6 unique J



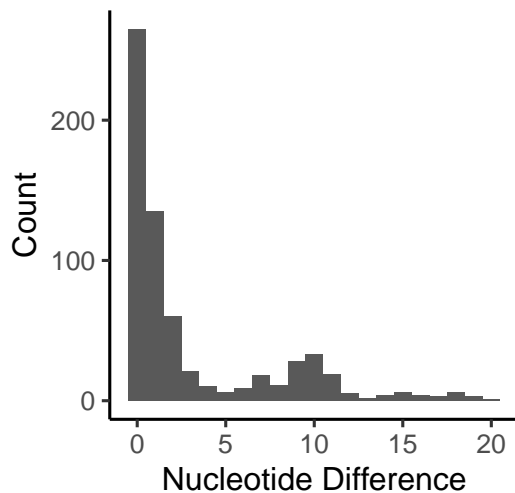
### IGHV1-46\*01

2324 sequences assigned  
525 (22.6%) exact matches, in which:  
490 unique CDR3  
6 unique J



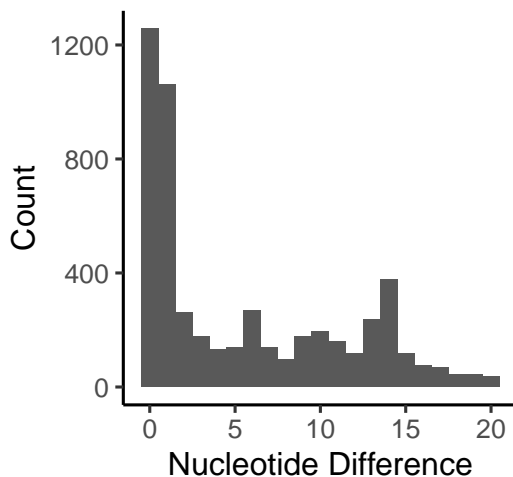
### IGHV1-2\*04

654 sequences assigned  
265 (40.5%) exact matches, in which:  
243 unique CDR3  
6 unique J



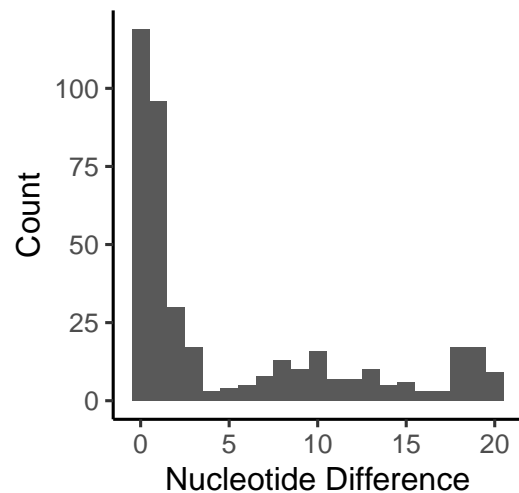
### IGHV1-18\*01

5741 sequences assigned  
1257 (21.9%) exact matches, in which:  
1103 unique CDR3  
6 unique J



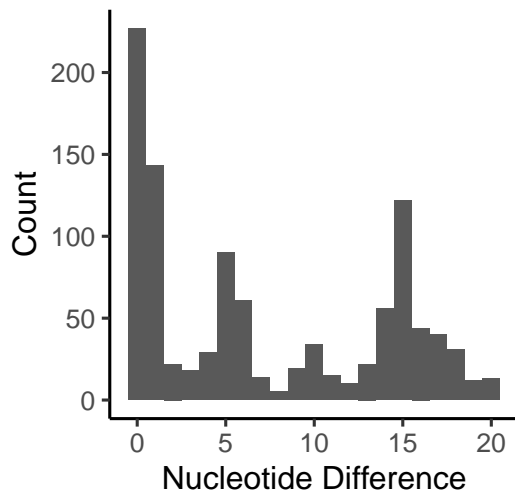
### IGHV1-58\*01\_03

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



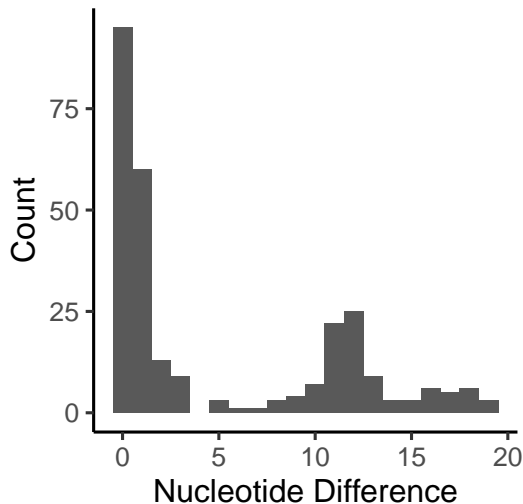
### IGHV1-3\*01\_05

1108 sequences assigned  
227 (20.5%) exact matches, in which:  
209 unique CDR3  
6 unique J



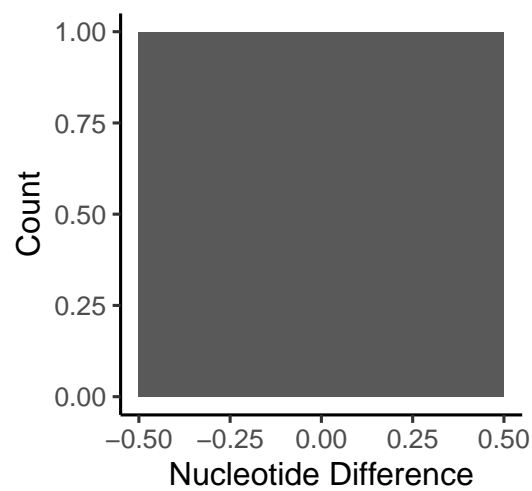
### IGHV1-24\*01

282 sequences assigned  
95 (33.7%) exact matches, in which:  
85 unique CDR3  
5 unique J



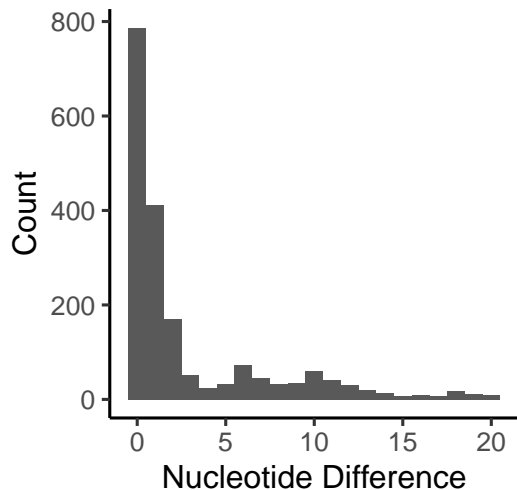
### IGHV1-69-2\*01

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



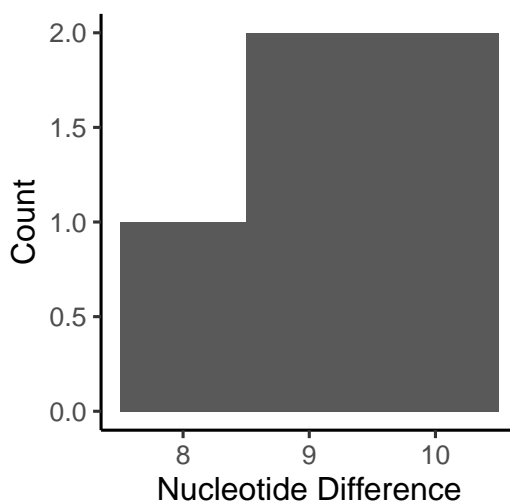
### IGHV1-69\*01\_12\_13

1953 sequences assigned  
787 (40.3%) exact matches, in which:  
733 unique CDR3  
6 unique J



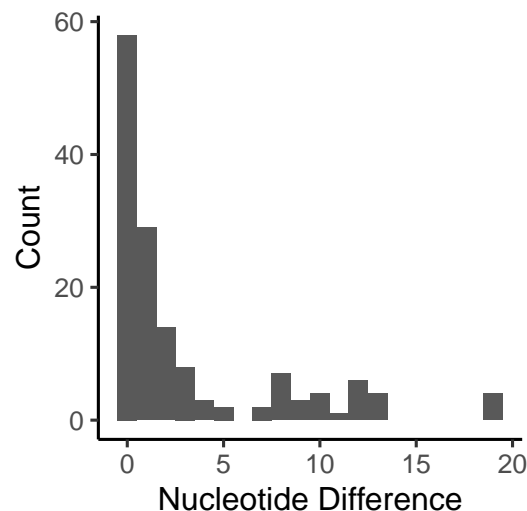
### IGHV1-NL1\*01

5 sequences assigned  
No exact matches.



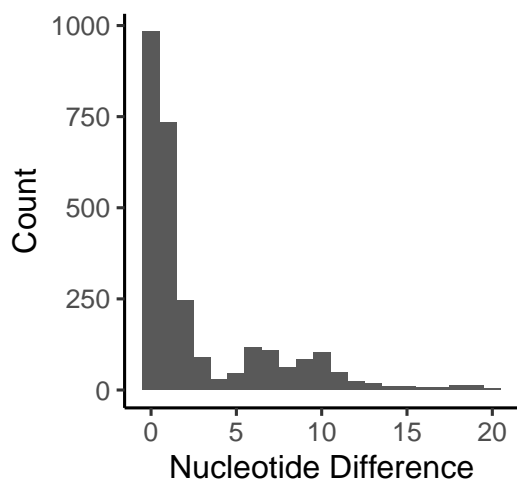
### IGHV2-26\*01

156 sequences assigned  
58 (37.2%) exact matches, in which:  
53 unique CDR3  
5 unique J



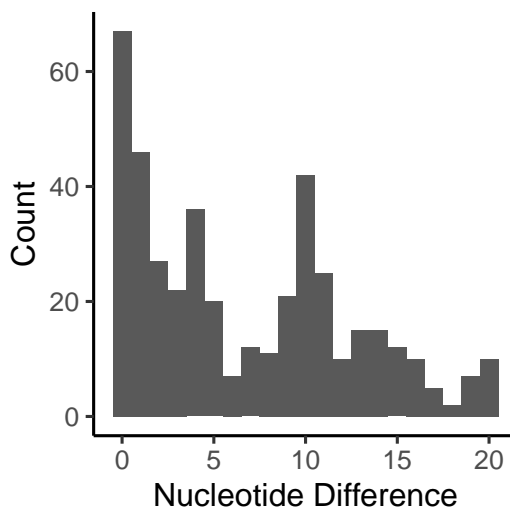
### IGHV1-69\*04\_09

2850 sequences assigned  
983 (34.5%) exact matches, in which:  
914 unique CDR3  
6 unique J



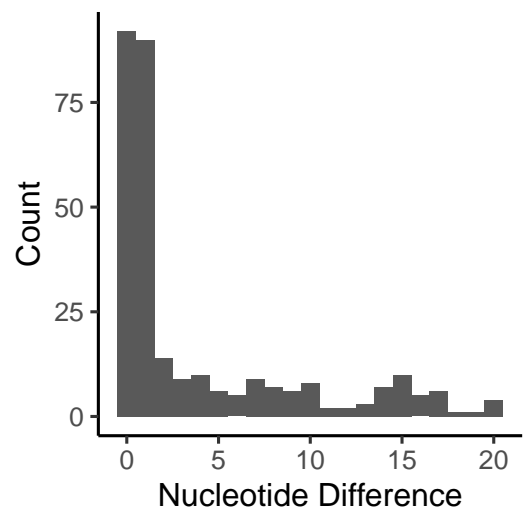
### IGHV2-5\*01

449 sequences assigned  
67 (14.9%) exact matches, in which:  
59 unique CDR3  
6 unique J



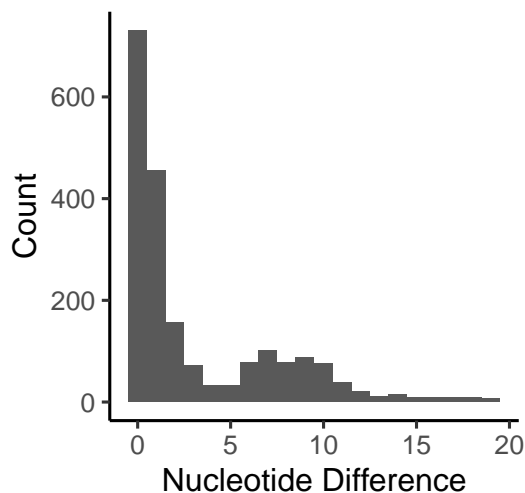
### IGHV2-70\*01

310 sequences assigned  
92 (29.7%) exact matches, in which:  
81 unique CDR3  
5 unique J



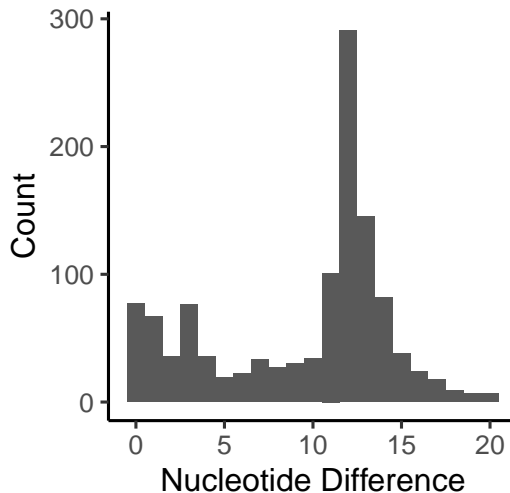
### IGHV1-69\*06\_14

2075 sequences assigned  
731 (35.2%) exact matches, in which:  
662 unique CDR3  
6 unique J



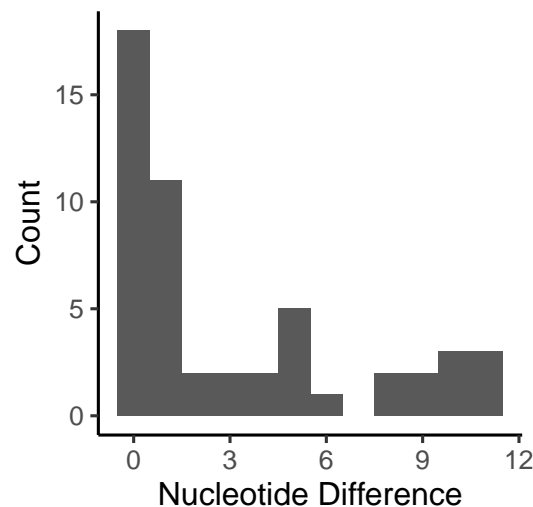
### IGHV2-5\*02

1213 sequences assigned  
77 (6.3%) exact matches, in which:  
72 unique CDR3  
5 unique J



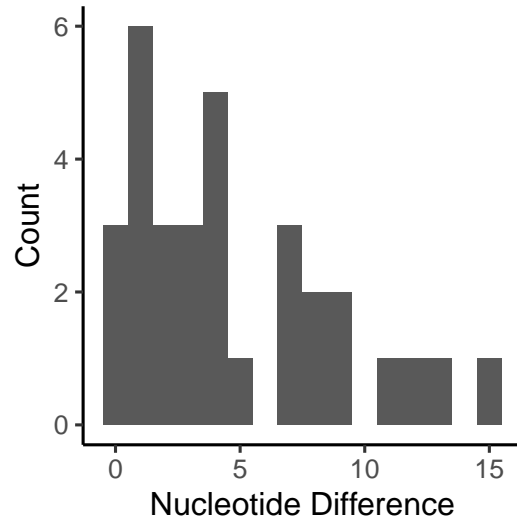
### IGHV2-70\*04

54 sequences assigned  
18 (33.3%) exact matches, in which:  
18 unique CDR3  
5 unique J



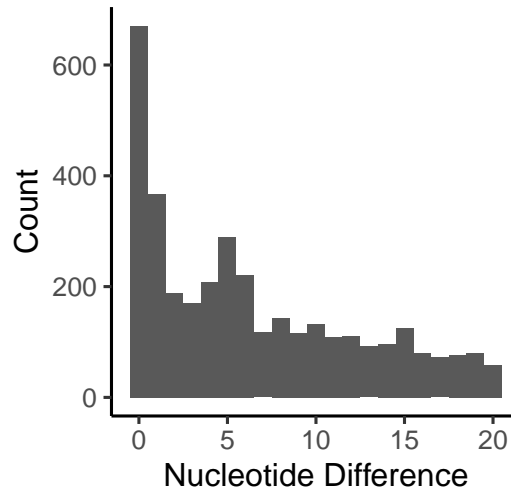
### IGHV2–70\*12

32 sequences assigned  
3 (9.4%) exact matches, in which:  
3 unique CDR3  
2 unique J



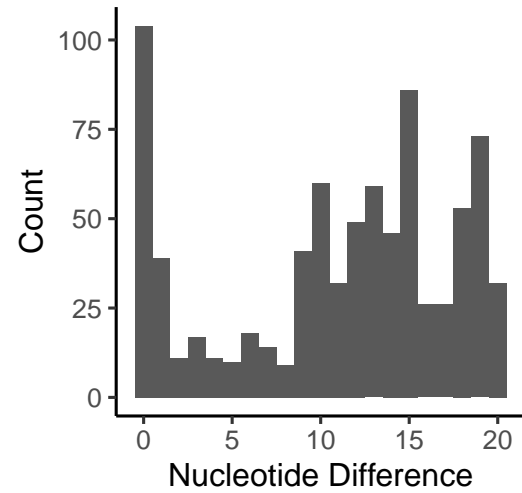
### IGHV3–9\*01

4079 sequences assigned  
671 (16.5%) exact matches, in which:  
477 unique CDR3  
6 unique J



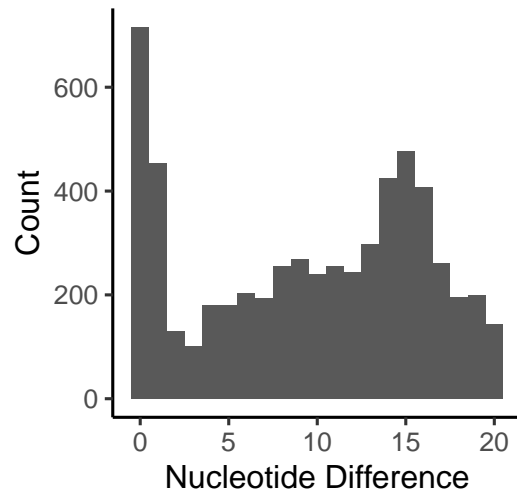
### IGHV3–13\*01

907 sequences assigned  
104 (11.5%) exact matches, in which:  
84 unique CDR3  
5 unique J



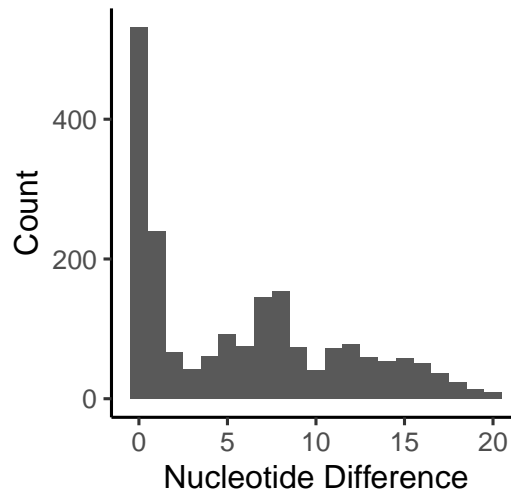
### IGHV3–7\*01

6922 sequences assigned  
716 (10.3%) exact matches, in which:  
537 unique CDR3  
6 unique J



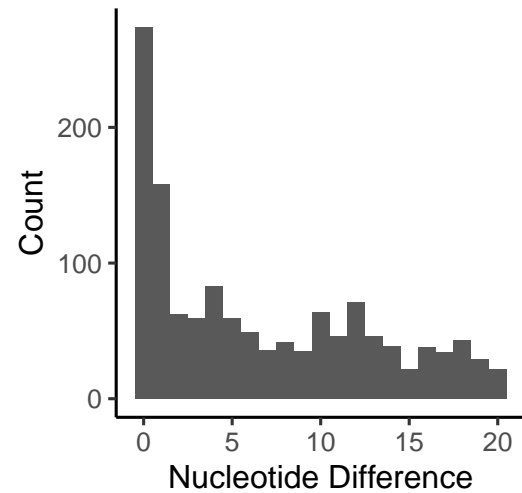
### IGHV3–11\*01

2267 sequences assigned  
532 (23.5%) exact matches, in which:  
404 unique CDR3  
6 unique J



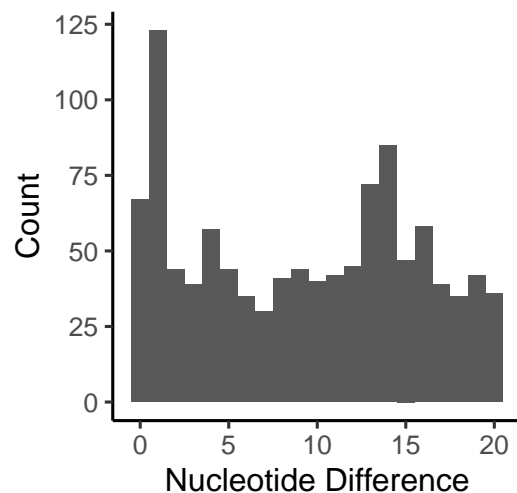
### IGHV3–15\*01\_02

1470 sequences assigned  
274 (18.6%) exact matches, in which:  
193 unique CDR3  
6 unique J



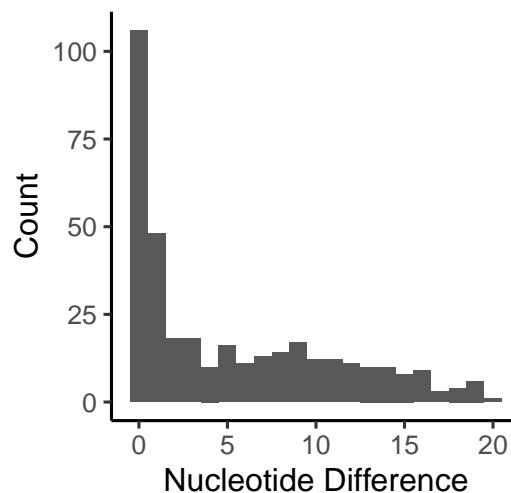
### IGHV3–7\*03

1343 sequences assigned  
67 (5%) exact matches, in which:  
54 unique CDR3  
4 unique J



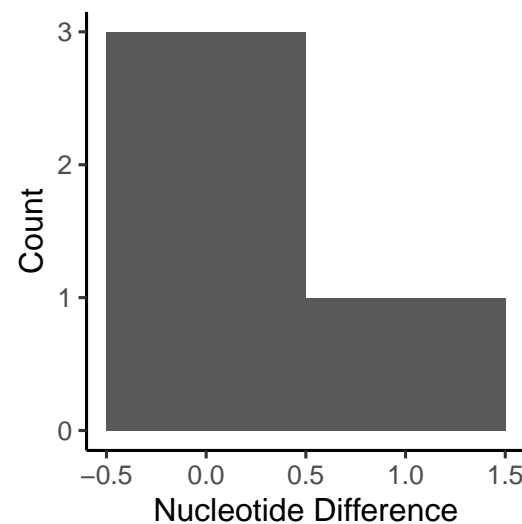
### IGHV3–11\*04

372 sequences assigned  
106 (28.5%) exact matches, in which:  
102 unique CDR3  
5 unique J



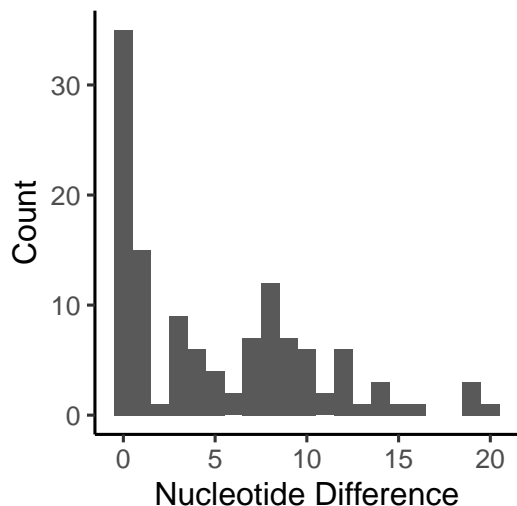
### IGHV3–19\*01

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



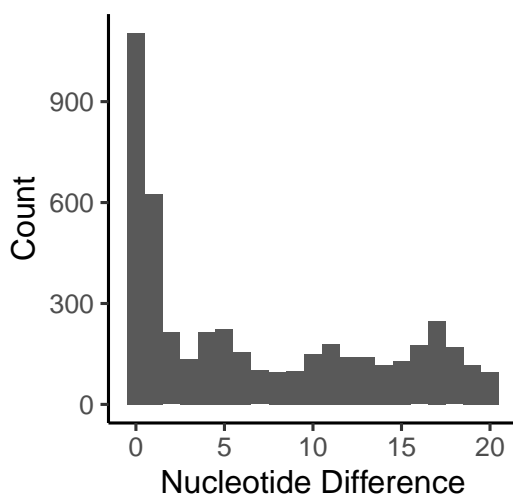
### IGHV3-20\*01\_02

130 sequences assigned  
35 (26.9%) exact matches, in which:  
28 unique CDR3  
4 unique J



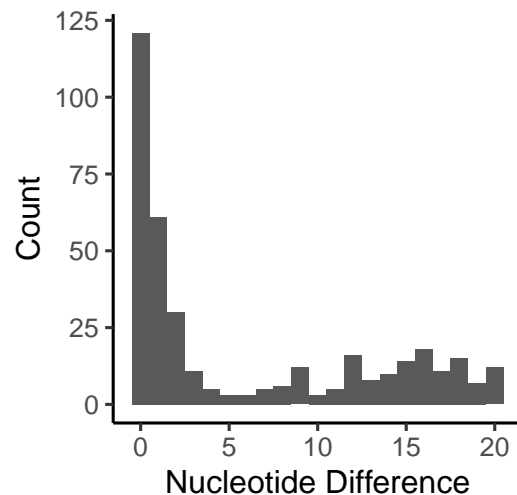
### IGHV3-21\*01\_02

5481 sequences assigned  
1105 (20.2%) exact matches, in which:  
801 unique CDR3  
6 unique J



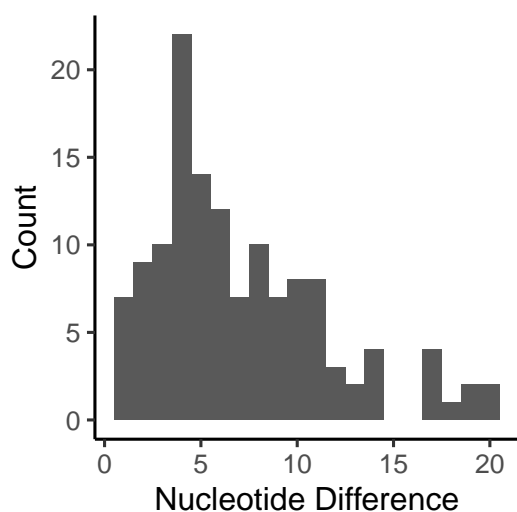
### IGHV3-30\*03

593 sequences assigned  
121 (20.4%) exact matches, in which:  
114 unique CDR3  
4 unique J



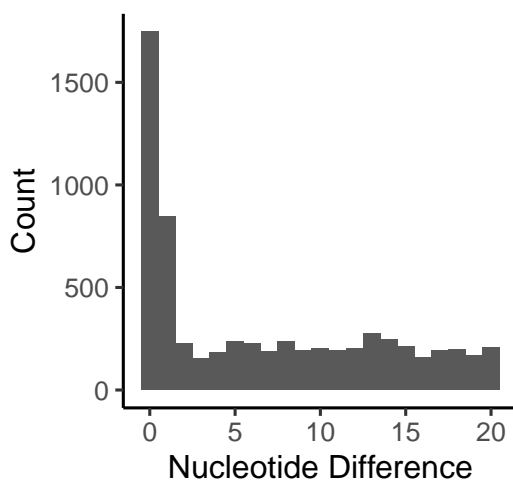
### IGHV3-20\*03\_04

155 sequences assigned  
No exact matches.



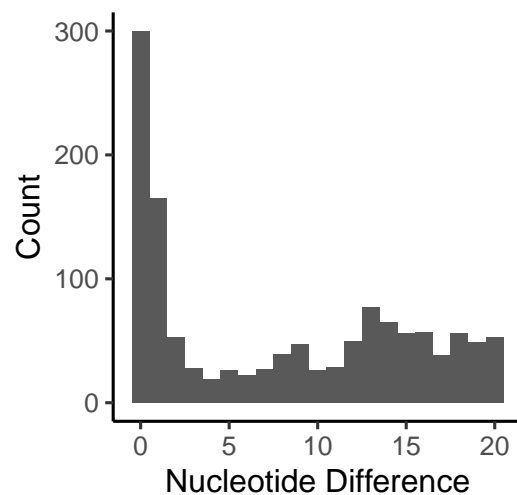
### IGHV3-23\*01\_04

8076 sequences assigned  
1747 (21.6%) exact matches, in which:  
1129 unique CDR3  
6 unique J



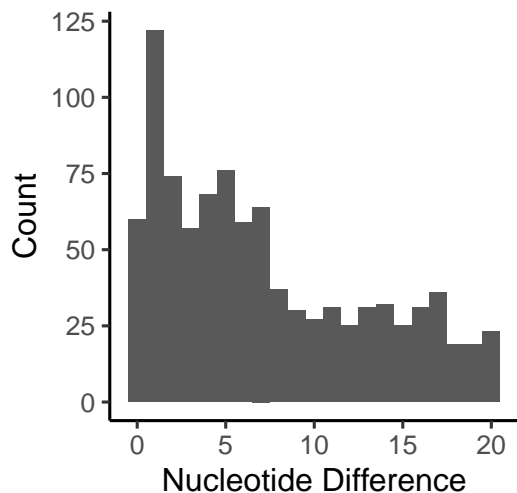
### IGHV3-30\*18

1785 sequences assigned  
300 (16.8%) exact matches, in which:  
229 unique CDR3  
6 unique J



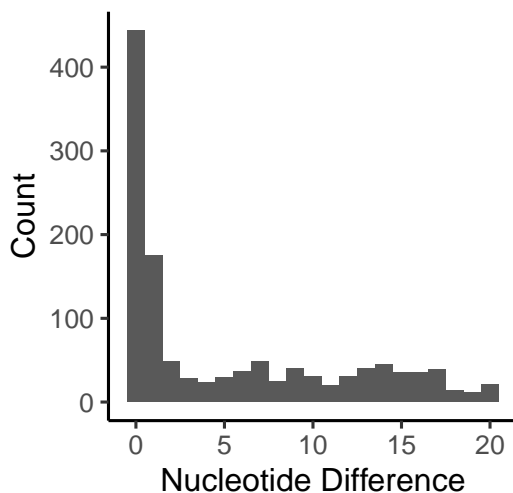
### IGHV3-21\*04

1061 sequences assigned  
60 (5.7%) exact matches, in which:  
56 unique CDR3  
4 unique J



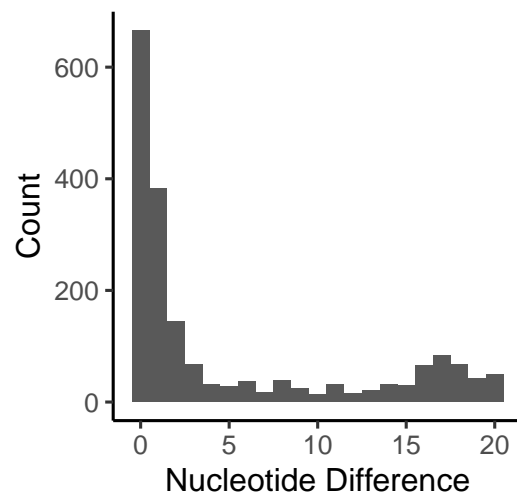
### IGHV3-30-3\*01

1335 sequences assigned  
444 (33.3%) exact matches, in which:  
327 unique CDR3  
6 unique J



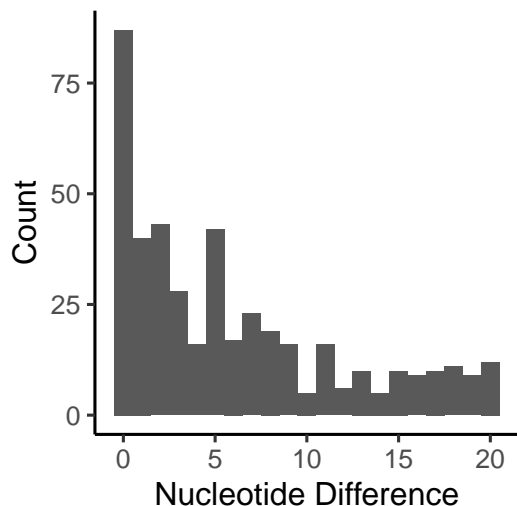
### IGHV3-33\*01

2058 sequences assigned  
666 (32.4%) exact matches, in which:  
526 unique CDR3  
6 unique J



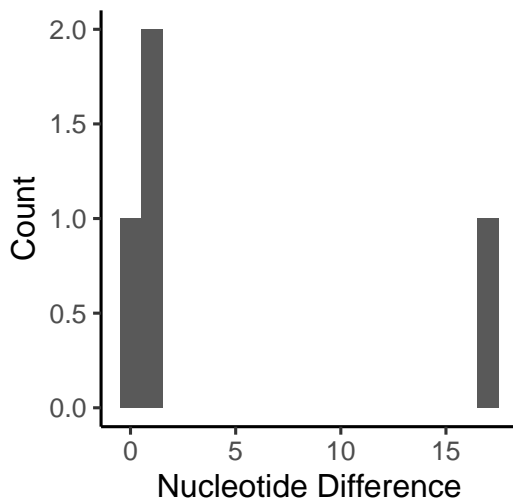
### IGHV3-33\*08

516 sequences assigned  
87 (16.9%) exact matches, in which:  
83 unique CDR3  
5 unique J



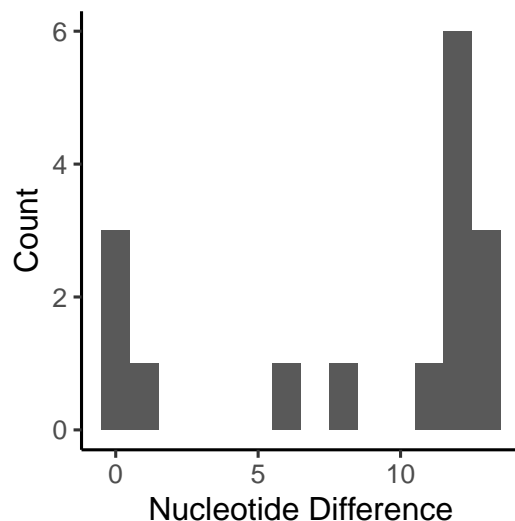
### IGHV3-47\*01

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



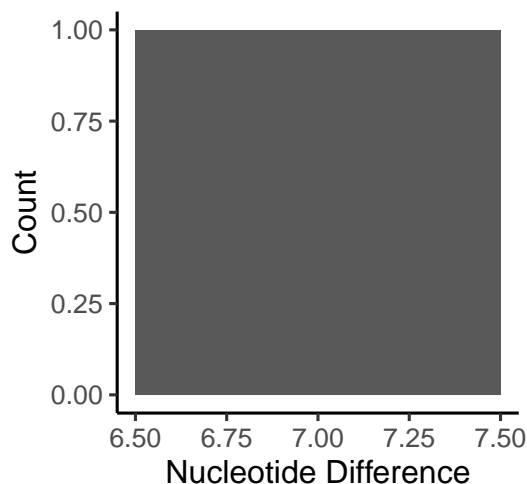
### IGHV3-52\*01\_03

16 sequences assigned  
3 (18.8%) exact matches, in which:  
2 unique CDR3  
1 unique J



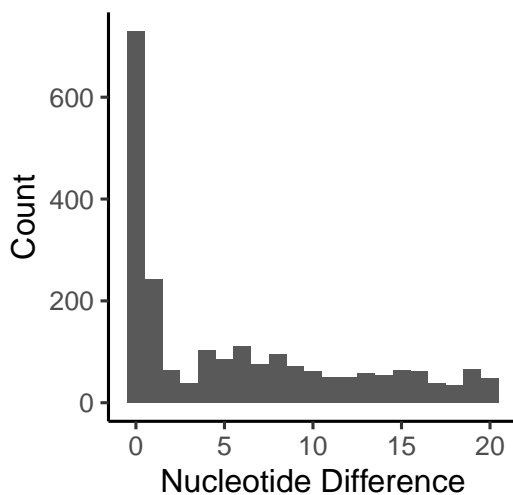
### IGHV3-35\*01

1 sequences assigned  
No exact matches.



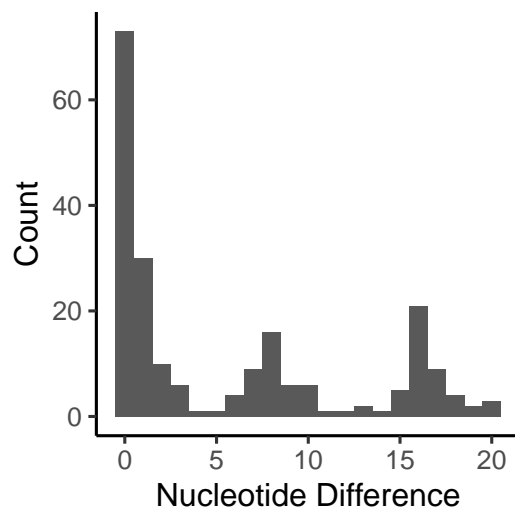
### IGHV3-48\*03

2481 sequences assigned  
730 (29.4%) exact matches, in which:  
525 unique CDR3  
6 unique J



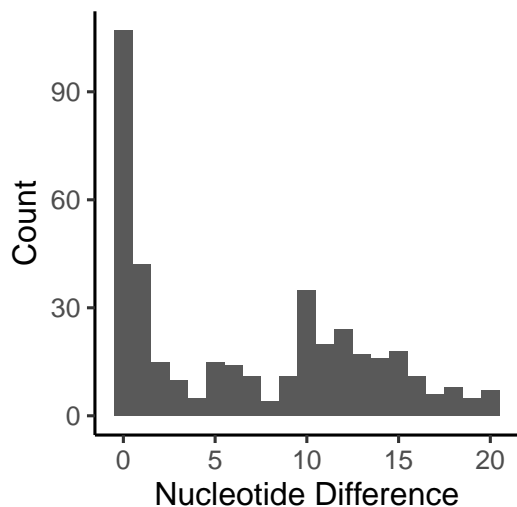
### IGHV3-53\*04

285 sequences assigned  
73 (25.6%) exact matches, in which:  
56 unique CDR3  
5 unique J



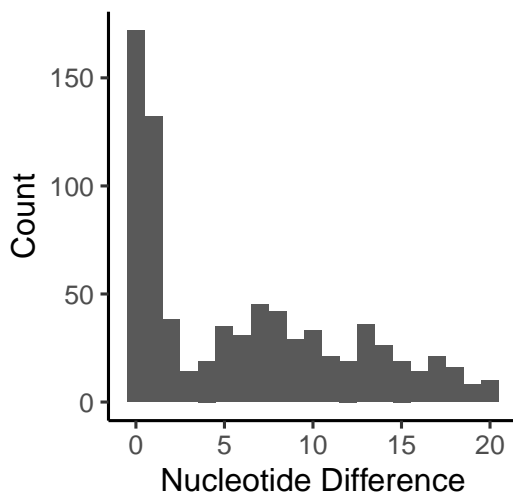
### IGHV3-43\*02

585 sequences assigned  
107 (18.3%) exact matches, in which:  
79 unique CDR3  
4 unique J



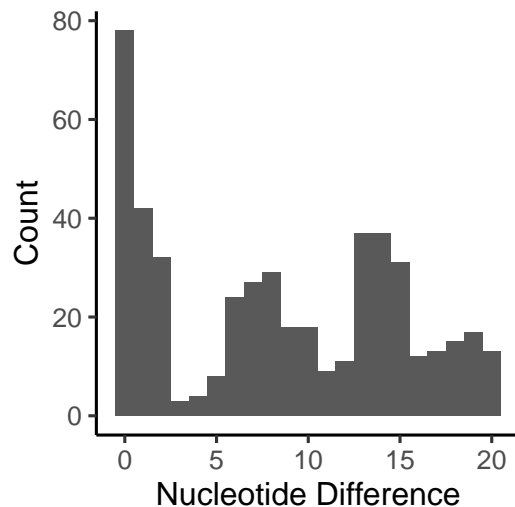
### IGHV3-49\*04

866 sequences assigned  
172 (19.9%) exact matches, in which:  
123 unique CDR3  
6 unique J



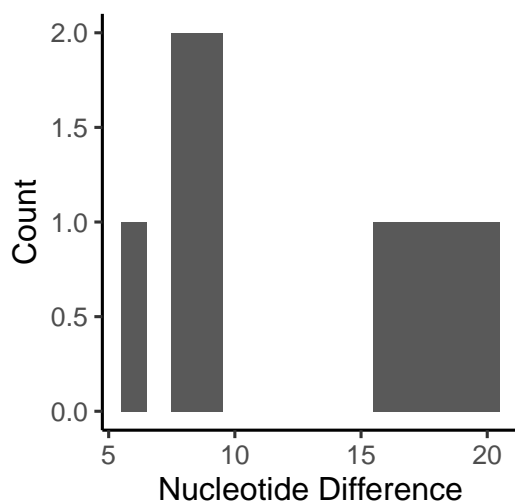
### IGHV3-53\*01\_02

666 sequences assigned  
78 (11.7%) exact matches, in which:  
64 unique CDR3  
6 unique J



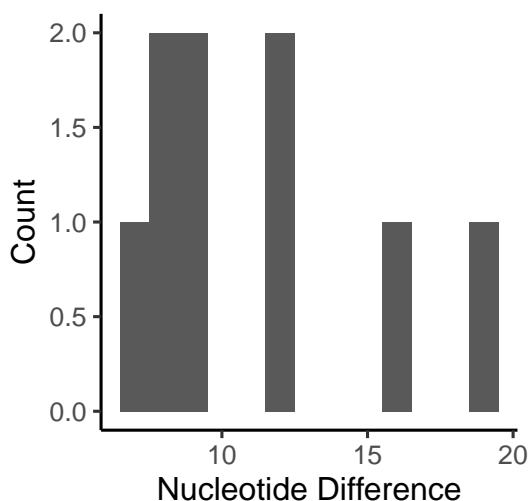
### IGHV3-64\*04

31 sequences assigned  
No exact matches.



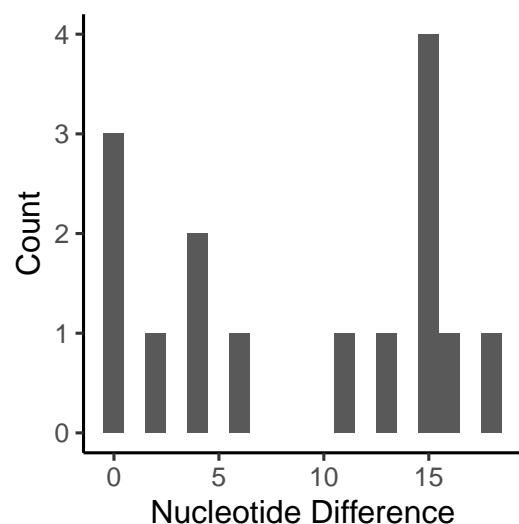
### IGHV3-66\*02

12 sequences assigned  
No exact matches.



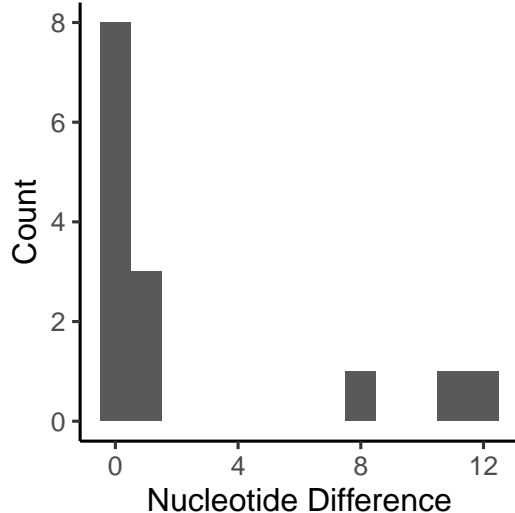
### IGHV3-69-1\*02

27 sequences assigned  
3 (11.1%) exact matches, in which:  
3 unique CDR3  
2 unique J



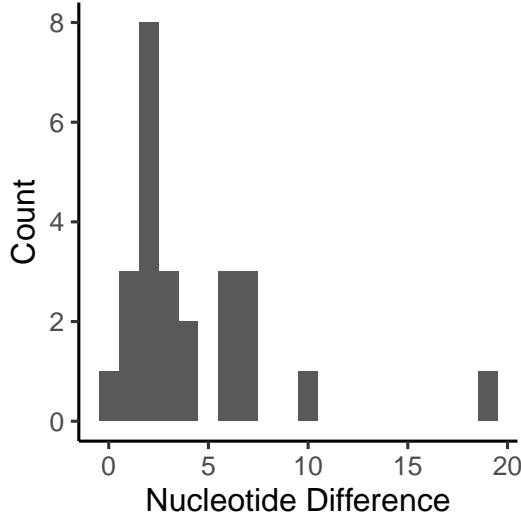
### IGHV3-64\*02\_07

42 sequences assigned  
8 (19%) exact matches, in which:  
6 unique CDR3  
3 unique J



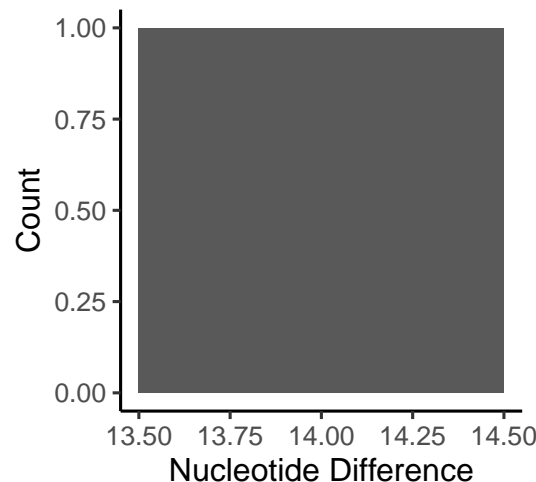
### IGHV3-66\*03

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



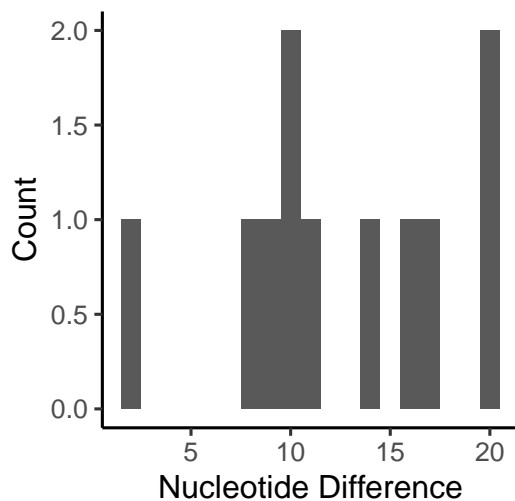
### IGHV3-71\*01\_04

2 sequences assigned  
No exact matches.



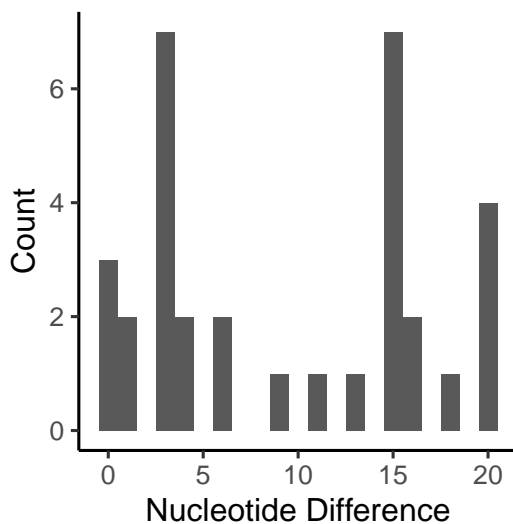
### IGHV3-66\*01

17 sequences assigned  
No exact matches.



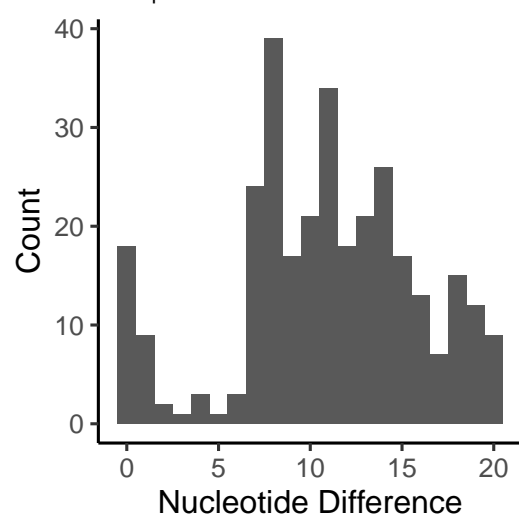
### IGHV3-69-1\*01

38 sequences assigned  
3 (7.9%) exact matches, in which:  
3 unique CDR3  
3 unique J



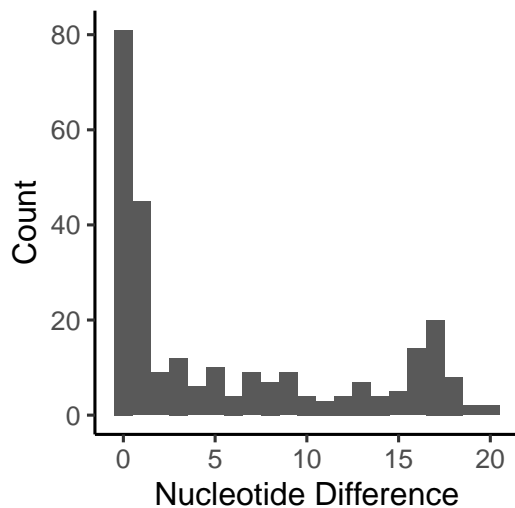
### IGHV3-72\*01

350 sequences assigned  
18 (5.1%) exact matches, in which:  
15 unique CDR3  
4 unique J



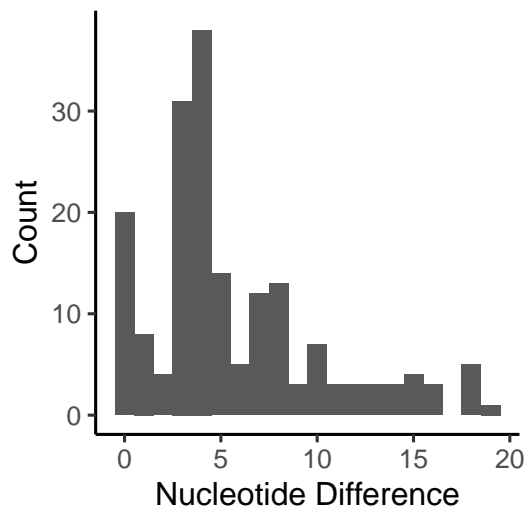
### IGHV3-73\*01\_02

295 sequences assigned  
81 (27.5%) exact matches, in which:  
51 unique CDR3  
5 unique J



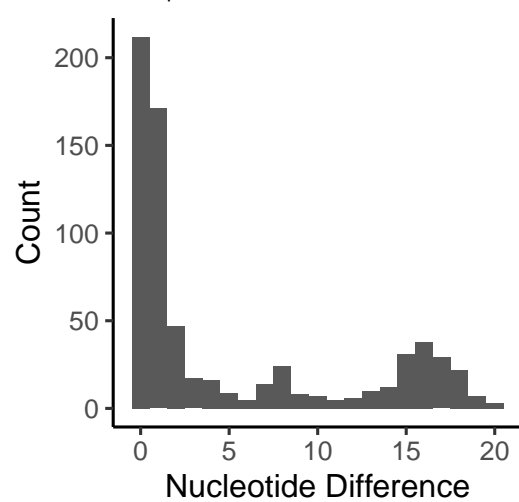
### IGHV3-43D\*04

185 sequences assigned  
20 (10.8%) exact matches, in which:  
17 unique CDR3  
2 unique J



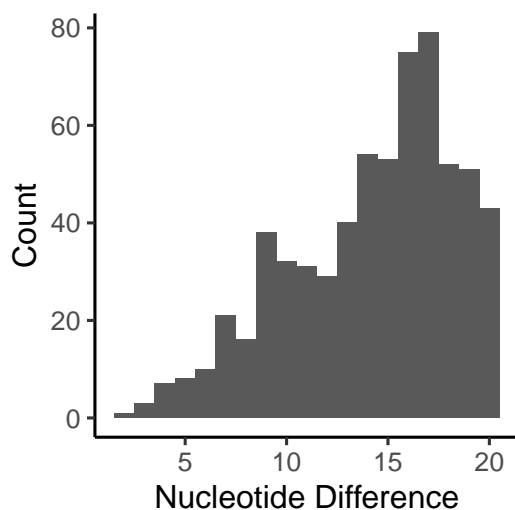
### IGHV4-4\*07

971 sequences assigned  
212 (21.8%) exact matches, in which:  
192 unique CDR3  
5 unique J



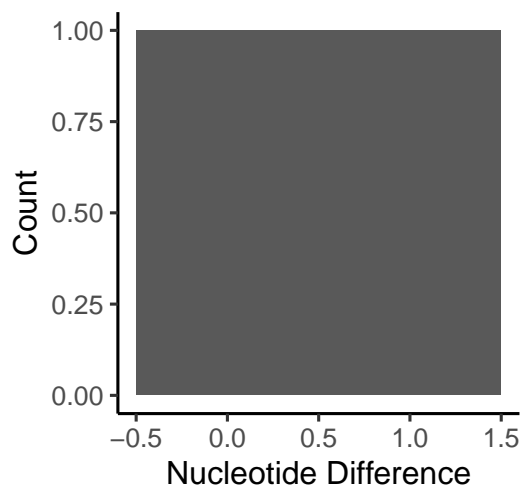
### IGHV3-74\*03

1062 sequences assigned  
No exact matches.



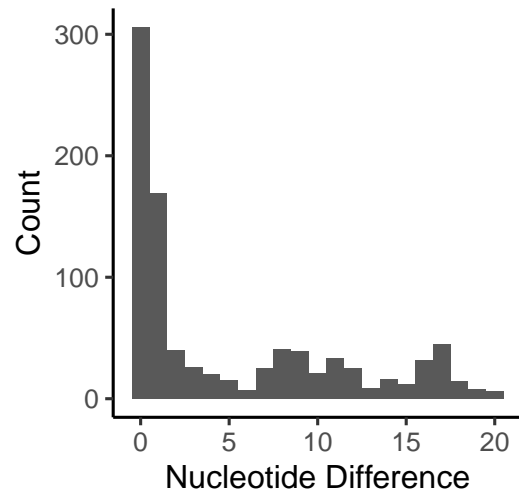
### IGHV3-64D\*06

760 sequences assigned  
1 (0.1%) exact matches, in which:  
1 unique CDR3  
1 unique J



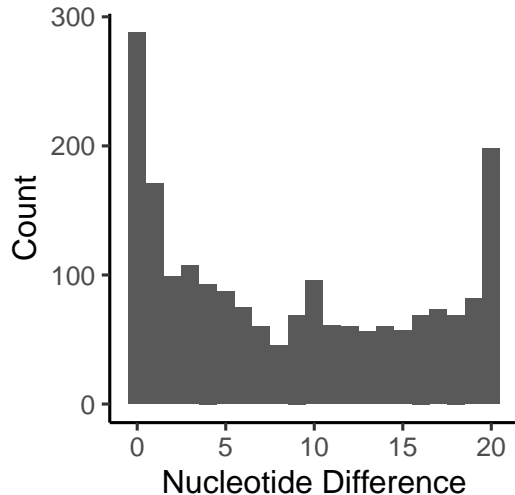
### IGHV4-4\*02\_03

1063 sequences assigned  
306 (28.8%) exact matches, in which:  
250 unique CDR3  
6 unique J



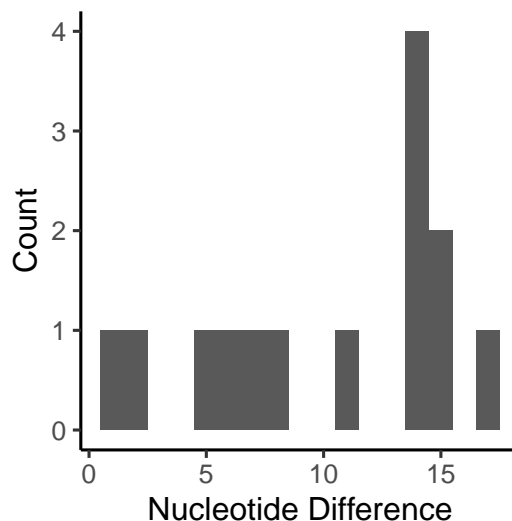
### IGHV3-74\*01\_02

2575 sequences assigned  
288 (11.2%) exact matches, in which:  
217 unique CDR3  
5 unique J



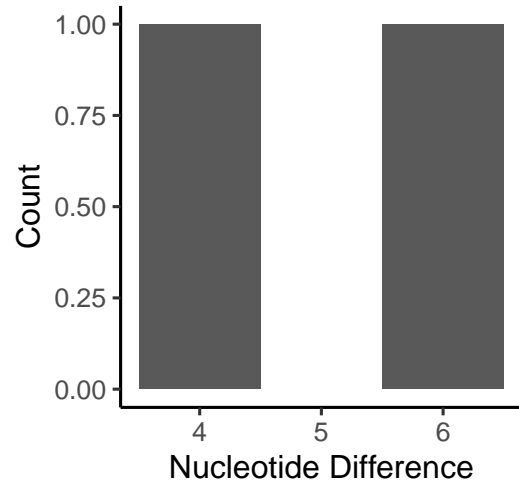
### IGHV3-NL1\*01

29 sequences assigned  
No exact matches.



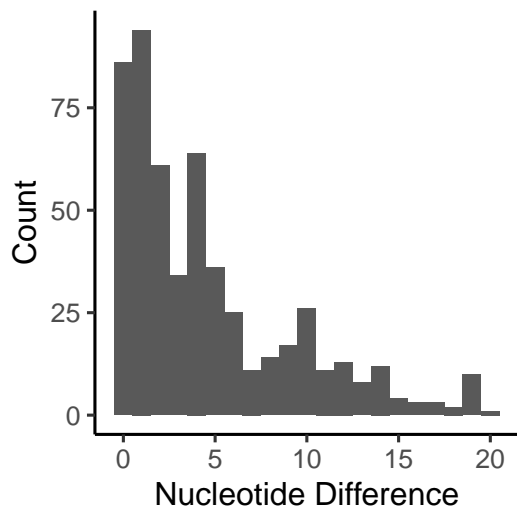
### IGHV4-28\*01\_07

4 sequences assigned  
No exact matches.



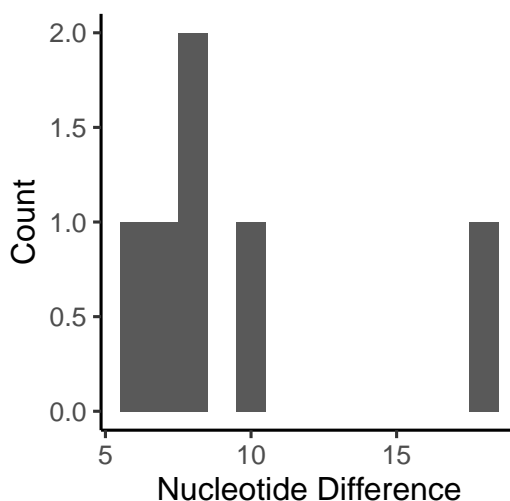
### IGHV4-30-2\*01

554 sequences assigned  
86 (15.5%) exact matches, in which:  
66 unique CDR3  
5 unique J



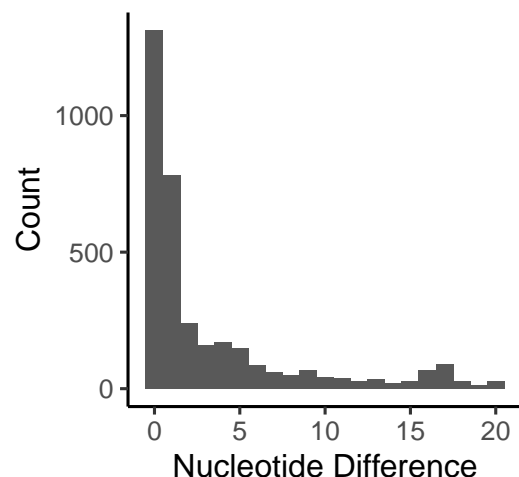
### IGHV4-30-4\*08

7 sequences assigned  
No exact matches.



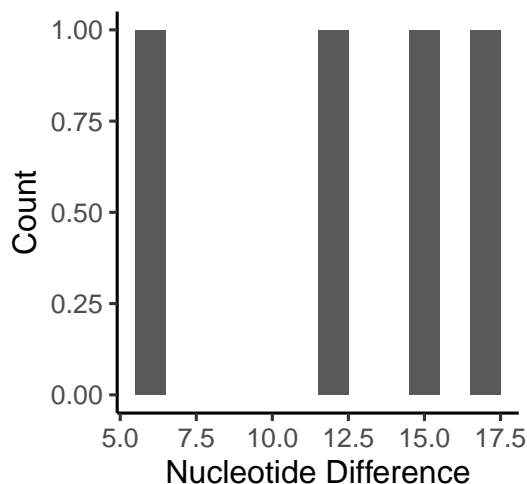
### IGHV4-34\*01\_02

3741 sequences assigned  
1312 (35.1%) exact matches, in which:  
1036 unique CDR3  
6 unique J



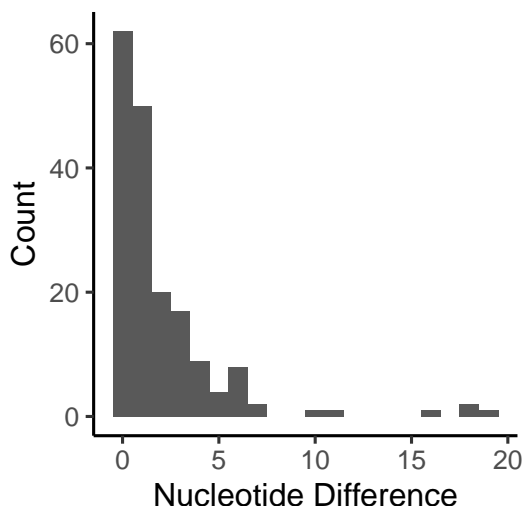
### IGHV4-30-4\*01

4 sequences assigned  
No exact matches.



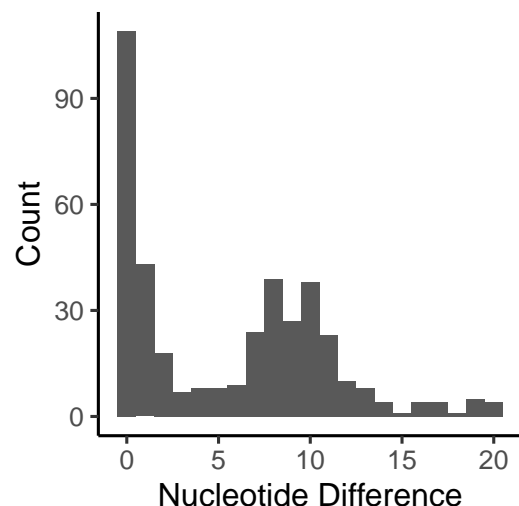
### IGHV4-31\*01

196 sequences assigned  
62 (31.6%) exact matches, in which:  
53 unique CDR3  
5 unique J



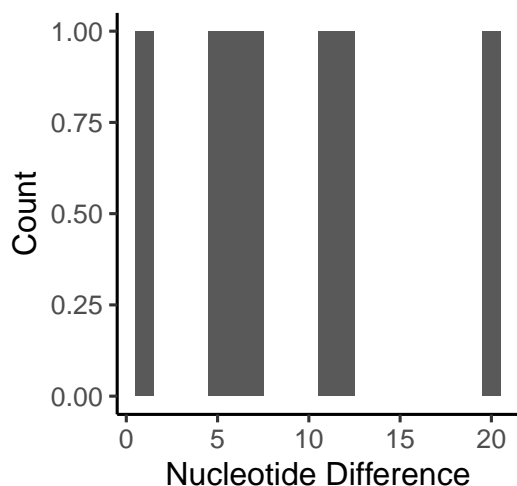
### IGHV4-38-2\*01

424 sequences assigned  
109 (25.7%) exact matches, in which:  
104 unique CDR3  
6 unique J



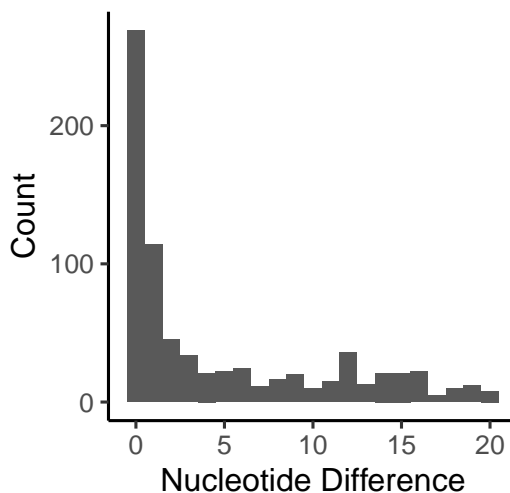
### IGHV4-30-4\*07

8 sequences assigned  
No exact matches.



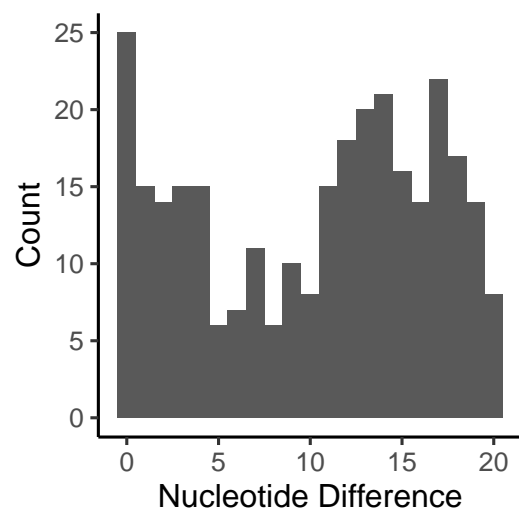
### IGHV4-31\*02

829 sequences assigned  
269 (32.4%) exact matches, in which:  
240 unique CDR3  
6 unique J



### IGHV4-38-2\*02

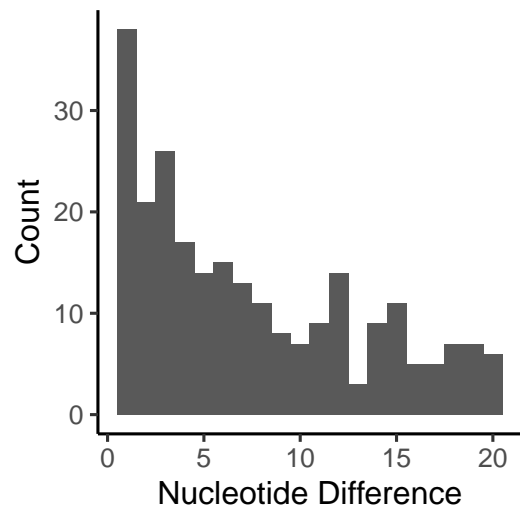
393 sequences assigned  
25 (6.4%) exact matches, in which:  
22 unique CDR3  
4 unique J





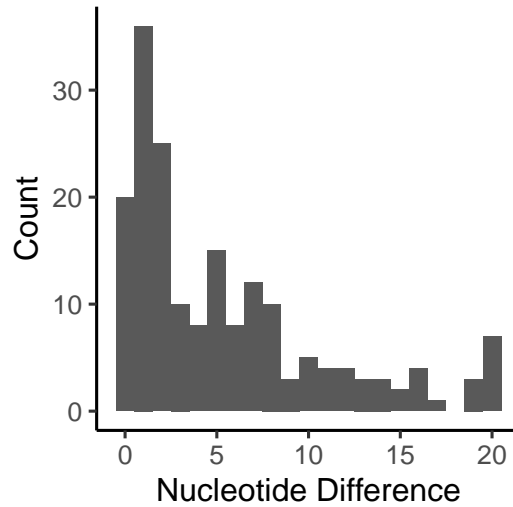
### IGHV4–39\*07

305 sequences assigned  
No exact matches.



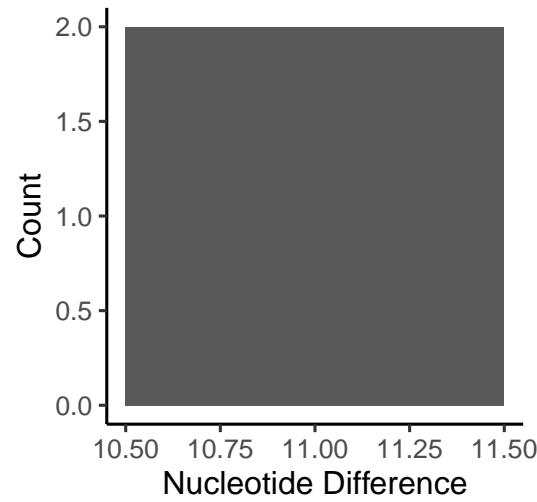
### IGHV4–59\*08

272 sequences assigned  
20 (7.4%) exact matches, in which:  
20 unique CDR3  
4 unique J



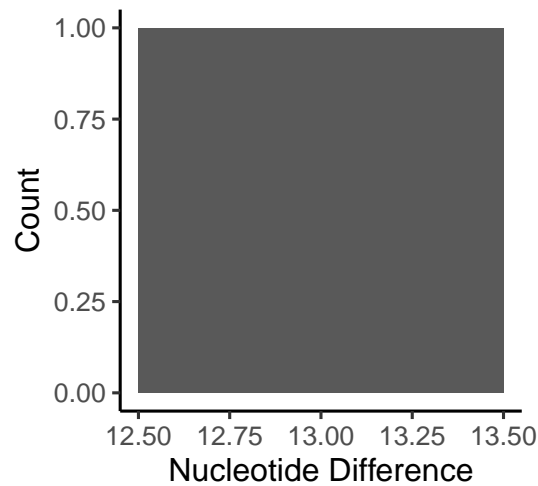
### IGHV1/OR15–3\*02

2 sequences assigned  
No exact matches.



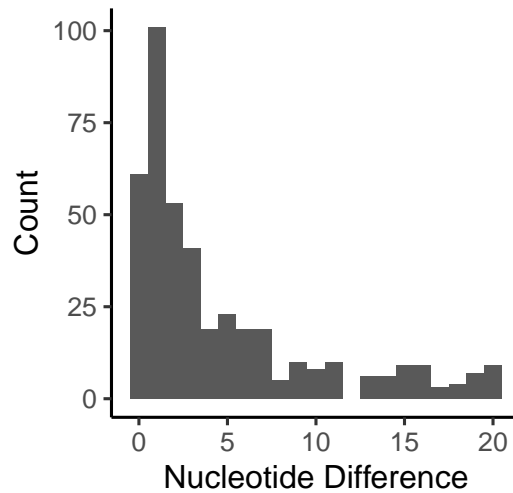
### IGHV4–55\*07

1 sequences assigned  
No exact matches.



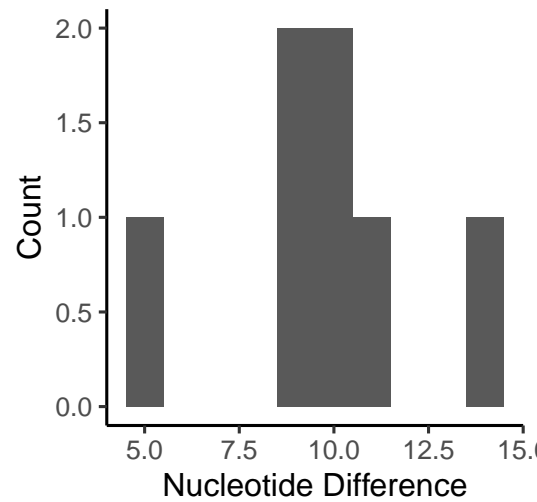
### IGHV4–59\*12

534 sequences assigned  
61 (11.4%) exact matches, in which:  
60 unique CDR3  
5 unique J



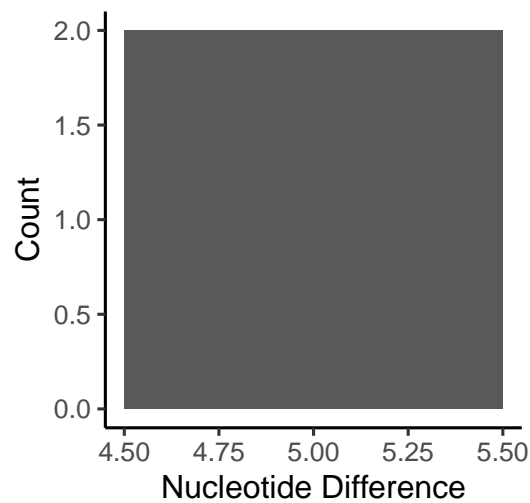
### IGHV4/OR15–8\*01

11 sequences assigned  
No exact matches.



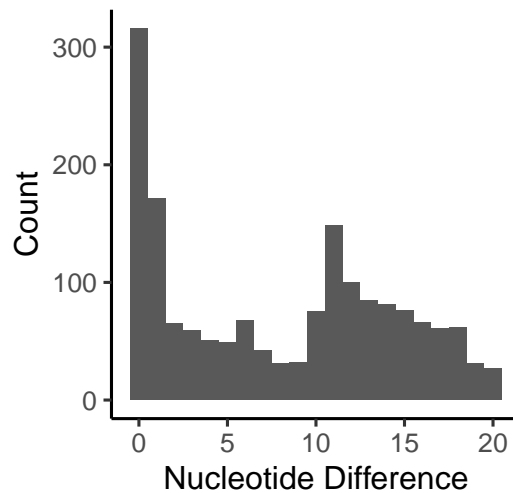
### IGHV4–55\*02\_04\_08

2 sequences assigned  
No exact matches.



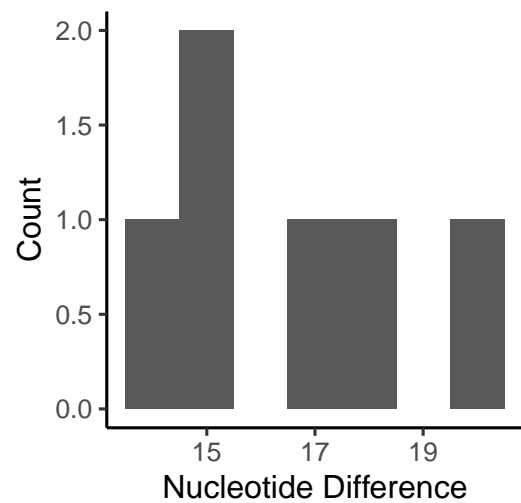
### IGHV4–61\*01

2091 sequences assigned  
316 (15.1%) exact matches, in which:  
287 unique CDR3  
6 unique J



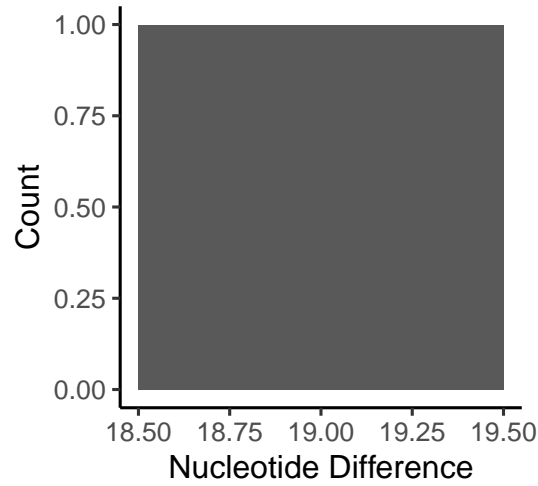
### IGHV4/OR15–8\*02

7 sequences assigned  
No exact matches.



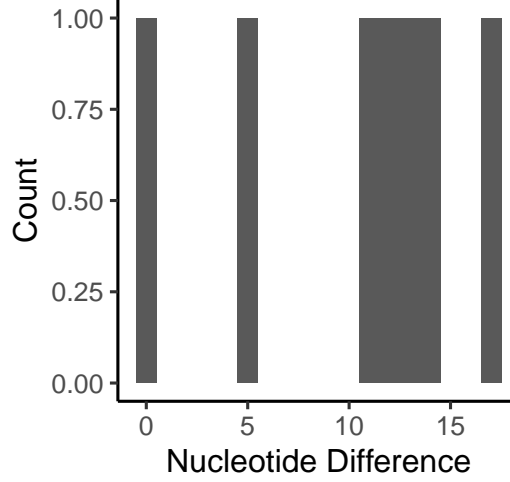
### IGHV1/OR15-9\*01

1 sequences assigned  
No exact matches.



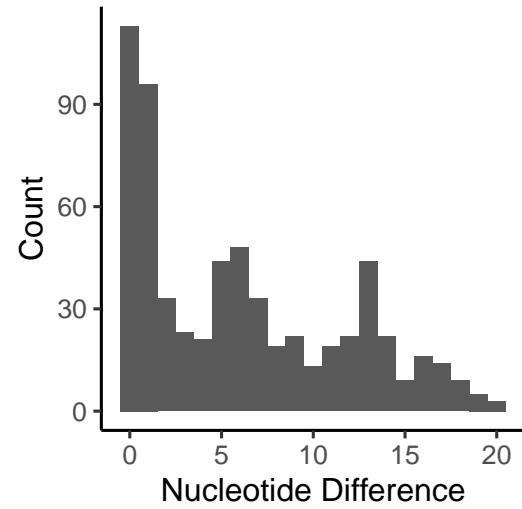
### IGHV5-51\*04

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



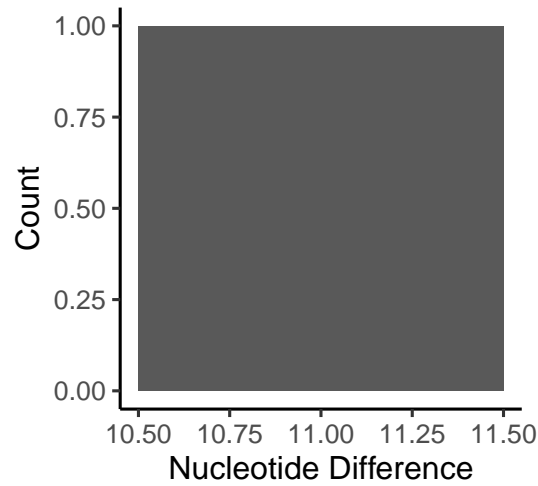
### IGHV6-1\*01\_02

726 sequences assigned  
113 (15.6%) exact matches, in which:  
105 unique CDR3  
6 unique J



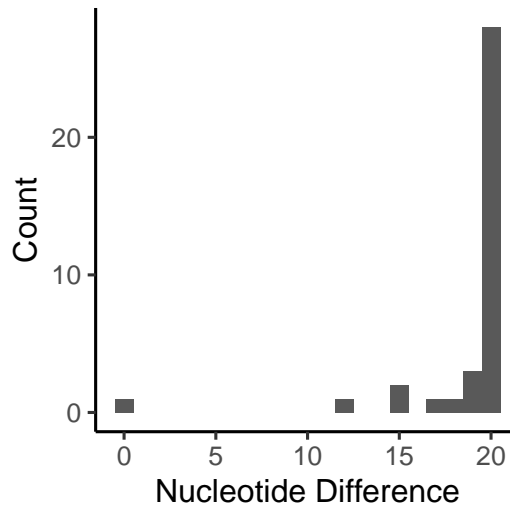
### IGHV5-10-1\*04

1 sequences assigned  
No exact matches.



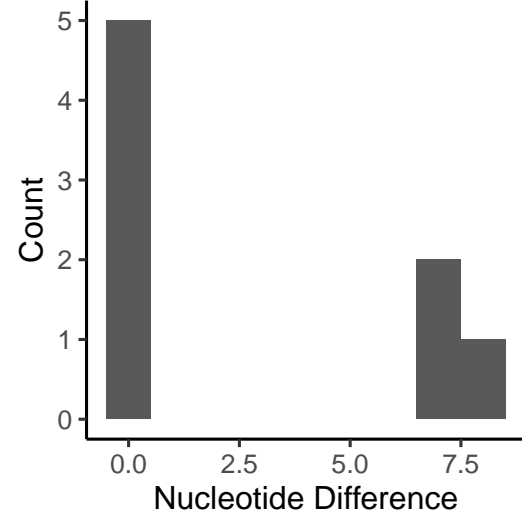
### IGHV5-51\*06

79 sequences assigned  
1 (1.3%) exact matches, in which:  
1 unique CDR3  
1 unique J



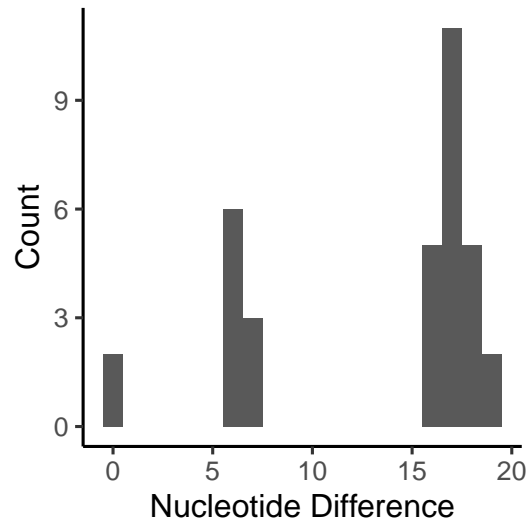
### IGHV7-4-1\*01

8 sequences assigned  
5 (62.5%) exact matches, in which:  
4 unique CDR3  
2 unique J



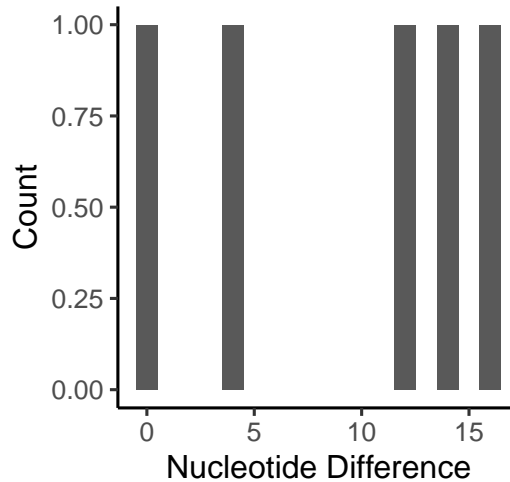
### IGHV5-10-1\*01\_03

34 sequences assigned  
2 (5.9%) exact matches, in which:  
2 unique CDR3  
1 unique J



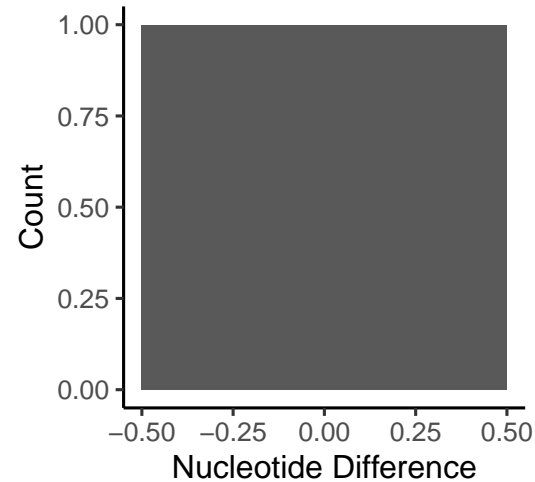
### IGHV5-51\*07

11 sequences assigned  
1 (9.1%) exact matches, in which:  
1 unique CDR3  
0 unique J



### IGHV7-4-1\*02

1 sequences assigned  
1 (100%) exact matches, in which:  
1 unique CDR3  
1 unique J





Warning – no inferred sequences found.