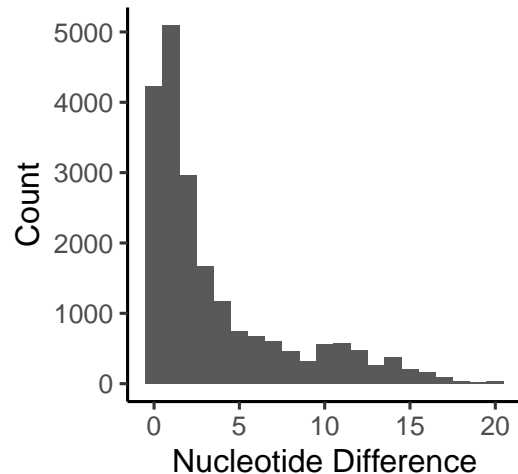


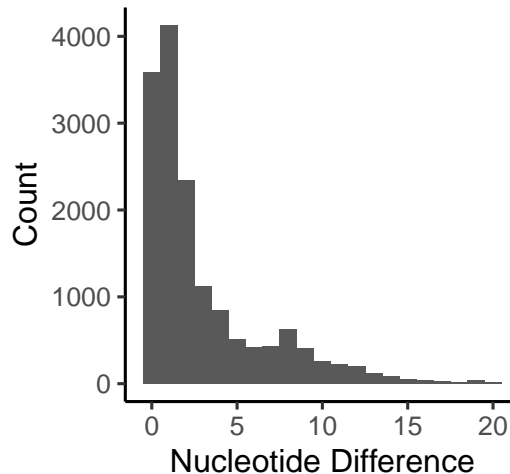
### IGHV1-2\*02

20984 sequences assigned  
4227 (20.1%) exact matches, in which:  
3453 unique CDR3  
7 unique J



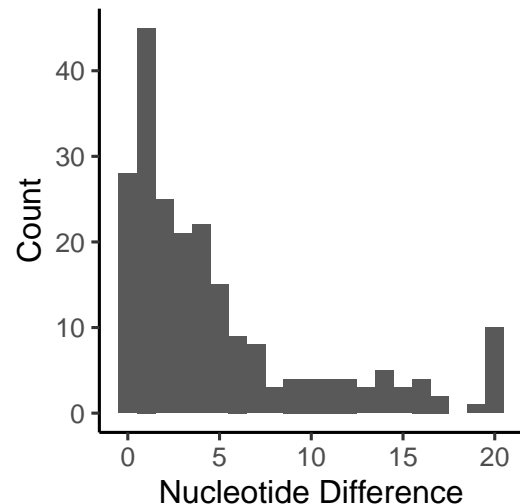
### IGHV1-8\*01

15616 sequences assigned  
3589 (23%) exact matches, in which:  
3045 unique CDR3  
7 unique J



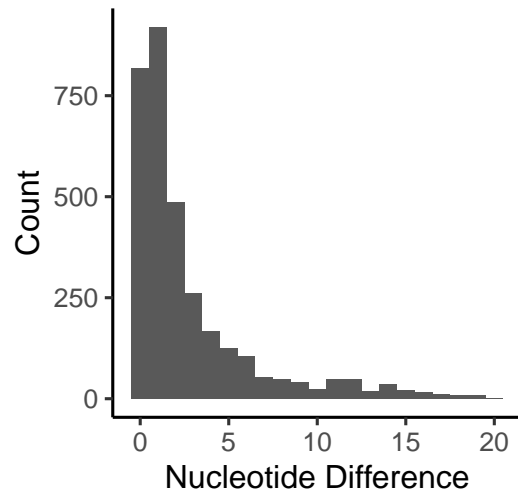
### IGHV1-45\*02

226 sequences assigned  
28 (12.4%) exact matches, in which:  
24 unique CDR3  
6 unique J



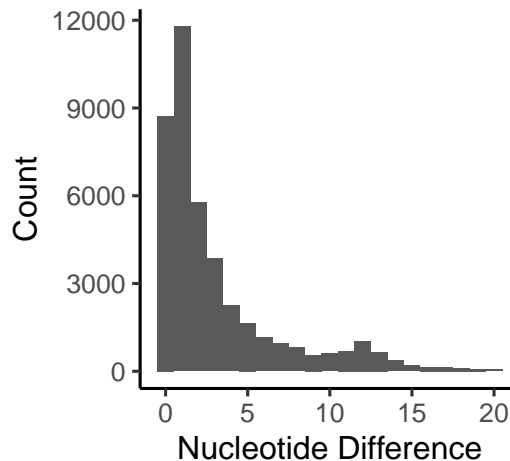
### IGHV1-2\*04

3305 sequences assigned  
817 (24.7%) exact matches, in which:  
664 unique CDR3  
7 unique J



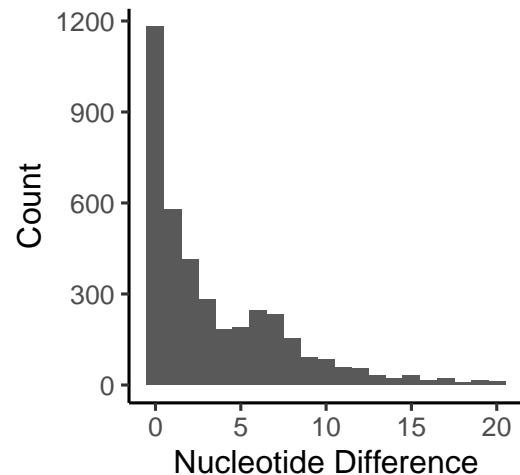
### IGHV1-18\*01

41998 sequences assigned  
8724 (20.8%) exact matches, in which:  
7000 unique CDR3  
7 unique J



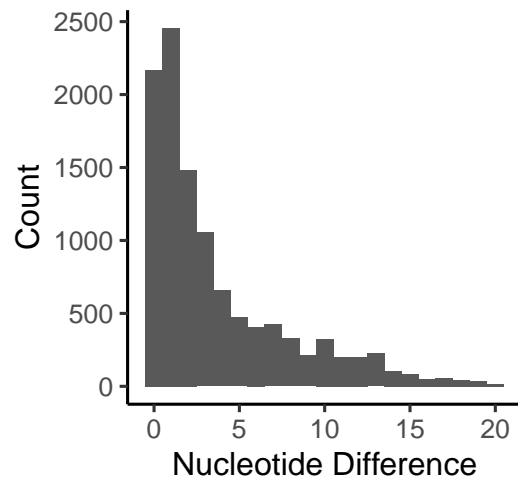
### IGHV1-46\*01

3979 sequences assigned  
1181 (29.7%) exact matches, in which:  
1162 unique CDR3  
7 unique J



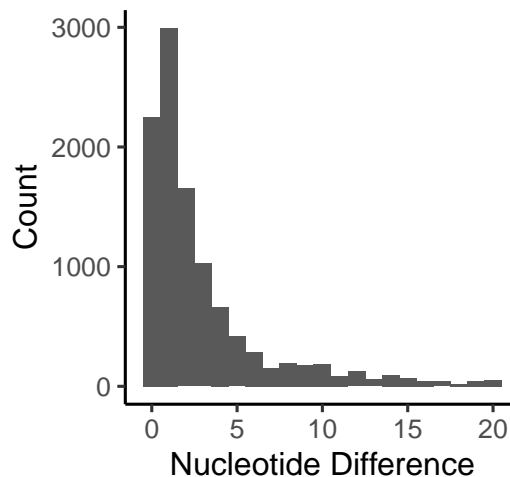
### IGHV1-3\*01

11173 sequences assigned  
2169 (19.4%) exact matches, in which:  
1812 unique CDR3  
7 unique J



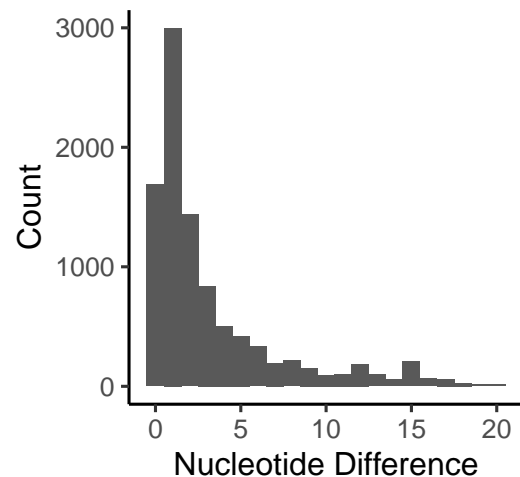
### IGHV1-24\*01

10920 sequences assigned  
2250 (20.6%) exact matches, in which:  
1830 unique CDR3  
7 unique J



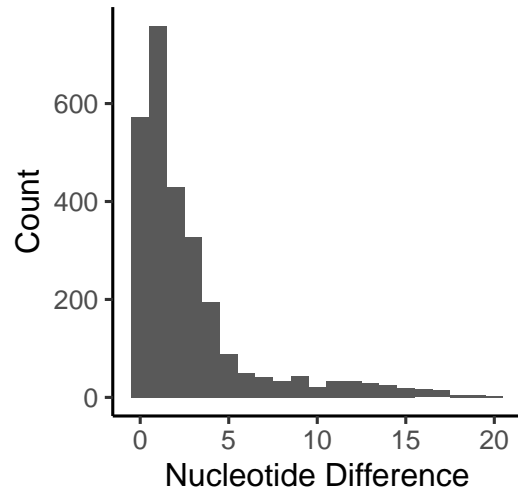
### IGHV1-46\*03

9856 sequences assigned  
1689 (17.1%) exact matches, in which:  
1260 unique CDR3  
7 unique J



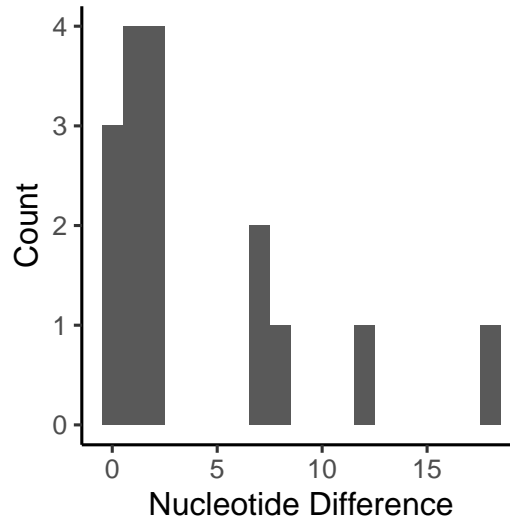
### IGHV1-58\*02

2771 sequences assigned  
573 (20.7%) exact matches, in which:  
445 unique CDR3  
6 unique J



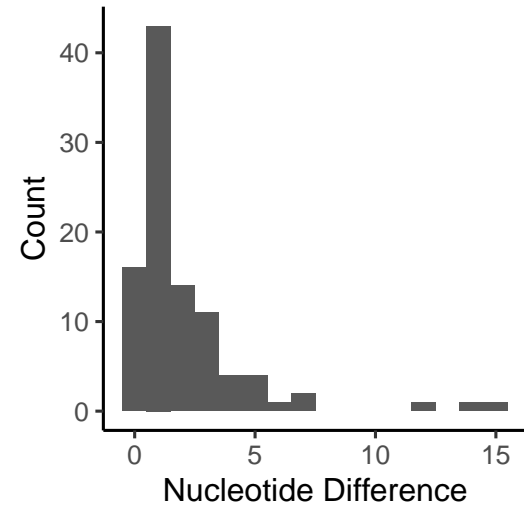
### IGHV1-69D\*01

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



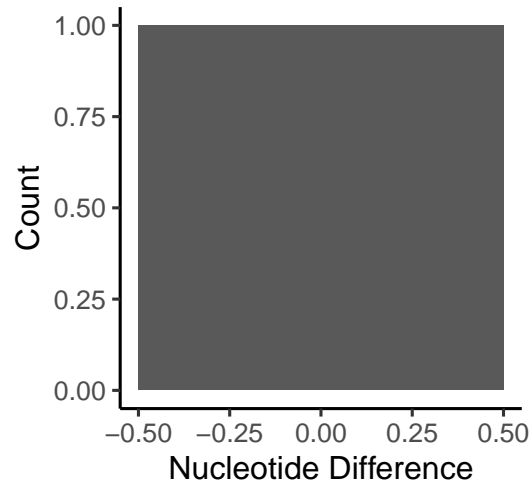
### IGHV2-70\*04\_T116C

98 sequences assigned  
16 (16.3%) exact matches, in which:  
11 unique CDR3  
4 unique J



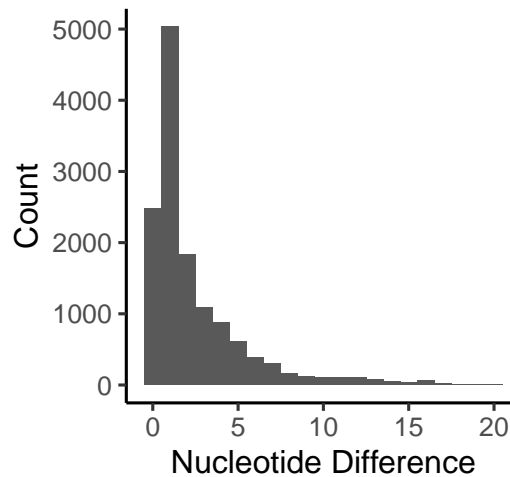
### IGHV1-69-2\*01

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



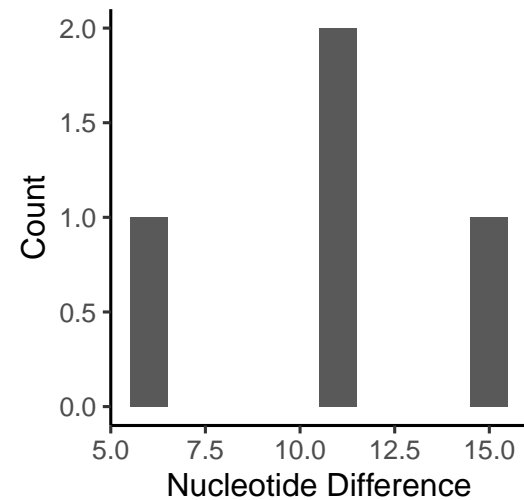
### IGHV2-5\*02

13725 sequences assigned  
2485 (18.1%) exact matches, in which:  
1915 unique CDR3  
7 unique J



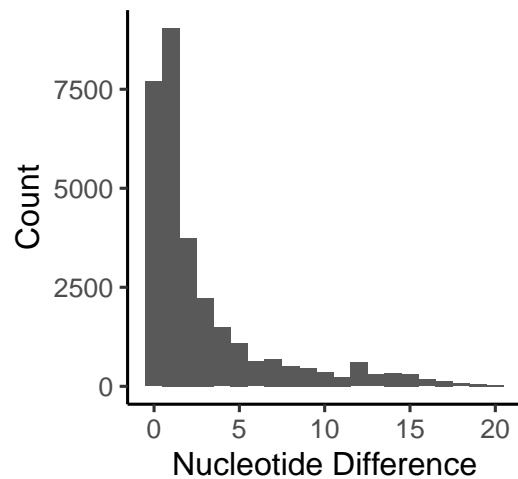
### IGHV2-70D\*04

4 sequences assigned  
No exact matches.



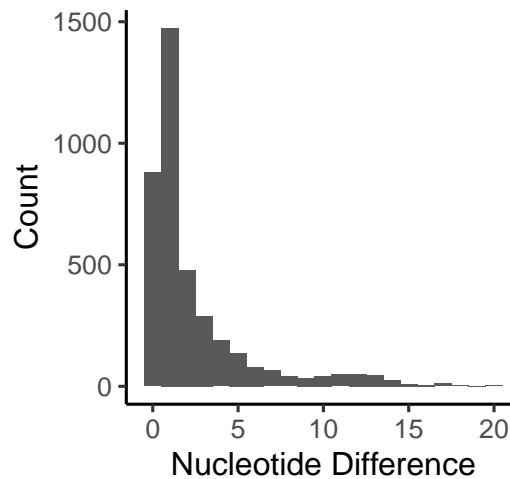
### IGHV1-69\*08\_C191T

30527 sequences assigned  
7700 (25.2%) exact matches, in which:  
6195 unique CDR3  
7 unique J



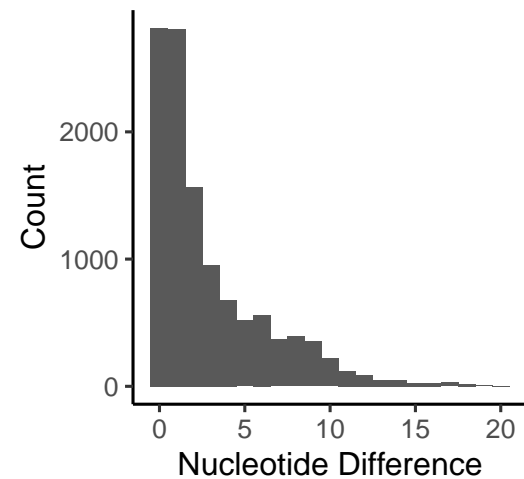
### IGHV2-26\*01

4058 sequences assigned  
880 (21.7%) exact matches, in which:  
728 unique CDR3  
7 unique J



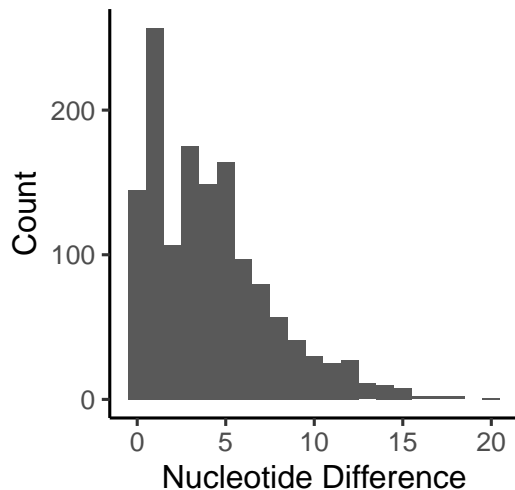
### IGHV3-7\*01

11771 sequences assigned  
2816 (23.9%) exact matches, in which:  
2392 unique CDR3  
7 unique J



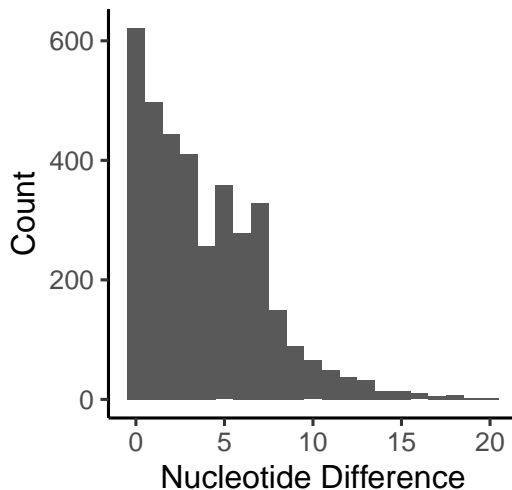
### IGHV3-7\*03

1407 sequences assigned  
145 (10.3%) exact matches, in which:  
145 unique CDR3  
7 unique J



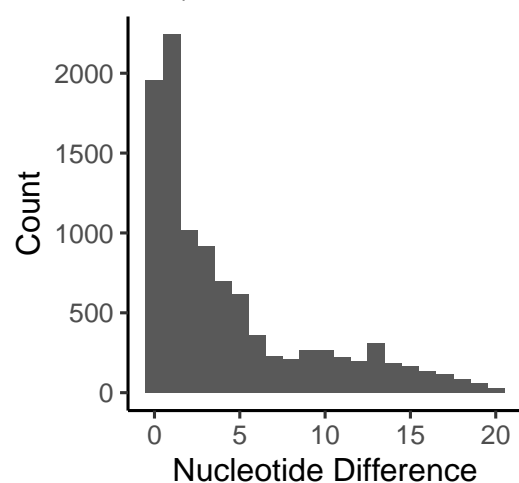
### IGHV3-11\*04

3773 sequences assigned  
622 (16.5%) exact matches, in which:  
615 unique CDR3  
7 unique J



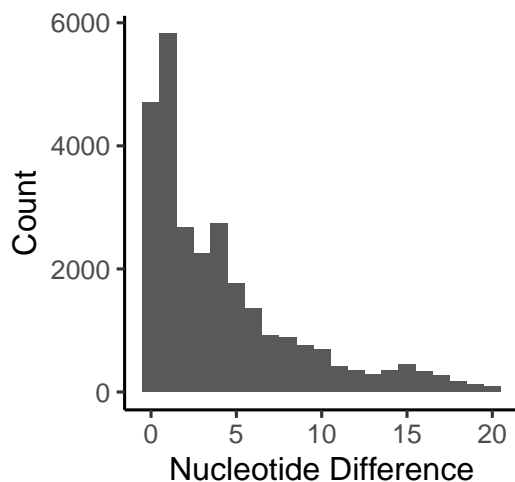
### IGHV3-15\*01

10541 sequences assigned  
1959 (18.6%) exact matches, in which:  
1543 unique CDR3  
7 unique J



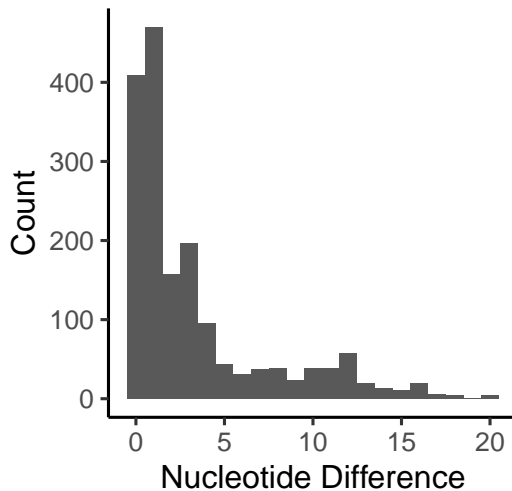
### IGHV3-9\*01

27773 sequences assigned  
4707 (16.9%) exact matches, in which:  
3642 unique CDR3  
7 unique J



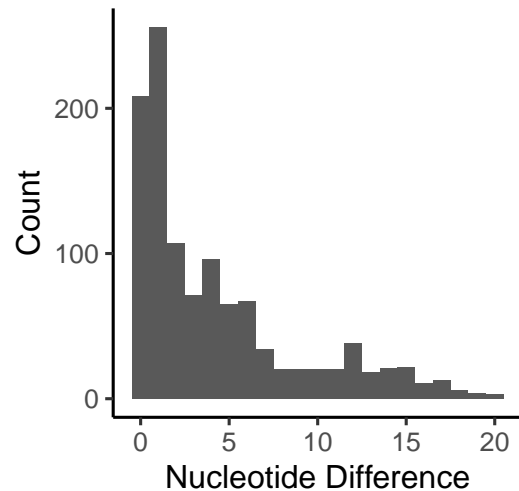
### IGHV3-13\*01

1730 sequences assigned  
409 (23.6%) exact matches, in which:  
328 unique CDR3  
7 unique J



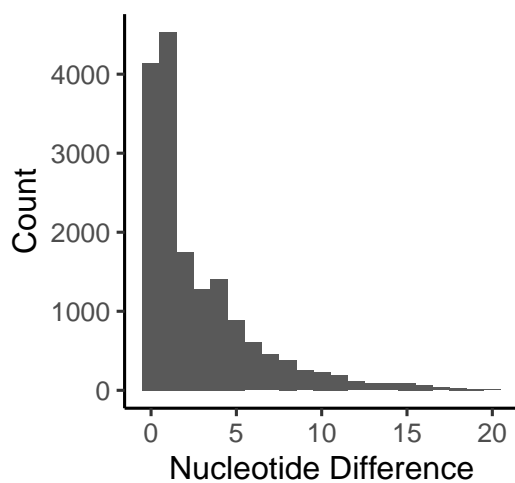
### IGHV3-20\*01

1132 sequences assigned  
208 (18.4%) exact matches, in which:  
159 unique CDR3  
6 unique J



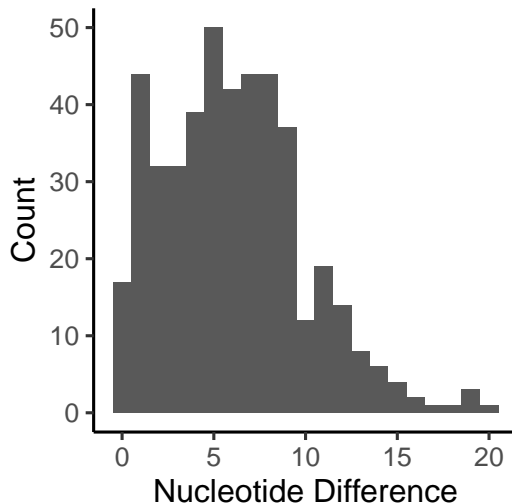
### IGHV3-11\*01

16930 sequences assigned  
4143 (24.5%) exact matches, in which:  
3203 unique CDR3  
7 unique J



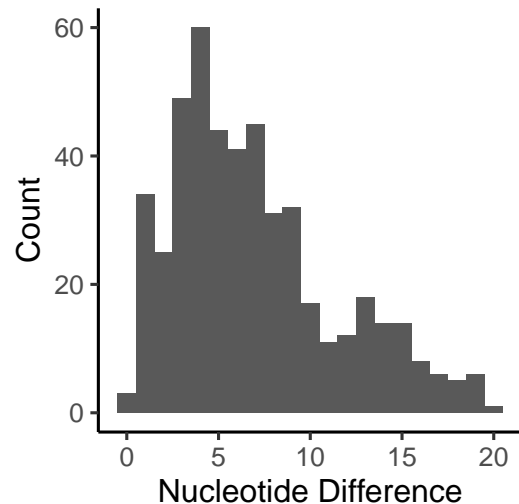
### IGHV3-13\*01\_G290A

454 sequences assigned  
17 (3.7%) exact matches, in which:  
17 unique CDR3  
5 unique J



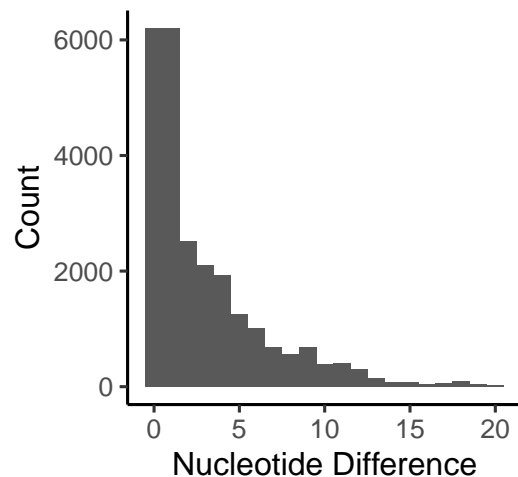
### IGHV3-20\*04

483 sequences assigned  
3 (0.6%) exact matches, in which:  
3 unique CDR3  
3 unique J



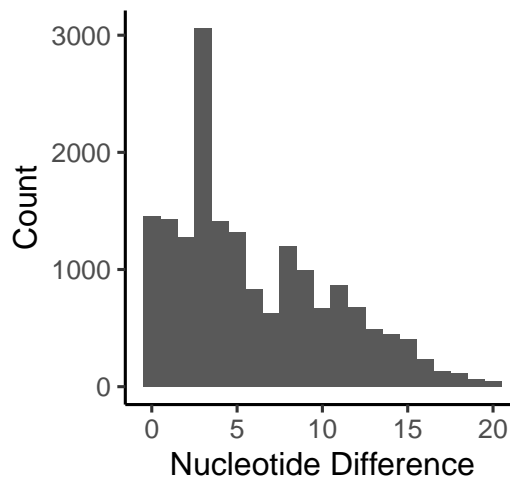
### IGHV3-21\*01

25034 sequences assigned  
6199 (24.8%) exact matches, in which:  
5001 unique CDR3  
7 unique J



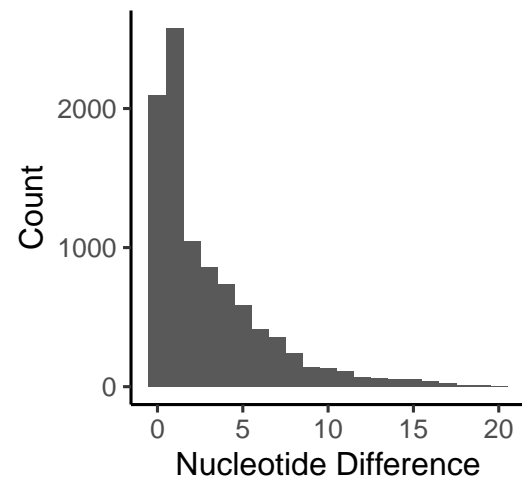
### IGHV3-23\*04

18097 sequences assigned  
1457 (8.1%) exact matches, in which:  
1257 unique CDR3  
7 unique J



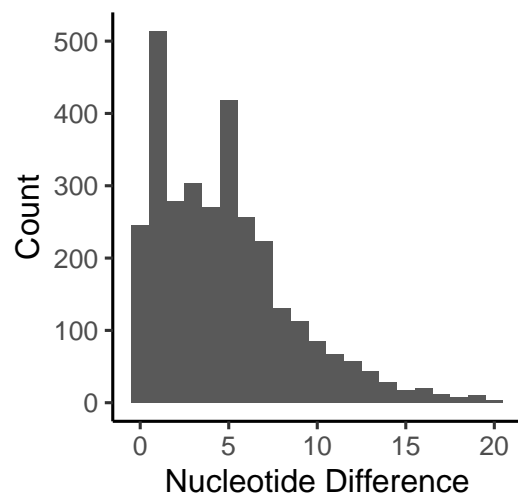
### IGHV3-33\*01

9691 sequences assigned  
2099 (21.7%) exact matches, in which:  
1580 unique CDR3  
7 unique J



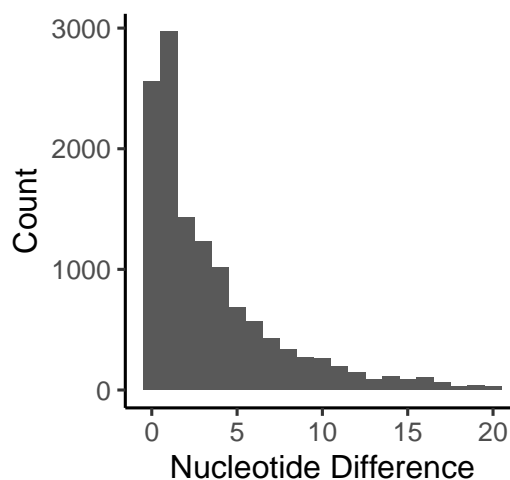
### IGHV3-21\*04

3120 sequences assigned  
246 (7.9%) exact matches, in which:  
240 unique CDR3  
7 unique J



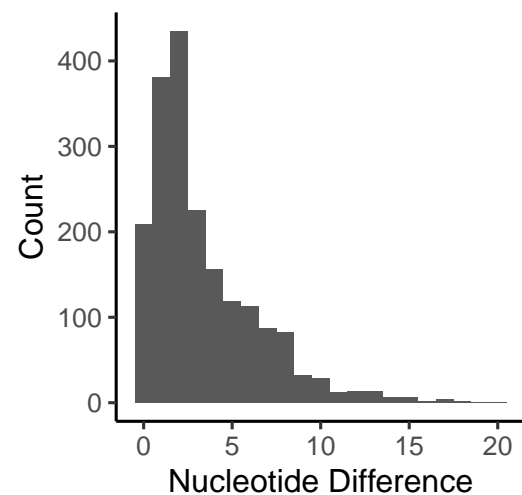
### IGHV3-30-3\*01

12886 sequences assigned  
2558 (19.9%) exact matches, in which:  
1893 unique CDR3  
7 unique J



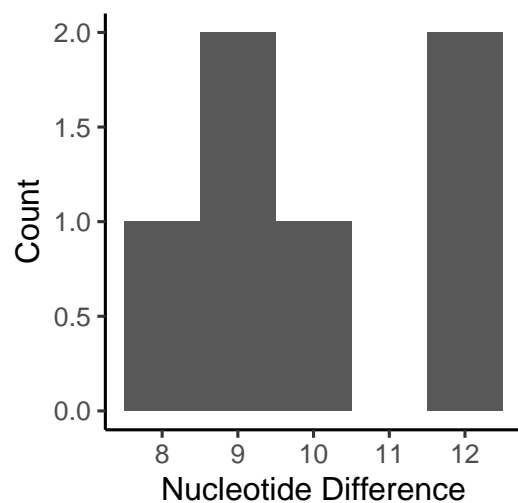
### IGHV3-33\*06

1933 sequences assigned  
209 (10.8%) exact matches, in which:  
204 unique CDR3  
6 unique J



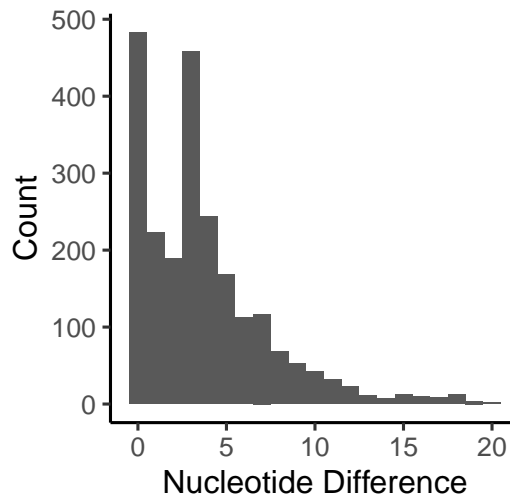
### IGHV3-22\*02

6 sequences assigned  
No exact matches.



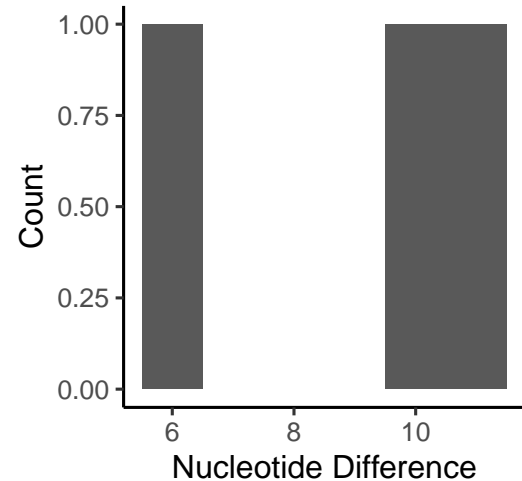
### IGHV3-30-3\*02\_G75C

2316 sequences assigned  
483 (20.9%) exact matches, in which:  
468 unique CDR3  
7 unique J



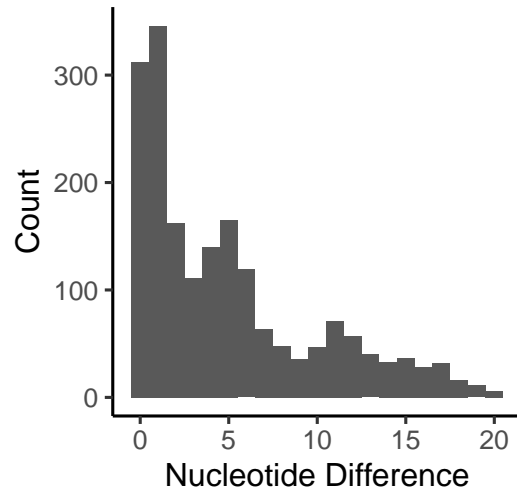
### IGHV3-35\*02

3 sequences assigned  
No exact matches.



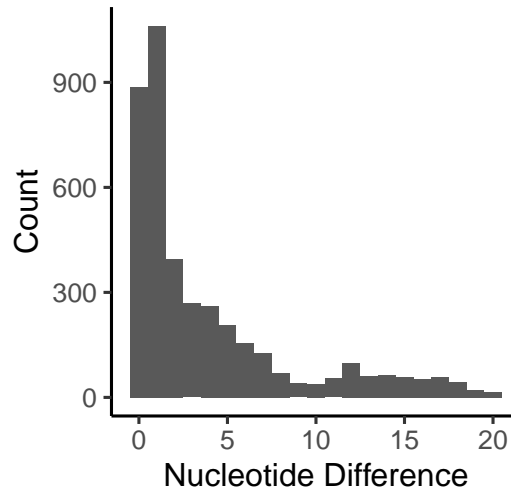
### IGHV3-43\*01

1906 sequences assigned  
312 (16.4%) exact matches, in which:  
257 unique CDR3  
6 unique J



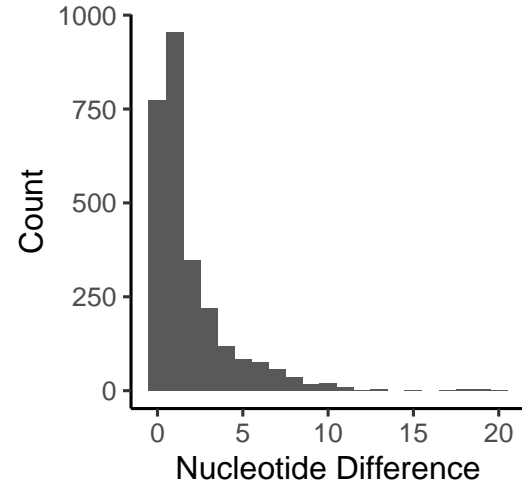
### IGHV3-49\*03

4109 sequences assigned  
886 (21.6%) exact matches, in which:  
703 unique CDR3  
7 unique J



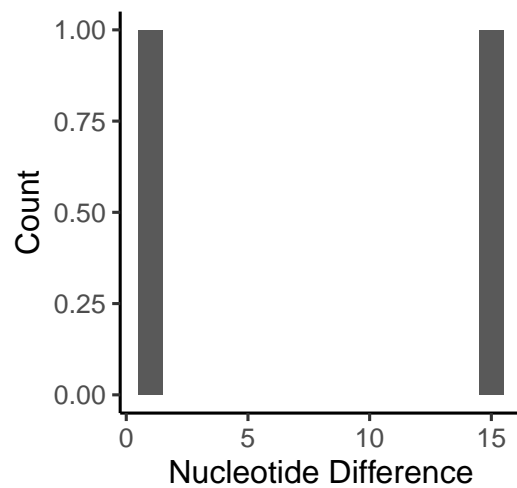
### IGHV3-53\*02

2748 sequences assigned  
773 (28.1%) exact matches, in which:  
630 unique CDR3  
7 unique J



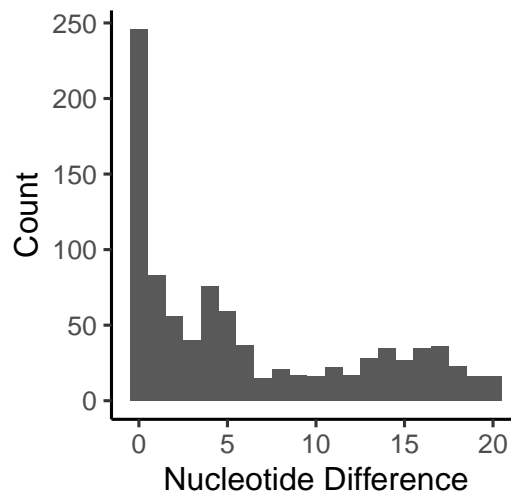
### IGHV3-47\*02

2 sequences assigned  
No exact matches.



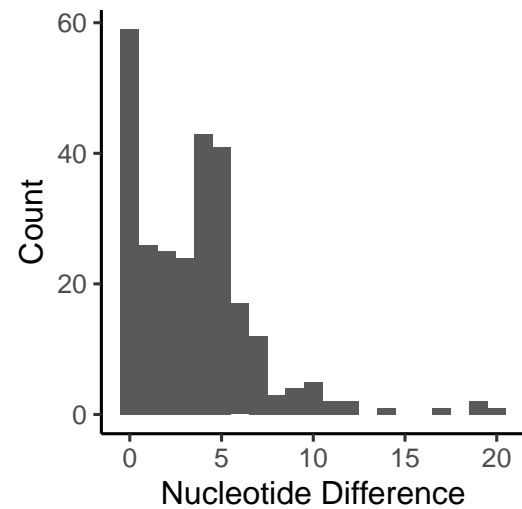
### IGHV3-49\*03\_A313G

949 sequences assigned  
246 (25.9%) exact matches, in which:  
244 unique CDR3  
7 unique J



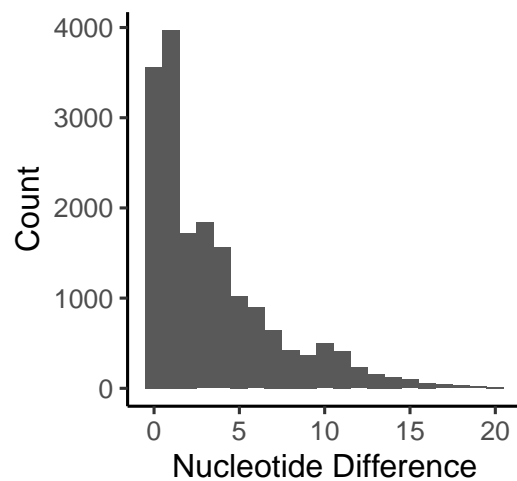
### IGHV3-53\*02\_T267G\_C3

272 sequences assigned  
59 (21.7%) exact matches, in which:  
59 unique CDR3  
6 unique J



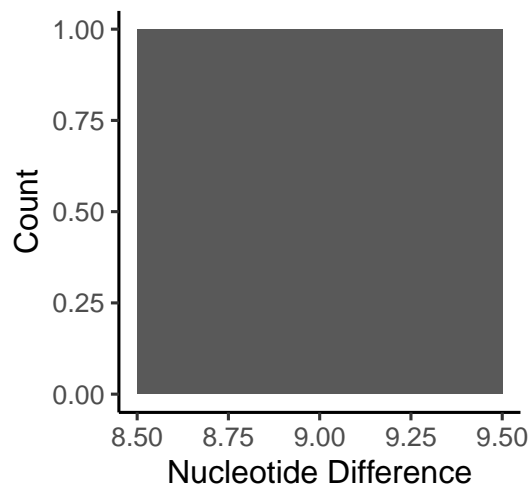
### IGHV3-48\*01

17813 sequences assigned  
3562 (20%) exact matches, in which:  
2865 unique CDR3  
7 unique J



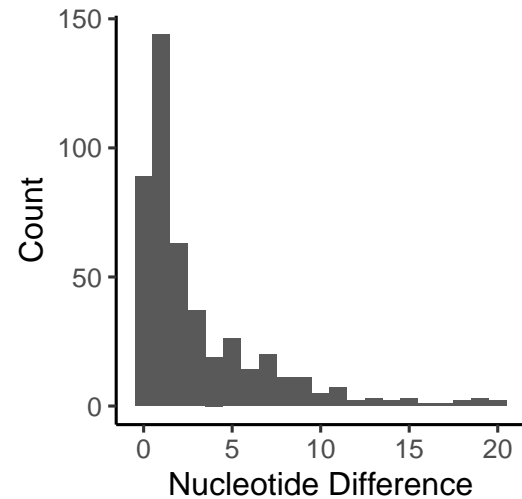
### IGHV3-52\*02

1 sequences assigned  
No exact matches.



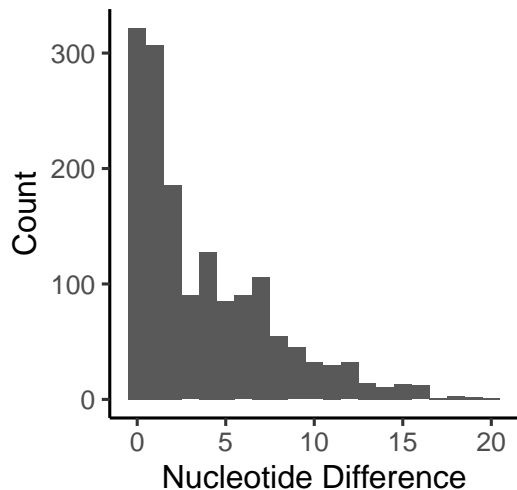
### IGHV3-53\*05\_T267G\_C3

467 sequences assigned  
89 (19.1%) exact matches, in which:  
88 unique CDR3  
7 unique J



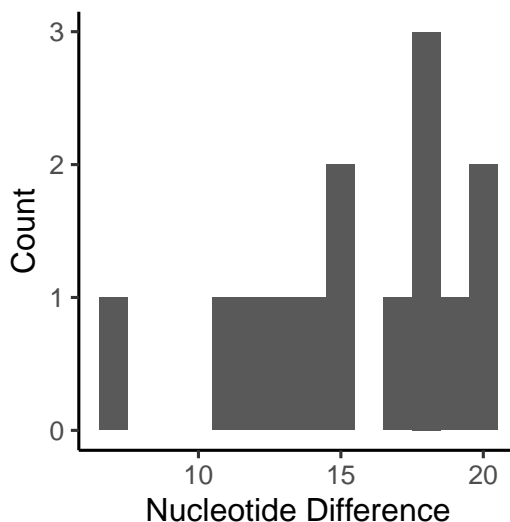
### IGHV3-64\*01

1591 sequences assigned  
322 (20.2%) exact matches, in which:  
272 unique CDR3  
7 unique J



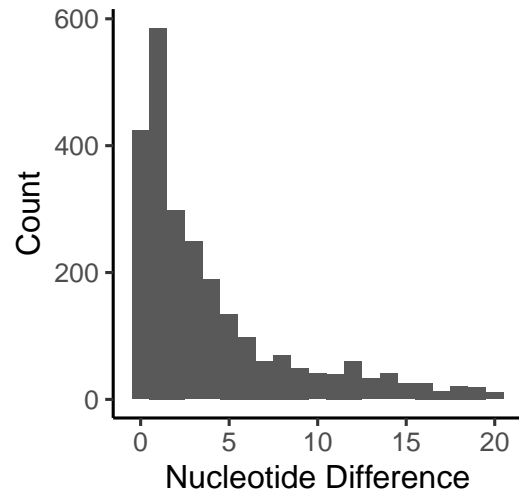
### IGHV3-69-1\*01

17 sequences assigned  
No exact matches.



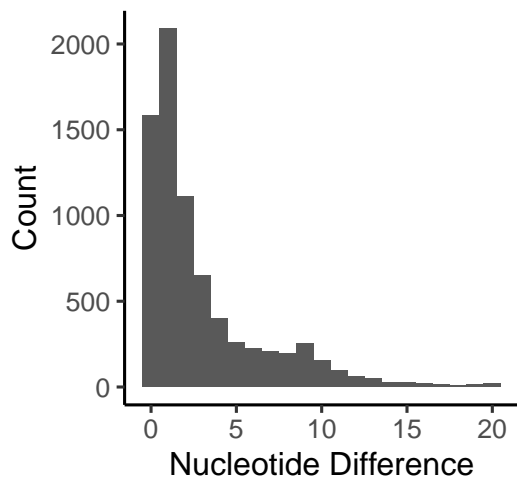
### IGHV3-73\*01

2529 sequences assigned  
424 (16.8%) exact matches, in which:  
340 unique CDR3  
6 unique J



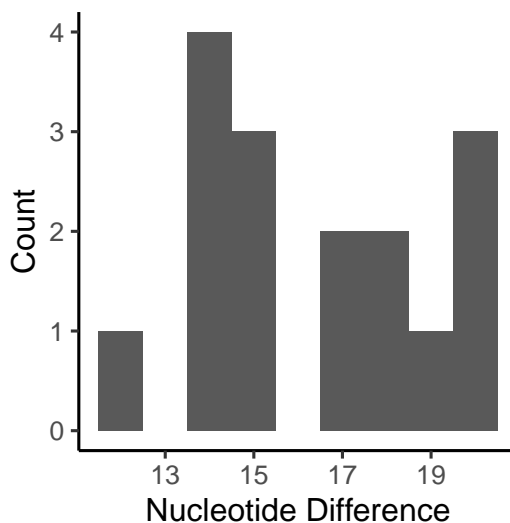
### IGHV3-66\*02

7548 sequences assigned  
1585 (21%) exact matches, in which:  
1236 unique CDR3  
7 unique J



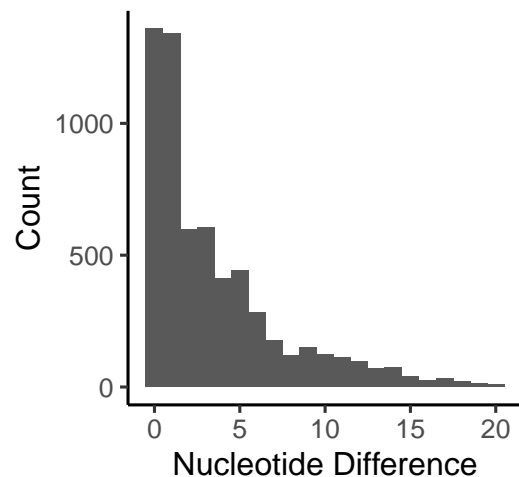
### IGHV3-71\*04

19 sequences assigned  
No exact matches.



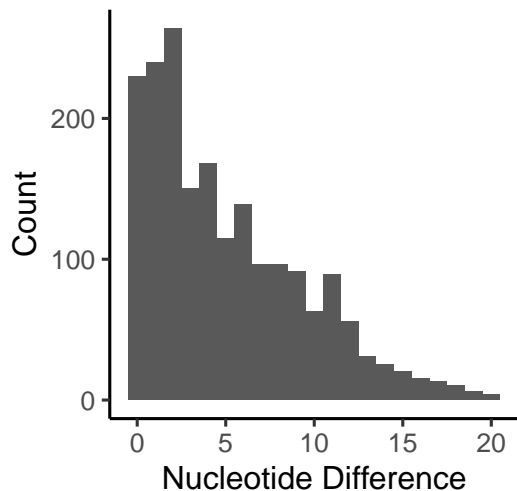
### IGHV3-74\*01

6139 sequences assigned  
1359 (22.1%) exact matches, in which:  
1120 unique CDR3  
7 unique J



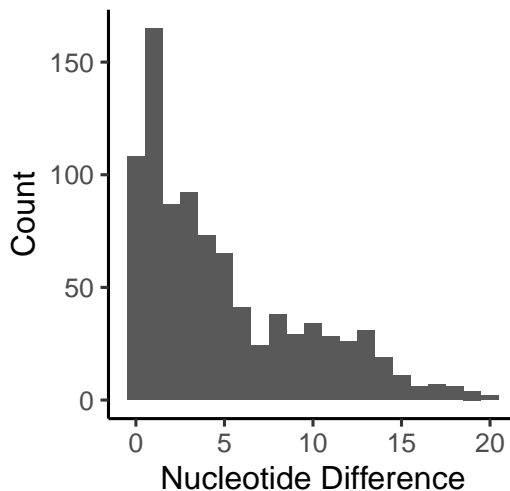
### IGHV3-66\*01\_A223C\_T2

1965 sequences assigned  
230 (11.7%) exact matches, in which:  
229 unique CDR3  
7 unique J



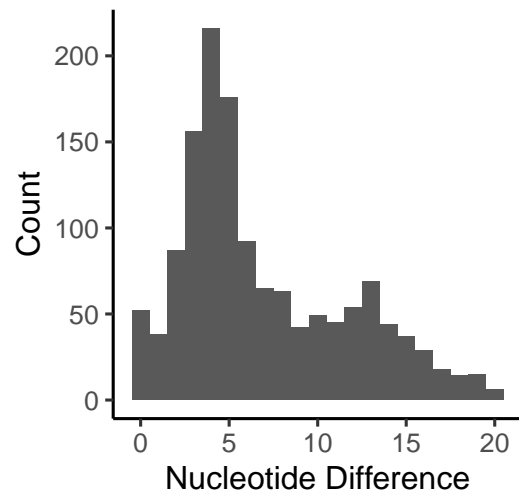
### IGHV3-72\*01

929 sequences assigned  
108 (11.6%) exact matches, in which:  
87 unique CDR3  
6 unique J



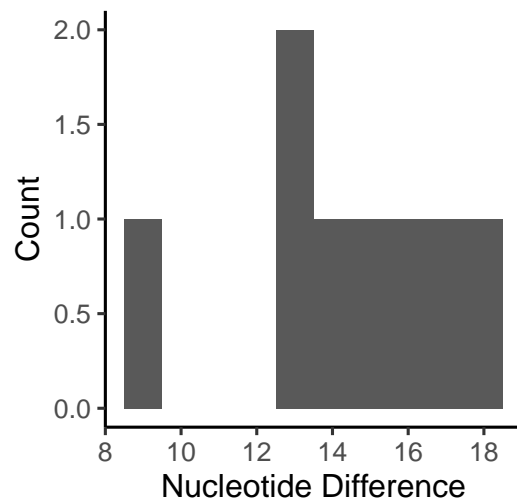
### IGHV3-74\*02

1396 sequences assigned  
52 (3.7%) exact matches, in which:  
48 unique CDR3  
6 unique J



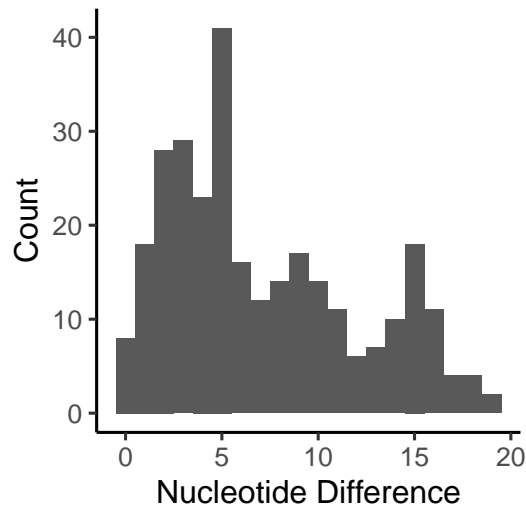
### IGHV3-43D\*04

9 sequences assigned  
No exact matches.



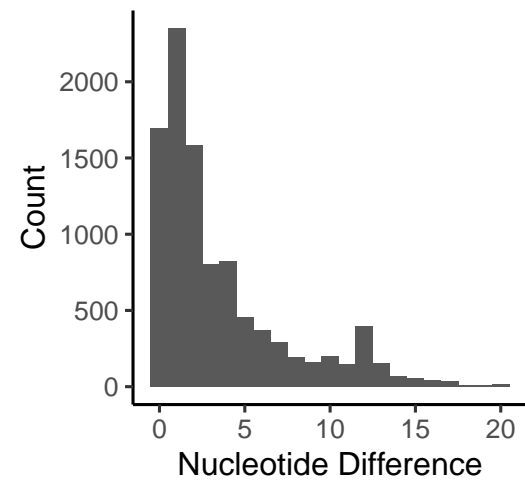
### IGHV3-NL1\*01\_G49A\_T2

295 sequences assigned  
8 (2.7%) exact matches, in which:  
8 unique CDR3  
3 unique J



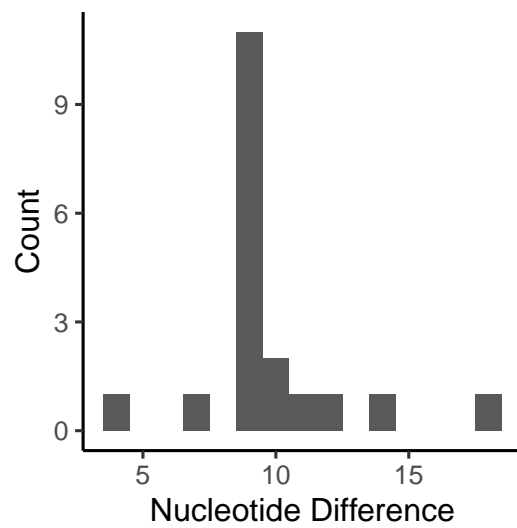
### IGHV4-4\*07

9968 sequences assigned  
1696 (17%) exact matches, in which:  
1469 unique CDR3  
7 unique J



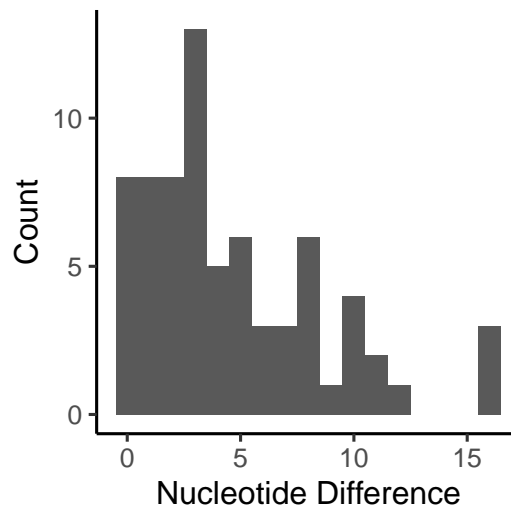
### IGHV3-64D\*06

20 sequences assigned  
No exact matches.



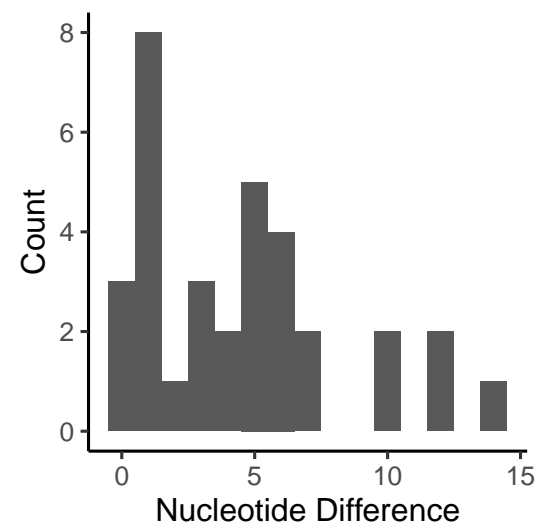
### IGHV3-NL1\*01\_T201C\_G

73 sequences assigned  
8 (11%) exact matches, in which:  
8 unique CDR3  
5 unique J



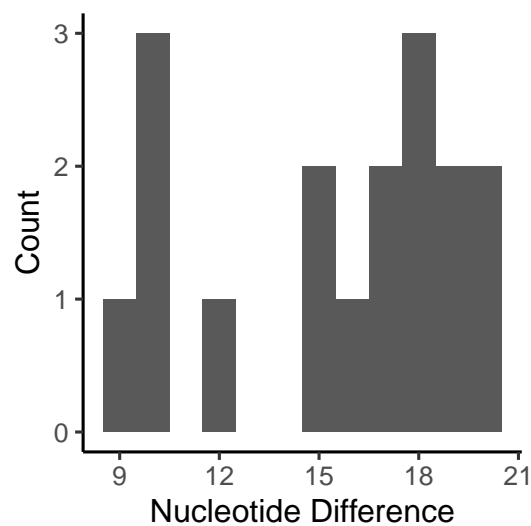
### IGHV4-28\*03

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



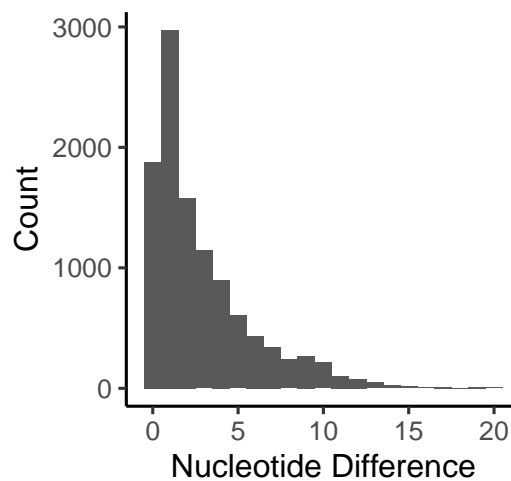
### IGHV3-NL1\*01

20 sequences assigned  
No exact matches.



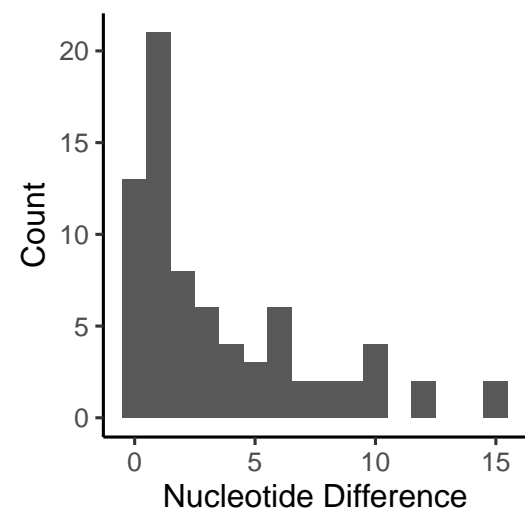
### IGHV4-4\*02

11075 sequences assigned  
1880 (17%) exact matches, in which:  
1587 unique CDR3  
7 unique J



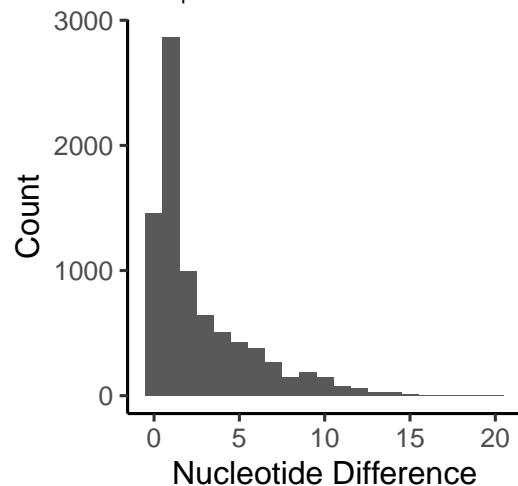
### IGHV4-28\*07

75 sequences assigned  
13 (17.3%) exact matches, in which:  
9 unique CDR3  
5 unique J



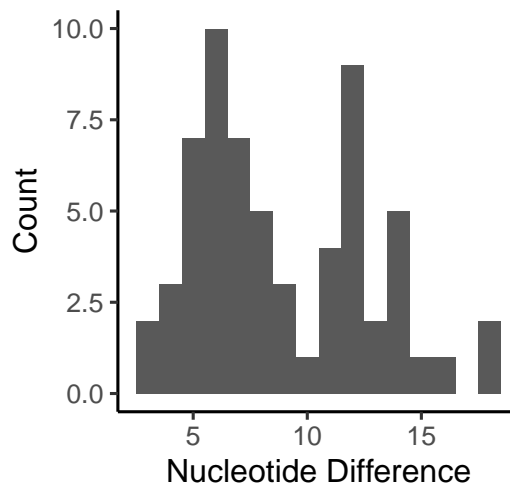
### IGHV4-30-2\*01

8278 sequences assigned  
1459 (17.6%) exact matches, in which:  
1041 unique CDR3  
7 unique J



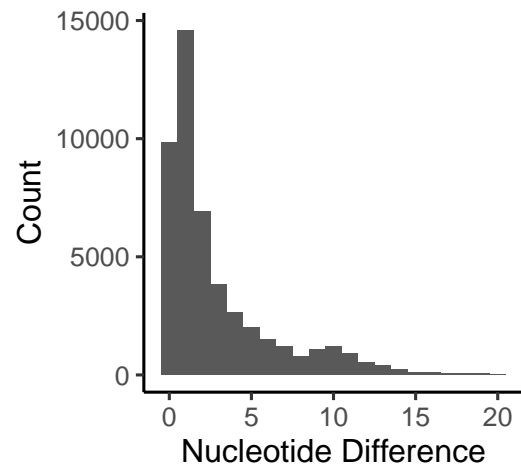
### IGHV4-30-4\*08

64 sequences assigned  
No exact matches.



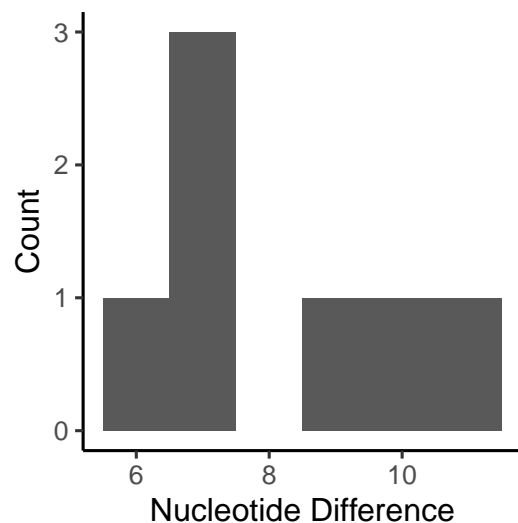
### IGHV4-34\*01

48591 sequences assigned  
9824 (20.2%) exact matches, in which:  
7919 unique CDR3  
7 unique J



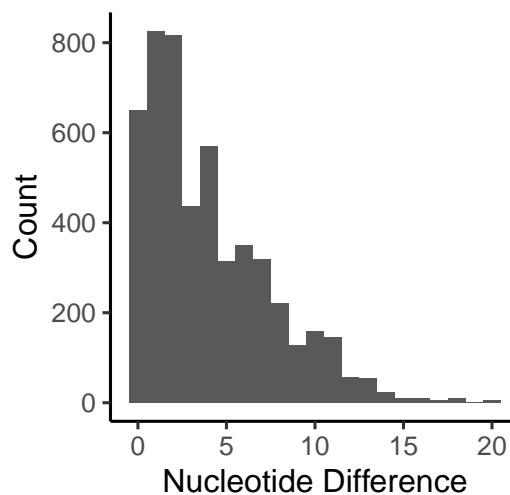
### IGHV4-30-4\*01

8 sequences assigned  
No exact matches.



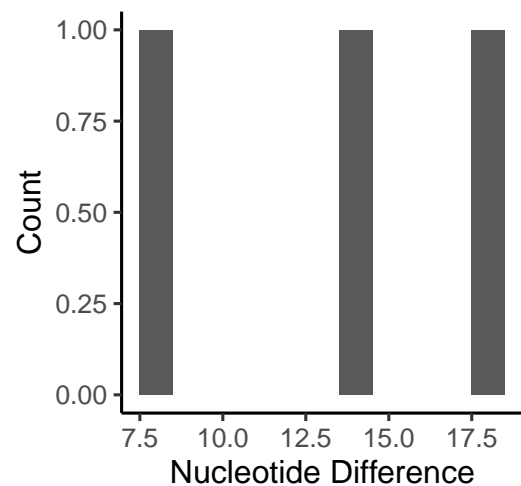
### IGHV4-30-2\*01\_C315G

5157 sequences assigned  
651 (12.6%) exact matches, in which:  
637 unique CDR3  
7 unique J



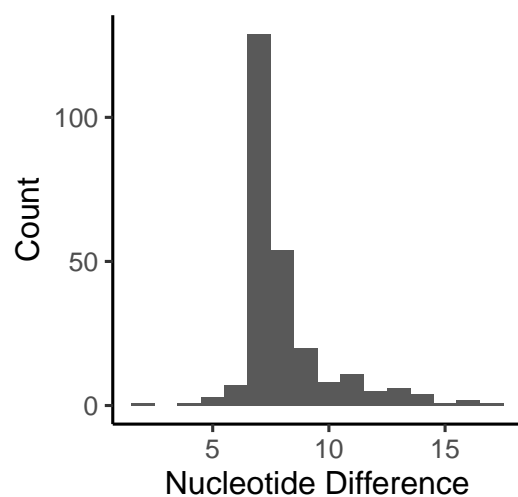
### IGHV4-38-2\*01

61 sequences assigned  
No exact matches.



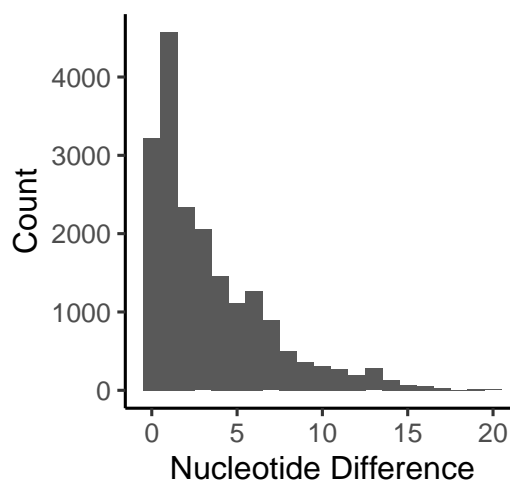
### IGHV4-30-4\*07

253 sequences assigned  
No exact matches.



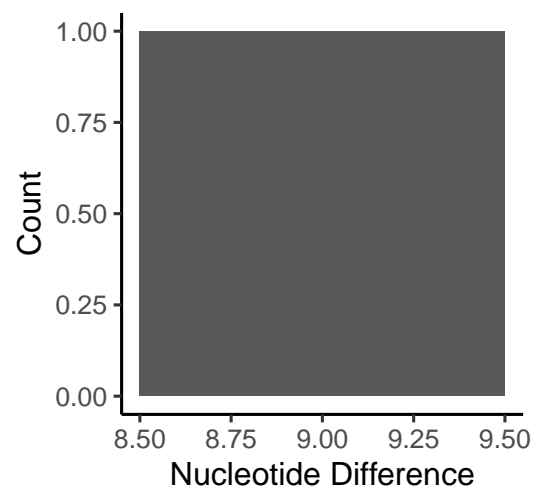
### IGHV4-31\*03

19386 sequences assigned  
3222 (16.6%) exact matches, in which:  
2629 unique CDR3  
7 unique J



### IGHV4-38-2\*02

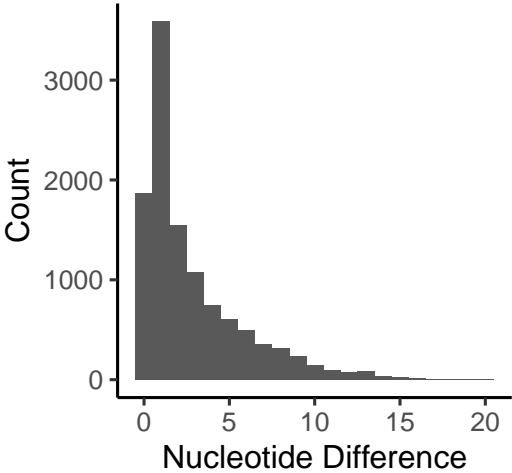
8 sequences assigned  
No exact matches.





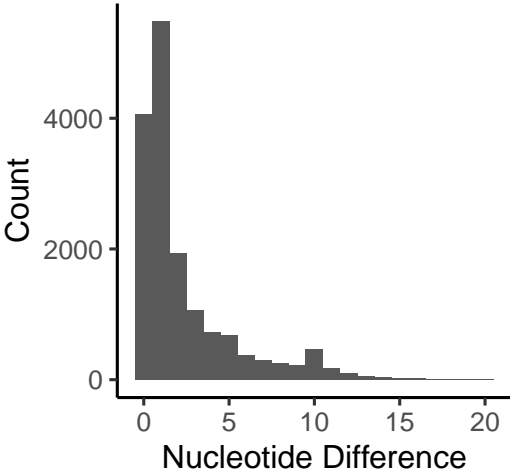
IGHV4-39\*01

11497 sequences assigned  
1869 (16.3%) exact matches, in which:  
1440 unique CDR3  
7 unique J



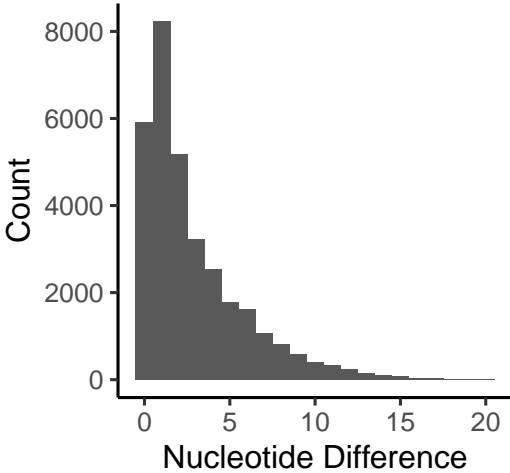
IGHV4-59\*01

16078 sequences assigned  
4059 (25.2%) exact matches, in which:  
3308 unique CDR3  
7 unique J



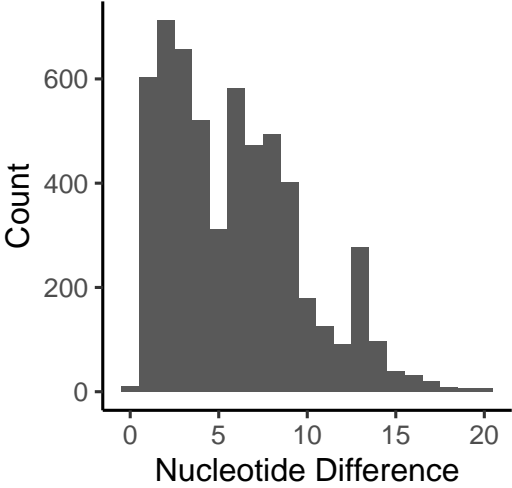
IGHV4-61\*02

32417 sequences assigned  
5913 (18.2%) exact matches, in which:  
4921 unique CDR3  
7 unique J



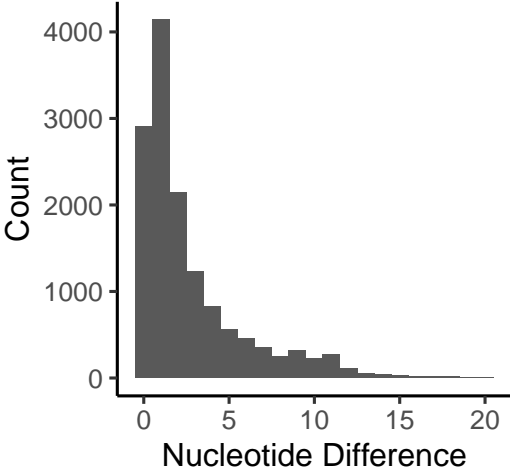
IGHV4-39\*07

5684 sequences assigned  
11 (0.2%) exact matches, in which:  
11 unique CDR3  
6 unique J



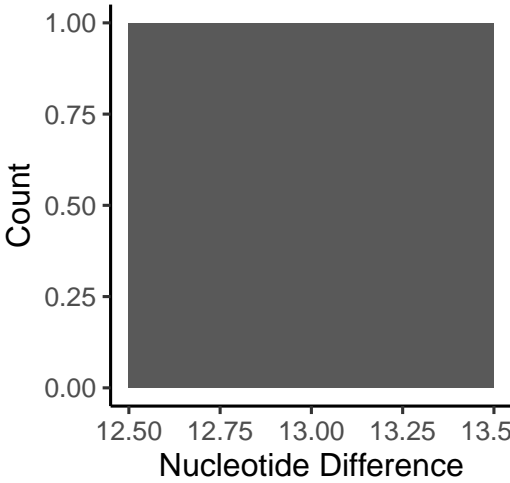
IGHV4-59\*01\_G48A\_G4

13976 sequences assigned  
2906 (20.8%) exact matches, in which:  
2438 unique CDR3  
7 unique J



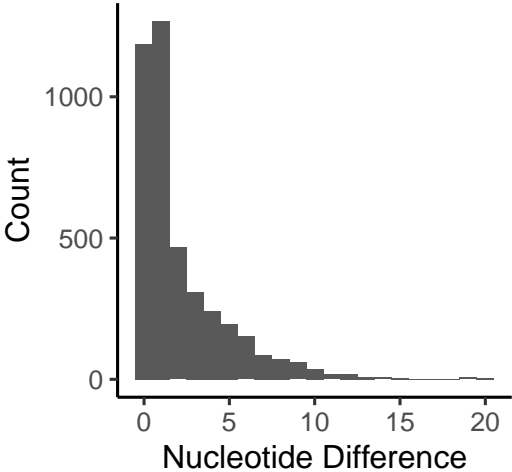
IGHV1/OR15-2\*02

1 sequences assigned  
No exact matches.



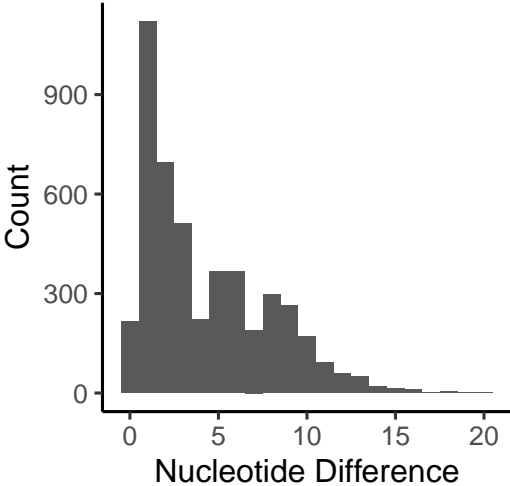
IGHV4-39\*02\_C258G

4180 sequences assigned  
1186 (28.4%) exact matches, in which:  
1120 unique CDR3  
7 unique J



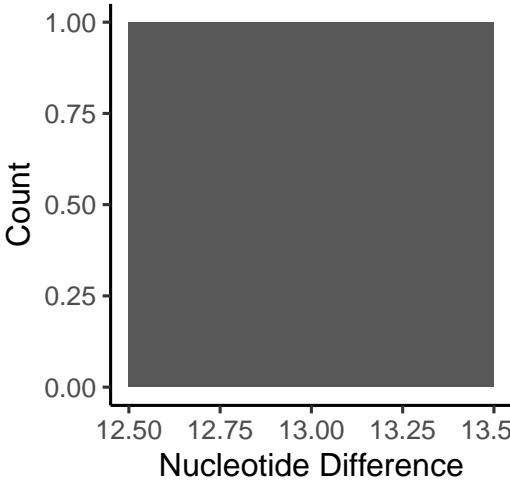
IGHV4-59\*12

4733 sequences assigned  
217 (4.6%) exact matches, in which:  
211 unique CDR3  
7 unique J



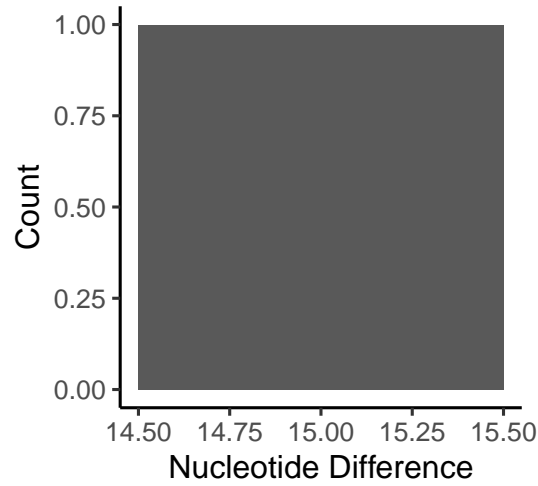
IGHV1/OR15-3\*02

1 sequences assigned  
No exact matches.



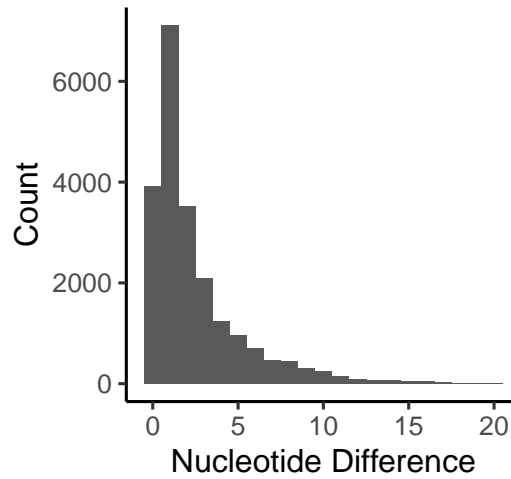
### IGHV4/OR15-8\*01

1 sequences assigned  
No exact matches.



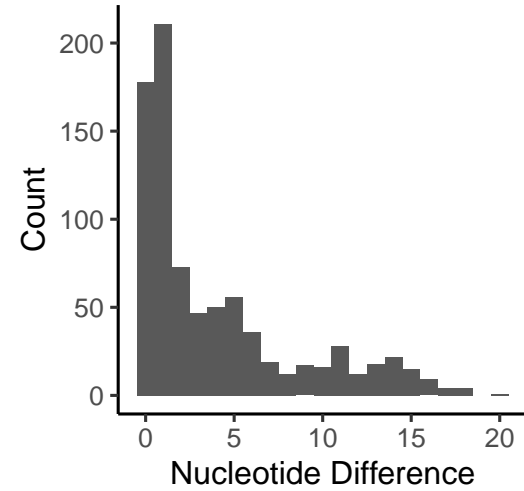
### IGHV5-51\*03

21647 sequences assigned  
3917 (18.1%) exact matches, in which:  
2935 unique CDR3  
7 unique J



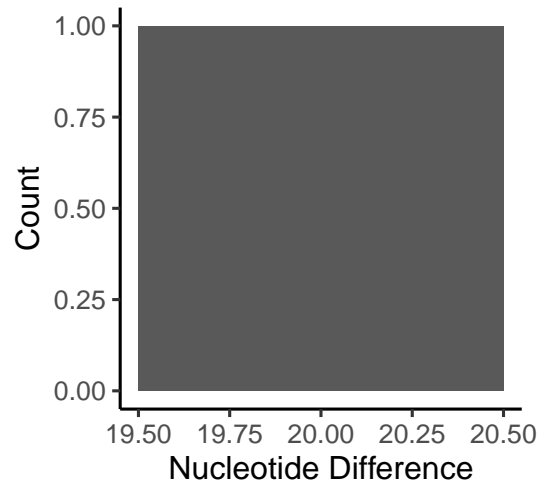
### IGHV7-4-1\*01

844 sequences assigned  
178 (21.1%) exact matches, in which:  
156 unique CDR3  
6 unique J



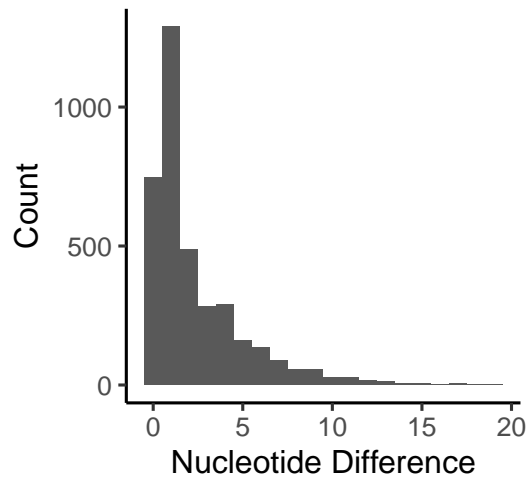
### IGHV5-10-1\*01

1 sequences assigned  
No exact matches.



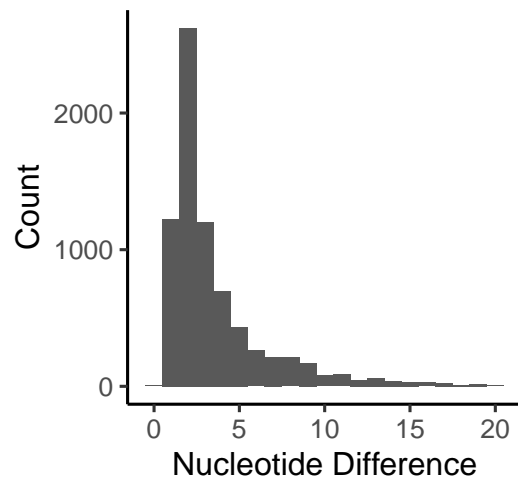
### IGHV6-1\*01

3702 sequences assigned  
745 (20.1%) exact matches, in which:  
545 unique CDR3  
6 unique J



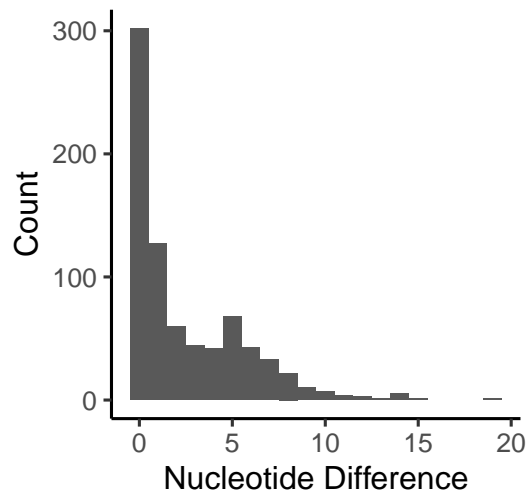
### IGHV5-51\*01

7614 sequences assigned  
7 (0.1%) exact matches, in which:  
5 unique CDR3  
3 unique J

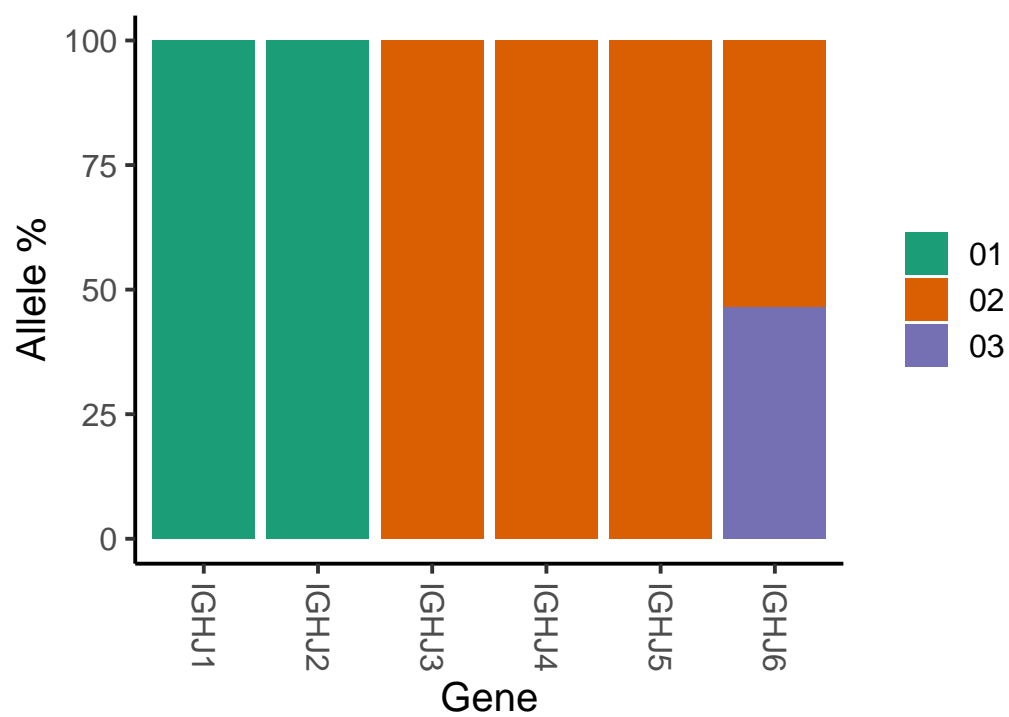


### IGHV6-1\*01\_A315G

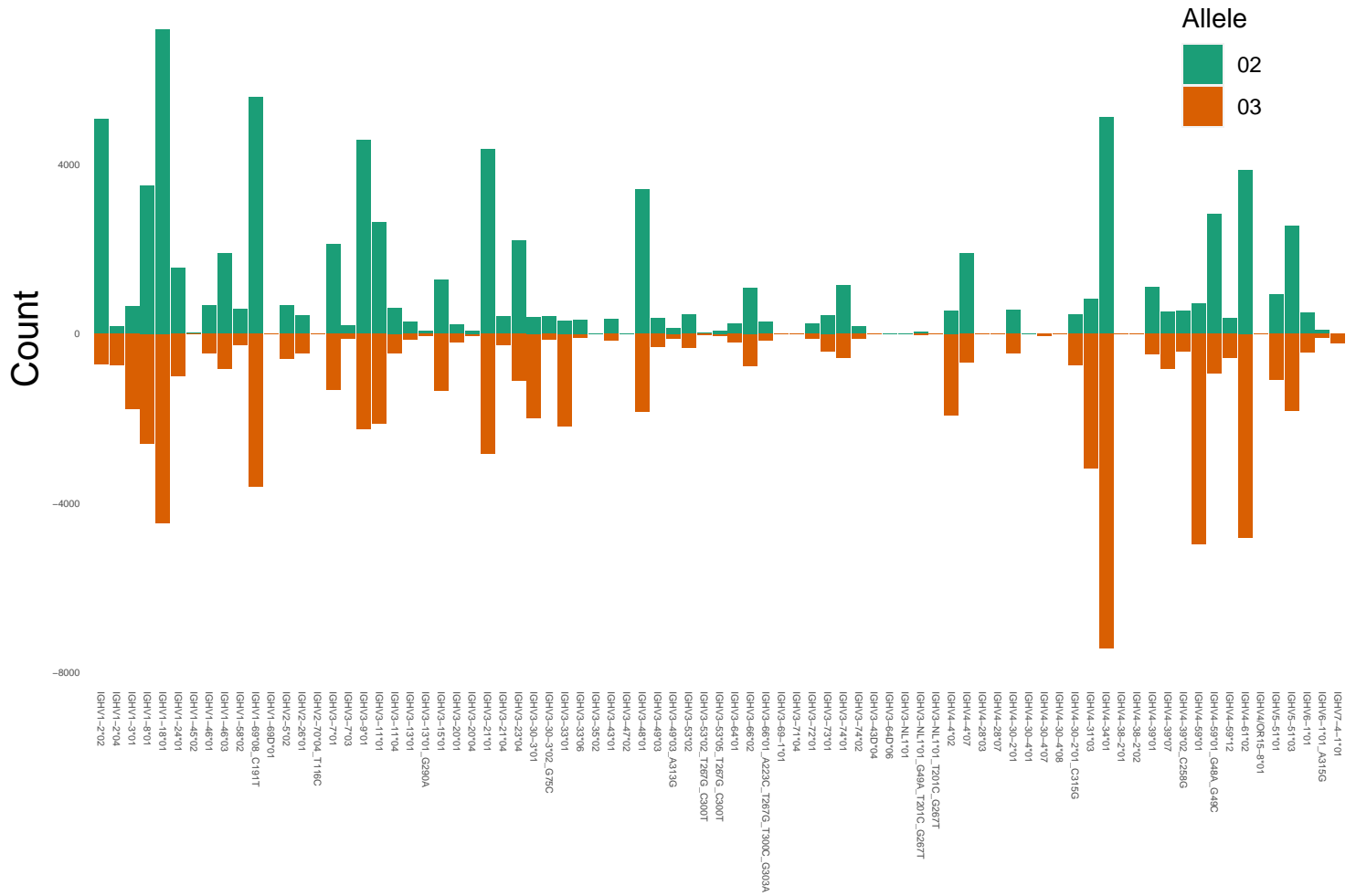
775 sequences assigned  
302 (39%) exact matches, in which:  
301 unique CDR3  
7 unique J



Allele Usage



Sequence Count by IGHJ6 allele usage



Warning – no inferred sequences found.