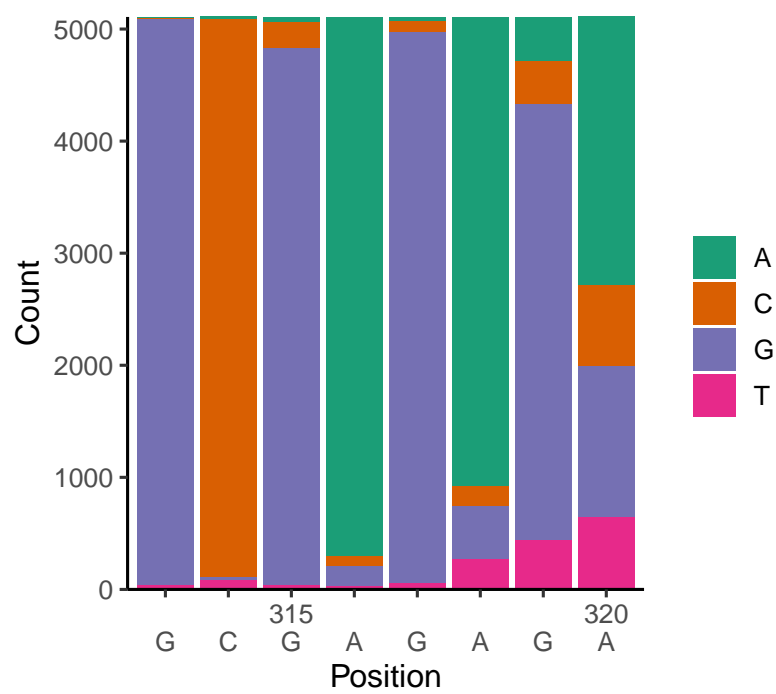
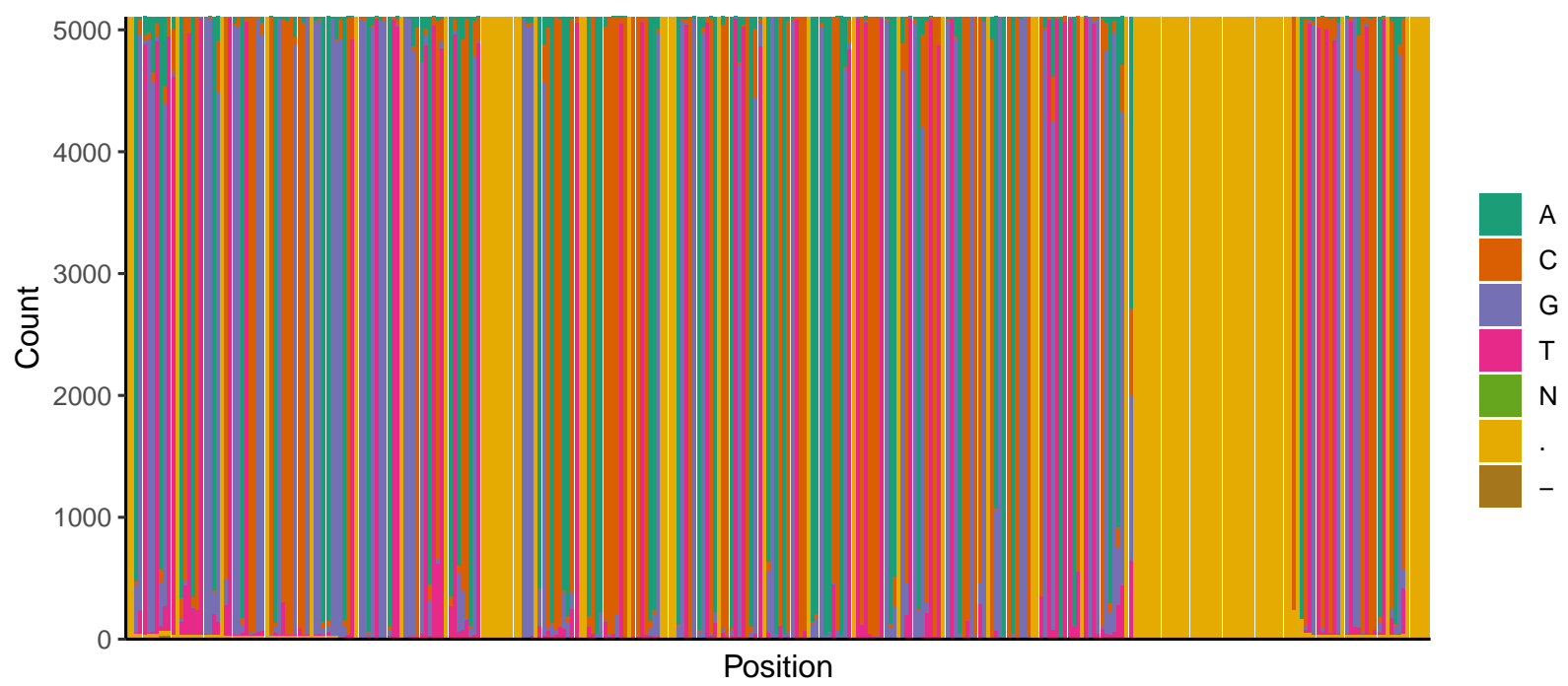


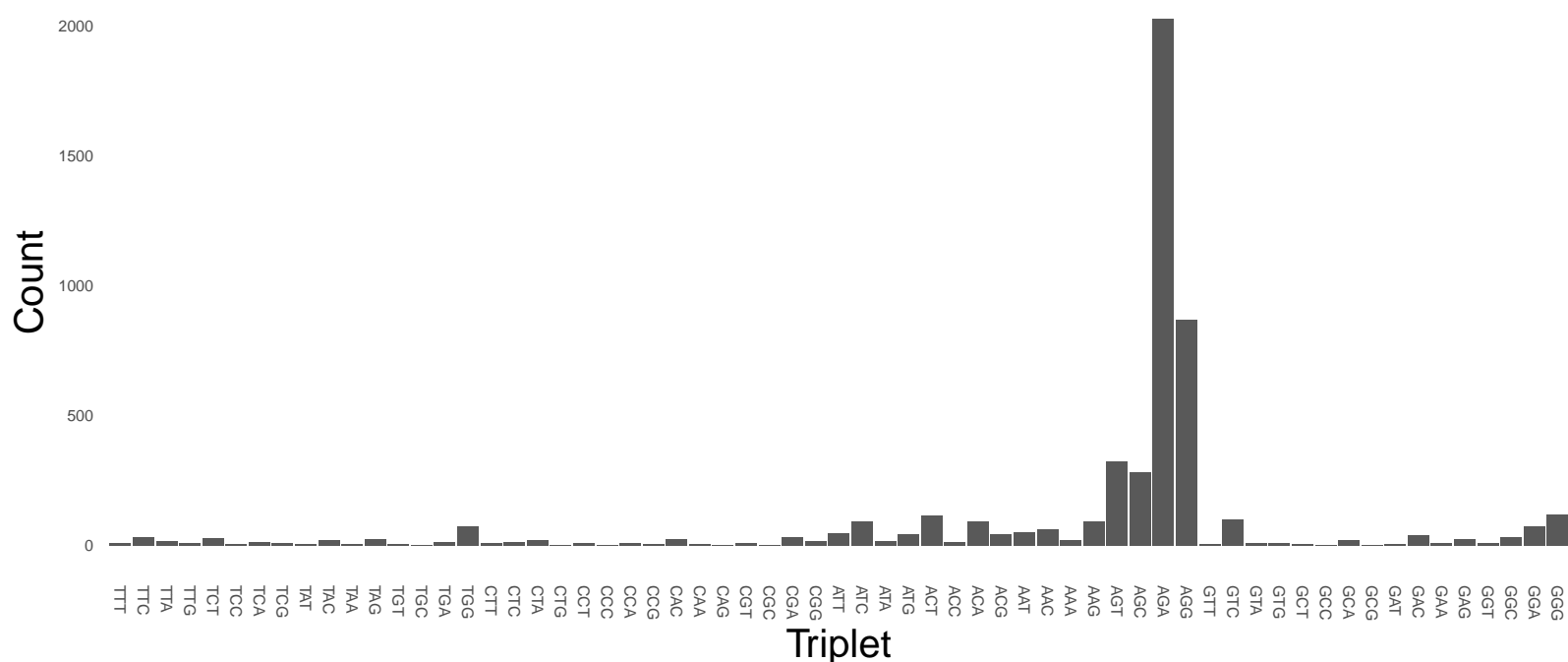
# Gene IGHV4-61\*02\_A234G



## Gene IGHV4-61\*02\_A234G

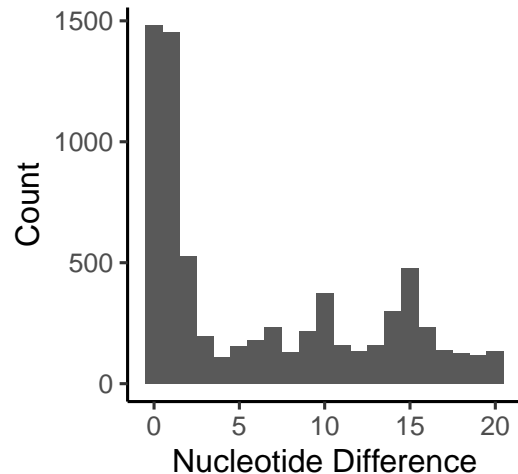


IGHV4-61\*02\_A234G- Final 3 nucleotides as a triplet



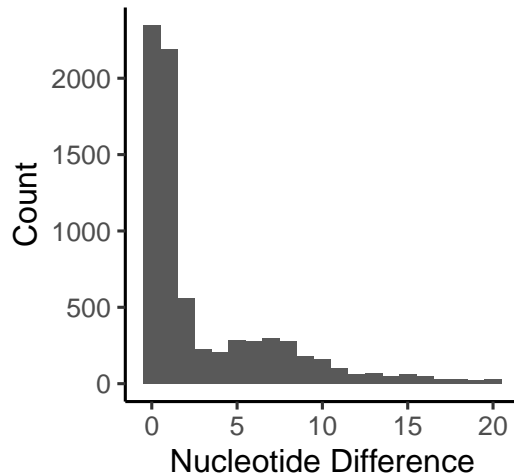
### IGHV1-2\*02

8302 sequences assigned  
1481 (17.8%) exact matches, in which:  
1253 unique CDR3  
6 unique J



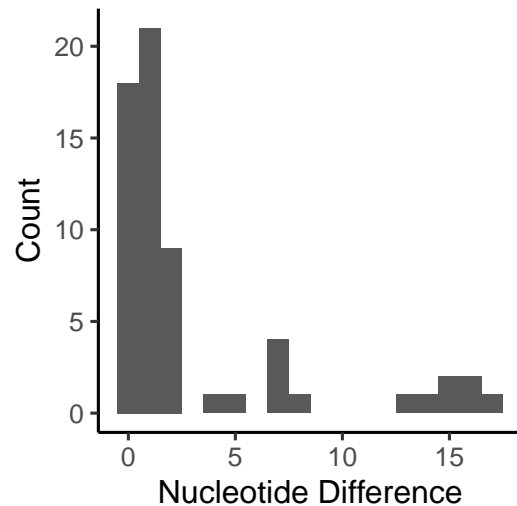
### IGHV1-8\*01

8057 sequences assigned  
2346 (29.1%) exact matches, in which:  
2041 unique CDR3  
6 unique J



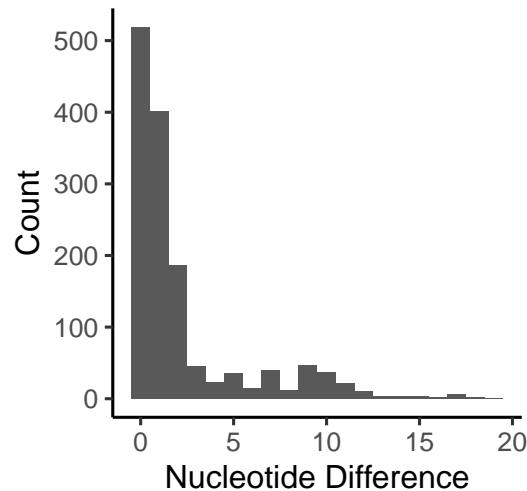
### IGHV1-45\*02

65 sequences assigned  
18 (27.7%) exact matches, in which:  
16 unique CDR3  
3 unique J



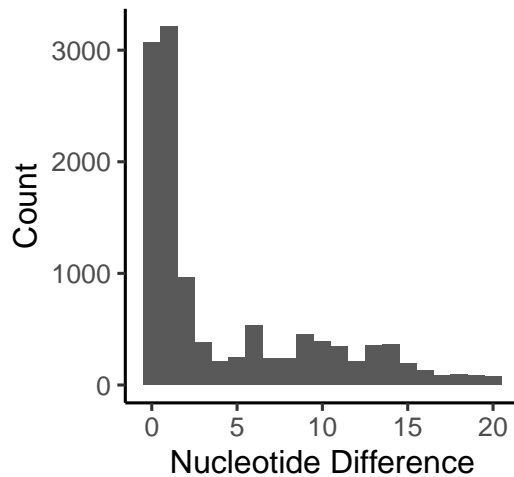
### IGHV1-2\*04

1416 sequences assigned  
519 (36.7%) exact matches, in which:  
461 unique CDR3  
5 unique J



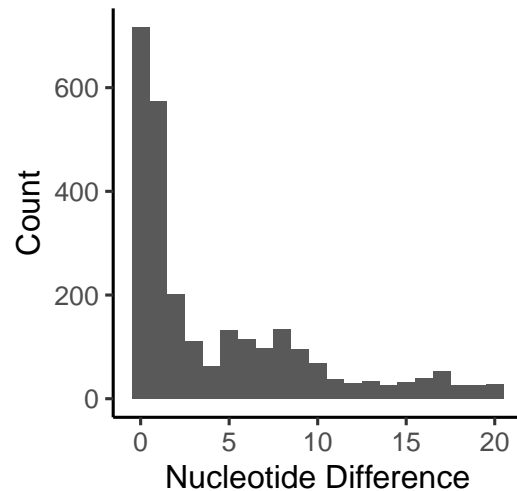
### IGHV1-18\*01

13599 sequences assigned  
3073 (22.6%) exact matches, in which:  
2635 unique CDR3  
6 unique J



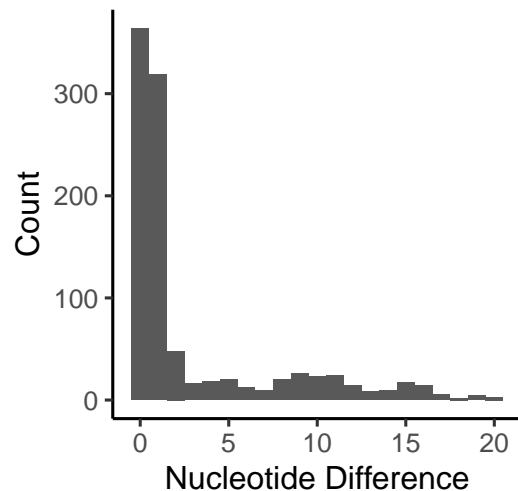
### IGHV1-46\*01

3449 sequences assigned  
717 (20.8%) exact matches, in which:  
624 unique CDR3  
6 unique J



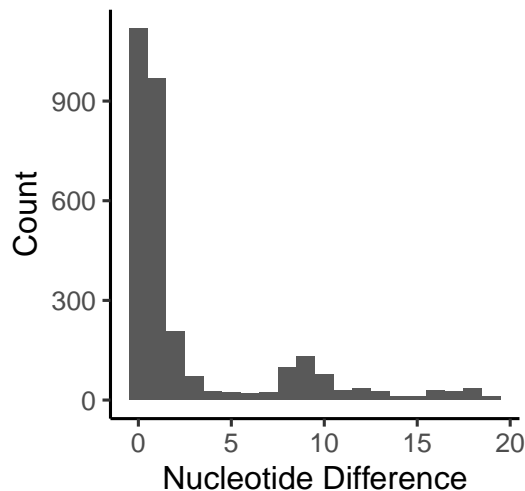
### IGHV1-3\*01\_05

1067 sequences assigned  
364 (34.1%) exact matches, in which:  
313 unique CDR3  
6 unique J



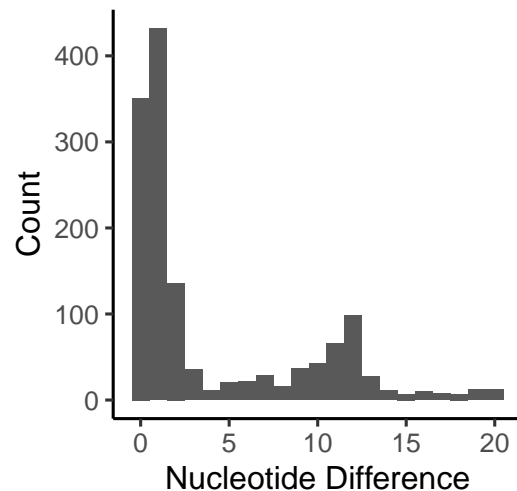
### IGHV1-24\*01

3026 sequences assigned  
1119 (37%) exact matches, in which:  
967 unique CDR3  
6 unique J



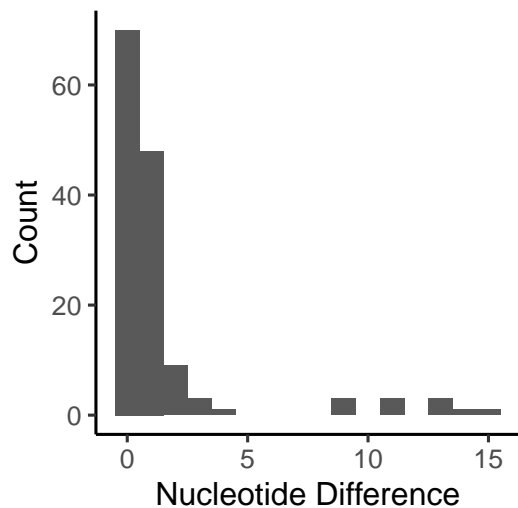
### IGHV1-46\*03

1461 sequences assigned  
351 (24%) exact matches, in which:  
288 unique CDR3  
6 unique J



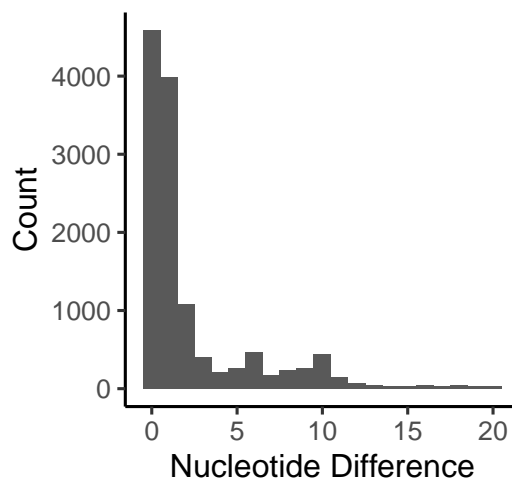
### IGHV1-58\*02

144 sequences assigned  
70 (48.6%) exact matches, in which:  
62 unique CDR3  
5 unique J



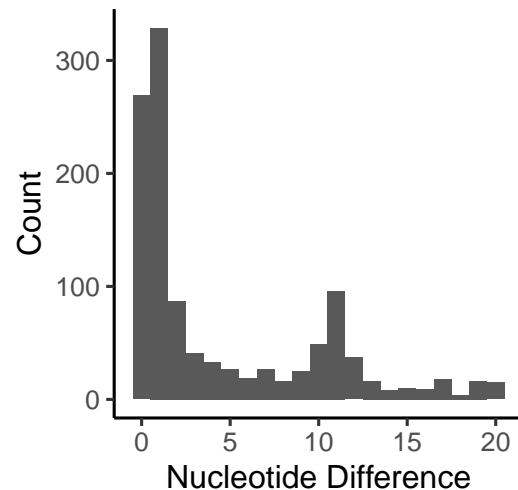
### IGHV1-69\*01\_12\_13

13450 sequences assigned  
4585 (34.1%) exact matches, in which:  
4039 unique CDR3  
6 unique J



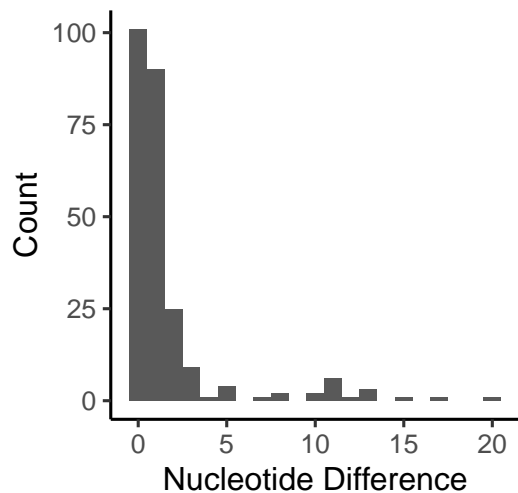
### IGHV2-5\*02

1209 sequences assigned  
269 (22.2%) exact matches, in which:  
226 unique CDR3  
5 unique J



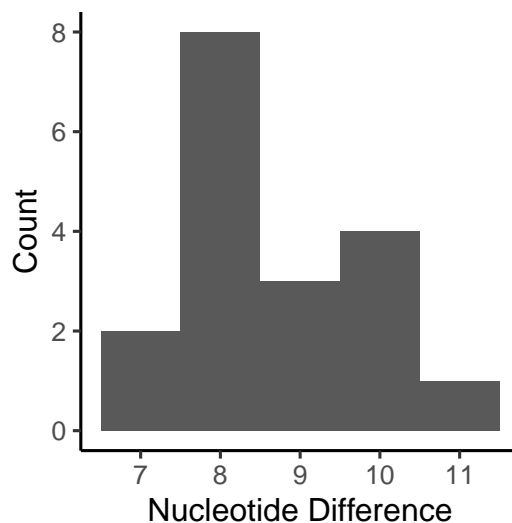
### IGHV1-58\*01\_03

254 sequences assigned  
101 (39.8%) exact matches, in which:  
88 unique CDR3  
5 unique J



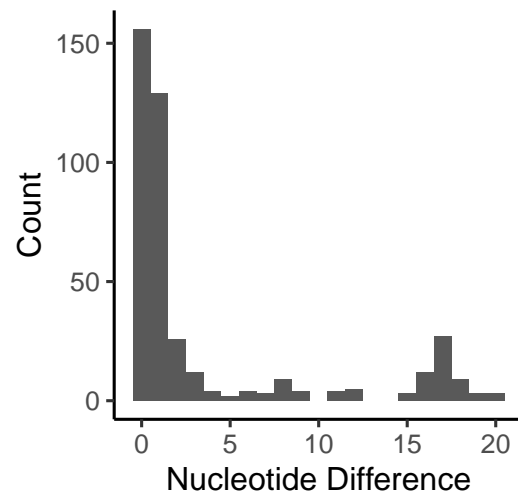
### IGHV1-NL1\*01

18 sequences assigned  
No exact matches.



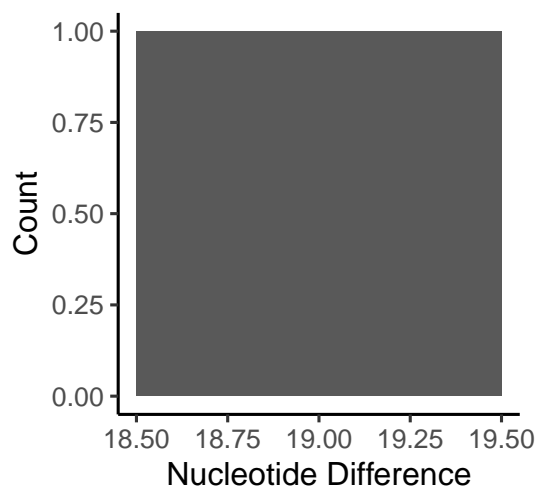
### IGHV2-26\*01

418 sequences assigned  
156 (37.3%) exact matches, in which:  
133 unique CDR3  
5 unique J



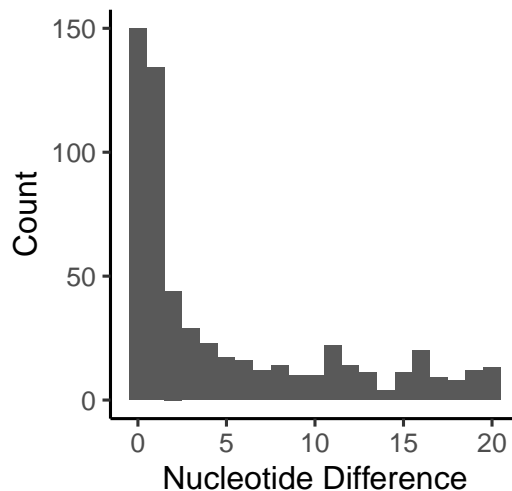
### IGHV1-69-2\*01

1 sequences assigned  
No exact matches.



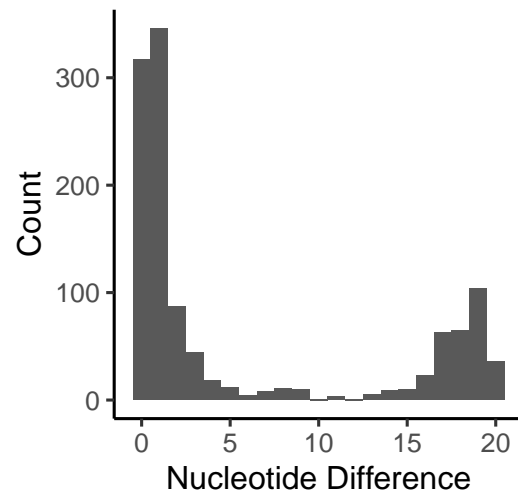
### IGHV2-5\*01

628 sequences assigned  
150 (23.9%) exact matches, in which:  
122 unique CDR3  
5 unique J



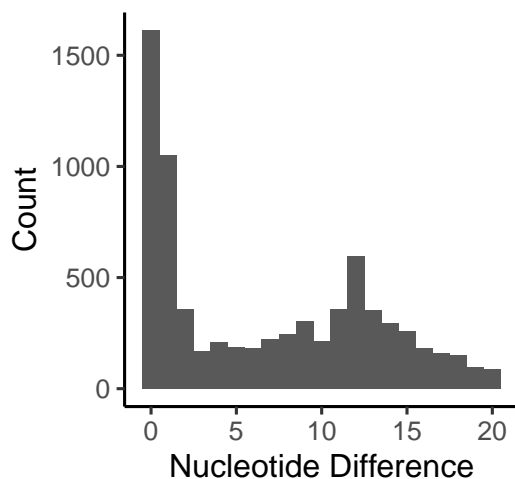
### IGHV2-70\*01

1434 sequences assigned  
317 (22.1%) exact matches, in which:  
259 unique CDR3  
5 unique J



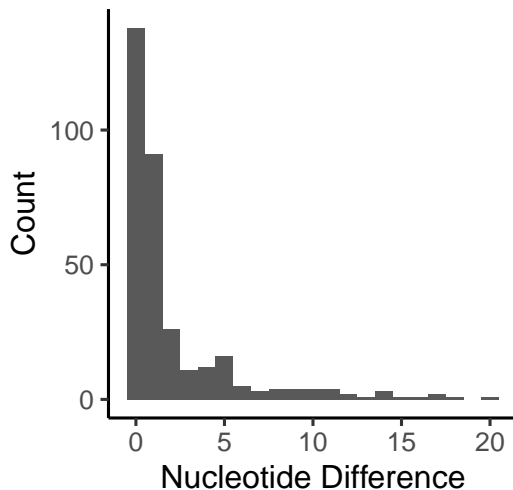
### IGHV3-7\*01

9167 sequences assigned  
1612 (17.6%) exact matches, in which:  
1059 unique CDR3  
6 unique J



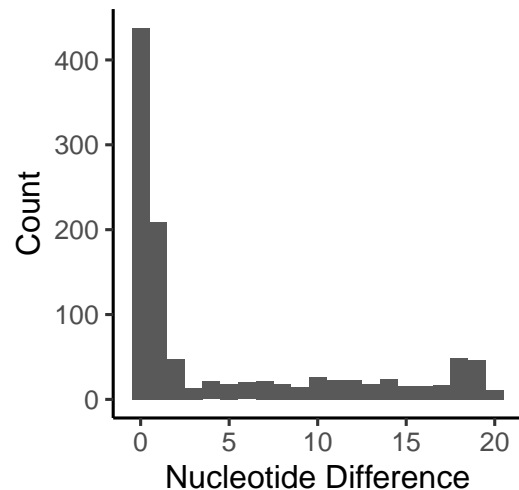
### IGHV3-11\*04

339 sequences assigned  
138 (40.7%) exact matches, in which:  
133 unique CDR3  
6 unique J



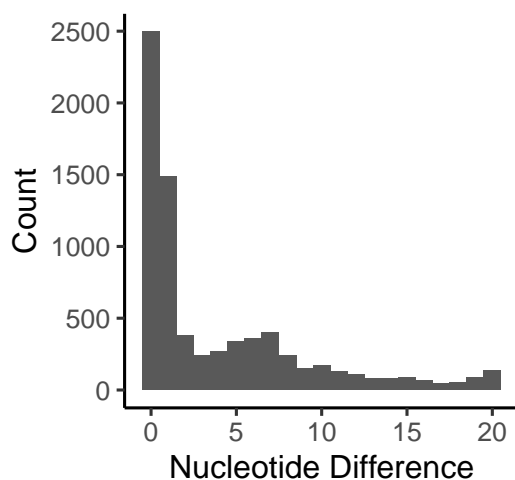
### IGHV3-15\*01\_02

1276 sequences assigned  
438 (34.3%) exact matches, in which:  
286 unique CDR3  
6 unique J



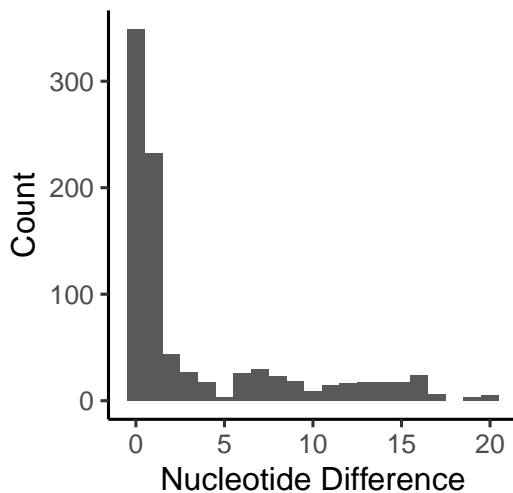
### IGHV3-9\*01

8610 sequences assigned  
2496 (29%) exact matches, in which:  
1451 unique CDR3  
6 unique J



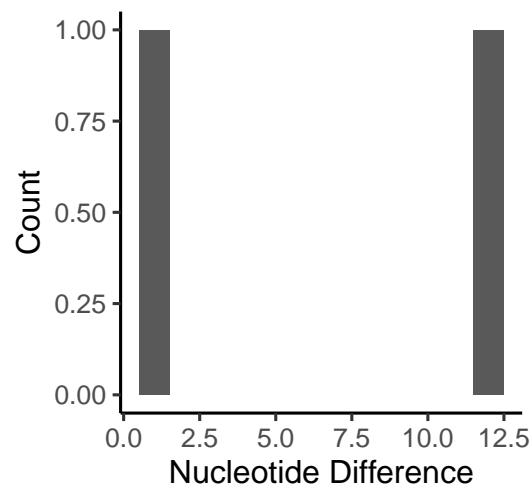
### IGHV3-13\*01

906 sequences assigned  
349 (38.5%) exact matches, in which:  
211 unique CDR3  
5 unique J



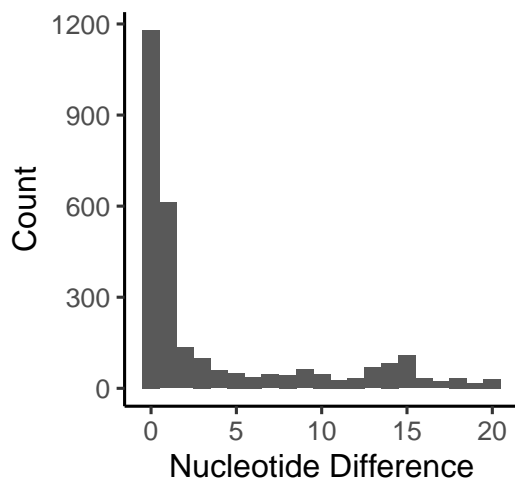
### IGHV3-19\*01

2 sequences assigned  
No exact matches.



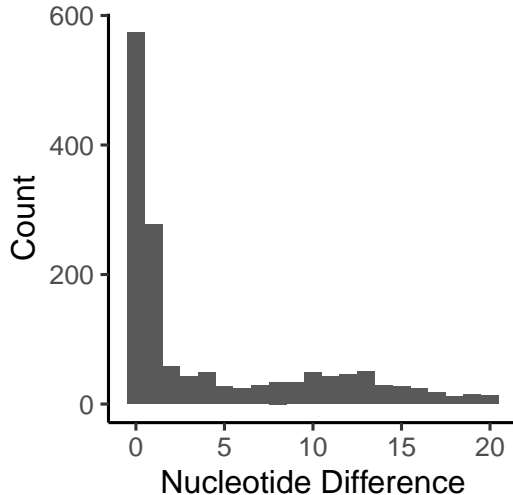
### IGHV3-11\*01

3377 sequences assigned  
1180 (34.9%) exact matches, in which:  
756 unique CDR3  
6 unique J



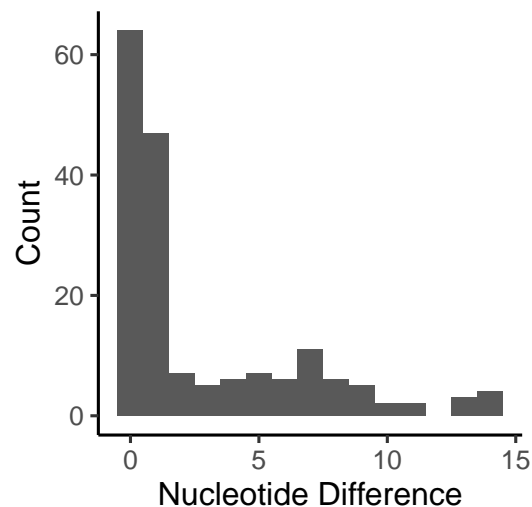
### IGHV3-15\*07

2317 sequences assigned  
574 (24.8%) exact matches, in which:  
383 unique CDR3  
5 unique J



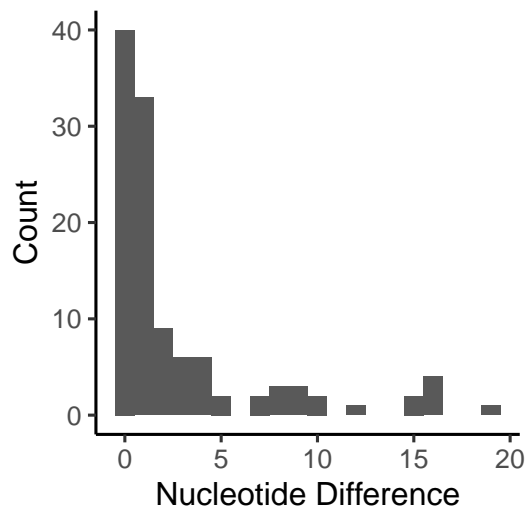
### IGHV3-20\*01\_02

175 sequences assigned  
64 (36.6%) exact matches, in which:  
39 unique CDR3  
5 unique J



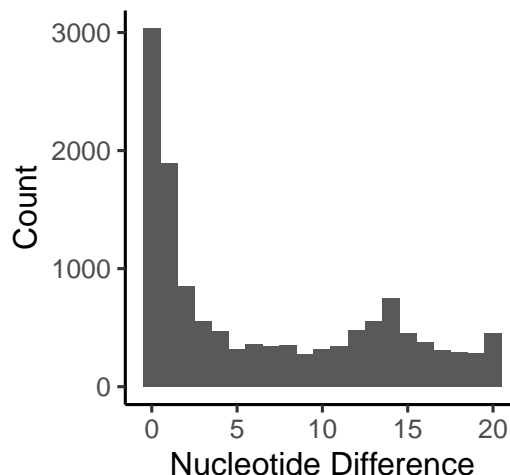
### IGHV3-20\*03\_04

126 sequences assigned  
40 (31.7%) exact matches, in which:  
25 unique CDR3  
4 unique J



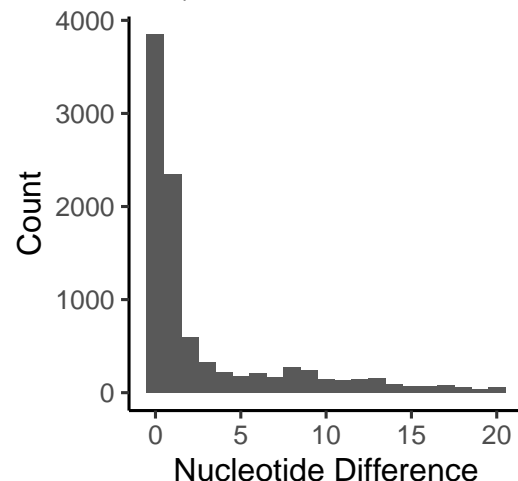
### IGHV3-23\*01\_04

17506 sequences assigned  
3035 (17.3%) exact matches, in which:  
1778 unique CDR3  
6 unique J



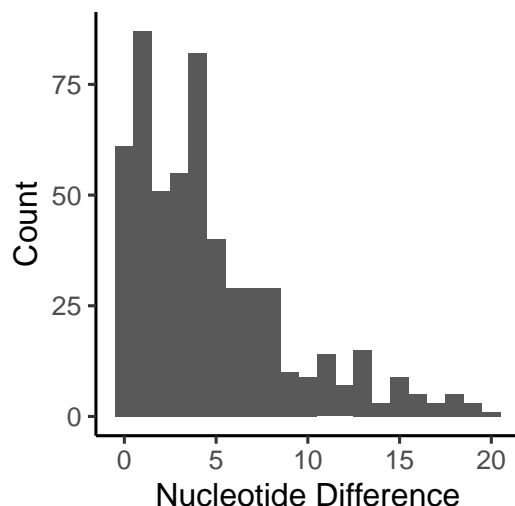
### IGHV3-33\*01

9932 sequences assigned  
3849 (38.8%) exact matches, in which:  
2447 unique CDR3  
6 unique J



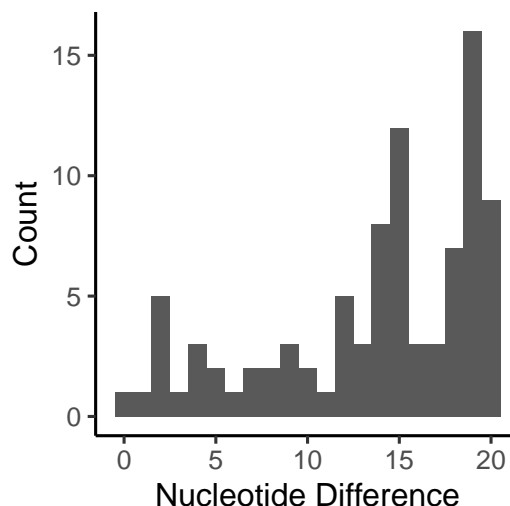
### IGHV3-21\*04

579 sequences assigned  
61 (10.5%) exact matches, in which:  
61 unique CDR3  
6 unique J



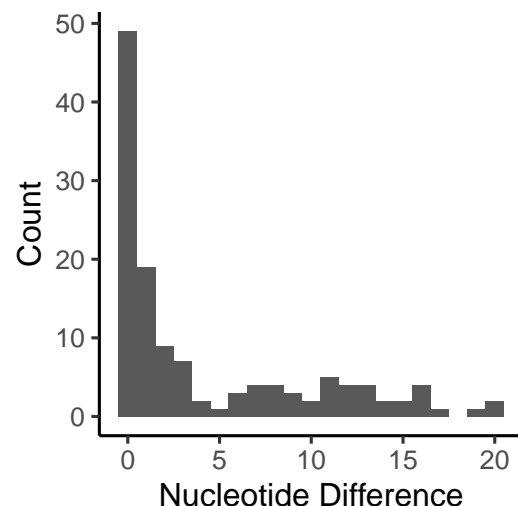
### IGHV3-30-5\*01

158 sequences assigned  
1 (0.6%) exact matches, in which:  
1 unique CDR3  
1 unique J



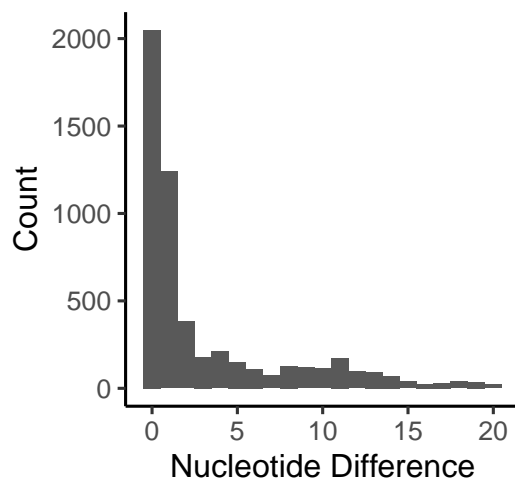
### IGHV3-43\*01

156 sequences assigned  
49 (31.4%) exact matches, in which:  
31 unique CDR3  
4 unique J



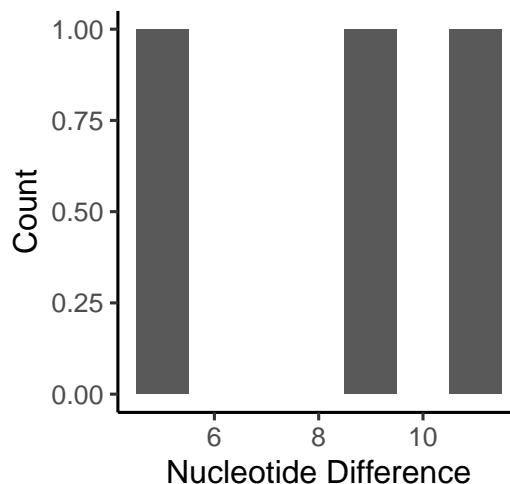
### IGHV3-21\*01\_02

6568 sequences assigned  
2049 (31.2%) exact matches, in which:  
1293 unique CDR3  
6 unique J



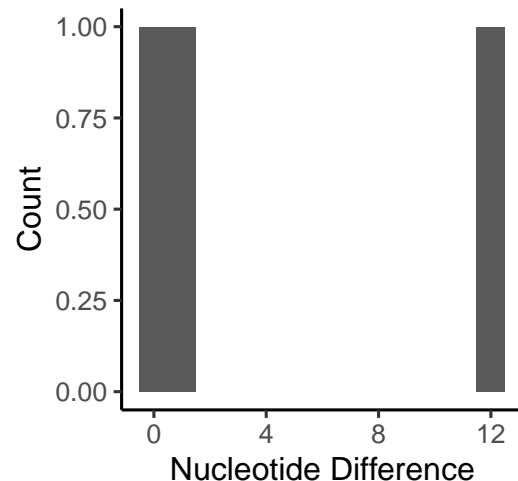
### IGHV3-30-5\*02

5 sequences assigned  
No exact matches.



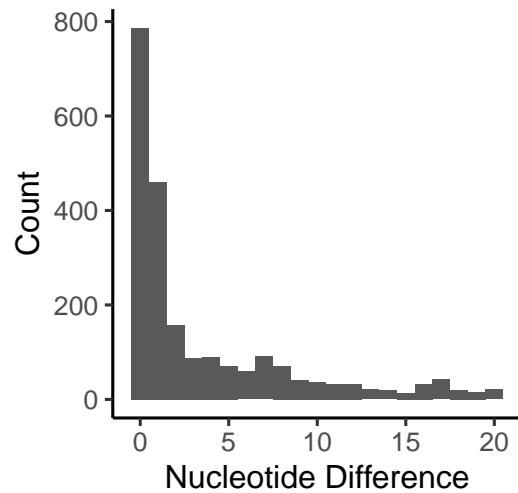
### IGHV3-47\*02

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



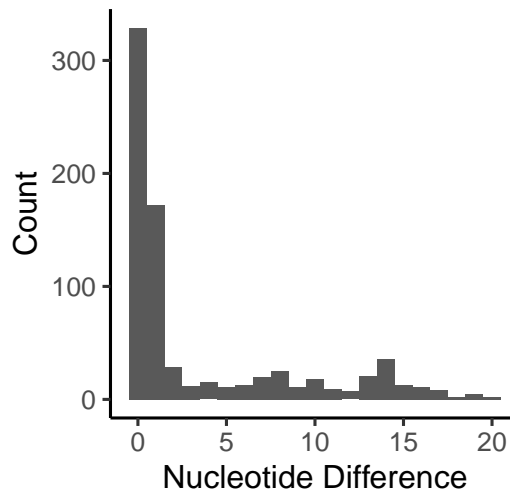
### IGHV3-48\*01

2322 sequences assigned  
787 (33.9%) exact matches, in which:  
525 unique CDR3  
6 unique J



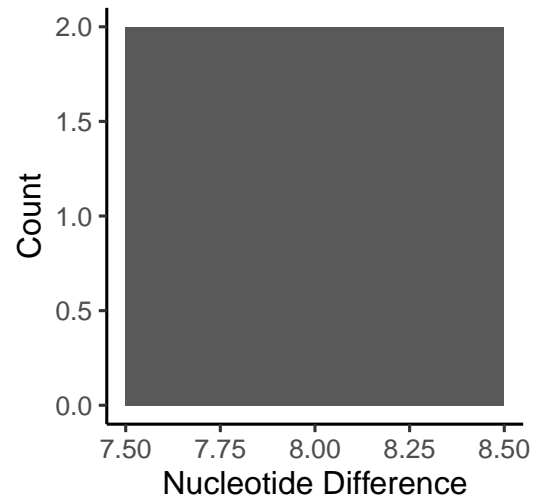
### IGHV3-49\*04

824 sequences assigned  
329 (39.9%) exact matches, in which:  
204 unique CDR3  
6 unique J



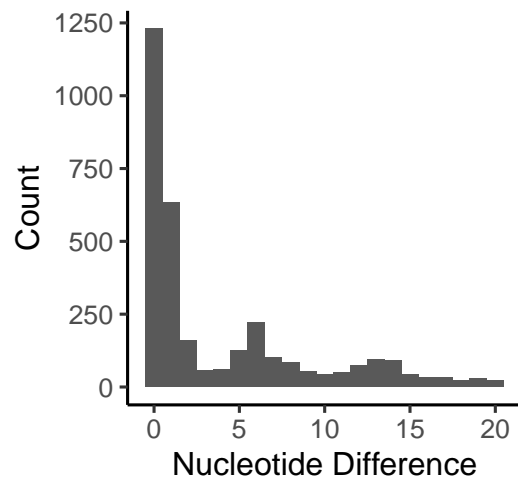
### IGHV3-52\*01\_03

2 sequences assigned  
No exact matches.



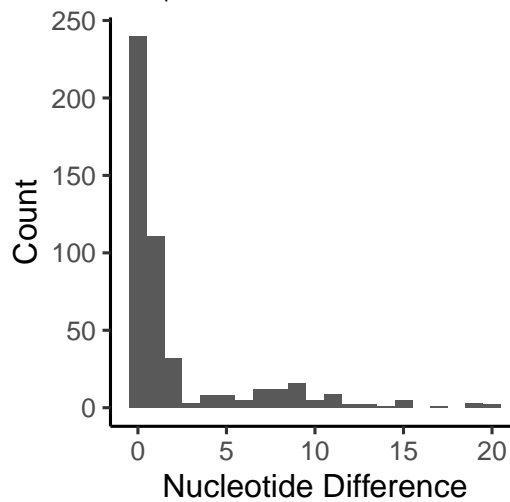
### IGHV3-48\*03

3452 sequences assigned  
1230 (35.6%) exact matches, in which:  
753 unique CDR3  
6 unique J



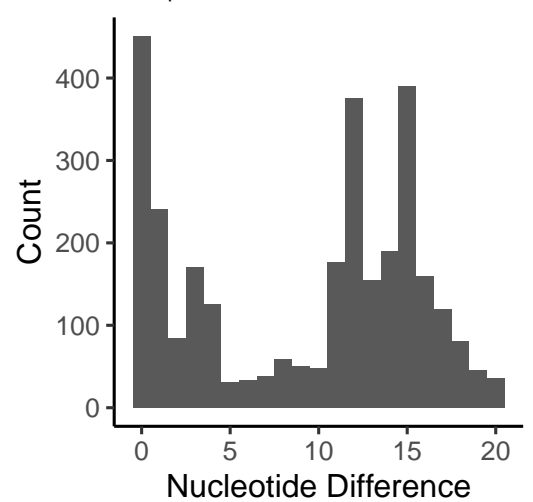
### IGHV3-49\*03\_05

517 sequences assigned  
240 (46.4%) exact matches, in which:  
152 unique CDR3  
6 unique J



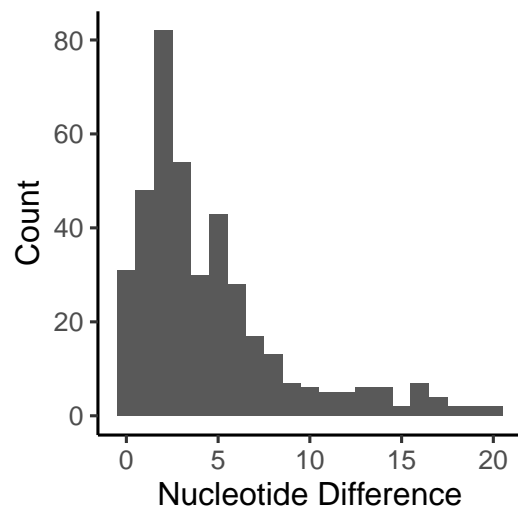
### IGHV3-53\*01\_02

3269 sequences assigned  
451 (13.8%) exact matches, in which:  
272 unique CDR3  
6 unique J



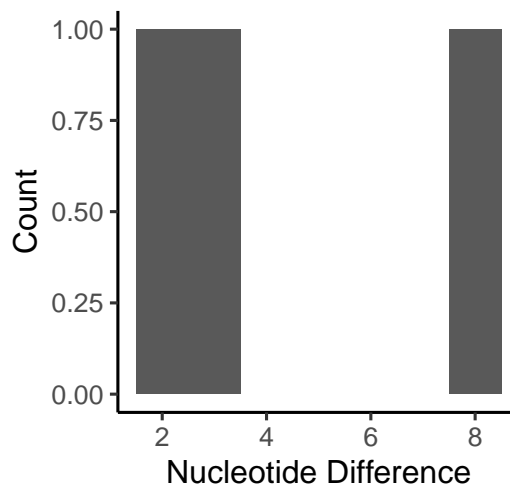
### IGHV3-48\*04

503 sequences assigned  
31 (6.2%) exact matches, in which:  
31 unique CDR3  
4 unique J



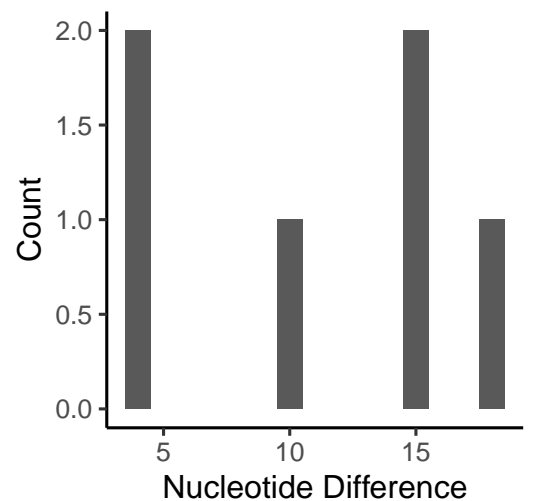
### IGHV3-52\*02

3 sequences assigned  
No exact matches.



### IGHV3-64\*04

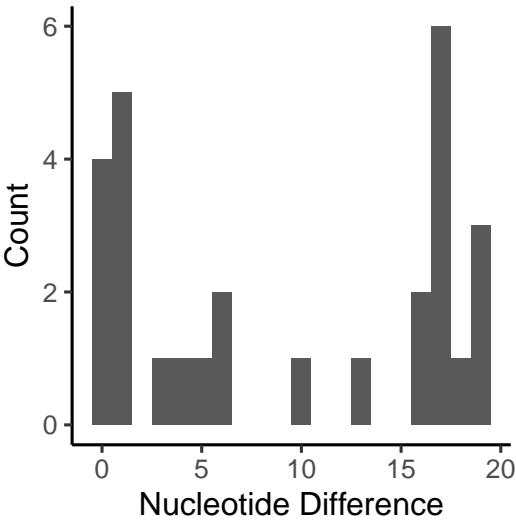
8 sequences assigned  
No exact matches.





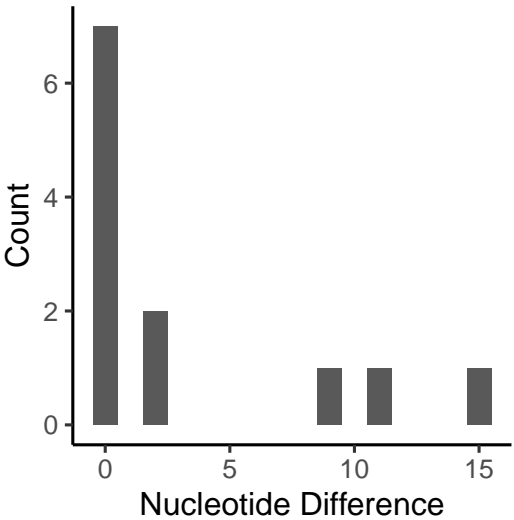
IGHV3-64\*02\_07

28 sequences assigned  
4 (14.3%) exact matches, in which:  
2 unique CDR3  
1 unique J



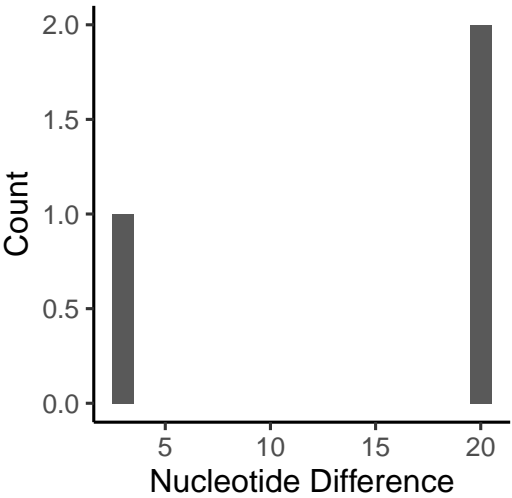
IGHV3-66\*03

12 sequences assigned  
7 (58.3%) exact matches, in which:  
7 unique CDR3  
2 unique J



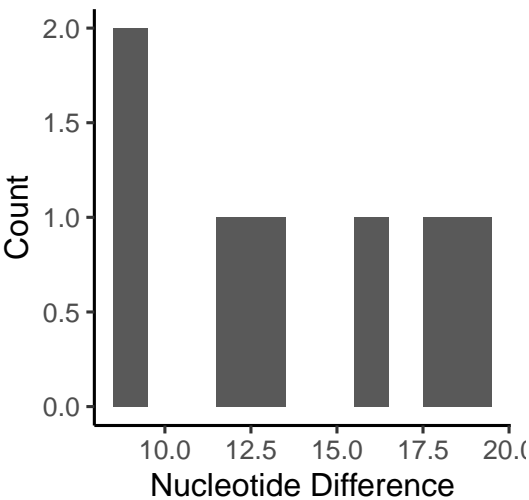
IGHV3-69-1\*02

27 sequences assigned  
No exact matches.



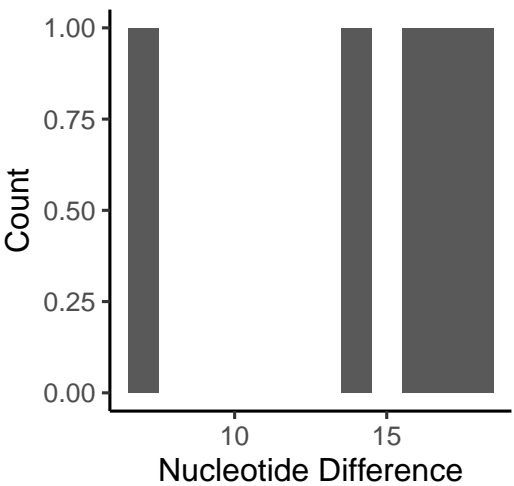
IGHV3-66\*01

10 sequences assigned  
No exact matches.



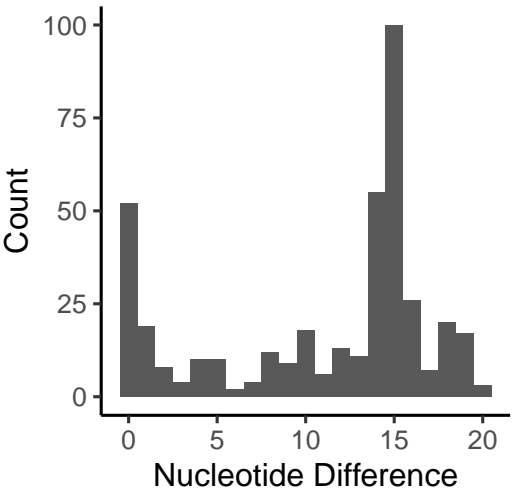
IGHV3-66\*04

8 sequences assigned  
No exact matches.



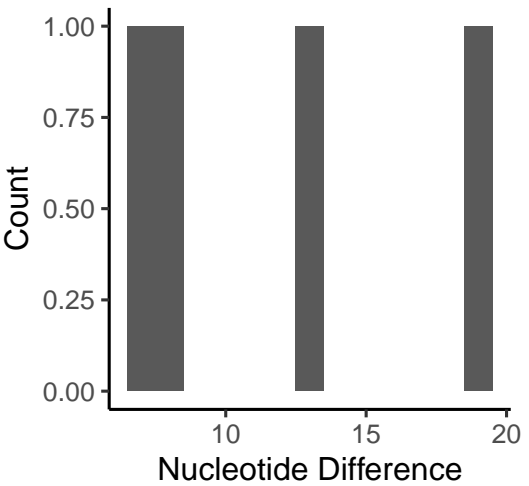
IGHV3-72\*01

443 sequences assigned  
52 (11.7%) exact matches, in which:  
36 unique CDR3  
3 unique J



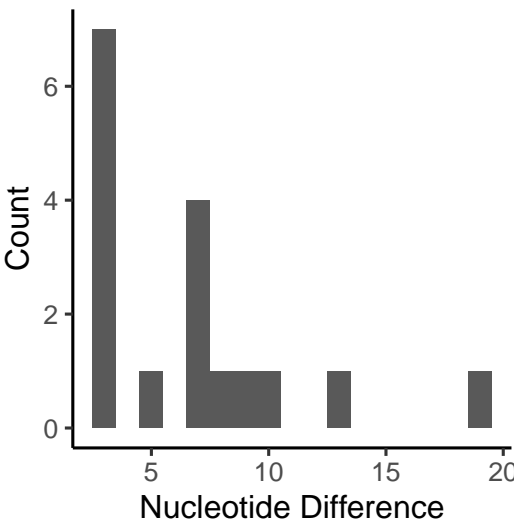
IGHV3-66\*02

5 sequences assigned  
No exact matches.



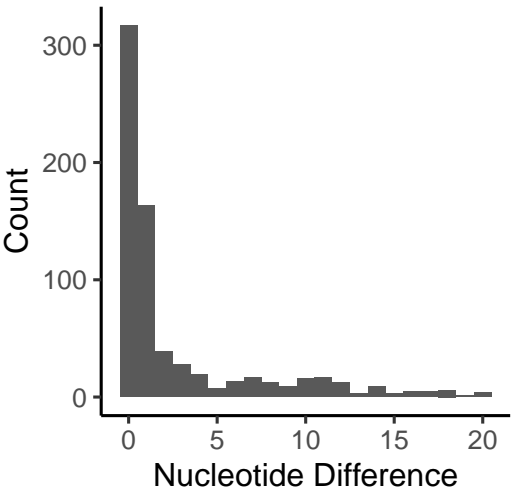
IGHV3-69-1\*01

28 sequences assigned  
No exact matches.



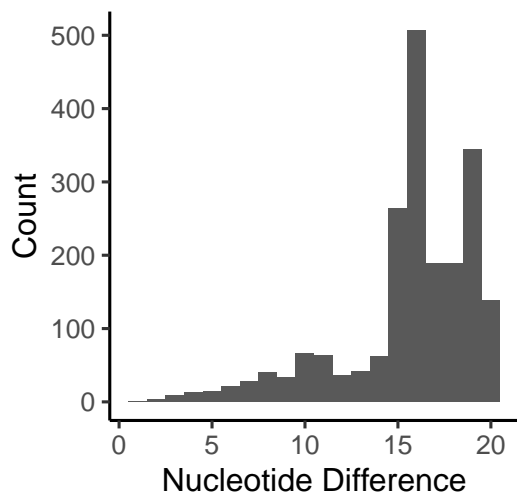
IGHV3-73\*01\_02

747 sequences assigned  
317 (42.4%) exact matches, in which:  
201 unique CDR3  
6 unique J



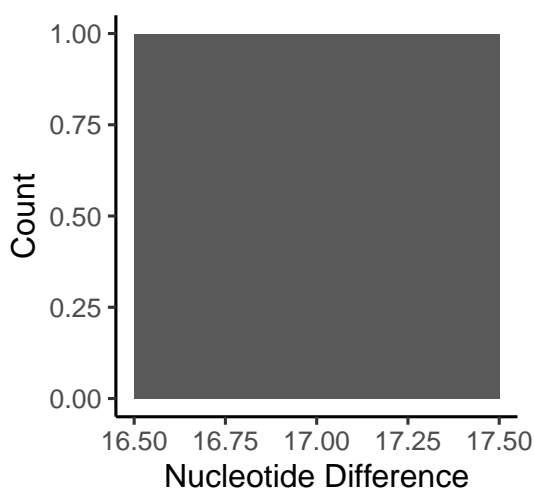
### IGHV3-74\*03

2650 sequences assigned  
No exact matches.



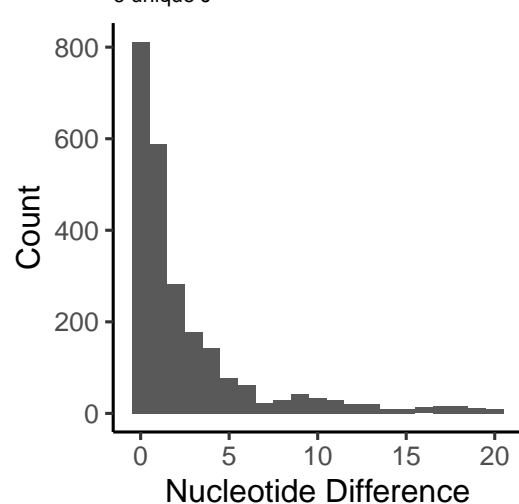
### IGHV3-64D\*06

86 sequences assigned  
No exact matches.



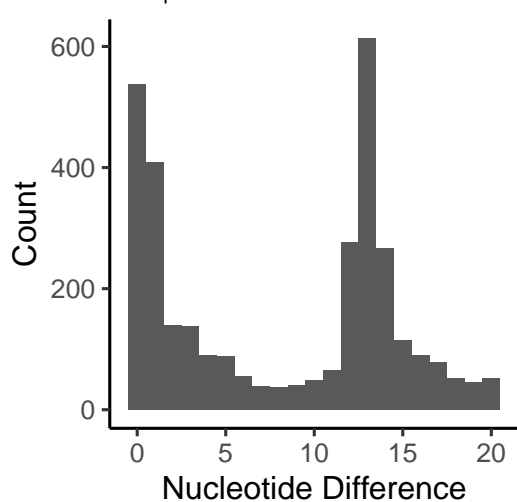
### IGHV4-4\*02\_03

3971 sequences assigned  
812 (20.4%) exact matches, in which:  
679 unique CDR3  
6 unique J



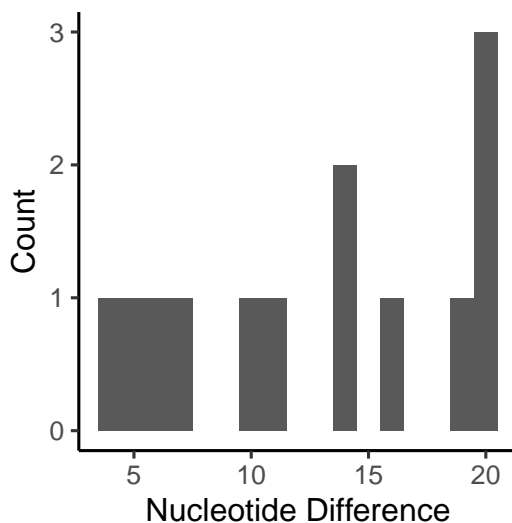
### IGHV3-74\*01\_02

3526 sequences assigned  
537 (15.2%) exact matches, in which:  
333 unique CDR3  
5 unique J



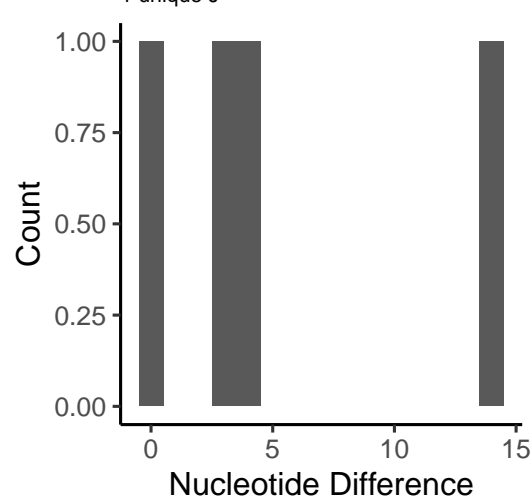
### IGHV3-NL1\*01

19 sequences assigned  
No exact matches.



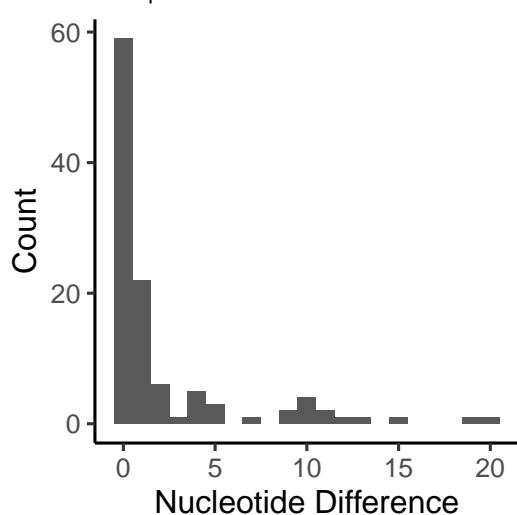
### IGHV4-28\*03

8 sequences assigned  
1 (12.5%) exact matches, in which:  
1 unique CDR3  
1 unique J



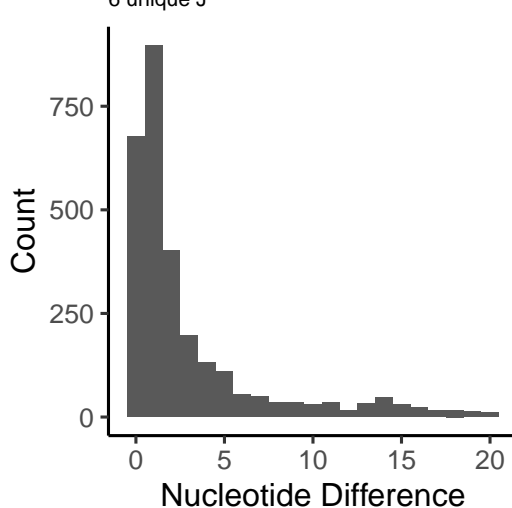
### IGHV3-43D\*04

112 sequences assigned  
59 (52.7%) exact matches, in which:  
35 unique CDR3  
2 unique J



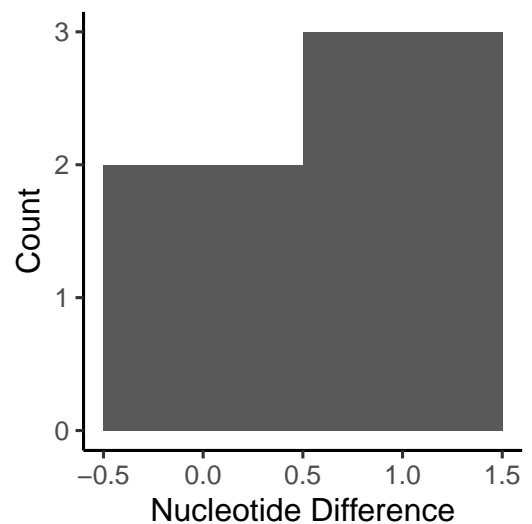
### IGHV4-4\*07

3226 sequences assigned  
676 (21%) exact matches, in which:  
590 unique CDR3  
6 unique J



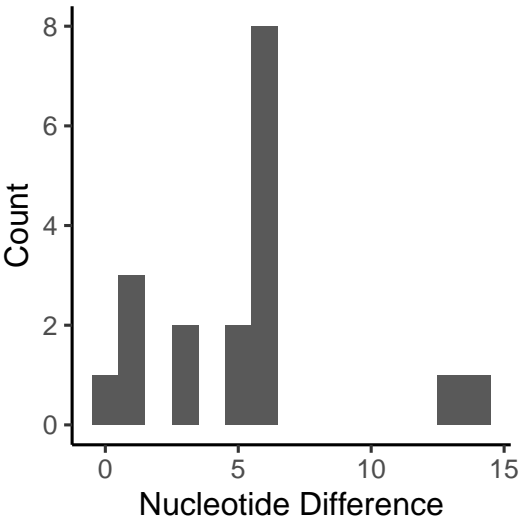
### IGHV4-28\*01\_07

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



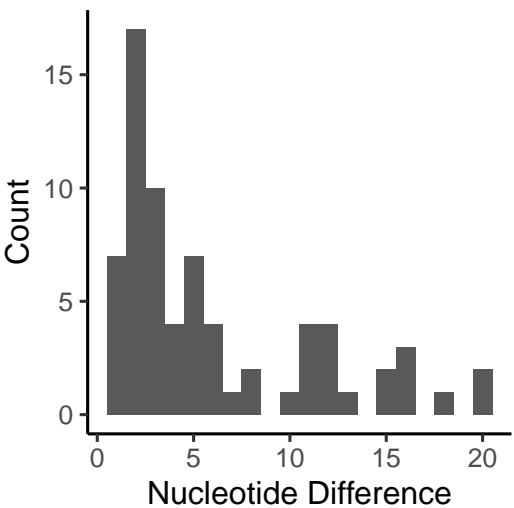
IGHV4-28\*02\_05

18 sequences assigned  
1 (5.6%) exact matches, in which:  
1 unique CDR3  
1 unique J



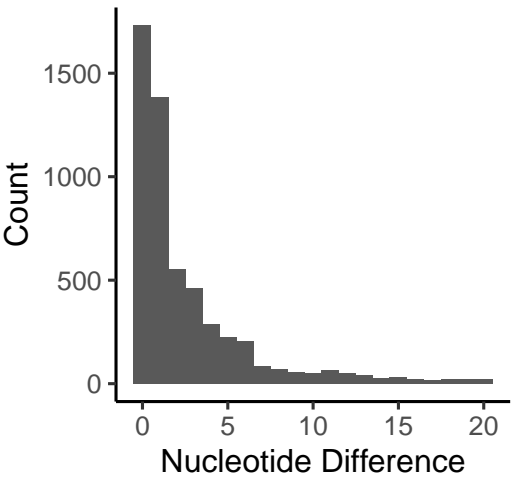
IGHV4-30-2\*03

76 sequences assigned  
No exact matches.



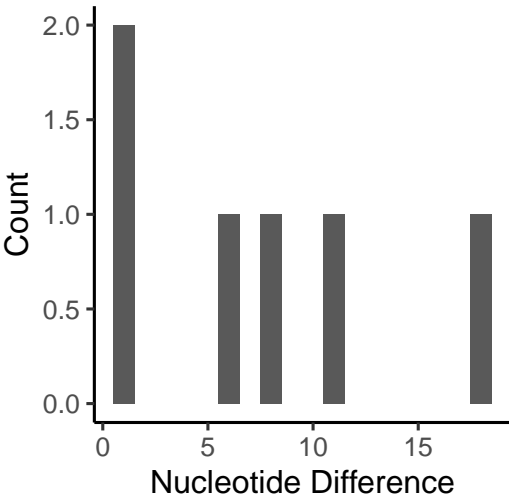
IGHV4-31\*02

5657 sequences assigned  
1731 (30.6%) exact matches, in which:  
1525 unique CDR3  
6 unique J



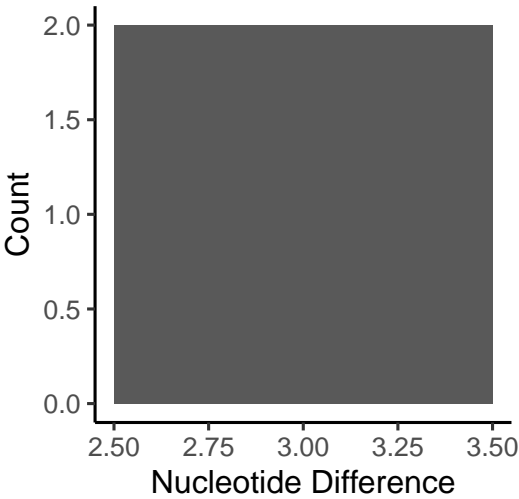
IGHV4-30-4\*01

14 sequences assigned  
No exact matches.



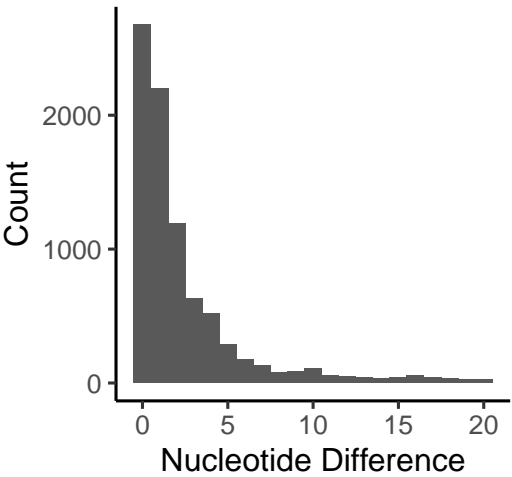
IGHV4-30-2\*04

2 sequences assigned  
No exact matches.



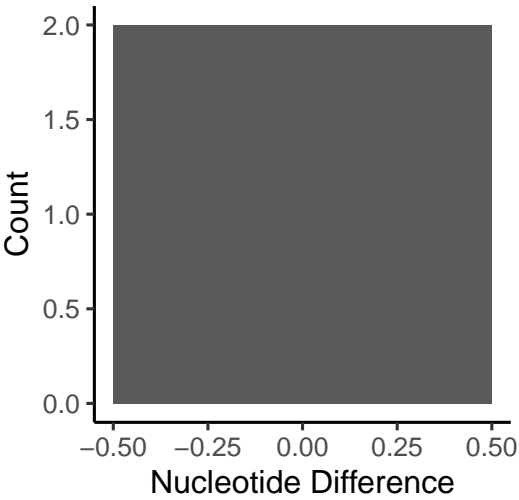
IGHV4-34\*01\_02

10701 sequences assigned  
2676 (25%) exact matches, in which:  
2181 unique CDR3  
6 unique J



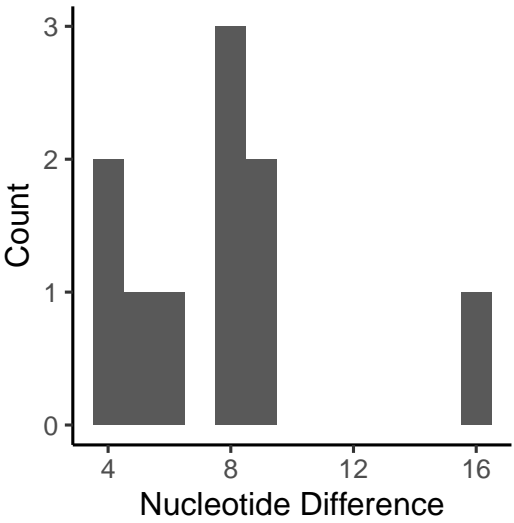
IGHV4-30-2\*01

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



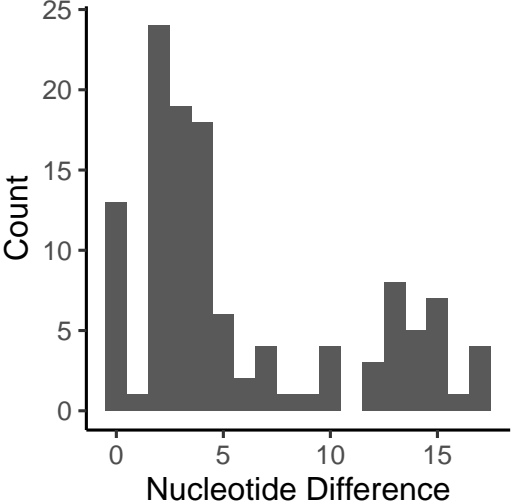
IGHV4-30-4\*08

30 sequences assigned  
No exact matches.



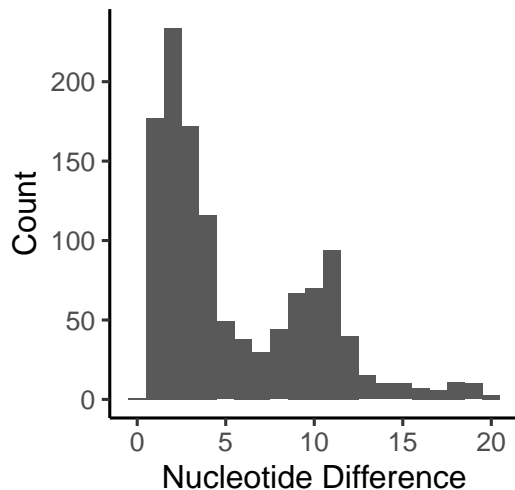
IGHV4-38-2\*02

1689 sequences assigned  
13 (0.8%) exact matches, in which:  
13 unique CDR3  
4 unique J



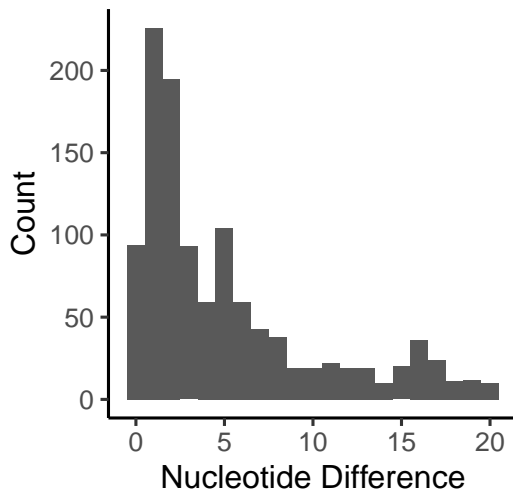
### IGHV4–39\*07

1319 sequences assigned  
1 (0.1%) exact matches, in which:  
1 unique CDR3  
1 unique J



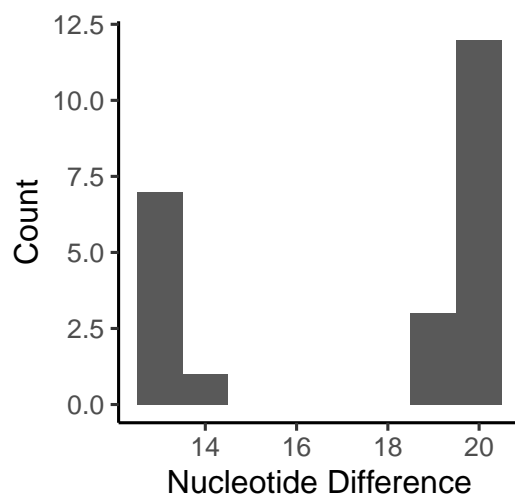
### IGHV4–59\*12

1274 sequences assigned  
94 (7.4%) exact matches, in which:  
93 unique CDR3  
6 unique J



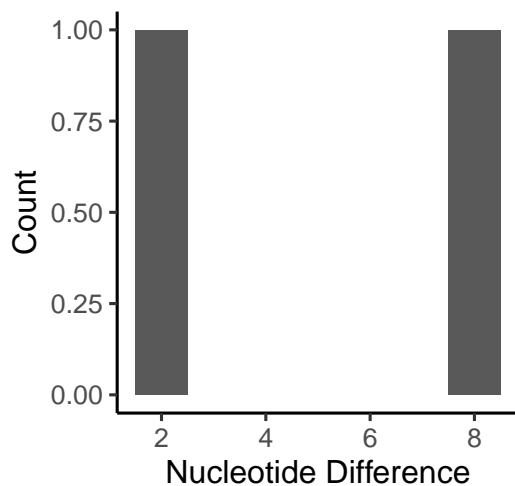
### IGHV1/OR15–1\*04

287 sequences assigned  
No exact matches.



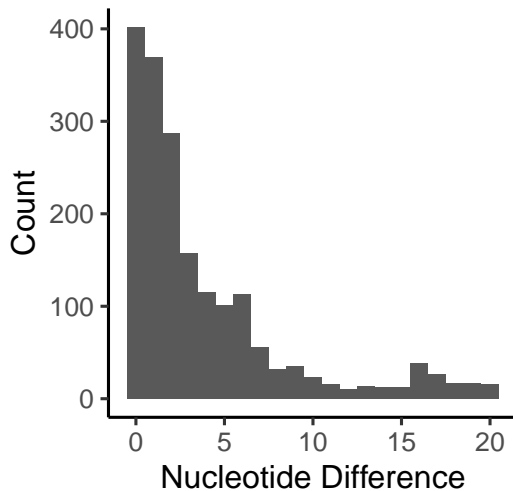
### IGHV4–55\*09

2 sequences assigned  
No exact matches.



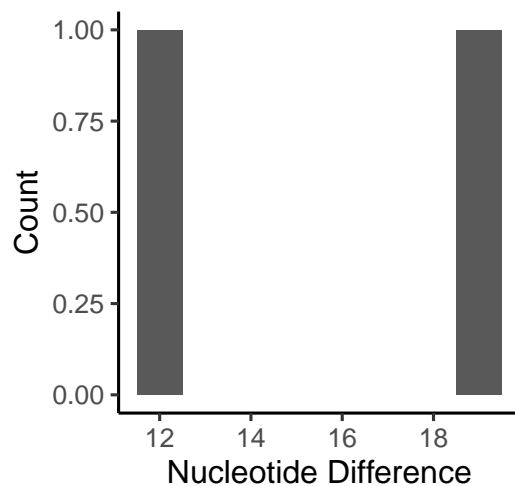
### IGHV4–61\*01

2864 sequences assigned  
402 (14%) exact matches, in which:  
365 unique CDR3  
6 unique J



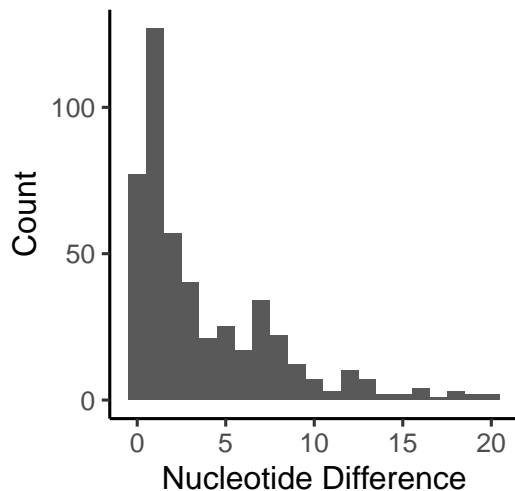
### IGHV4/OR15–8\*01

35 sequences assigned  
No exact matches.



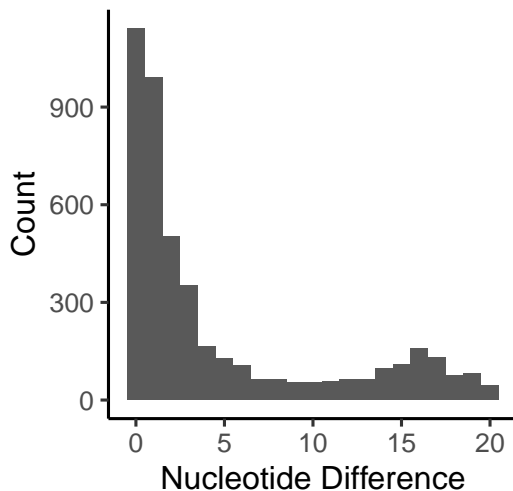
### IGHV4–59\*08

504 sequences assigned  
77 (15.3%) exact matches, in which:  
76 unique CDR3  
5 unique J



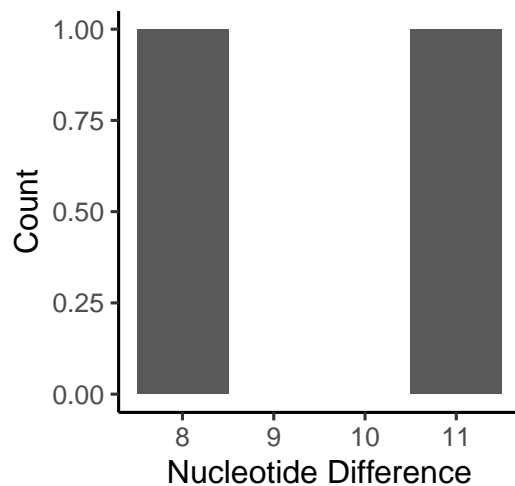
### IGHV4–61\*02\_A234G

5108 sequences assigned  
1142 (22.4%) exact matches, in which:  
1015 unique CDR3  
6 unique J



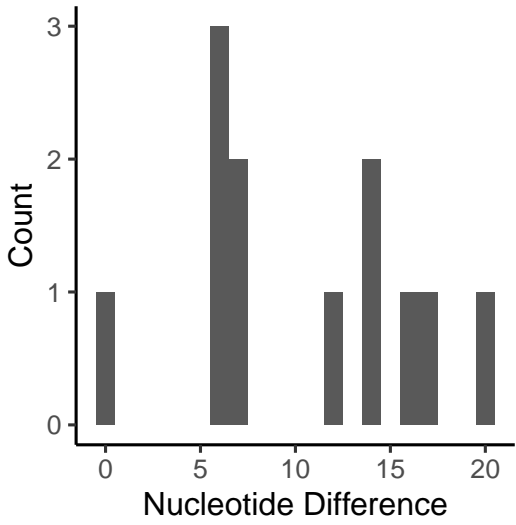
### IGHV4/OR15–8\*02

7 sequences assigned  
No exact matches.



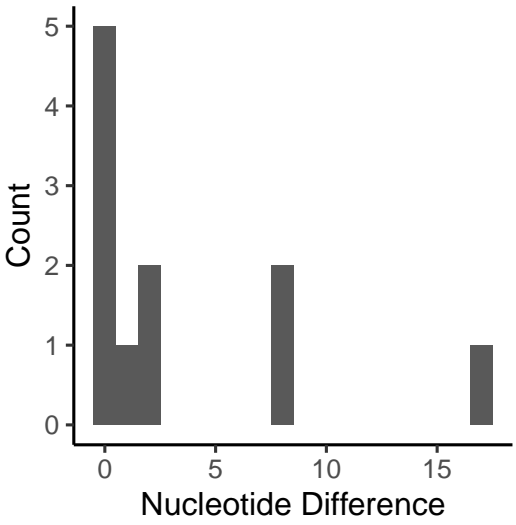
IGHV5-10-1\*01\_03

12 sequences assigned  
1 (8.3%) exact matches, in which:  
1 unique CDR3  
1 unique J



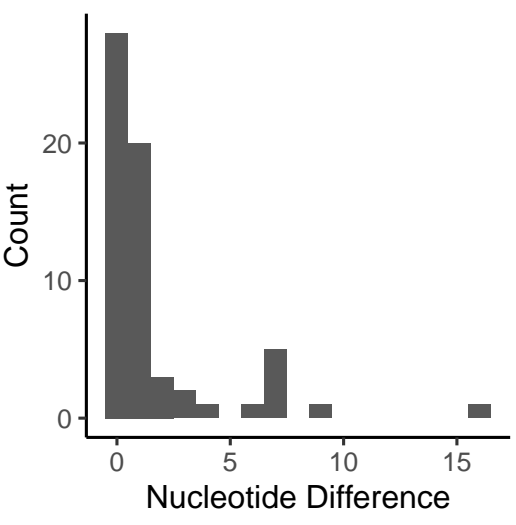
IGHV5-51\*07

16 sequences assigned  
5 (31.2%) exact matches, in which:  
5 unique CDR3  
3 unique J



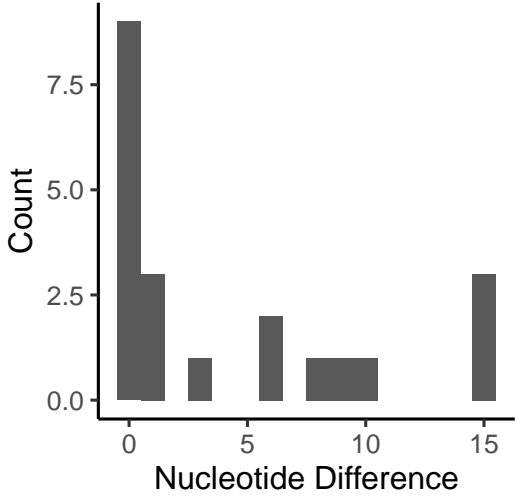
IGHV7-4-1\*01

62 sequences assigned  
28 (45.2%) exact matches, in which:  
24 unique CDR3  
3 unique J



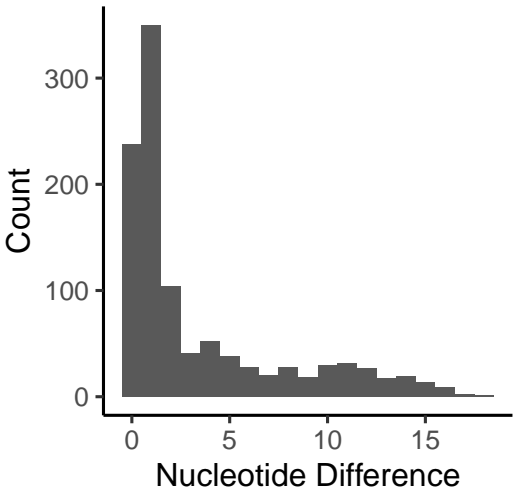
IGHV5-51\*04

26 sequences assigned  
9 (34.6%) exact matches, in which:  
9 unique CDR3  
3 unique J



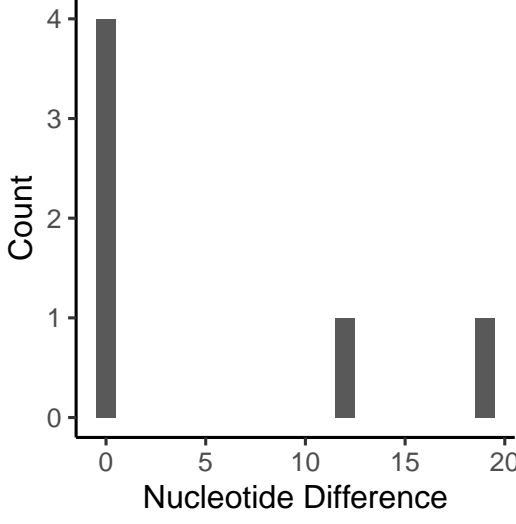
IGHV6-1\*01\_02

1155 sequences assigned  
238 (20.6%) exact matches, in which:  
207 unique CDR3  
5 unique J



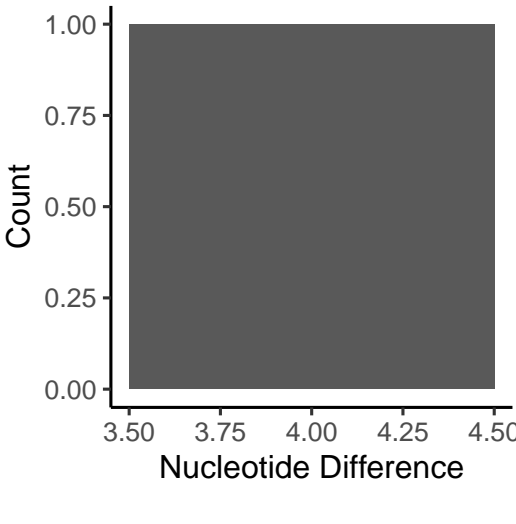
IGHV5-51\*06

38 sequences assigned  
4 (10.5%) exact matches, in which:  
4 unique CDR3  
3 unique J

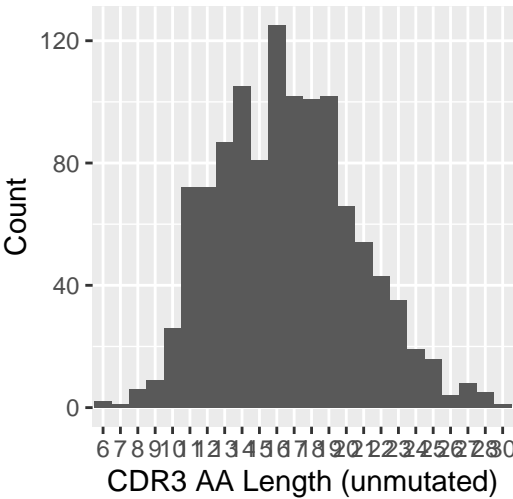


IGHV3/OR16-10\*01\_03

1 sequences assigned  
No exact matches.



IGHV4-61\*02\_A234G





[illegible]