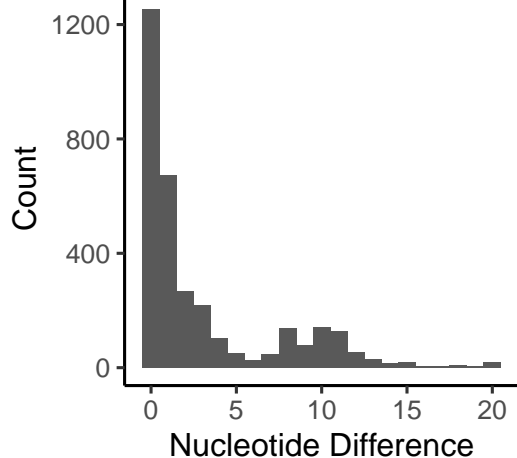


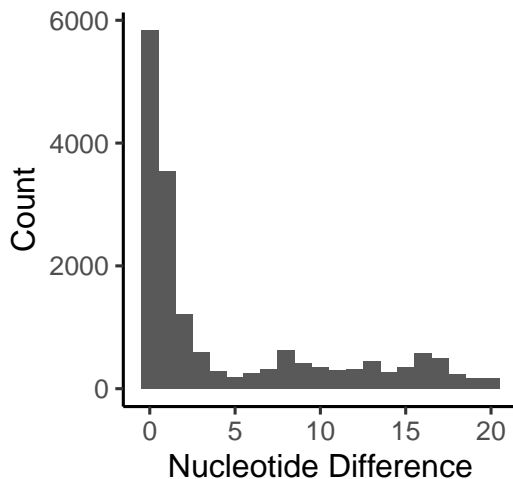
### IGHV1-2\*04

4406 sequences assigned  
1253 (28.4%) exact matches, in which:  
1151 unique CDR3  
6 unique J



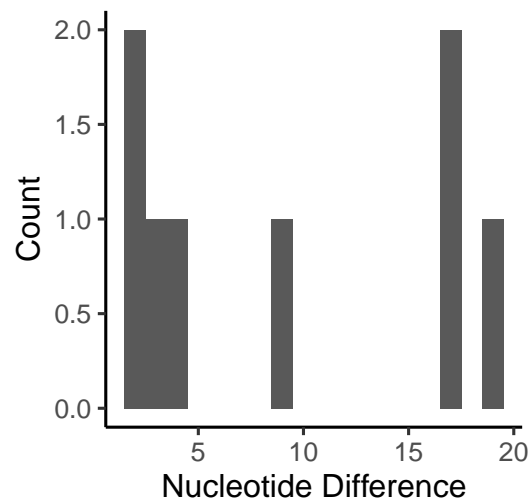
### IGHV1-18\*04

18960 sequences assigned  
5835 (30.8%) exact matches, in which:  
5291 unique CDR3  
6 unique J



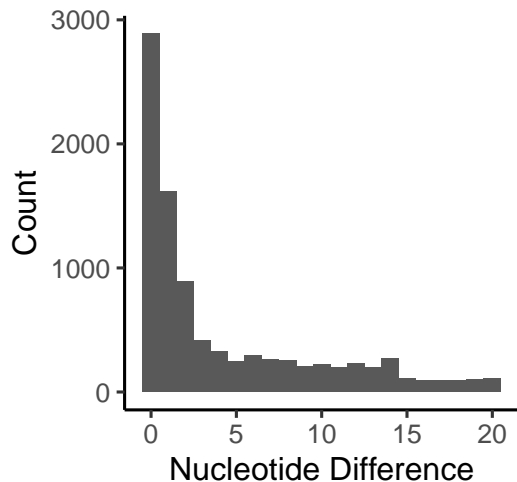
### IGHV1-45\*03

8 sequences assigned  
No exact matches.



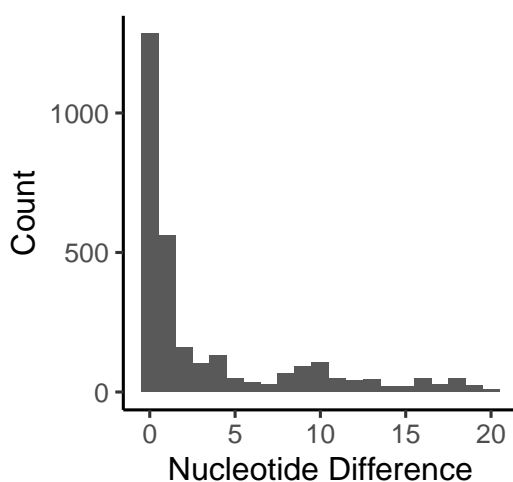
### IGHV1-3\*01\_05

9493 sequences assigned  
2888 (30.4%) exact matches, in which:  
2616 unique CDR3  
6 unique J



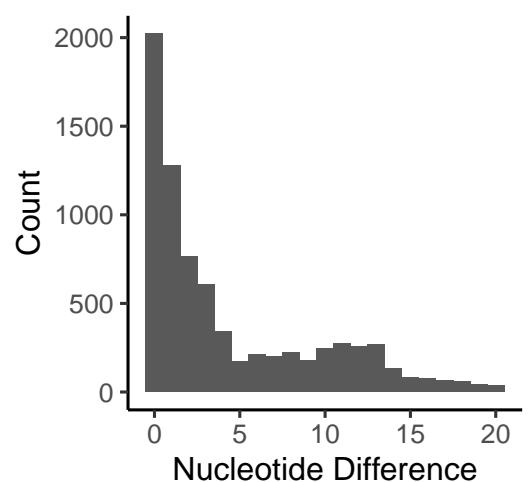
### IGHV1-24\*01

3016 sequences assigned  
1284 (42.6%) exact matches, in which:  
1204 unique CDR3  
6 unique J



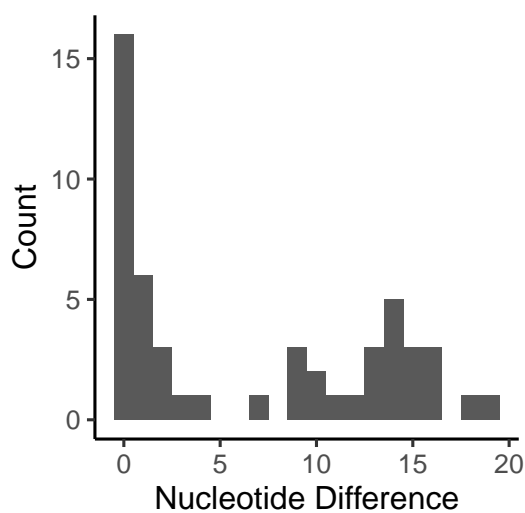
### IGHV1-46\*01

8110 sequences assigned  
2022 (24.9%) exact matches, in which:  
1870 unique CDR3  
6 unique J



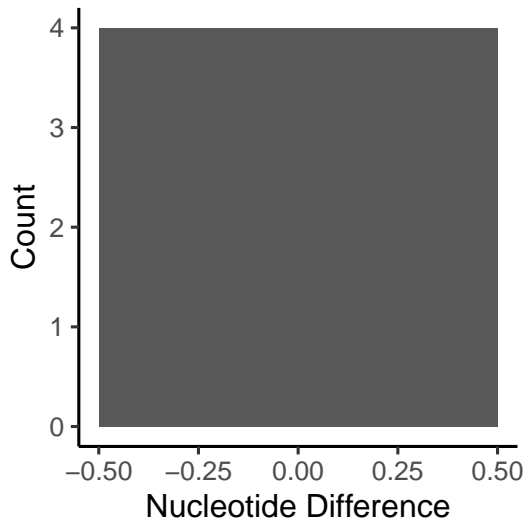
### IGHV1-8\*01

59 sequences assigned  
16 (27.1%) exact matches, in which:  
16 unique CDR3  
3 unique J



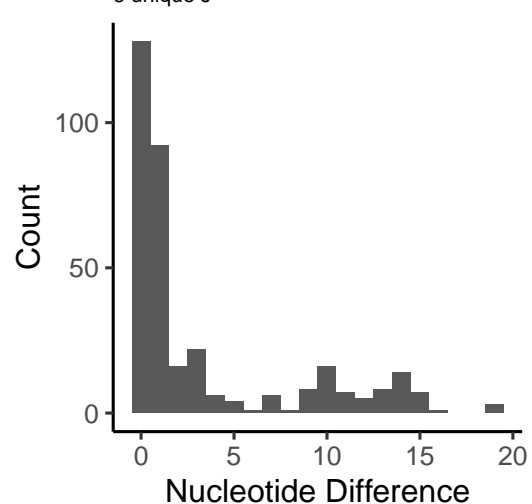
### IGHV1-45\*02

4 sequences assigned  
4 (100%) exact matches, in which:  
4 unique CDR3  
3 unique J



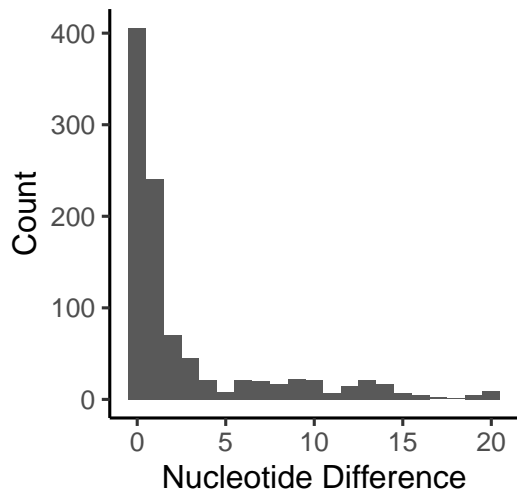
### IGHV1-58\*02

351 sequences assigned  
128 (36.5%) exact matches, in which:  
118 unique CDR3  
6 unique J



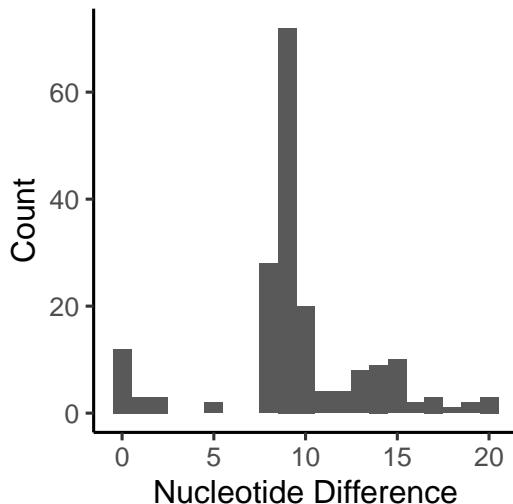
### IGHV1-58\*01\_03

1031 sequences assigned  
406 (39.4%) exact matches, in which:  
380 unique CDR3  
6 unique J



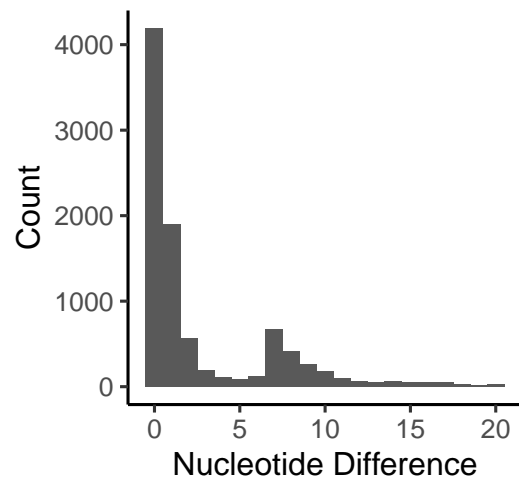
### IGHV1-69-2\*01

196 sequences assigned  
12 (6.1%) exact matches, in which:  
10 unique CDR3  
4 unique J



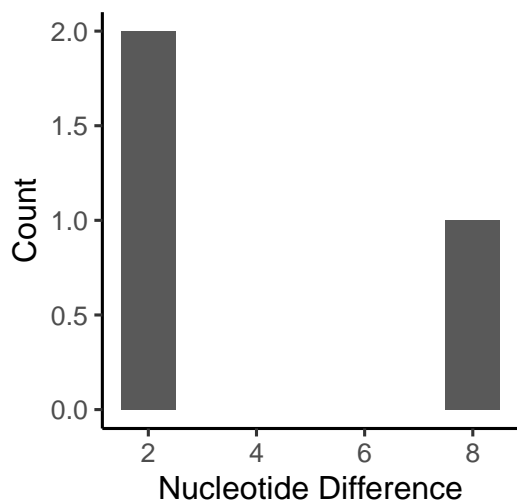
### IGHV1-69\*06\_14

9779 sequences assigned  
4190 (42.8%) exact matches, in which:  
3977 unique CDR3  
6 unique J



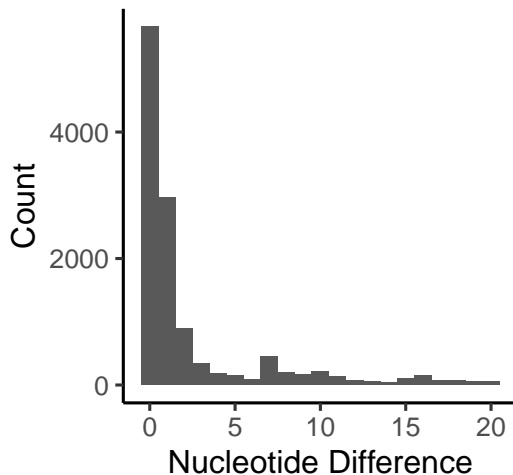
### IGHV1-68\*01

3 sequences assigned  
No exact matches.



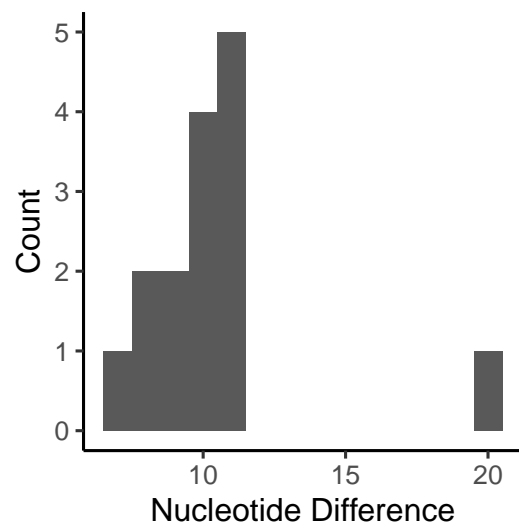
### IGHV1-69\*01\_12\_13

12360 sequences assigned  
5665 (45.8%) exact matches, in which:  
5314 unique CDR3  
6 unique J



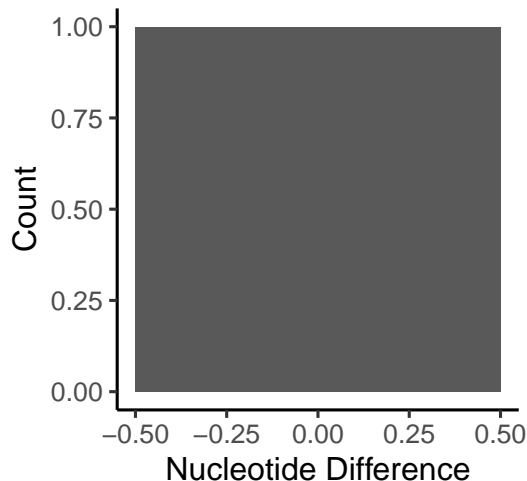
### IGHV1-NL1\*01

15 sequences assigned  
No exact matches.



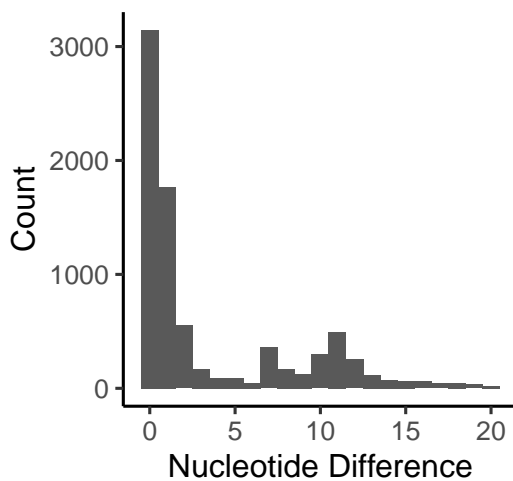
### IGHV1-68\*02\_03

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



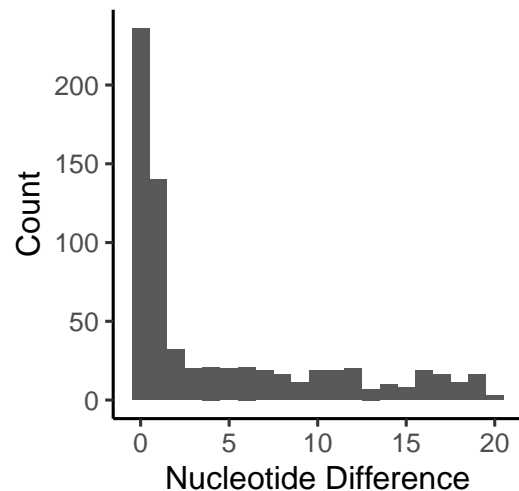
### IGHV1-69\*04\_09

8142 sequences assigned  
3145 (38.6%) exact matches, in which:  
2977 unique CDR3  
6 unique J



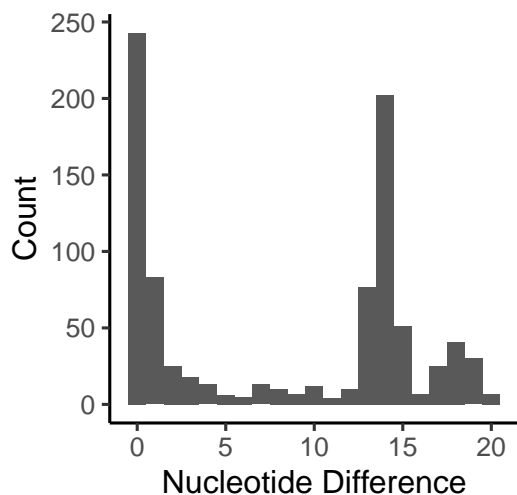
### IGHV2-5\*02

802 sequences assigned  
236 (29.4%) exact matches, in which:  
223 unique CDR3  
6 unique J



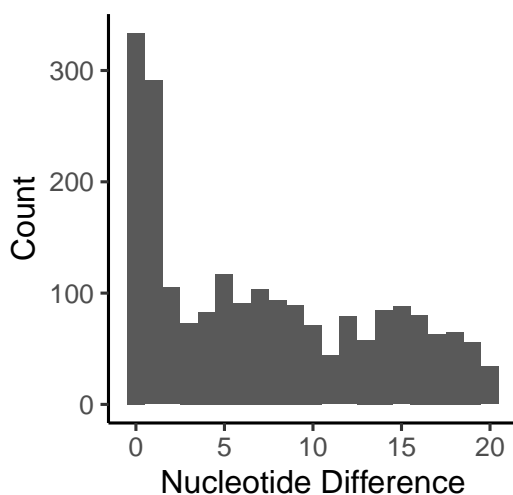
### IGHV2-26\*01

900 sequences assigned  
243 (27%) exact matches, in which:  
227 unique CDR3  
5 unique J



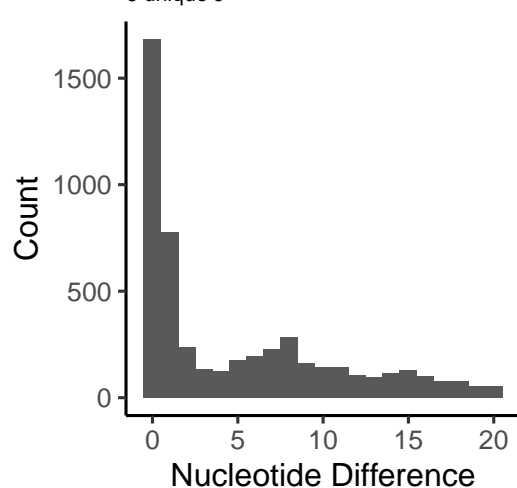
### IGHV3-7\*01

2338 sequences assigned  
334 (14.3%) exact matches, in which:  
329 unique CDR3  
6 unique J



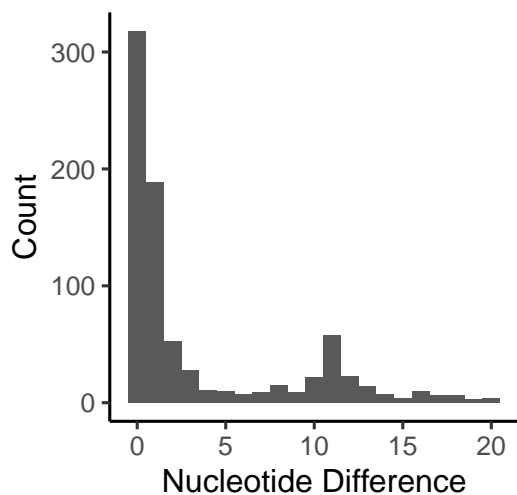
### IGHV3-11\*06

5381 sequences assigned  
1682 (31.3%) exact matches, in which:  
1269 unique CDR3  
6 unique J



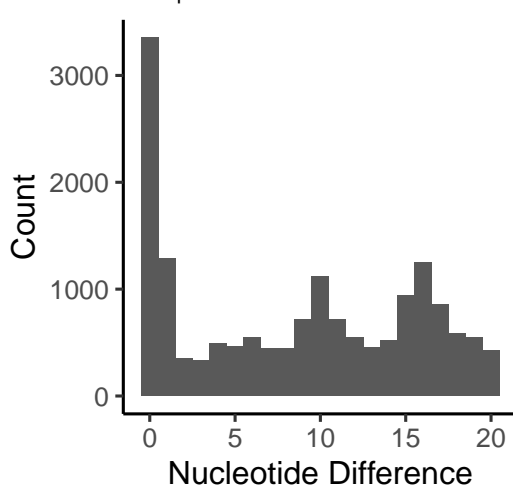
### IGHV2-70\*01

815 sequences assigned  
318 (39%) exact matches, in which:  
295 unique CDR3  
6 unique J



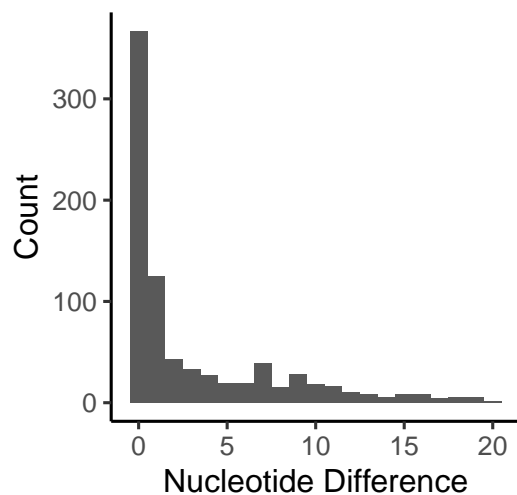
### IGHV3-7\*03

21836 sequences assigned  
3353 (15.4%) exact matches, in which:  
2418 unique CDR3  
6 unique J



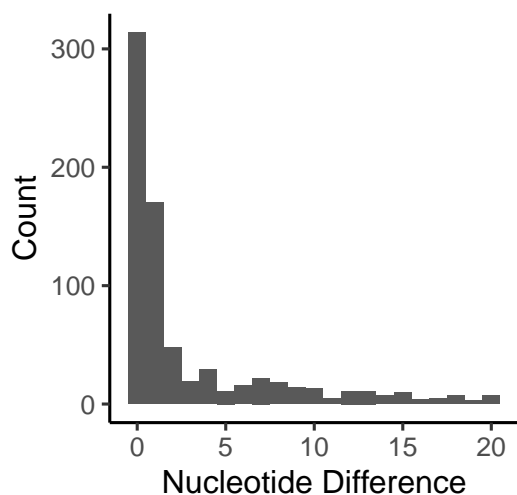
### IGHV3-13\*05

886 sequences assigned  
367 (41.4%) exact matches, in which:  
270 unique CDR3  
5 unique J



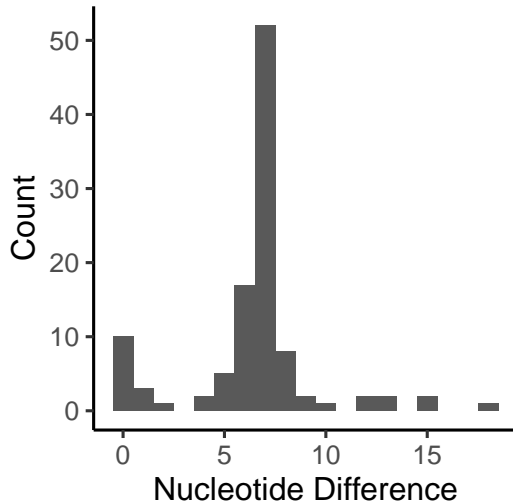
### IGHV2-70\*11\_15

843 sequences assigned  
314 (37.2%) exact matches, in which:  
291 unique CDR3  
6 unique J



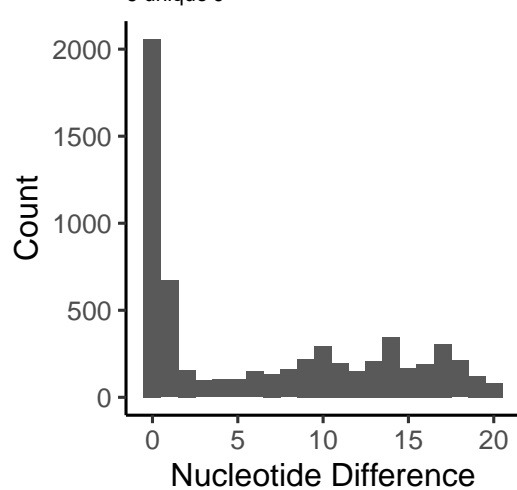
### IGHV3-9\*01

130 sequences assigned  
10 (7.7%) exact matches, in which:  
7 unique CDR3  
4 unique J



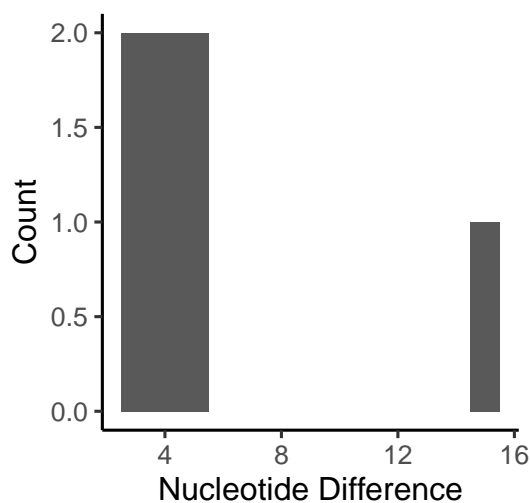
### IGHV3-15\*01\_02

7205 sequences assigned  
2058 (28.6%) exact matches, in which:  
1575 unique CDR3  
6 unique J



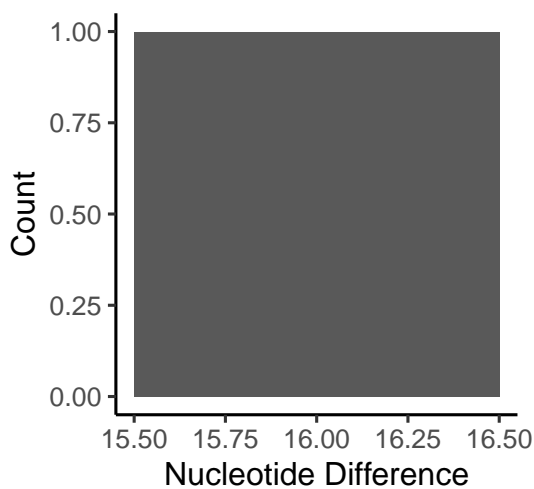
### IGHV3-19\*01

7 sequences assigned  
No exact matches.



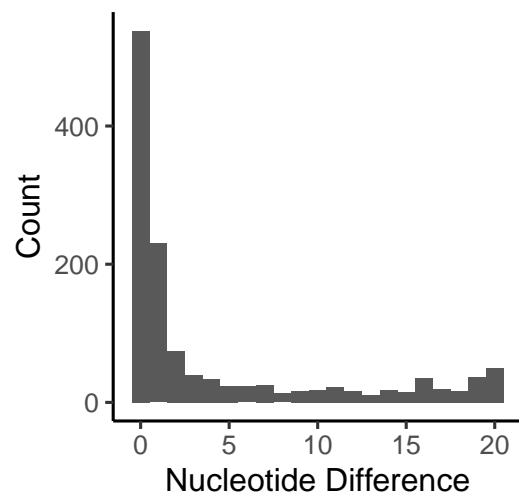
### IGHV3-22\*01\_02

1 sequences assigned  
No exact matches.



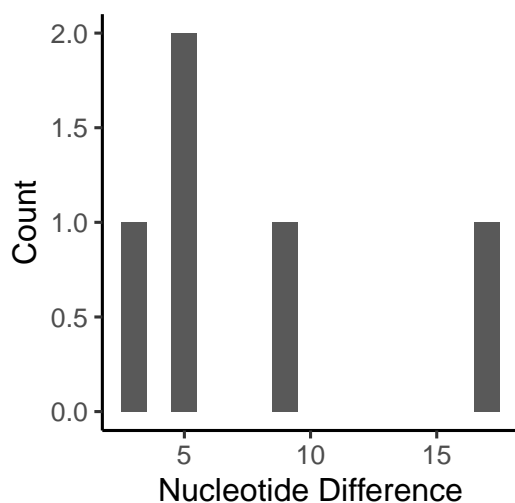
### IGHV3-30\*03

1362 sequences assigned  
538 (39.5%) exact matches, in which:  
508 unique CDR3  
6 unique J



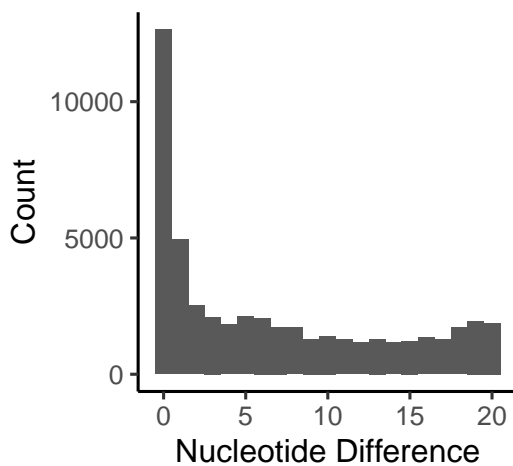
### IGHV3-20\*03\_04

7 sequences assigned  
No exact matches.



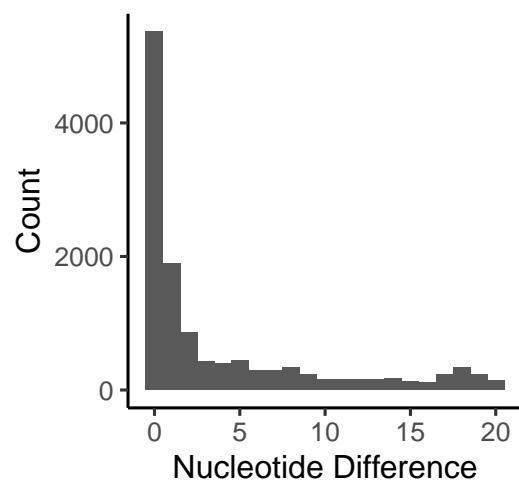
### IGHV3-23\*01\_04

58198 sequences assigned  
12649 (21.7%) exact matches, in which:  
8794 unique CDR3  
6 unique J



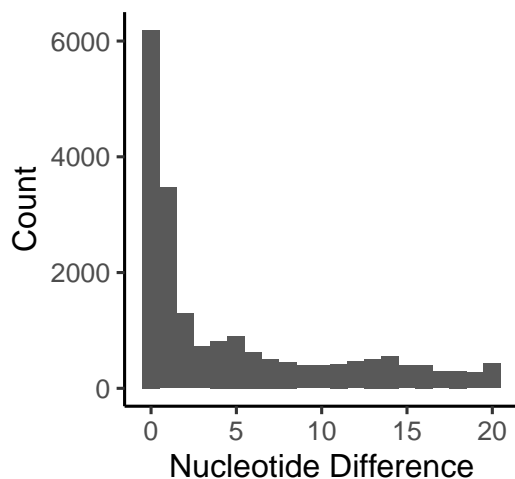
### IGHV3-33\*01

13492 sequences assigned  
5366 (39.8%) exact matches, in which:  
4068 unique CDR3  
6 unique J



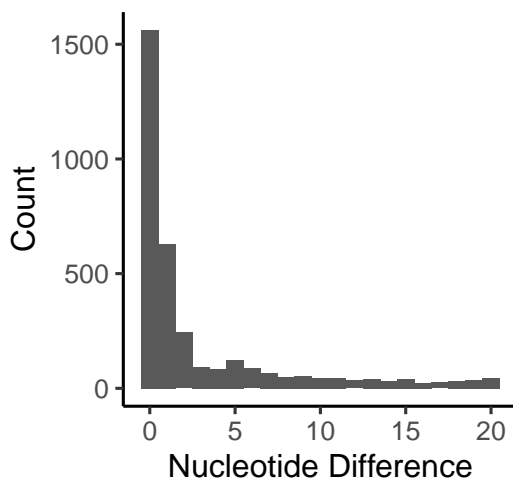
### IGHV3-21\*01\_02

26340 sequences assigned  
6190 (23.5%) exact matches, in which:  
4421 unique CDR3  
6 unique J



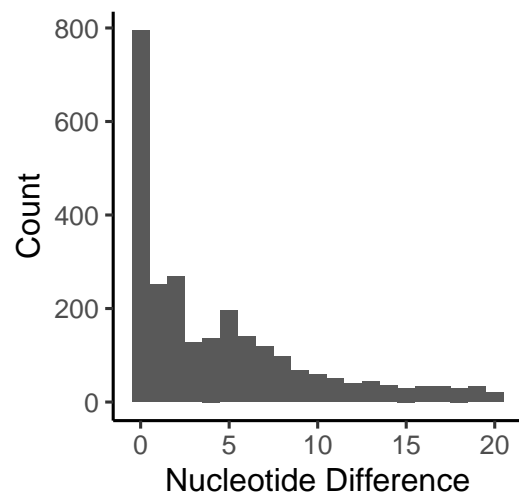
### IGHV3-30-3\*01

3982 sequences assigned  
1562 (39.2%) exact matches, in which:  
1169 unique CDR3  
6 unique J



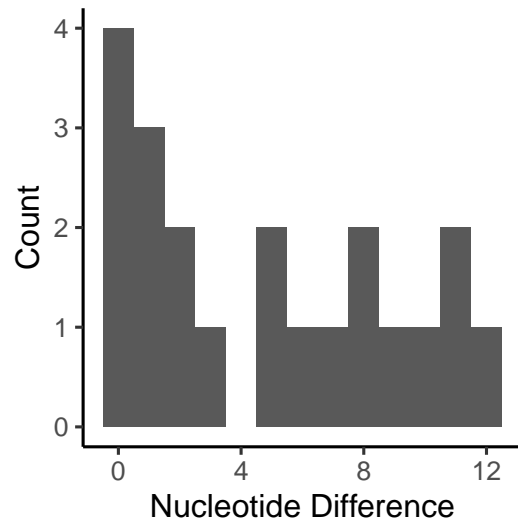
### IGHV3-33\*08

2744 sequences assigned  
795 (29%) exact matches, in which:  
732 unique CDR3  
6 unique J



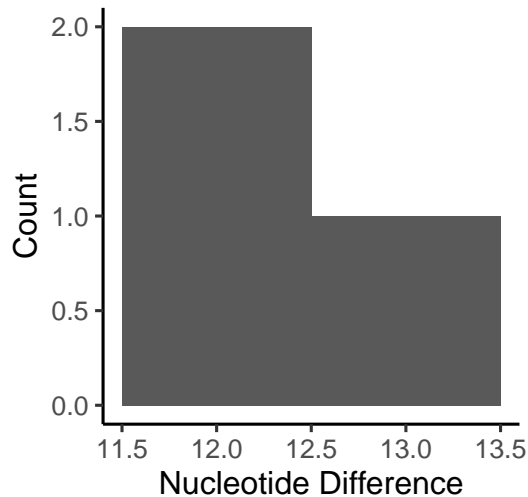
### IGHV3-35\*01

21 sequences assigned  
4 (19%) exact matches, in which:  
4 unique CDR3  
2 unique J



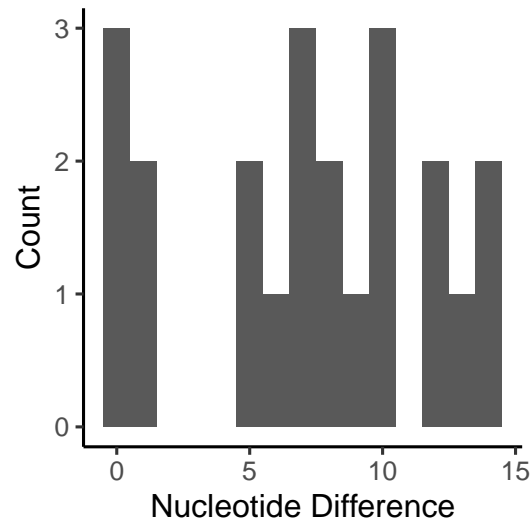
### IGHV3-47\*02

3 sequences assigned  
No exact matches.



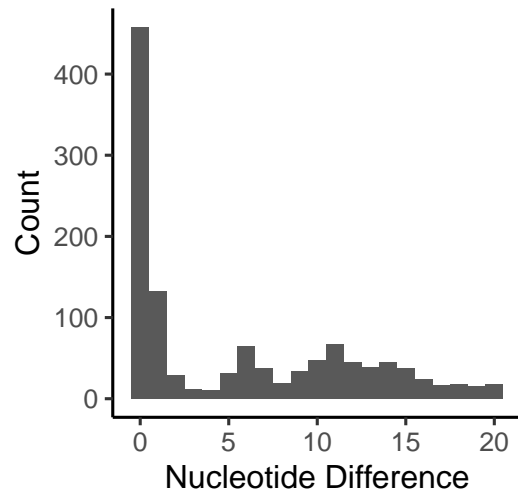
### IGHV3-52\*01\_03

22 sequences assigned  
3 (13.6%) exact matches, in which:  
3 unique CDR3  
3 unique J



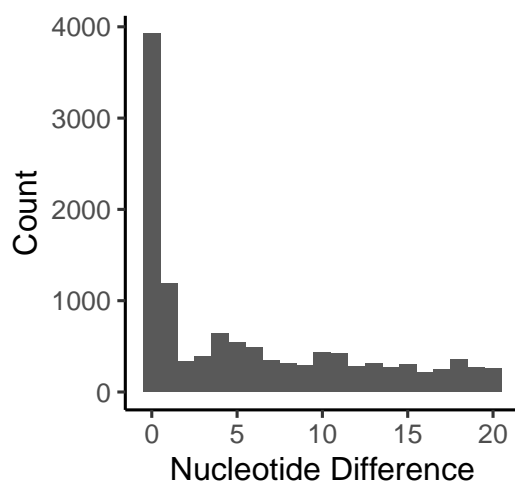
### IGHV3-43\*02

1304 sequences assigned  
458 (35.1%) exact matches, in which:  
337 unique CDR3  
6 unique J



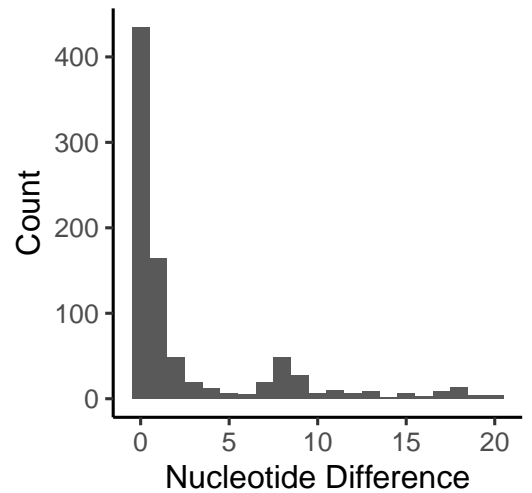
### IGHV3-48\*03

13793 sequences assigned  
3924 (28.4%) exact matches, in which:  
2898 unique CDR3  
6 unique J



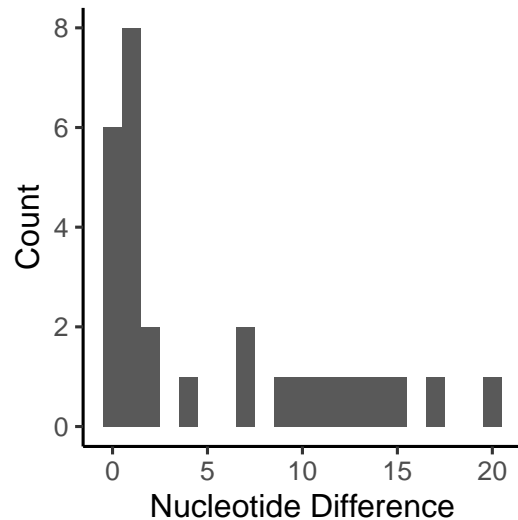
### IGHV3-53\*04

895 sequences assigned  
435 (48.6%) exact matches, in which:  
327 unique CDR3  
6 unique J



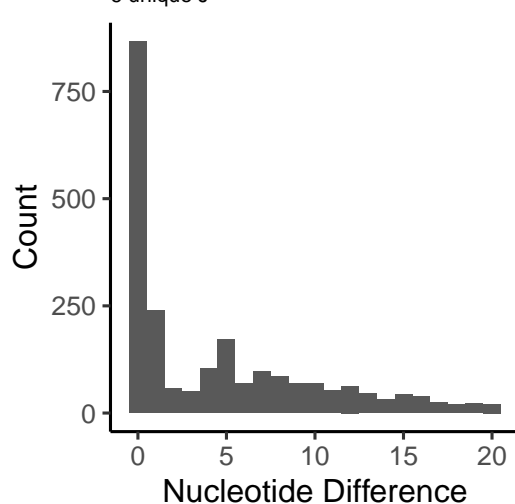
### IGHV3-47\*01

28 sequences assigned  
6 (21.4%) exact matches, in which:  
3 unique CDR3  
3 unique J



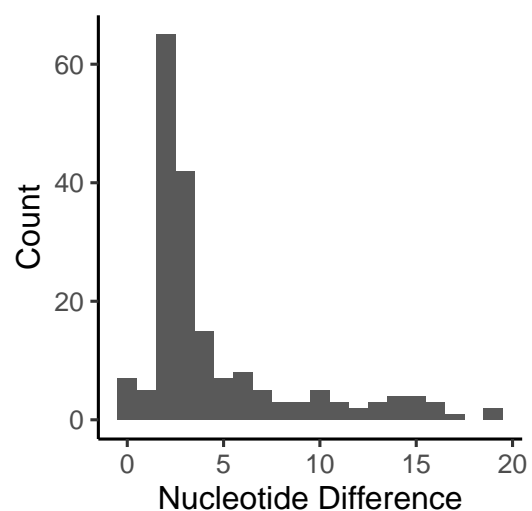
### IGHV3-49\*04

2412 sequences assigned  
867 (35.9%) exact matches, in which:  
662 unique CDR3  
6 unique J



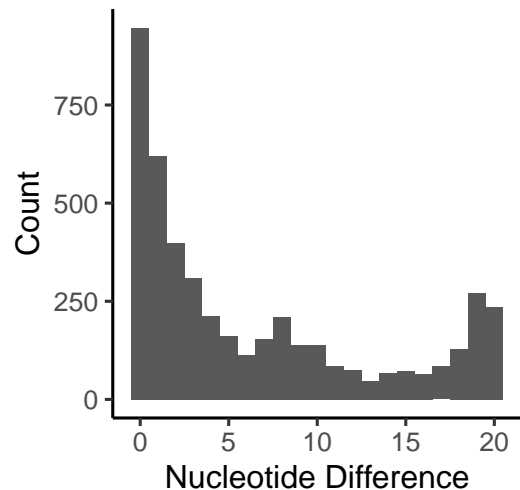
### IGHV3-53\*05

229 sequences assigned  
7 (3.1%) exact matches, in which:  
7 unique CDR3  
2 unique J



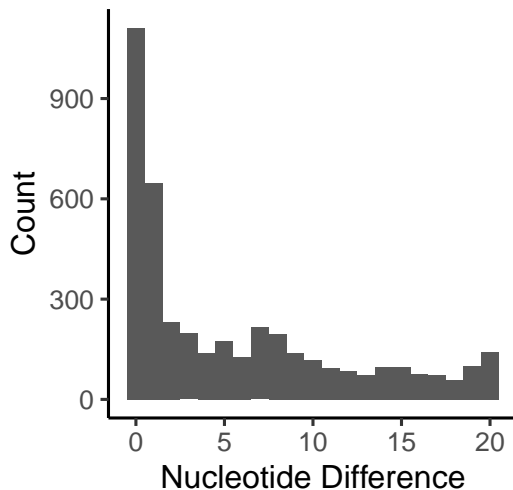
### IGHV3-53\*01\_02

5120 sequences assigned  
947 (18.5%) exact matches, in which:  
693 unique CDR3  
6 unique J



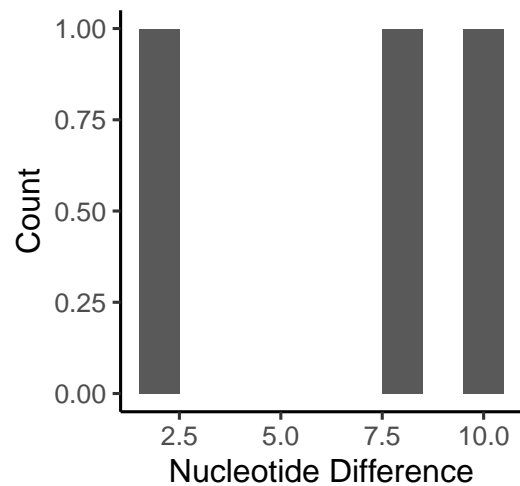
### IGHV3-66\*01

4503 sequences assigned  
1112 (24.7%) exact matches, in which:  
821 unique CDR3  
6 unique J



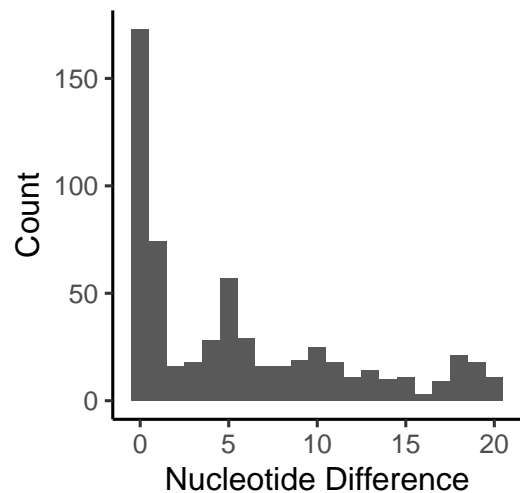
### IGHV3-71\*01\_04

3 sequences assigned  
No exact matches.



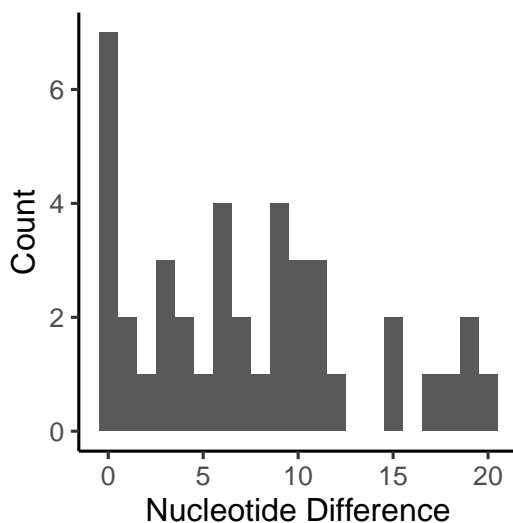
### IGHV3-64\*01

671 sequences assigned  
173 (25.8%) exact matches, in which:  
132 unique CDR3  
5 unique J



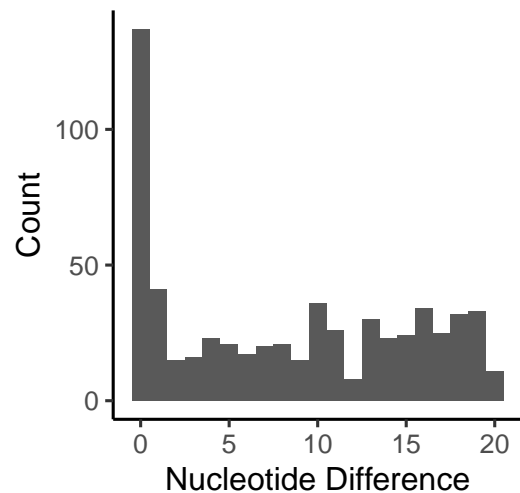
### IGHV3-69-1\*01

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



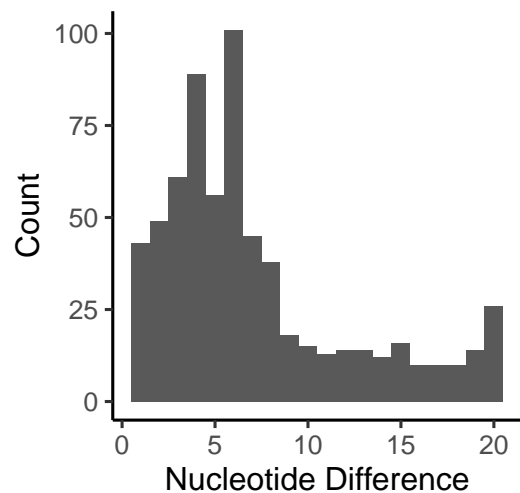
### IGHV3-72\*01

1491 sequences assigned  
137 (9.2%) exact matches, in which:  
102 unique CDR3  
5 unique J



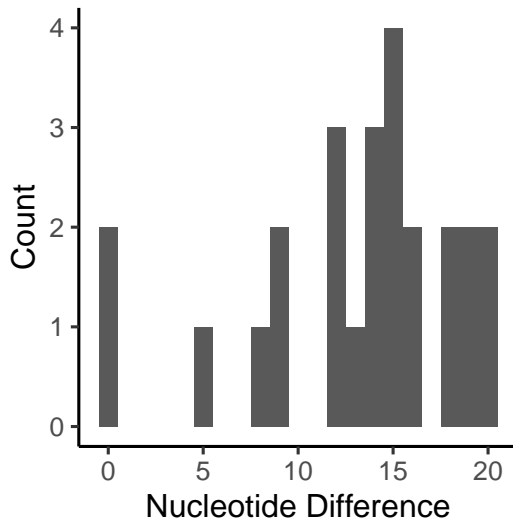
### IGHV3-64\*04

715 sequences assigned  
No exact matches.



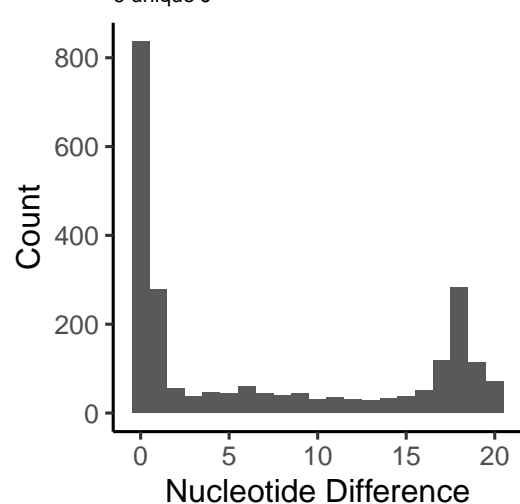
### IGHV3-69-1\*02

44 sequences assigned  
2 (4.5%) exact matches, in which:  
2 unique CDR3  
2 unique J



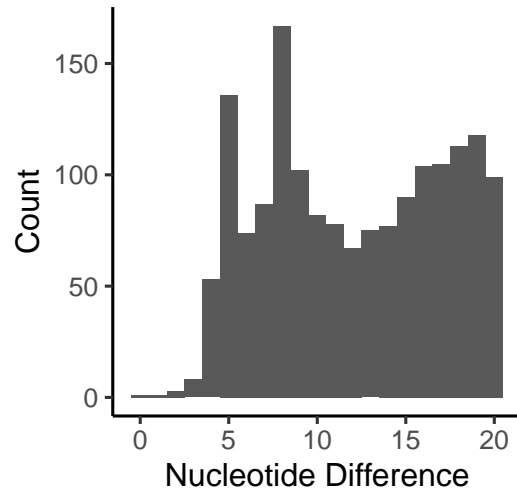
### IGHV3-73\*01\_02

3148 sequences assigned  
837 (26.6%) exact matches, in which:  
611 unique CDR3  
6 unique J



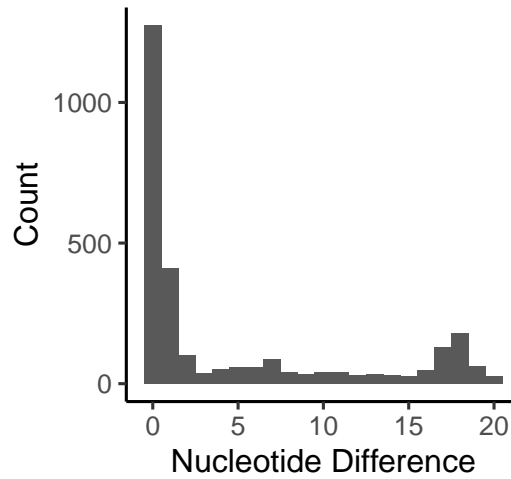
### IGHV3-74\*03

3169 sequences assigned  
1 (0%) exact matches, in which:  
1 unique CDR3  
1 unique J



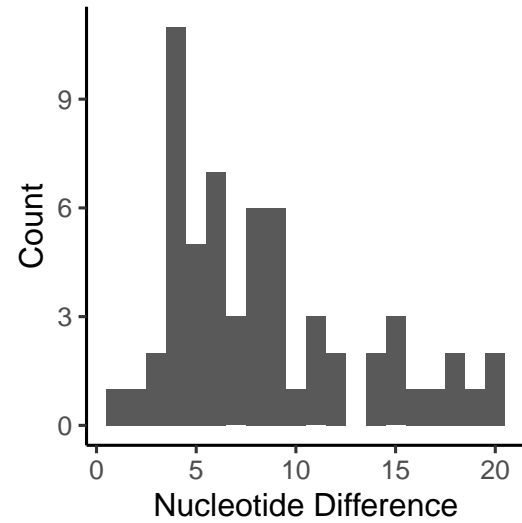
### IGHV3-64D\*06

3647 sequences assigned  
1274 (34.9%) exact matches, in which:  
828 unique CDR3  
6 unique J



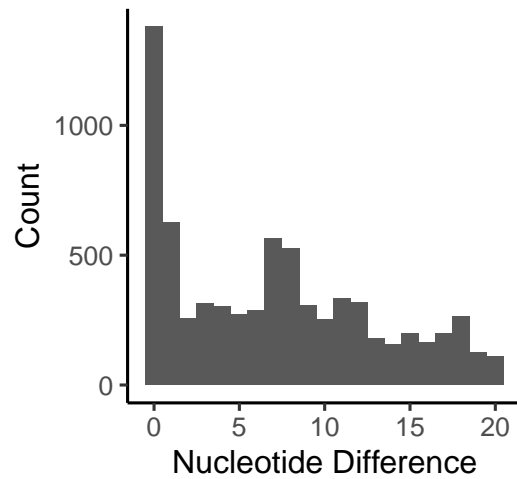
### IGHV3-NL1\*01

76 sequences assigned  
No exact matches.



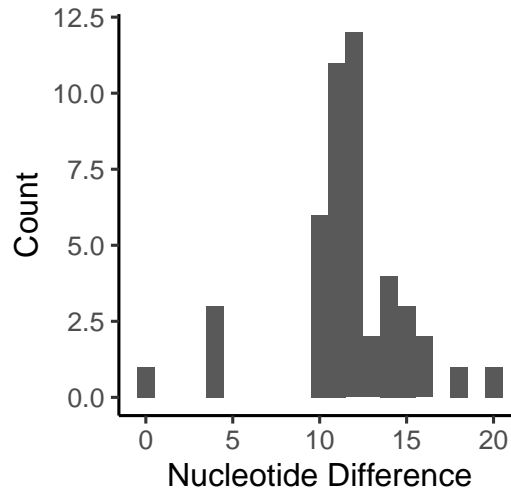
### IGHV3-74\*01\_02

7648 sequences assigned  
1380 (18%) exact matches, in which:  
980 unique CDR3  
6 unique J



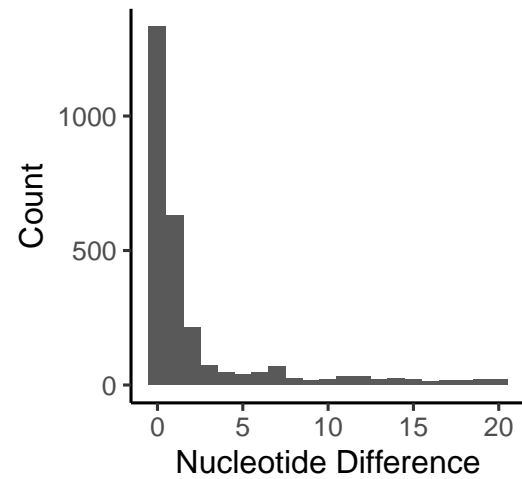
### IGHV3-64D\*08

58 sequences assigned  
1 (1.7%) exact matches, in which:  
1 unique CDR3  
1 unique J



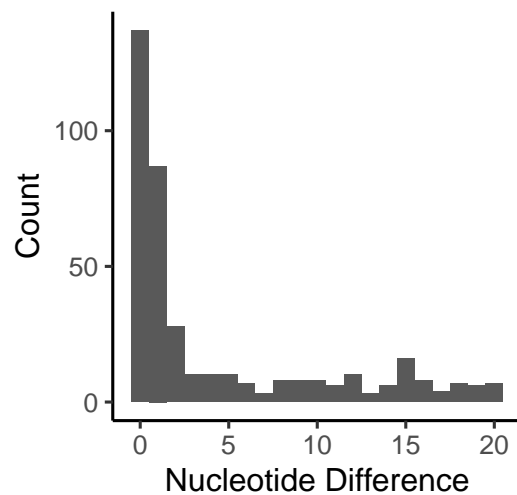
### IGHV4-4\*02\_03

3007 sequences assigned  
1332 (44.3%) exact matches, in which:  
1207 unique CDR3  
6 unique J



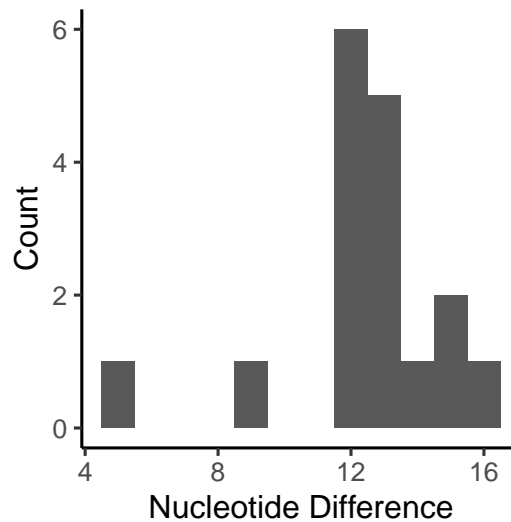
### IGHV3-43D\*04

416 sequences assigned  
137 (32.9%) exact matches, in which:  
93 unique CDR3  
4 unique J



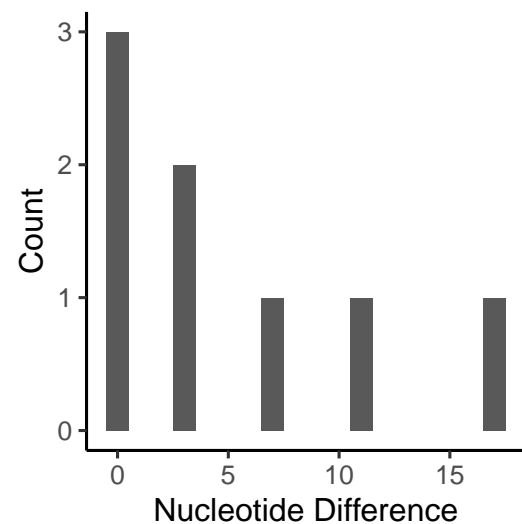
### IGHV3-64D\*09

19 sequences assigned  
No exact matches.



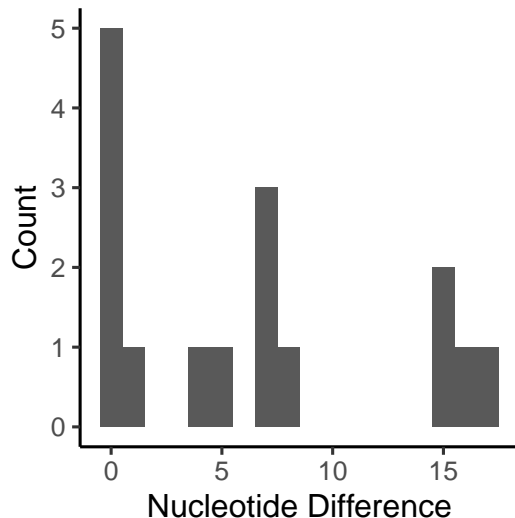
### IGHV4-28\*03

10 sequences assigned  
3 (30%) exact matches, in which:  
3 unique CDR3  
3 unique J



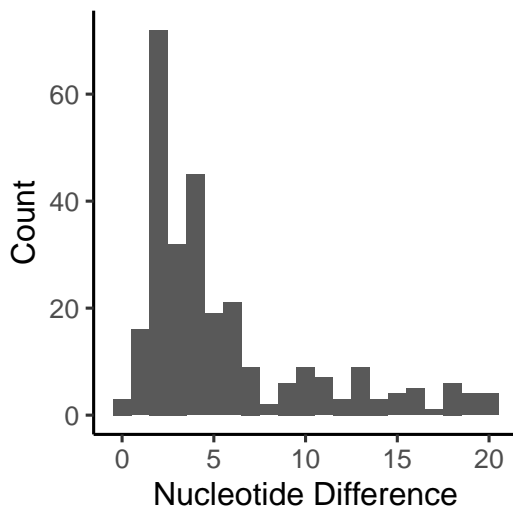
### IGHV4-28\*01\_07

20 sequences assigned  
5 (25%) exact matches, in which:  
5 unique CDR3  
3 unique J



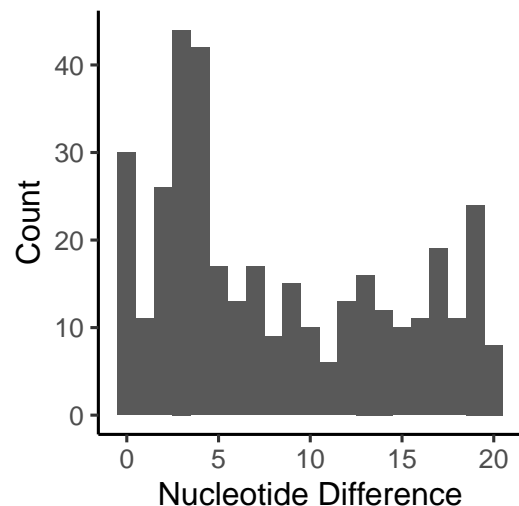
### IGHV4-30-4\*08

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



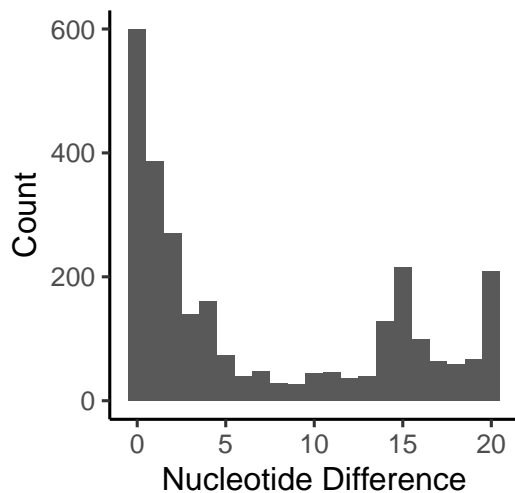
### IGHV4-38-2\*02

1061 sequences assigned  
30 (2.8%) exact matches, in which:  
30 unique CDR3  
6 unique J



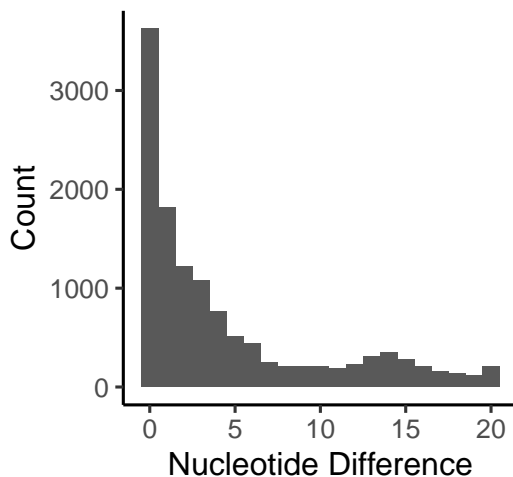
### IGHV4-30-2\*01

3584 sequences assigned  
600 (16.7%) exact matches, in which:  
543 unique CDR3  
6 unique J



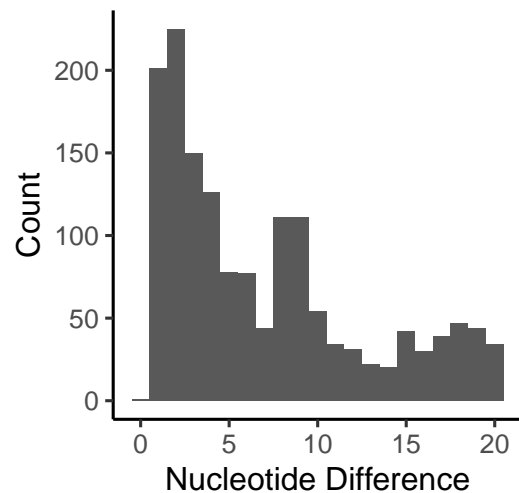
### IGHV4-31\*02

14049 sequences assigned  
3625 (25.8%) exact matches, in which:  
3390 unique CDR3  
6 unique J



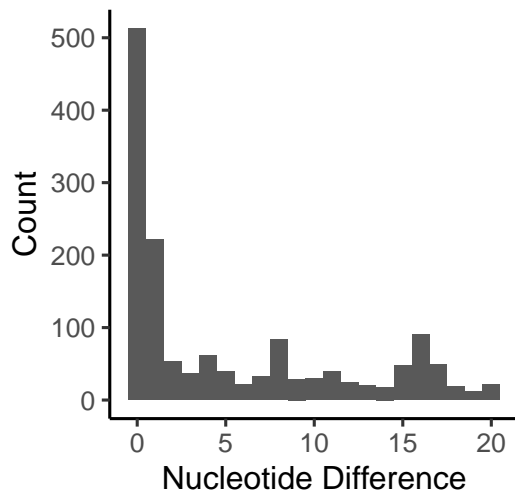
### IGHV4-39\*07

1920 sequences assigned  
1 (0.1%) exact matches, in which:  
1 unique CDR3  
1 unique J



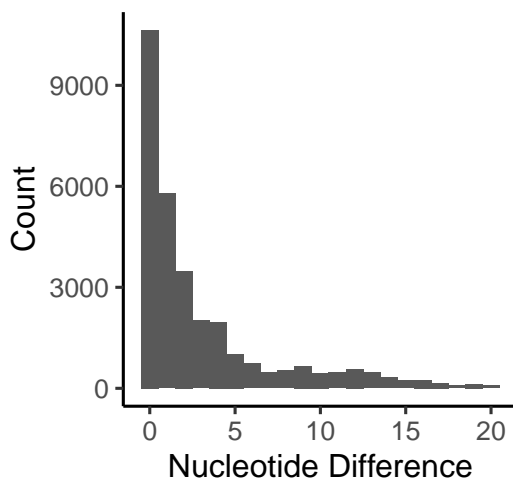
### IGHV4-30-4\*01

1567 sequences assigned  
513 (32.7%) exact matches, in which:  
485 unique CDR3  
6 unique J



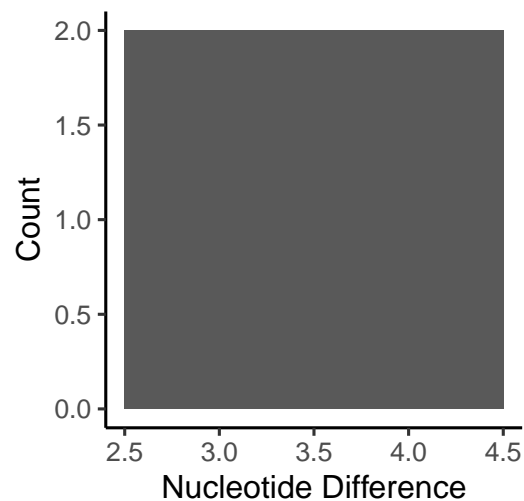
### IGHV4-34\*01\_02

31256 sequences assigned  
10642 (34%) exact matches, in which:  
9551 unique CDR3  
6 unique J



### IGHV4-55\*09

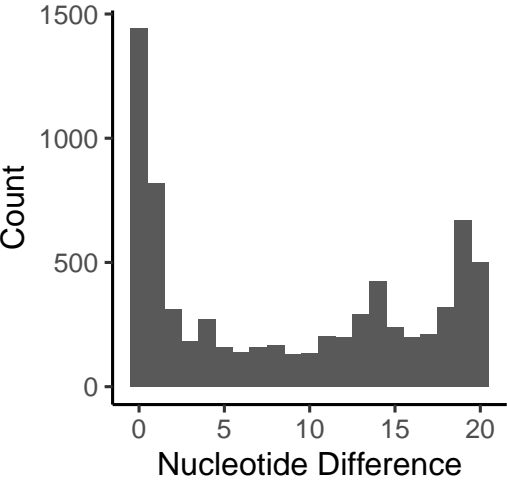
4 sequences assigned  
No exact matches.





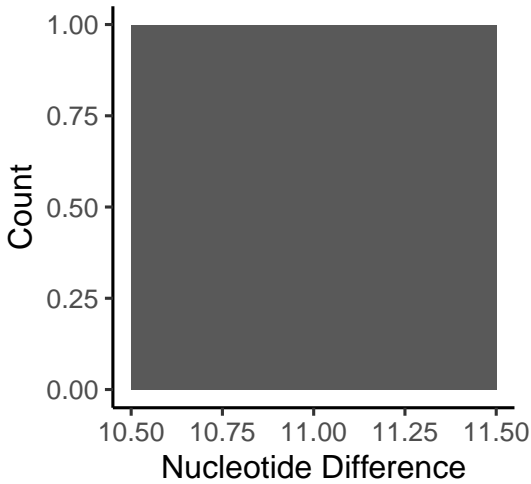
IGHV4-59\*08

8432 sequences assigned  
1442 (17.1%) exact matches, in which:  
1359 unique CDR3  
6 unique J



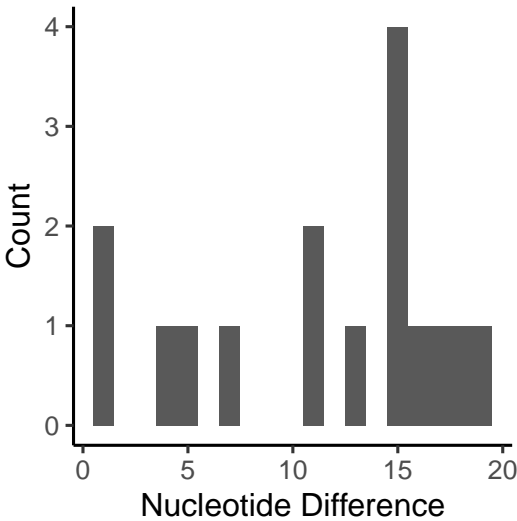
IGHV1/OR15-2\*01

1 sequences assigned  
No exact matches.



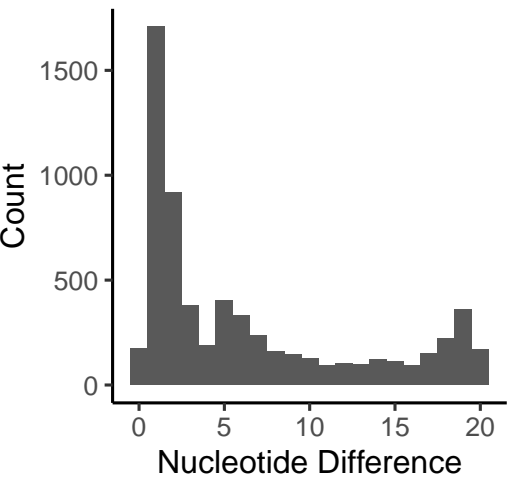
IGHV4/OR15-8\*01

18 sequences assigned  
No exact matches.



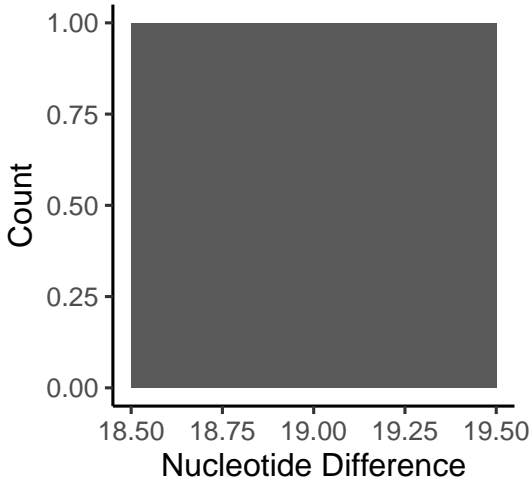
IGHV4-59\*12

7439 sequences assigned  
173 (2.3%) exact matches, in which:  
172 unique CDR3  
6 unique J



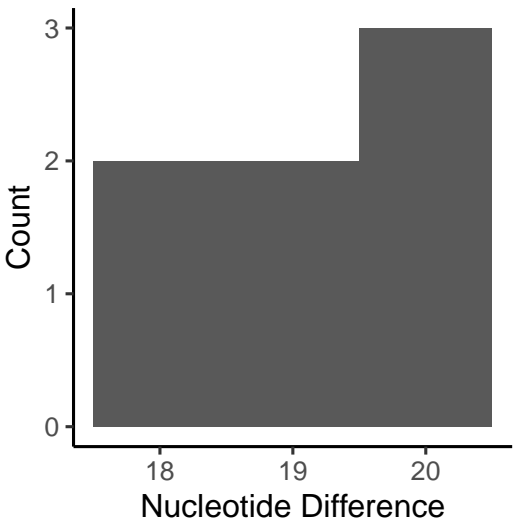
IGHV1/OR15-2\*02\_03

1 sequences assigned  
No exact matches.



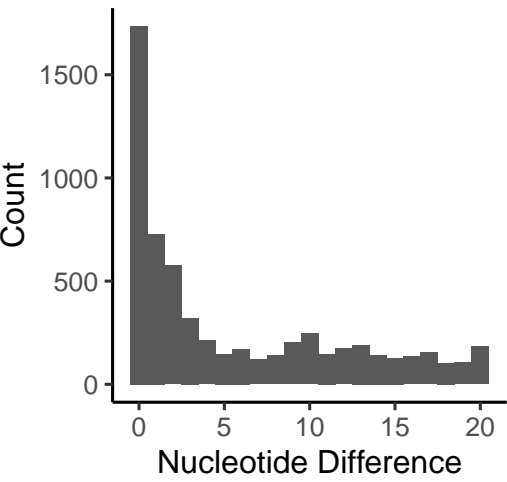
IGHV4/OR15-8\*02

21 sequences assigned  
No exact matches.



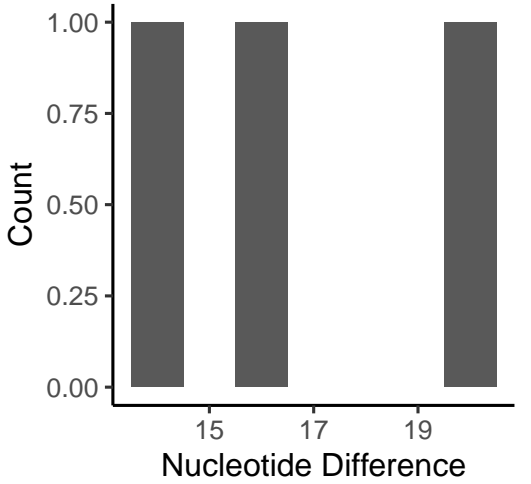
IGHV4-61\*01

7694 sequences assigned  
1736 (22.6%) exact matches, in which:  
1658 unique CDR3  
6 unique J



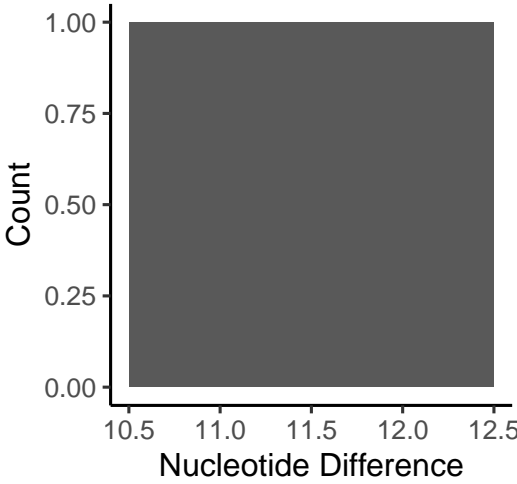
IGHV1/OR15-3\*02

4 sequences assigned  
No exact matches.



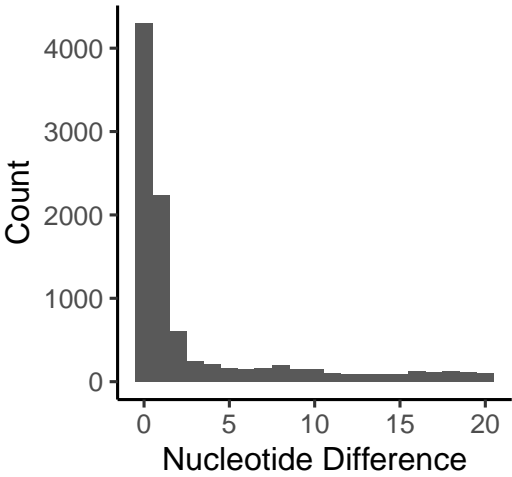
IGHV1/OR15-9\*01

2 sequences assigned  
No exact matches.



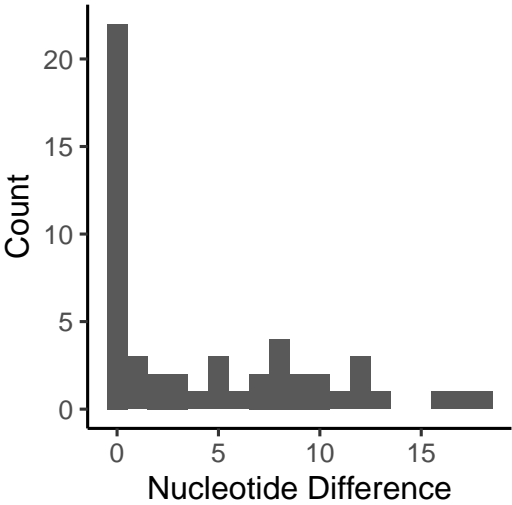
IGHV5-10-1\*01\_03

10964 sequences assigned  
4297 (39.2%) exact matches, in which:  
3595 unique CDR3  
6 unique J



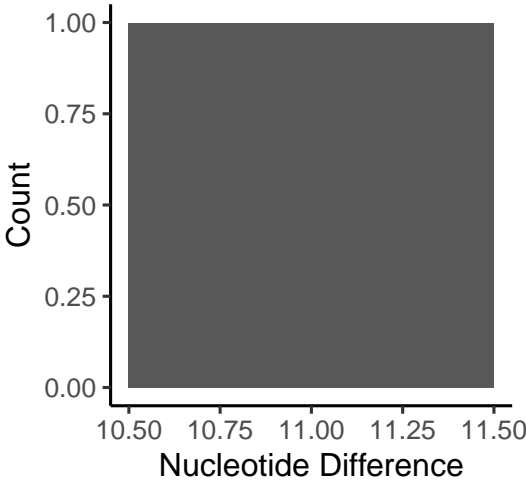
IGHV5-51\*07

55 sequences assigned  
22 (40%) exact matches, in which:  
22 unique CDR3  
4 unique J



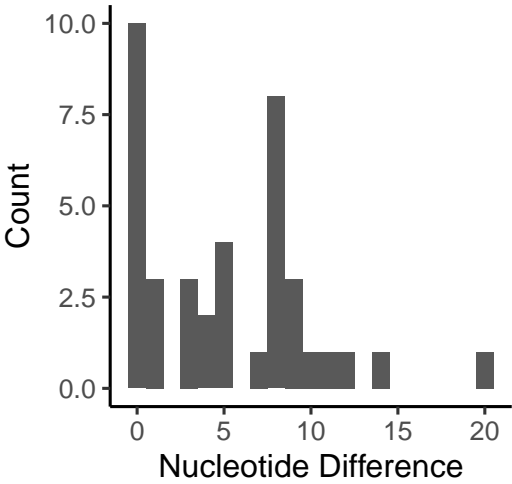
IGHV7-81\*01

1 sequences assigned  
No exact matches.



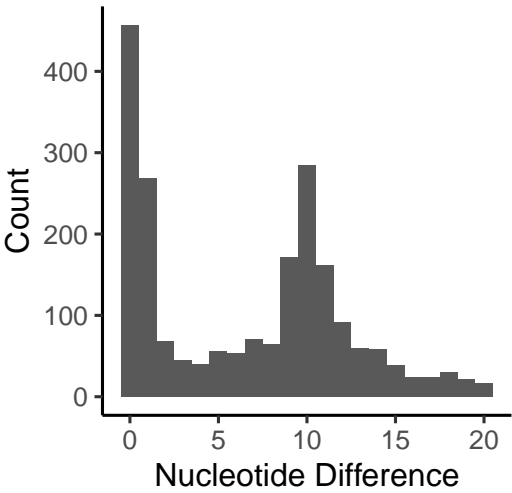
IGHV5-51\*04

41 sequences assigned  
10 (24.4%) exact matches, in which:  
10 unique CDR3  
4 unique J



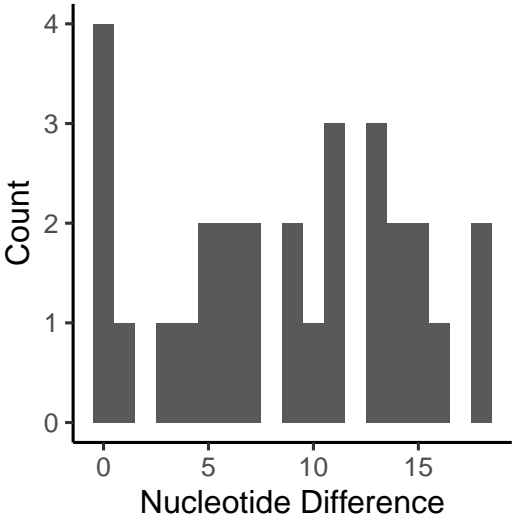
IGHV6-1\*01\_02

2187 sequences assigned  
457 (20.9%) exact matches, in which:  
435 unique CDR3  
6 unique J



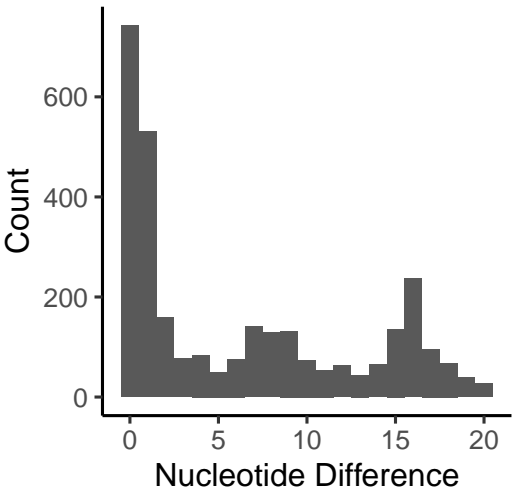
IGHV5-51\*06

30 sequences assigned  
4 (13.3%) exact matches, in which:  
4 unique CDR3  
2 unique J



IGHV7-4-1\*02

3317 sequences assigned  
743 (22.4%) exact matches, in which:  
682 unique CDR3  
6 unique J





Warning – no inferred sequences found.