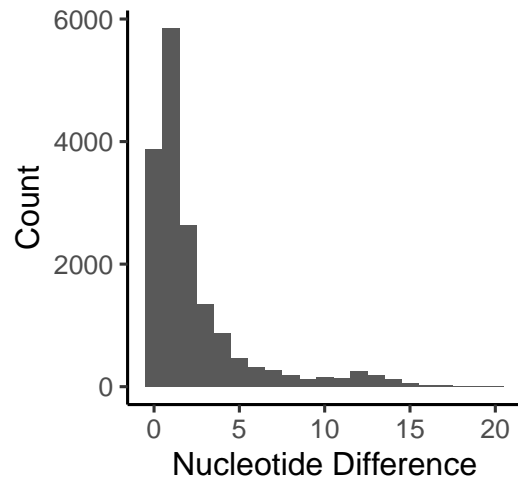


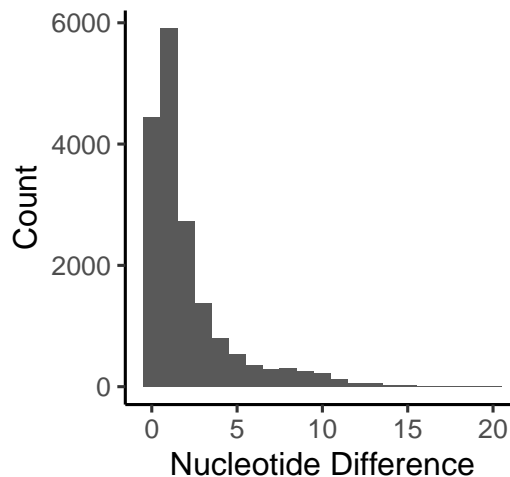
### IGHV1-2\*02

17014 sequences assigned  
3876 (22.8%) exact matches, in which:  
2738 unique CDR3  
6 unique J



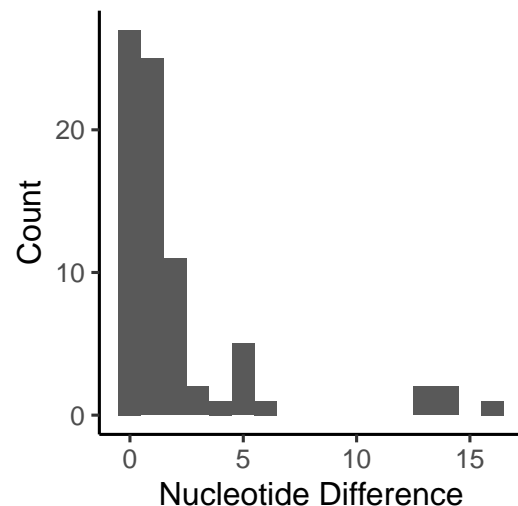
### IGHV1-8\*01

17635 sequences assigned  
4447 (25.2%) exact matches, in which:  
3272 unique CDR3  
6 unique J



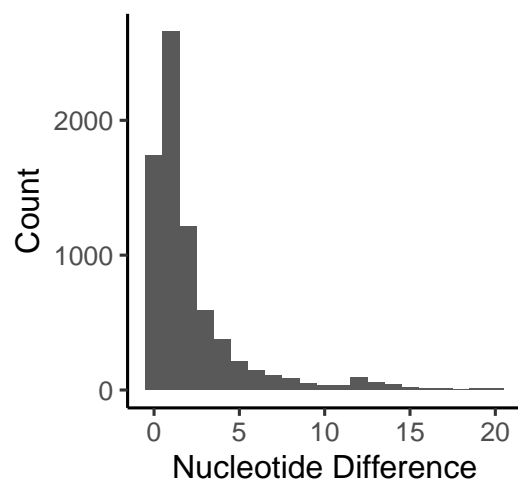
### IGHV1-38-4\*01

77 sequences assigned  
27 (35.1%) exact matches, in which:  
22 unique CDR3  
4 unique J



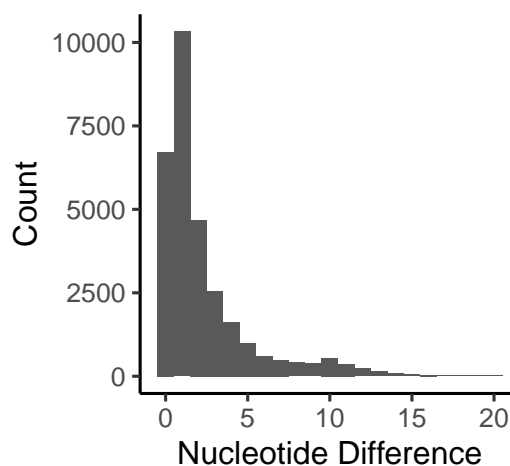
### IGHV1-2\*04

7539 sequences assigned  
1739 (23.1%) exact matches, in which:  
1249 unique CDR3  
6 unique J



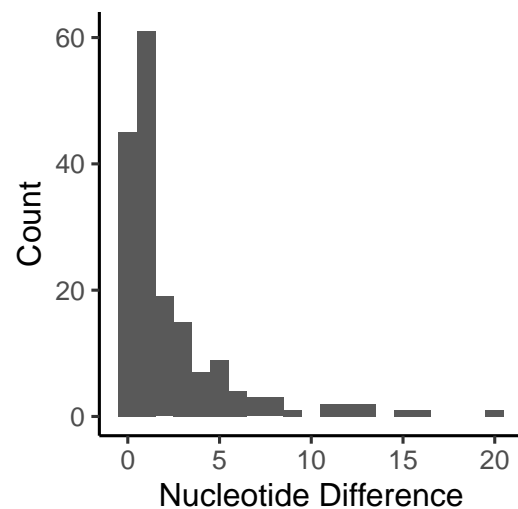
### IGHV1-18\*01

30463 sequences assigned  
6714 (22%) exact matches, in which:  
4833 unique CDR3  
6 unique J



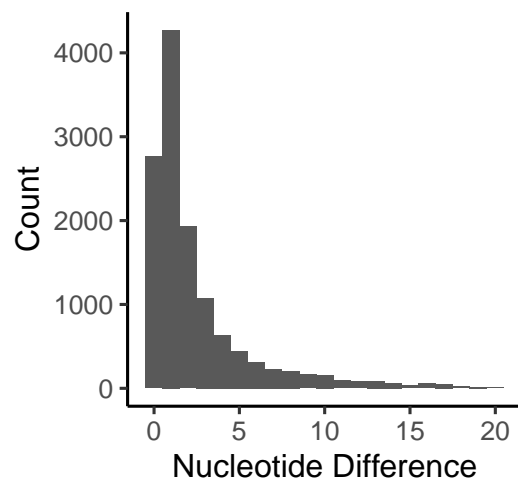
### IGHV1-45\*02

181 sequences assigned  
45 (24.9%) exact matches, in which:  
31 unique CDR3  
6 unique J



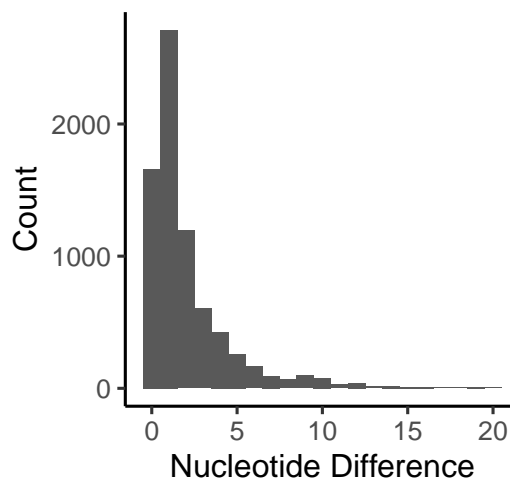
### IGHV1-3\*01

12794 sequences assigned  
2764 (21.6%) exact matches, in which:  
1967 unique CDR3  
6 unique J



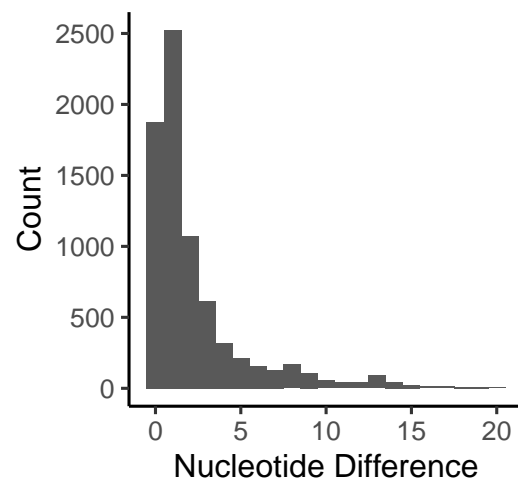
### IGHV1-24\*01

7646 sequences assigned  
1660 (21.7%) exact matches, in which:  
1180 unique CDR3  
6 unique J



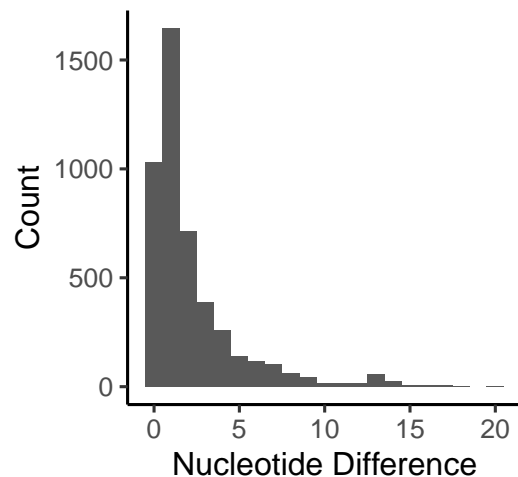
### IGHV1-46\*01

7583 sequences assigned  
1875 (24.7%) exact matches, in which:  
1385 unique CDR3  
6 unique J



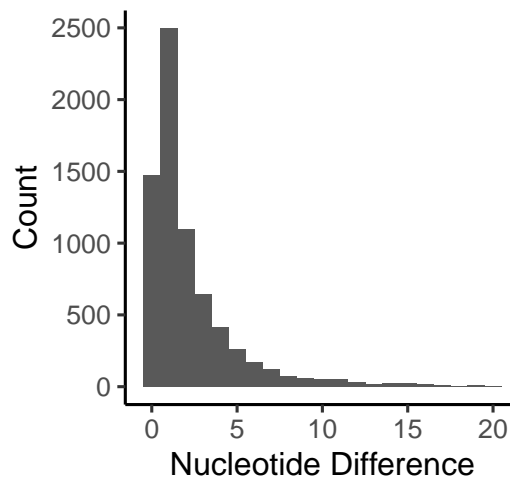
### IGHV1-46\*03

4687 sequences assigned  
1030 (22%) exact matches, in which:  
712 unique CDR3  
6 unique J



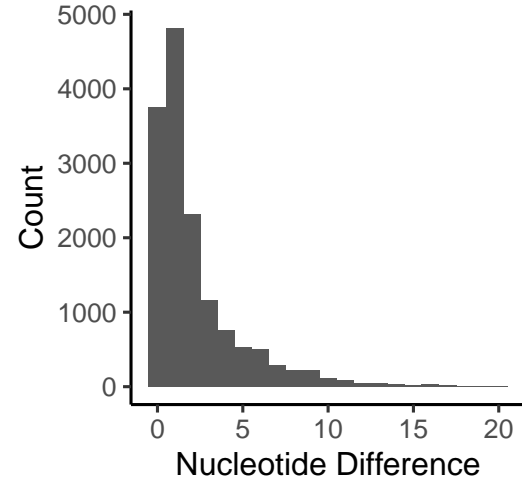
### IGHV2-5\*02

7114 sequences assigned  
1471 (20.7%) exact matches, in which:  
1036 unique CDR3  
6 unique J



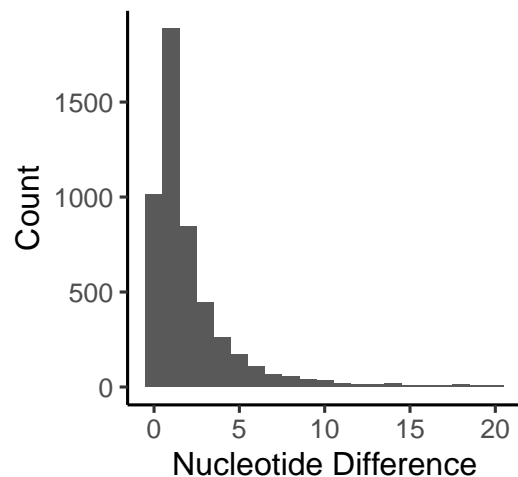
### IGHV3-7\*01

15124 sequences assigned  
3754 (24.8%) exact matches, in which:  
2807 unique CDR3  
6 unique J



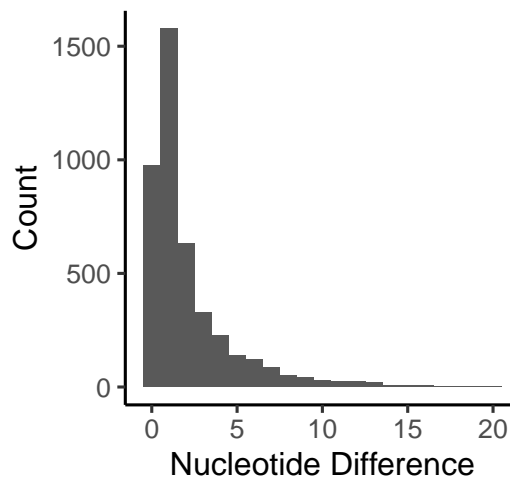
### IGHV1-58\*01

5074 sequences assigned  
1015 (20%) exact matches, in which:  
667 unique CDR3  
6 unique J



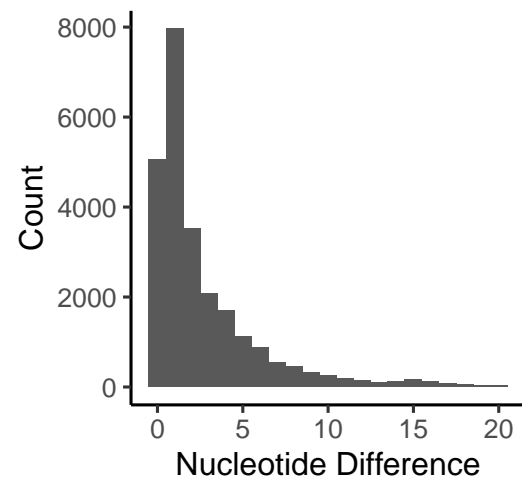
### IGHV2-26\*01

4386 sequences assigned  
976 (22.3%) exact matches, in which:  
705 unique CDR3  
5 unique J



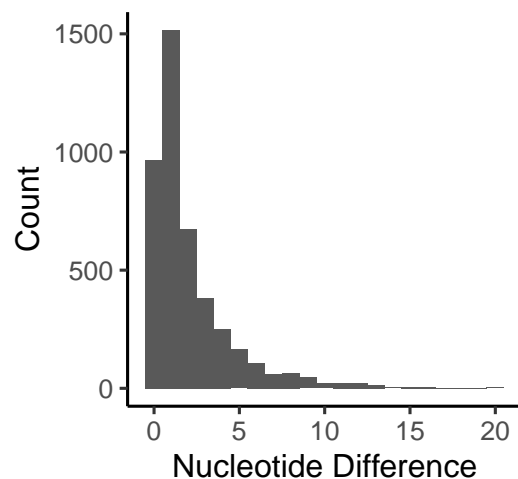
### IGHV3-9\*01

25154 sequences assigned  
5059 (20.1%) exact matches, in which:  
3564 unique CDR3  
6 unique J



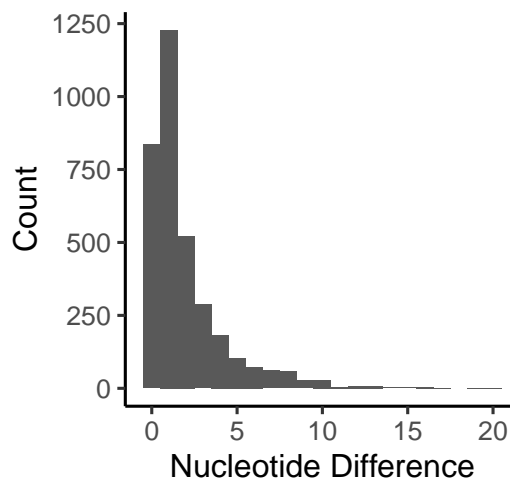
### IGHV2-5\*01

4363 sequences assigned  
967 (22.2%) exact matches, in which:  
687 unique CDR3  
6 unique J



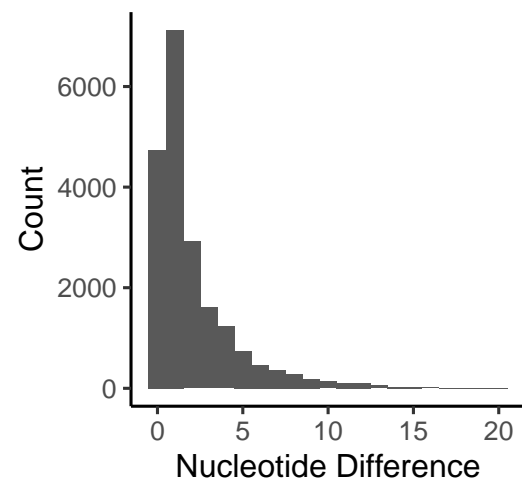
### IGHV2-70\*01

3481 sequences assigned  
836 (24%) exact matches, in which:  
570 unique CDR3  
5 unique J



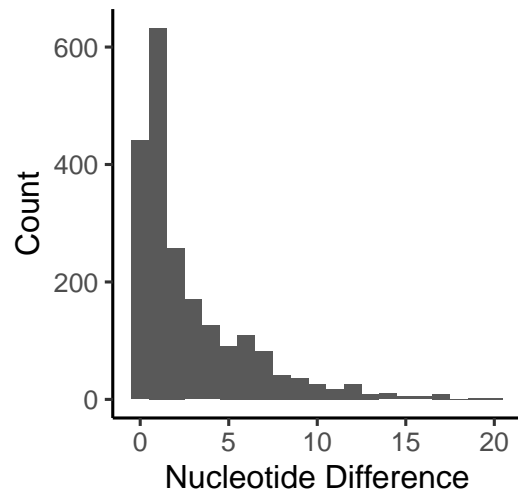
### IGHV3-11\*01

20338 sequences assigned  
4740 (23.3%) exact matches, in which:  
3347 unique CDR3  
6 unique J



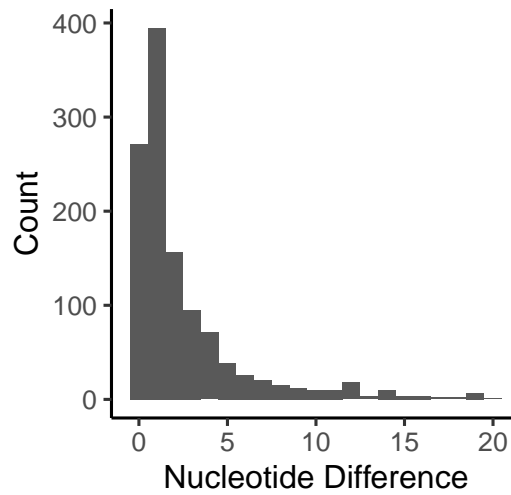
### IGHV3-13\*01

2111 sequences assigned  
441 (20.9%) exact matches, in which:  
304 unique CDR3  
6 unique J



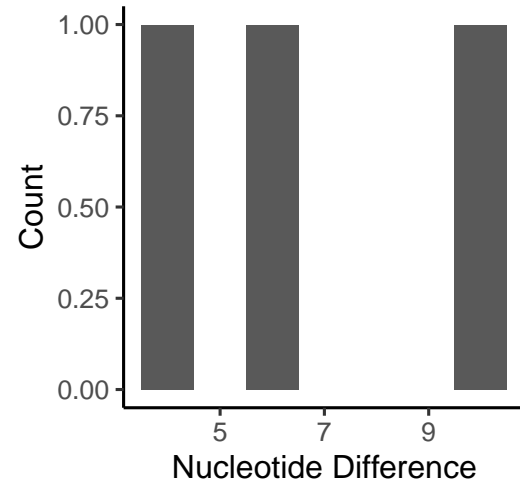
### IGHV3-20\*01

1183 sequences assigned  
271 (22.9%) exact matches, in which:  
196 unique CDR3  
5 unique J



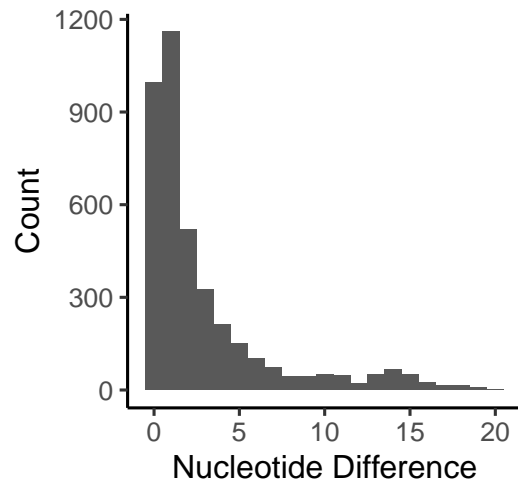
### IGHV3-22\*02

3 sequences assigned  
No exact matches.



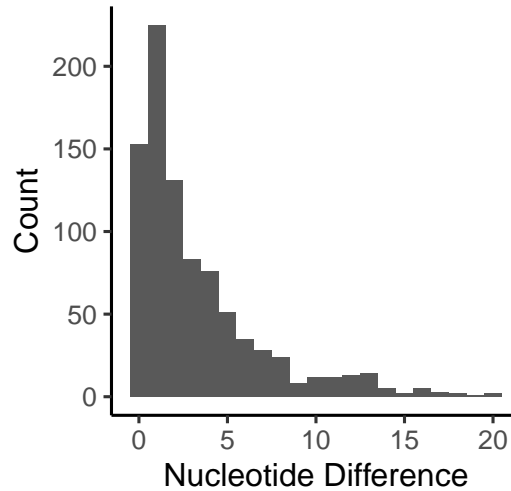
### IGHV3-15\*01

4017 sequences assigned  
997 (24.8%) exact matches, in which:  
710 unique CDR3  
5 unique J



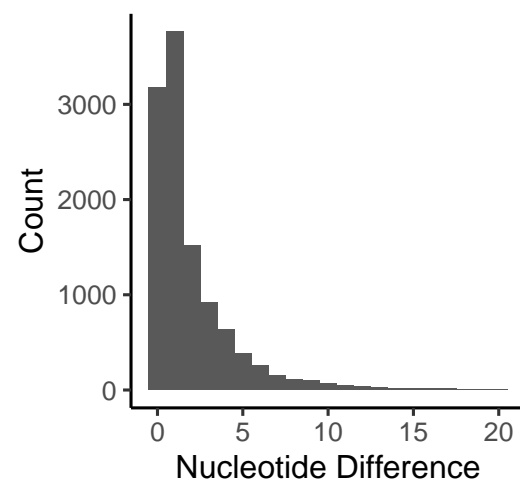
### IGHV3-20\*04

895 sequences assigned  
153 (17.1%) exact matches, in which:  
109 unique CDR3  
4 unique J



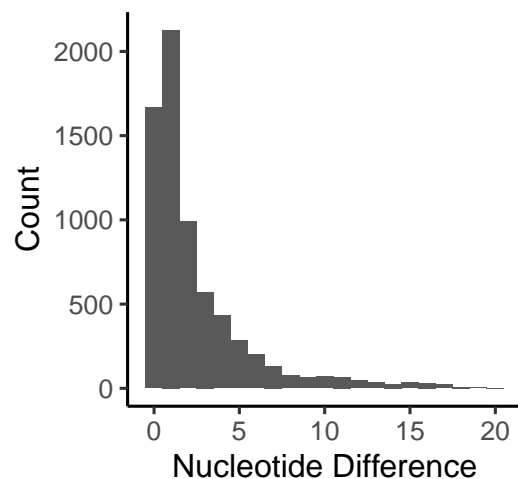
### IGHV3-30\*01

11326 sequences assigned  
3180 (28.1%) exact matches, in which:  
2319 unique CDR3  
6 unique J



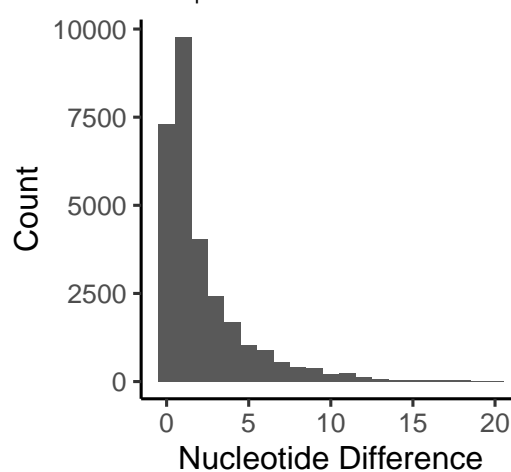
### IGHV3-15\*07

6940 sequences assigned  
1668 (24%) exact matches, in which:  
1223 unique CDR3  
6 unique J



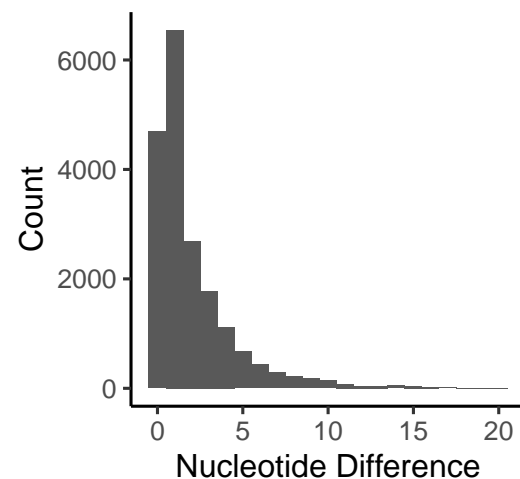
### IGHV3-21\*01

29632 sequences assigned  
7310 (24.7%) exact matches, in which:  
5228 unique CDR3  
6 unique J



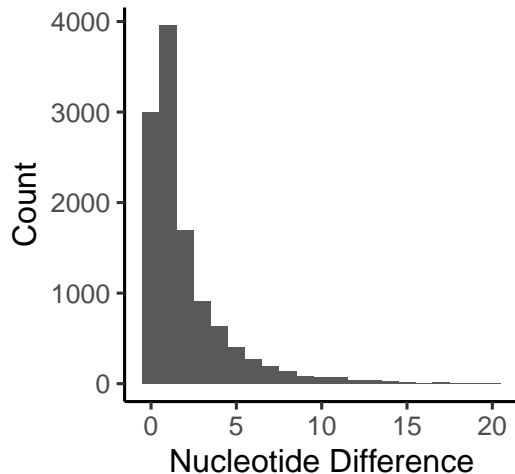
### IGHV3-30-3\*01

19236 sequences assigned  
4692 (24.4%) exact matches, in which:  
3335 unique CDR3  
6 unique J



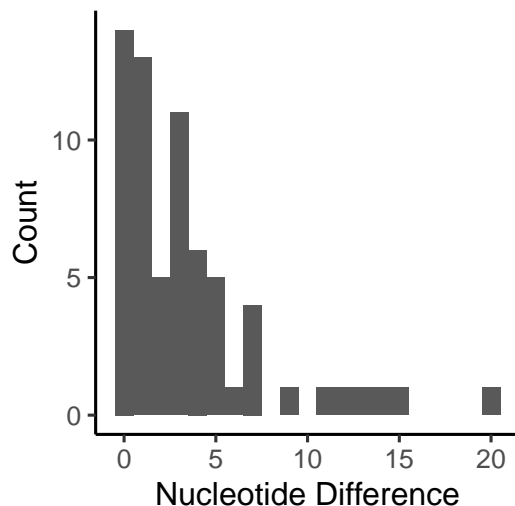
### IGHV3-33\*01

11655 sequences assigned  
3004 (25.8%) exact matches, in which:  
2153 unique CDR3  
6 unique J



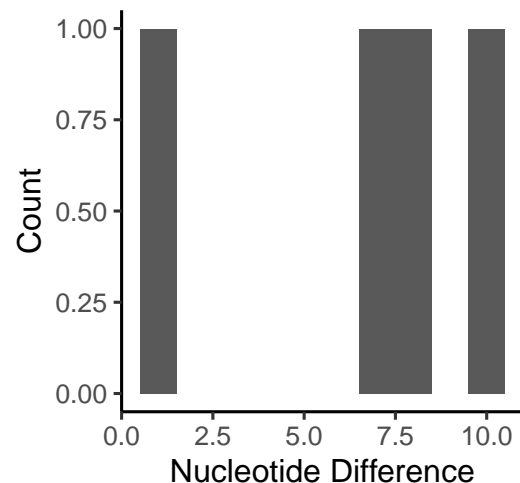
### IGHV3-38-3\*01

66 sequences assigned  
14 (21.2%) exact matches, in which:  
13 unique CDR3  
5 unique J



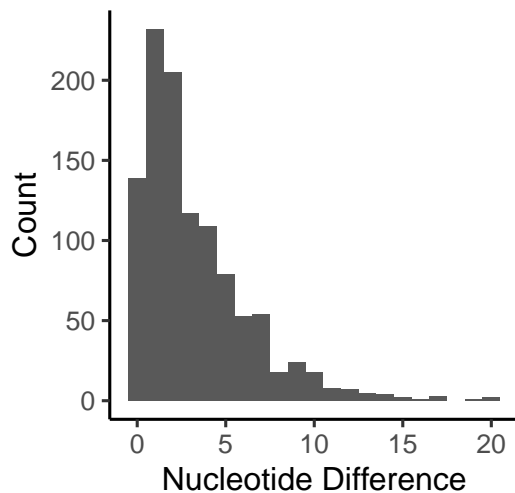
### IGHV3-47\*02

4 sequences assigned  
No exact matches.



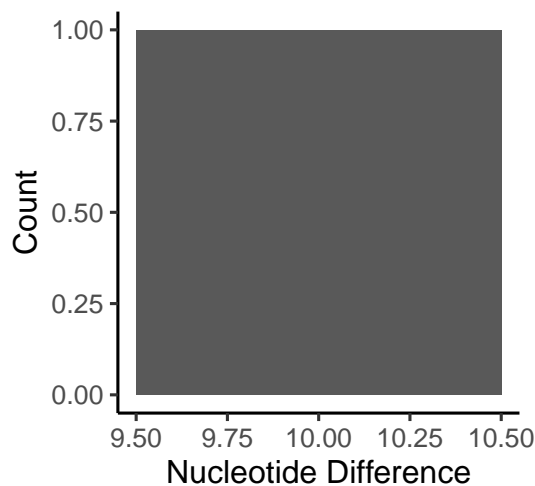
### IGHV3-33\*05\_G75C

1087 sequences assigned  
139 (12.8%) exact matches, in which:  
138 unique CDR3  
6 unique J



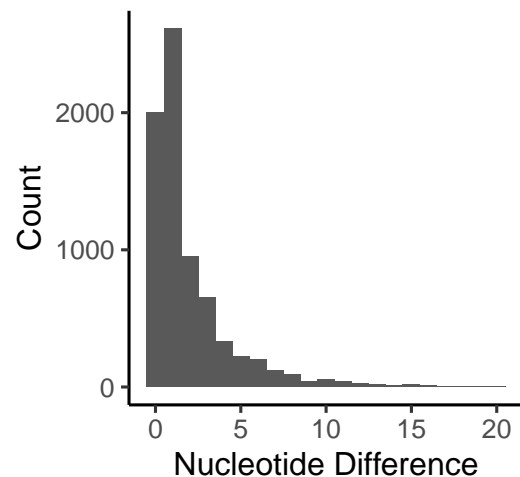
### IGHV3-38\*02

1 sequences assigned  
No exact matches.



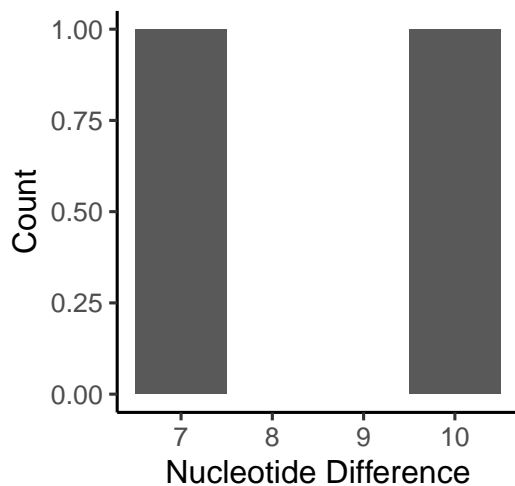
### IGHV3-48\*02

7430 sequences assigned  
2000 (26.9%) exact matches, in which:  
1494 unique CDR3  
6 unique J



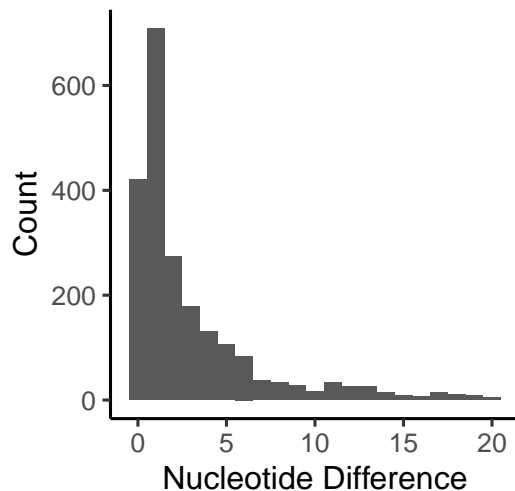
### IGHV3-35\*01

2 sequences assigned  
No exact matches.



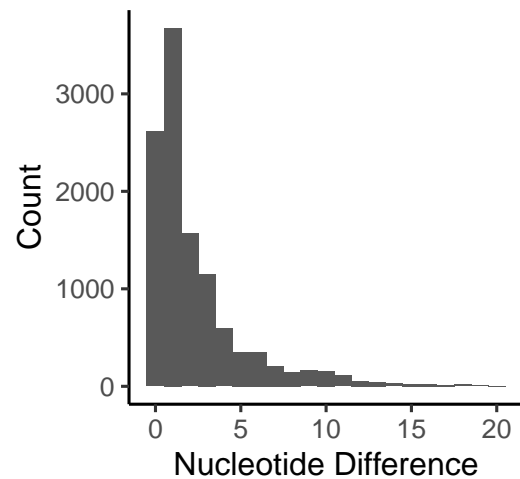
### IGHV3-43\*01

2234 sequences assigned  
420 (18.8%) exact matches, in which:  
298 unique CDR3  
6 unique J



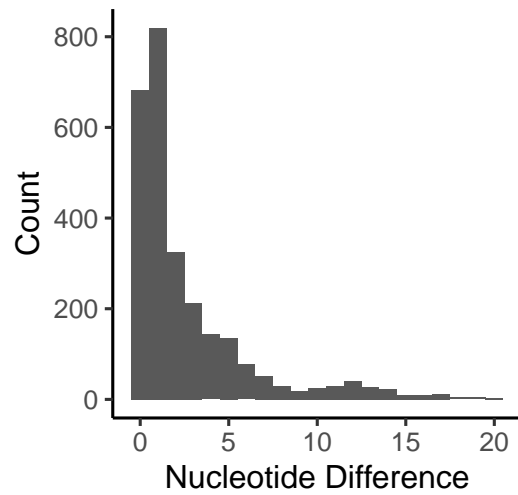
### IGHV3-48\*04

11361 sequences assigned  
2613 (23%) exact matches, in which:  
1891 unique CDR3  
6 unique J



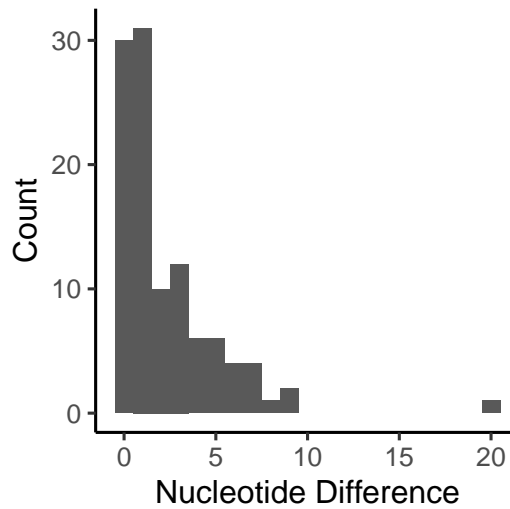
### IGHV3-49\*03

2701 sequences assigned  
683 (25.3%) exact matches, in which:  
488 unique CDR3  
6 unique J



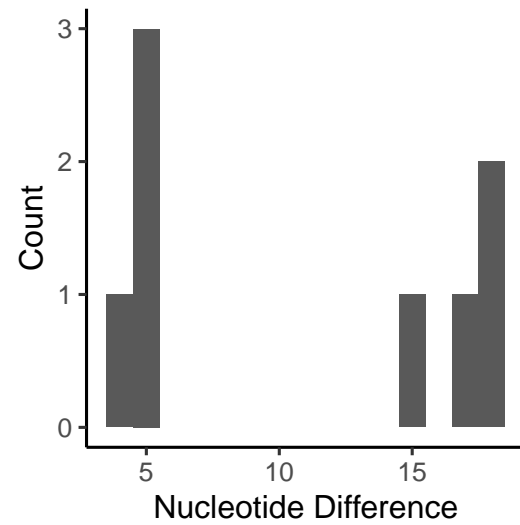
### IGHV3-64\*02

107 sequences assigned  
30 (28%) exact matches, in which:  
22 unique CDR3  
4 unique J



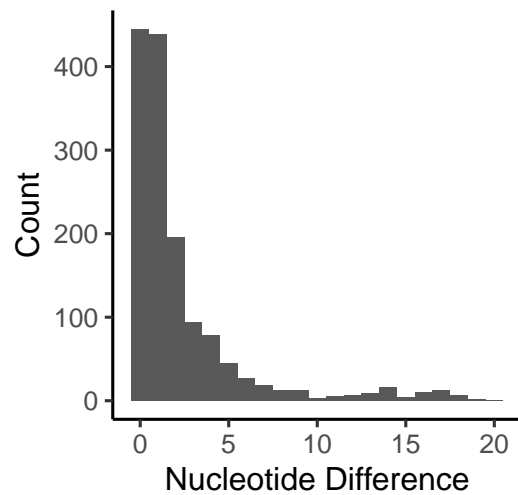
### IGHV3-69-1\*01

8 sequences assigned  
No exact matches.



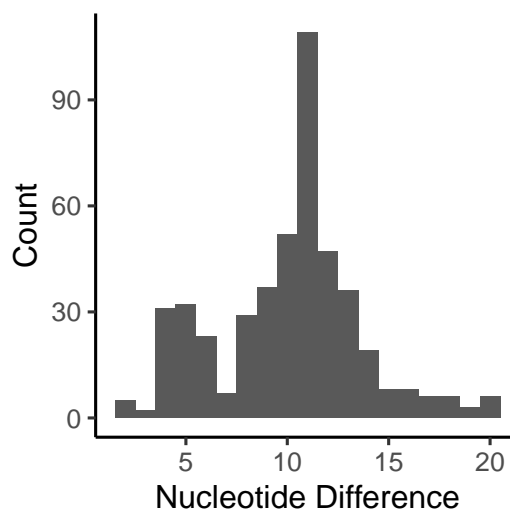
### IGHV3-49\*05

1459 sequences assigned  
445 (30.5%) exact matches, in which:  
335 unique CDR3  
4 unique J



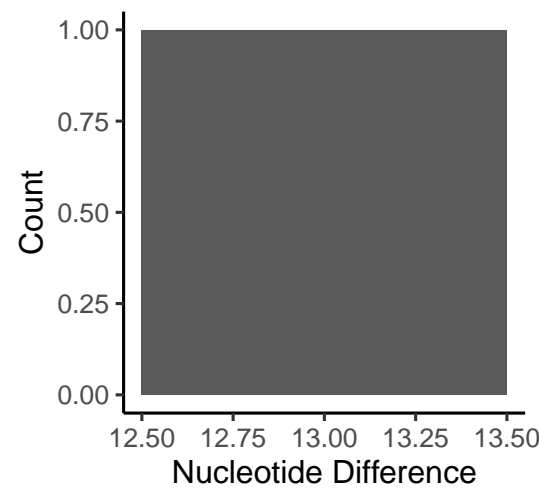
### IGHV3-66\*01

505 sequences assigned  
No exact matches.



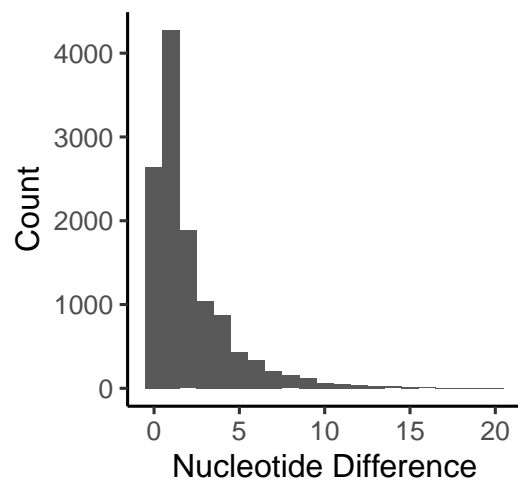
### IGHV3-71\*01

1 sequences assigned  
No exact matches.



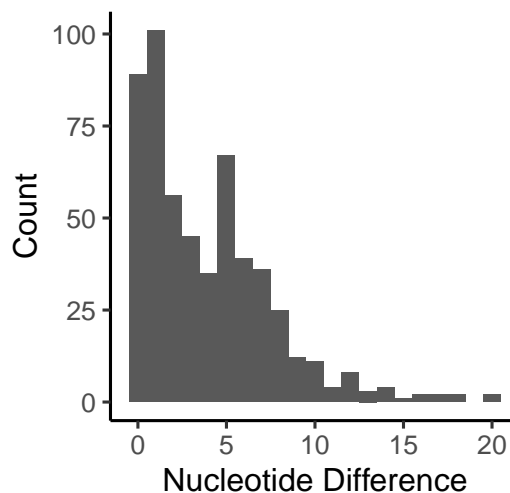
### IGHV3-53\*01

12309 sequences assigned  
2643 (21.5%) exact matches, in which:  
1842 unique CDR3  
6 unique J



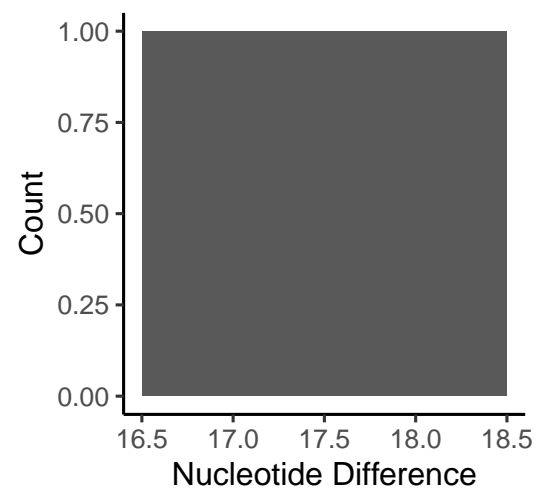
### IGHV3-66\*03\_T175G\_T2

546 sequences assigned  
89 (16.3%) exact matches, in which:  
88 unique CDR3  
5 unique J



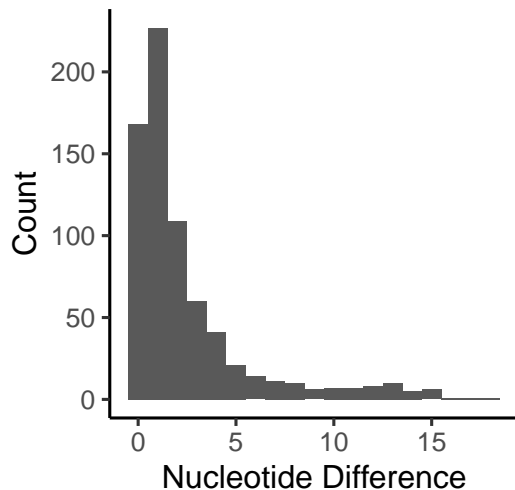
### IGHV3-71\*04

3 sequences assigned  
No exact matches.



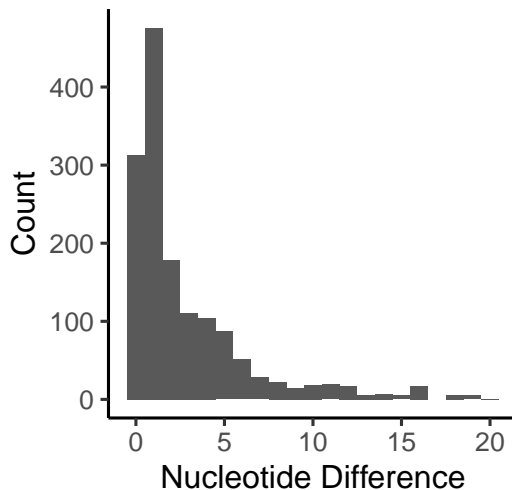
### IGHV3-72\*01

718 sequences assigned  
168 (23.4%) exact matches, in which:  
114 unique CDR3  
5 unique J



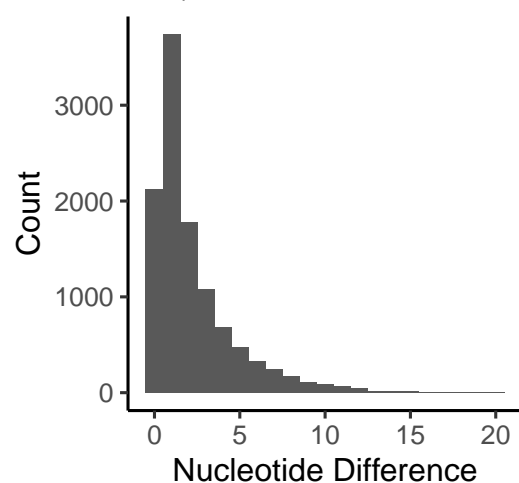
### IGHV3-43D\*03

1496 sequences assigned  
313 (20.9%) exact matches, in which:  
214 unique CDR3  
6 unique J



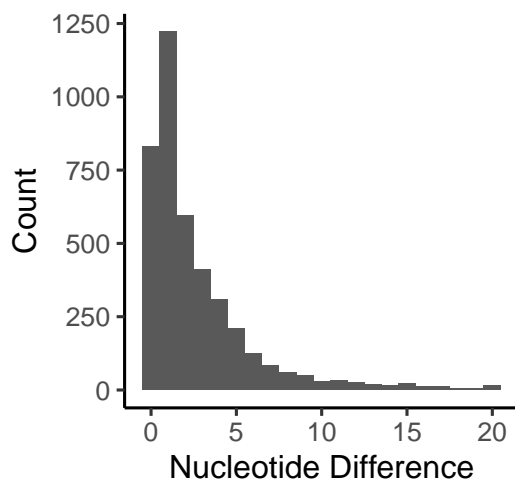
### IGHV4-4\*02

11095 sequences assigned  
2125 (19.2%) exact matches, in which:  
1551 unique CDR3  
6 unique J



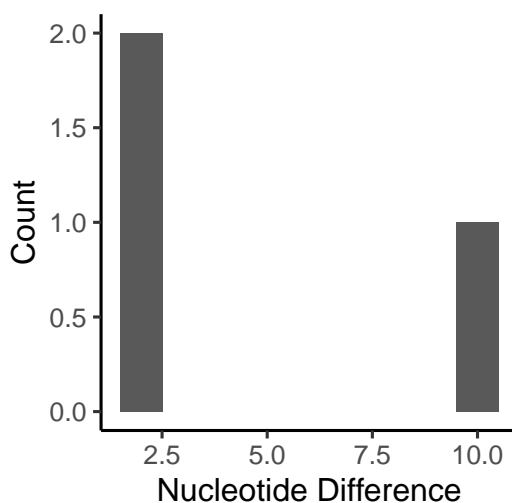
### IGHV3-73\*02

4127 sequences assigned  
830 (20.1%) exact matches, in which:  
567 unique CDR3  
6 unique J



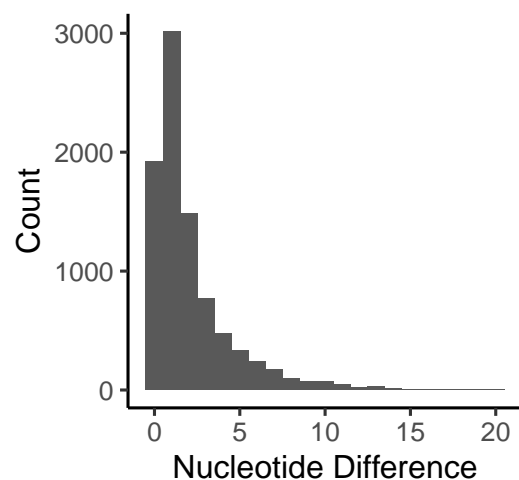
### IGHV3-64D\*06

3 sequences assigned  
No exact matches.



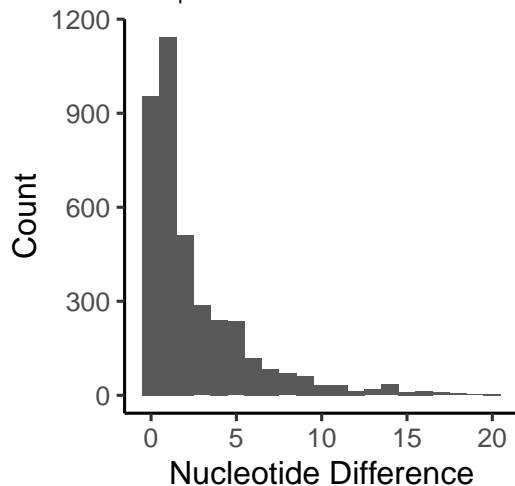
### IGHV4-4\*07

8828 sequences assigned  
1922 (21.8%) exact matches, in which:  
1426 unique CDR3  
6 unique J



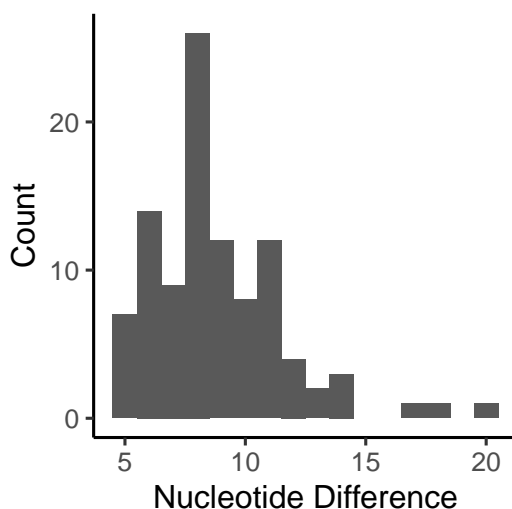
### IGHV3-74\*01

3908 sequences assigned  
954 (24.4%) exact matches, in which:  
710 unique CDR3  
6 unique J



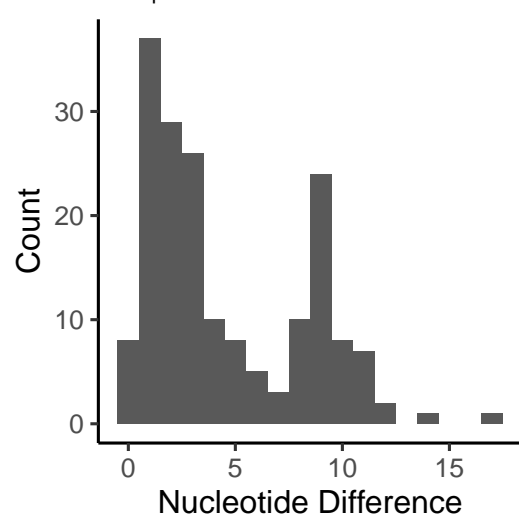
### IGHV3-NL1\*01

101 sequences assigned  
No exact matches.



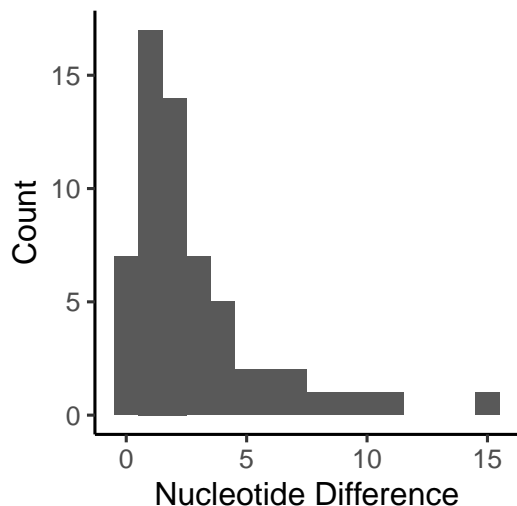
### IGHV4-28\*02

180 sequences assigned  
8 (4.4%) exact matches, in which:  
6 unique CDR3  
3 unique J



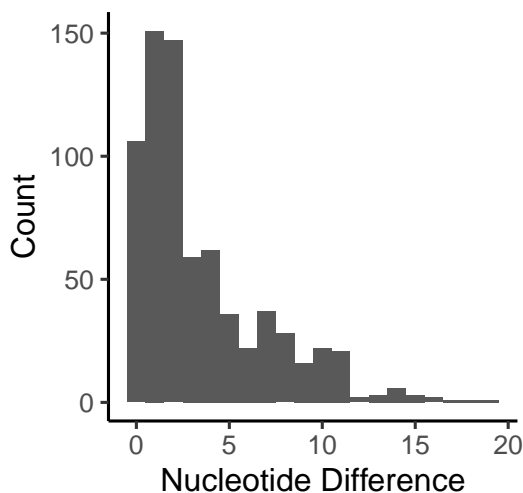
### IGHV4-28\*03

61 sequences assigned  
7 (11.5%) exact matches, in which:  
4 unique CDR3  
2 unique J



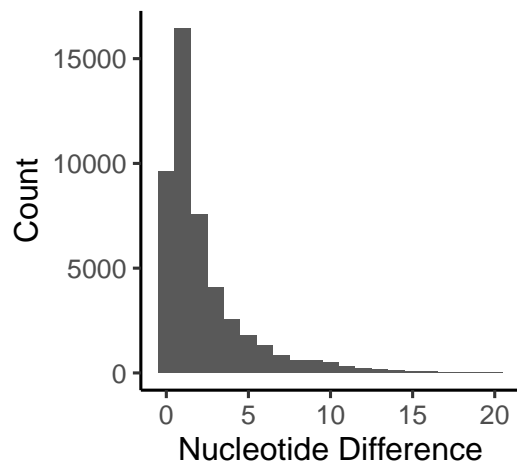
### IGHV4-30-2\*01\_C315G

740 sequences assigned  
106 (14.3%) exact matches, in which:  
106 unique CDR3  
6 unique J



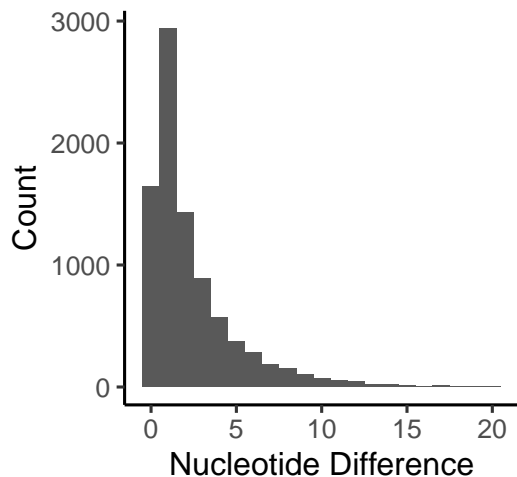
### IGHV4-34\*01

47122 sequences assigned  
9607 (20.4%) exact matches, in which:  
6768 unique CDR3  
6 unique J



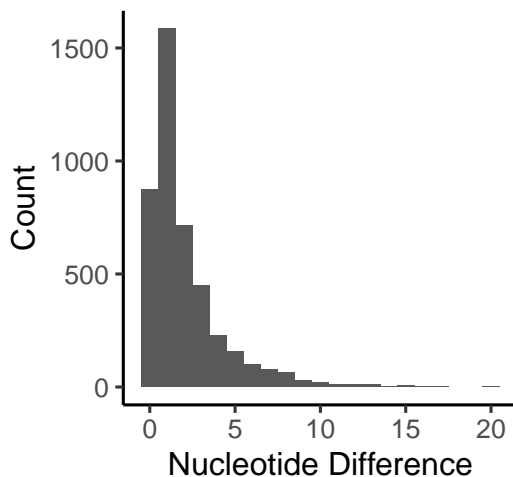
### IGHV4-30-4\*01

8860 sequences assigned  
1647 (18.6%) exact matches, in which:  
1148 unique CDR3  
6 unique J



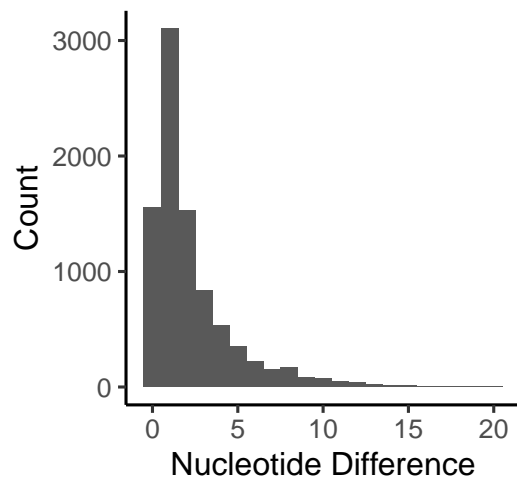
### IGHV4-31\*01

4385 sequences assigned  
875 (20%) exact matches, in which:  
638 unique CDR3  
6 unique J



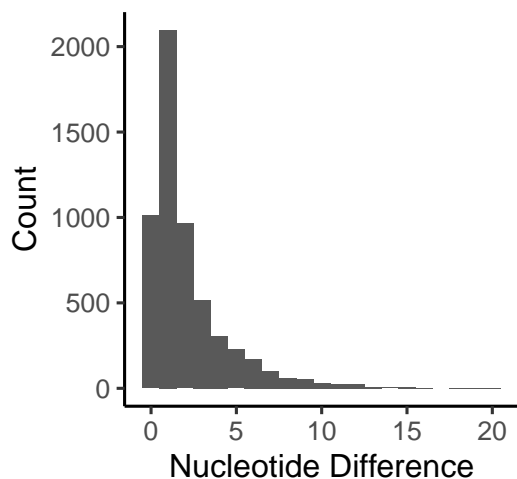
### IGHV4-38-2\*02

8840 sequences assigned  
1556 (17.6%) exact matches, in which:  
1107 unique CDR3  
6 unique J



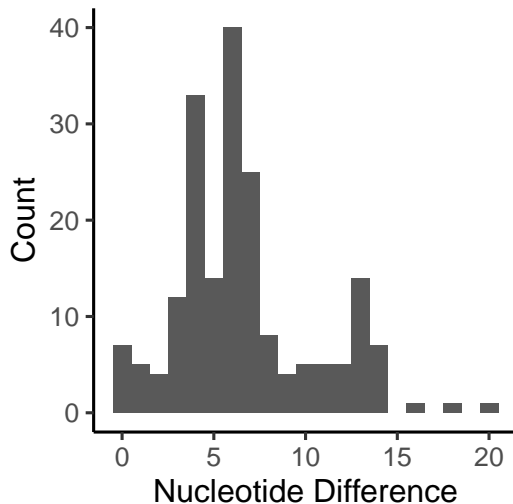
### IGHV4-30-2\*01

5651 sequences assigned  
1011 (17.9%) exact matches, in which:  
678 unique CDR3  
6 unique J



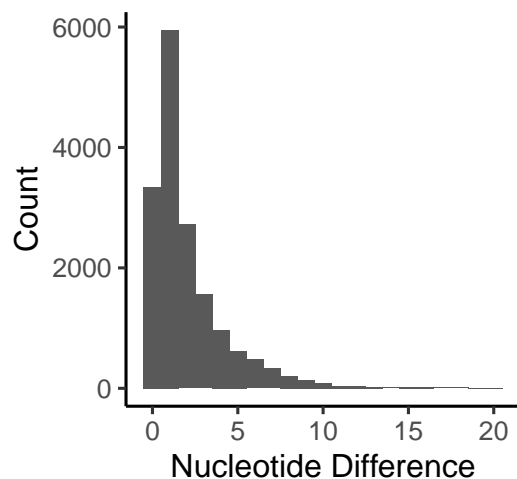
### IGHV4-31\*03

193 sequences assigned  
7 (3.6%) exact matches, in which:  
7 unique CDR3  
4 unique J



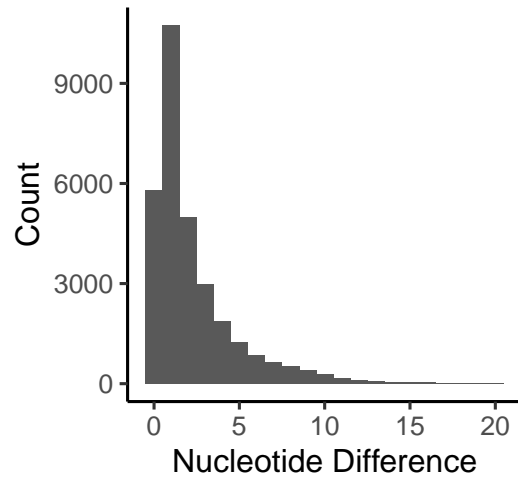
### IGHV4-39\*01

16708 sequences assigned  
3345 (20%) exact matches, in which:  
2466 unique CDR3  
6 unique J



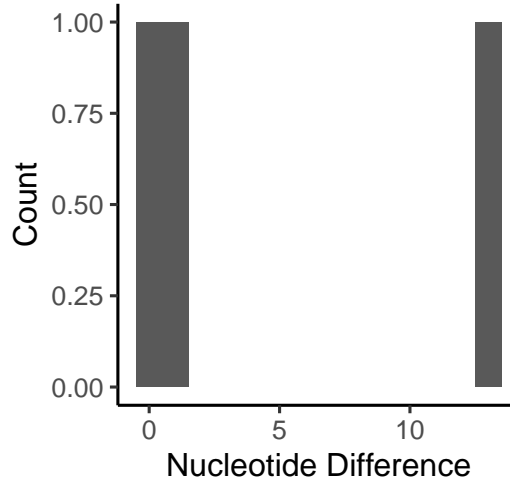
### IGHV4-39\*07

30942 sequences assigned  
5810 (18.8%) exact matches, in which:  
4199 unique CDR3  
6 unique J



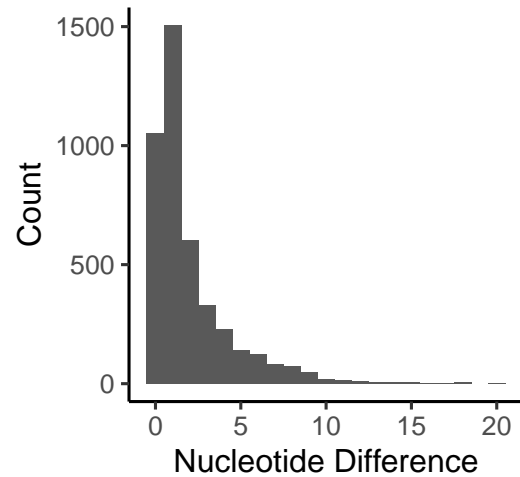
### IGHV5-10-1\*01

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



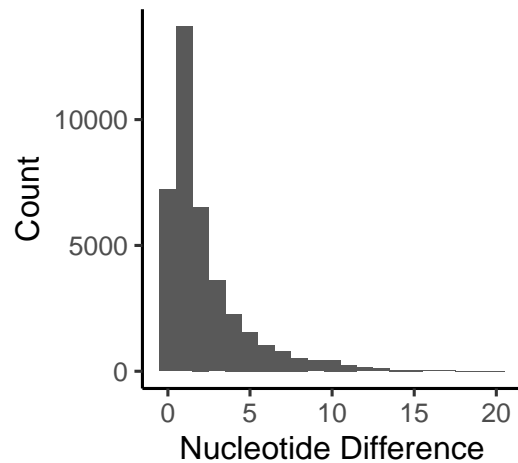
### IGHV6-1\*01

4280 sequences assigned  
1054 (24.6%) exact matches, in which:  
708 unique CDR3  
6 unique J



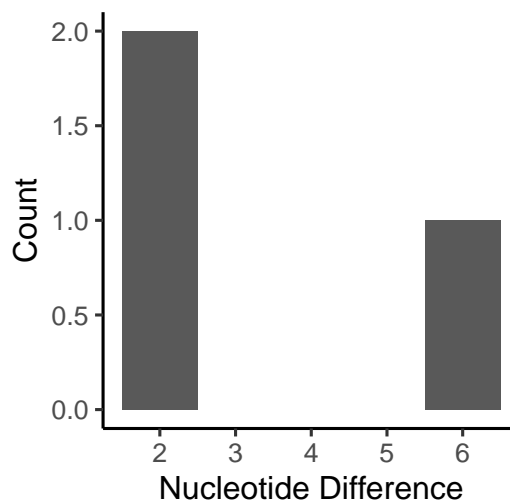
### IGHV4-59\*01

39022 sequences assigned  
7227 (18.5%) exact matches, in which:  
5014 unique CDR3  
6 unique J



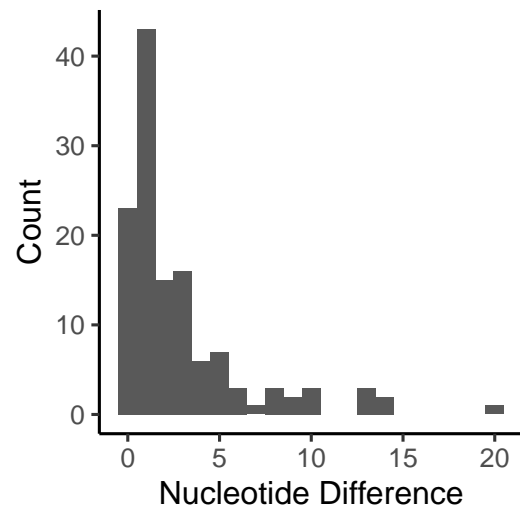
### IGHV5-10-1\*03

3 sequences assigned  
No exact matches.



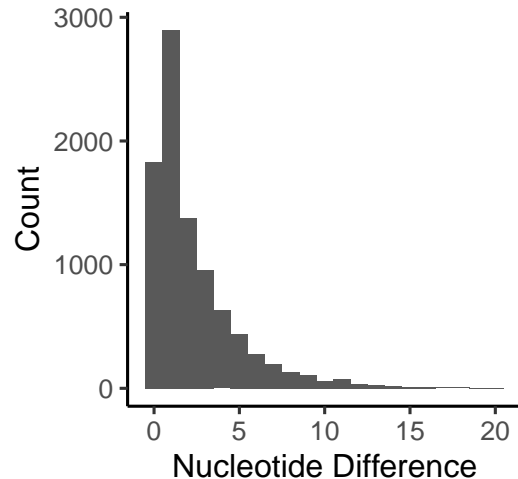
### IGHV7-4-1\*01

128 sequences assigned  
23 (18%) exact matches, in which:  
20 unique CDR3  
4 unique J



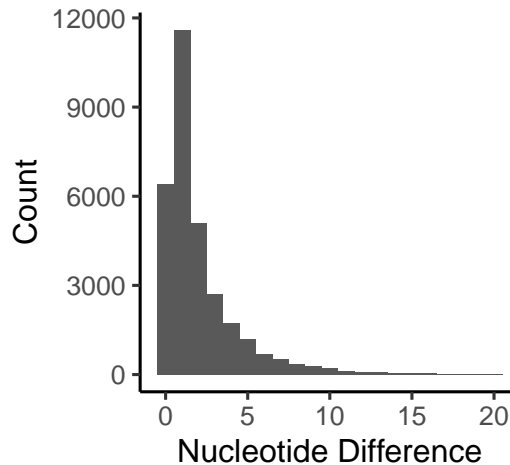
### IGHV4-61\*01

9124 sequences assigned  
1828 (20%) exact matches, in which:  
1359 unique CDR3  
6 unique J



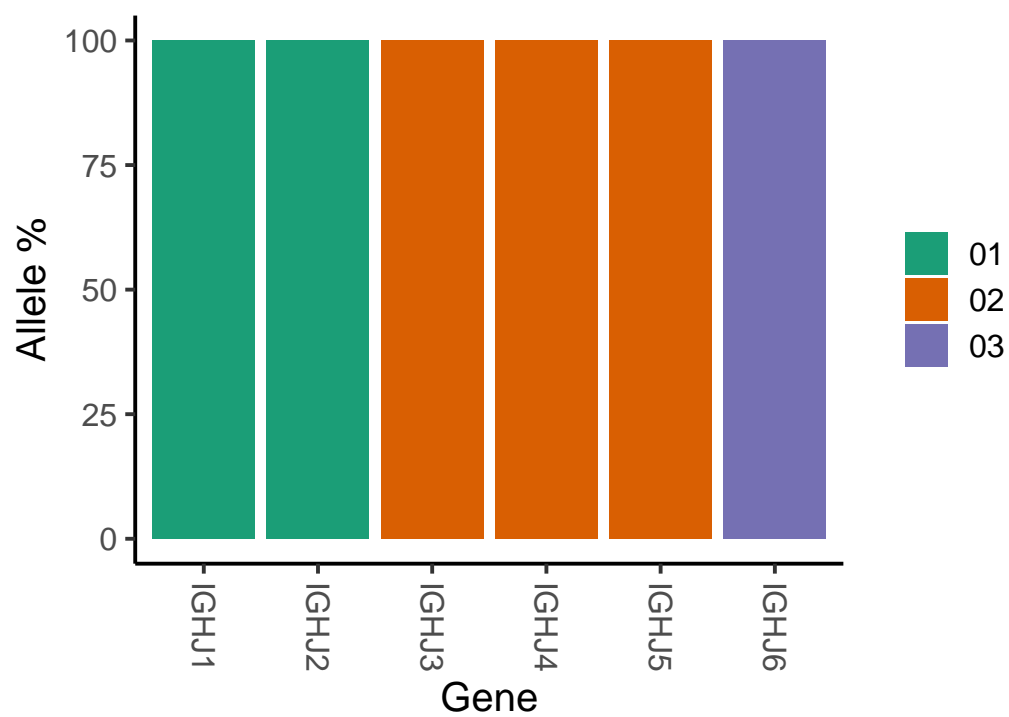
### IGHV5-51\*01

31422 sequences assigned  
6398 (20.4%) exact matches, in which:  
4369 unique CDR3  
6 unique J





Allele Usage



Warning – no inferred sequences found.