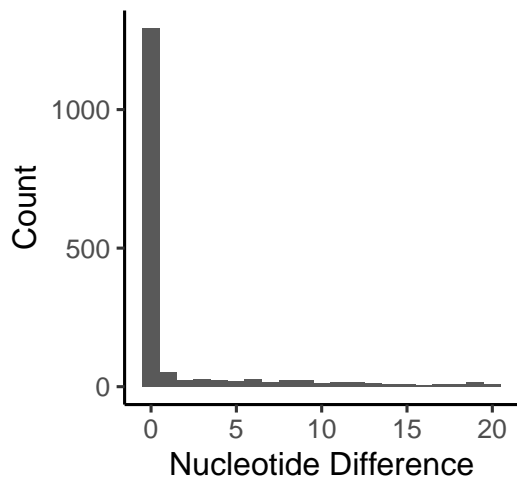


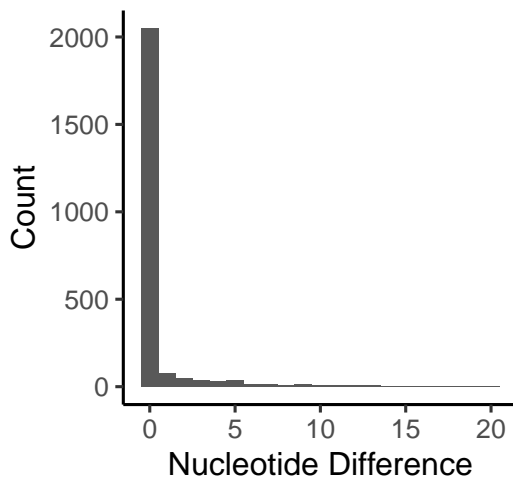
### IGHV1-2\*02

1725 sequences assigned  
1293 (75%) exact matches, in which:  
1285 unique CDR3  
6 unique J



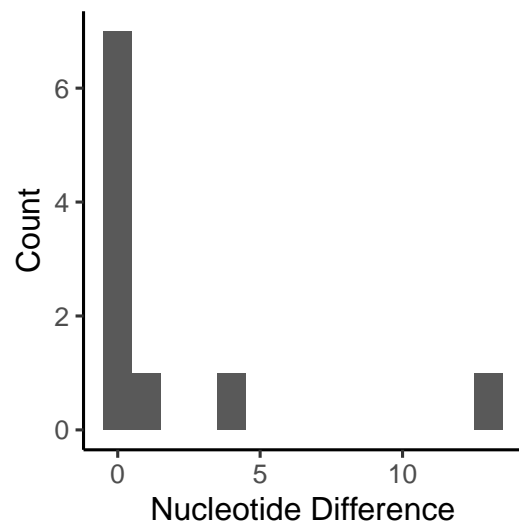
### IGHV1-8\*01

2405 sequences assigned  
2049 (85.2%) exact matches, in which:  
2028 unique CDR3  
6 unique J



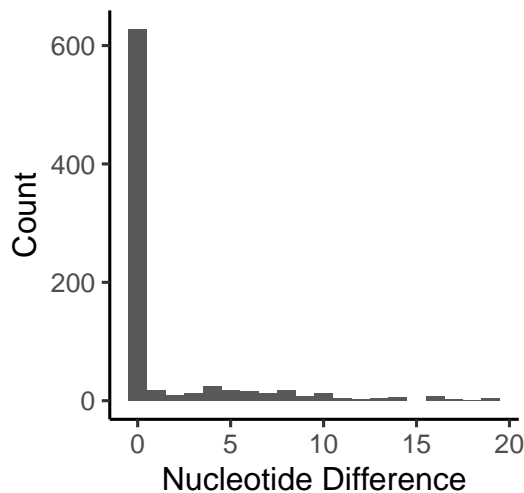
### IGHV1-45\*02

10 sequences assigned  
7 (70%) exact matches, in which:  
7 unique CDR3  
3 unique J



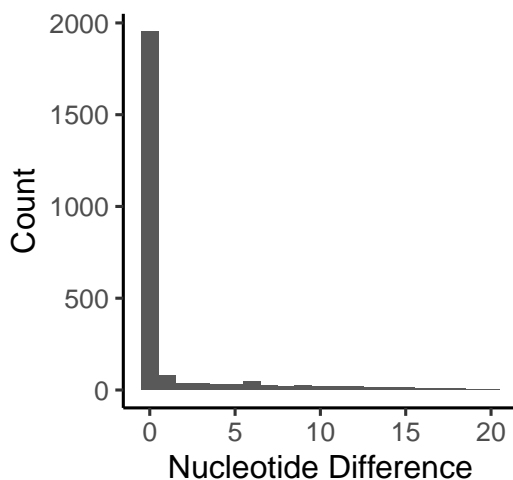
### IGHV1-2\*06

815 sequences assigned  
628 (77.1%) exact matches, in which:  
623 unique CDR3  
6 unique J



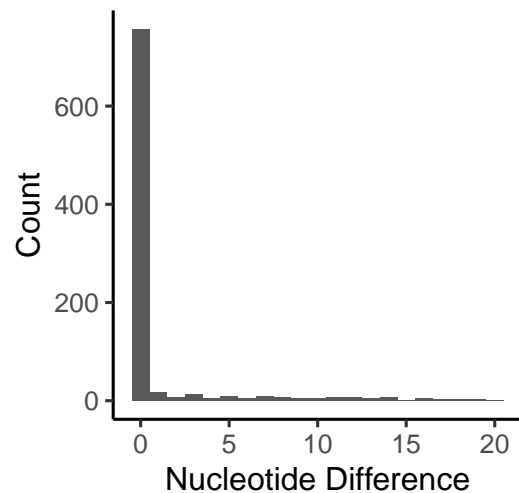
### IGHV1-18\*01

2435 sequences assigned  
1952 (80.2%) exact matches, in which:  
1937 unique CDR3  
6 unique J



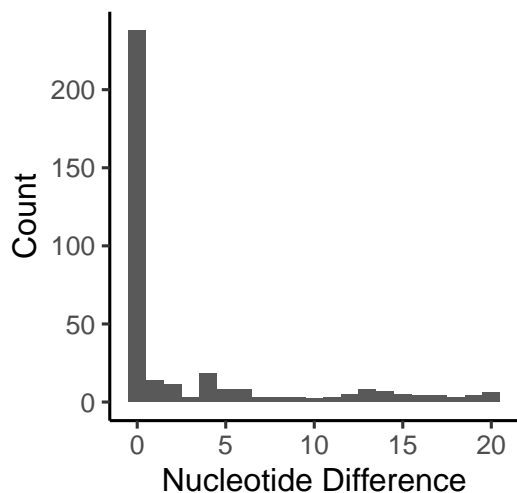
### IGHV1-46\*01

913 sequences assigned  
757 (82.9%) exact matches, in which:  
755 unique CDR3  
6 unique J



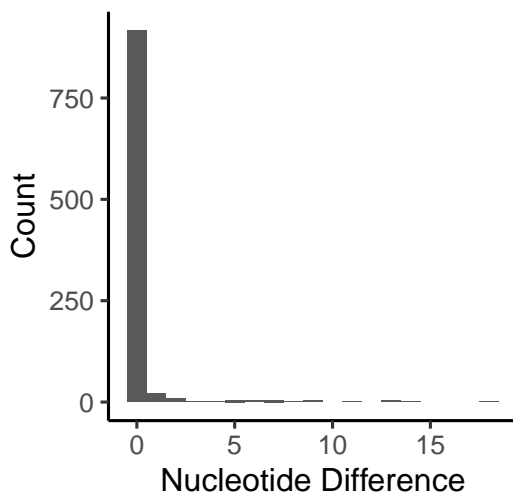
### IGHV1-3\*01\_05

367 sequences assigned  
238 (64.9%) exact matches, in which:  
237 unique CDR3  
6 unique J



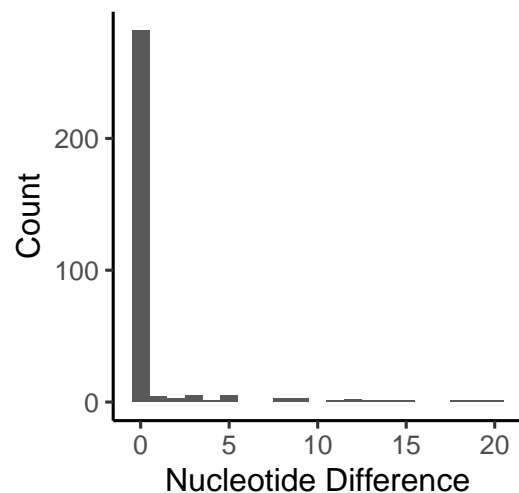
### IGHV1-24\*01

979 sequences assigned  
917 (93.7%) exact matches, in which:  
910 unique CDR3  
6 unique J



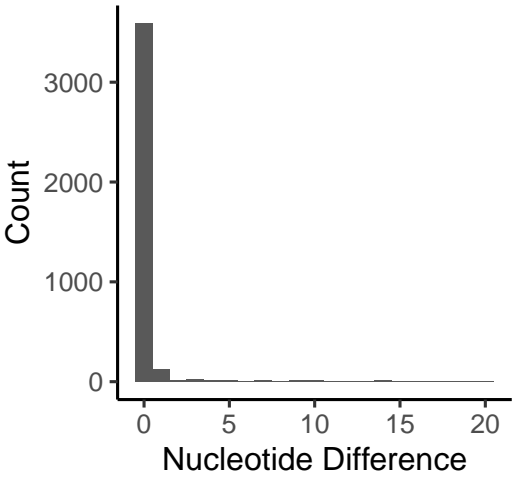
### IGHV1-58\*01\_03

320 sequences assigned  
282 (88.1%) exact matches, in which:  
279 unique CDR3  
6 unique J



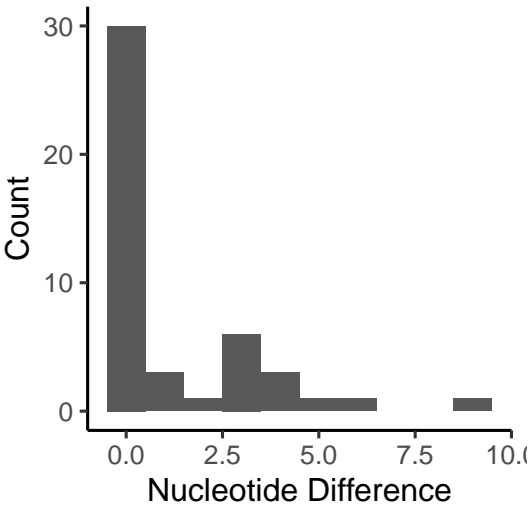
IGHV1-69\*01\_12\_13

3933 sequences assigned  
3589 (91.3%) exact matches, in which:  
3554 unique CDR3  
6 unique J



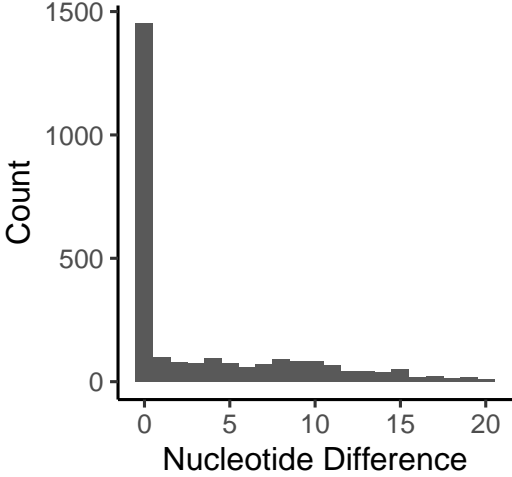
IGHV2-26\*01

46 sequences assigned  
30 (65.2%) exact matches, in which:  
30 unique CDR3  
4 unique J



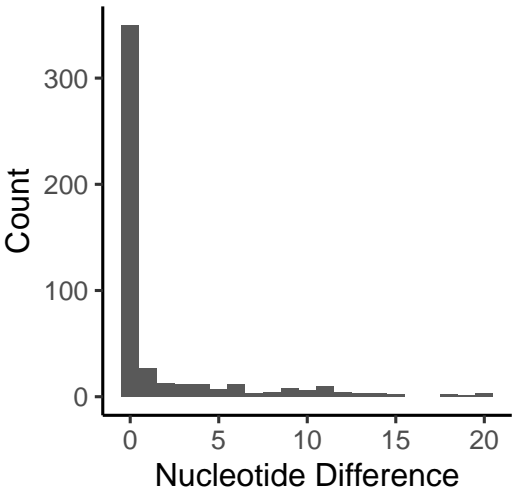
IGHV3-7\*01

2639 sequences assigned  
1452 (55%) exact matches, in which:  
1367 unique CDR3  
6 unique J



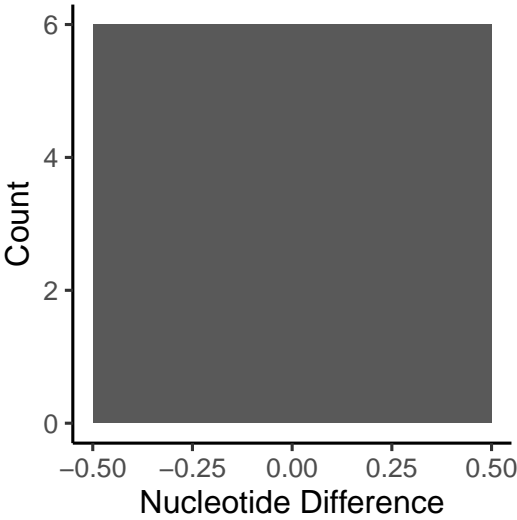
IGHV2-5\*01

487 sequences assigned  
350 (71.9%) exact matches, in which:  
344 unique CDR3  
6 unique J



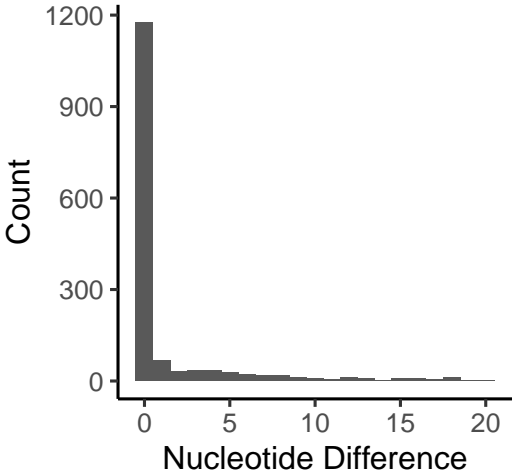
IGHV2-26\*04

6 sequences assigned  
6 (100%) exact matches, in which:  
6 unique CDR3  
3 unique J



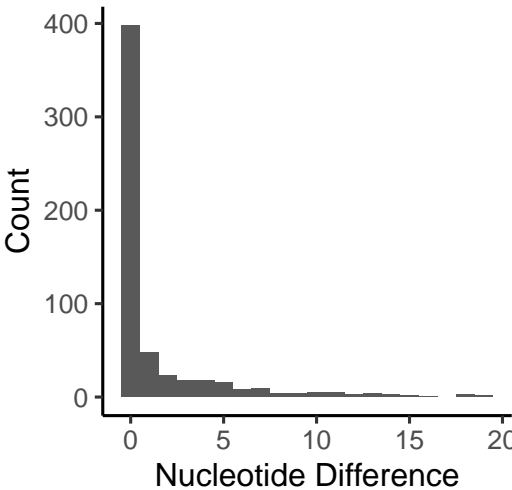
IGHV3-9\*01

1509 sequences assigned  
1175 (77.9%) exact matches, in which:  
1126 unique CDR3  
6 unique J



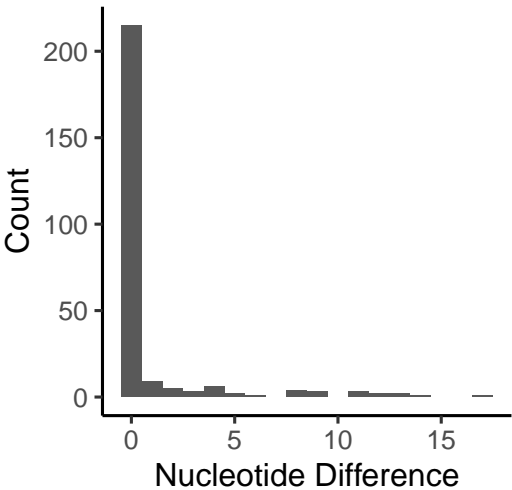
IGHV2-5\*02

576 sequences assigned  
398 (69.1%) exact matches, in which:  
387 unique CDR3  
6 unique J



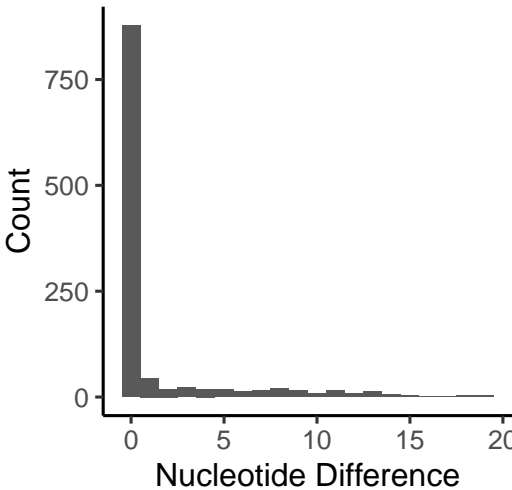
IGHV2-70\*01

257 sequences assigned  
215 (83.7%) exact matches, in which:  
214 unique CDR3  
6 unique J



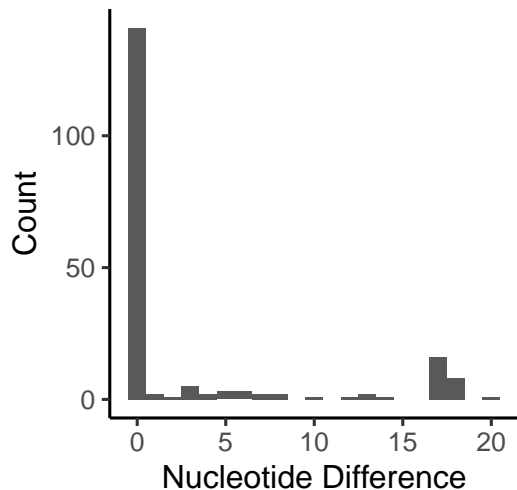
IGHV3-11\*01

1144 sequences assigned  
878 (76.7%) exact matches, in which:  
812 unique CDR3  
6 unique J



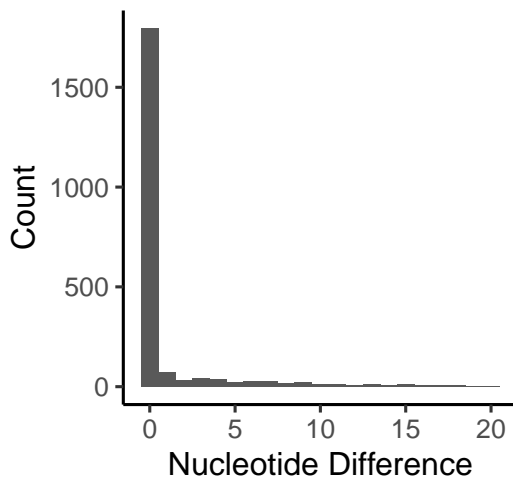
### IGHV3-13\*01

194 sequences assigned  
141 (72.7%) exact matches, in which:  
138 unique CDR3  
6 unique J



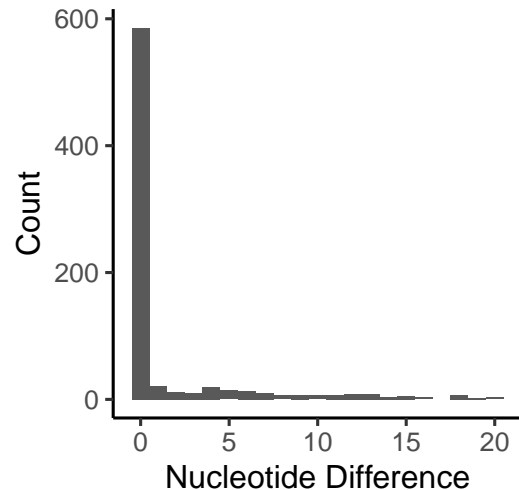
### IGHV3-21\*01\_02

2207 sequences assigned  
1795 (81.3%) exact matches, in which:  
1665 unique CDR3  
6 unique J



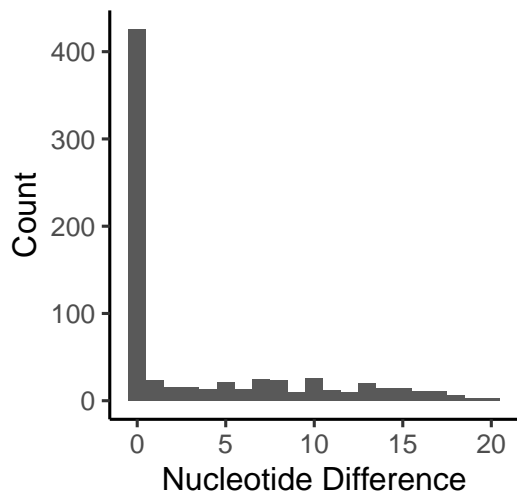
### IGHV3-33\*01

778 sequences assigned  
586 (75.3%) exact matches, in which:  
552 unique CDR3  
6 unique J



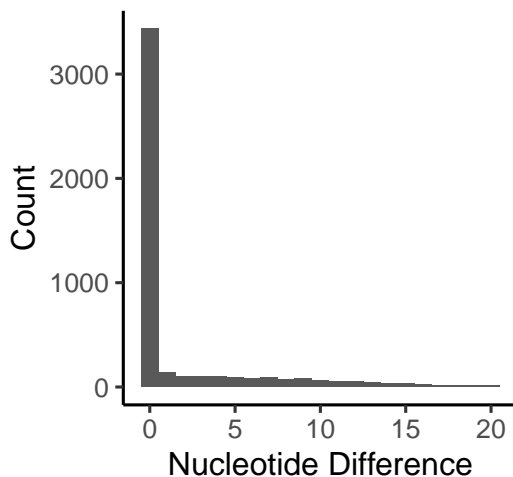
### IGHV3-15\*01\_02

745 sequences assigned  
426 (57.2%) exact matches, in which:  
408 unique CDR3  
6 unique J



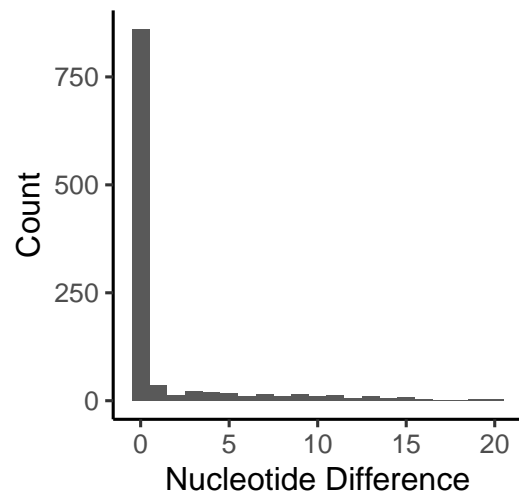
### IGHV3-23\*01\_04

4751 sequences assigned  
3435 (72.3%) exact matches, in which:  
3173 unique CDR3  
6 unique J



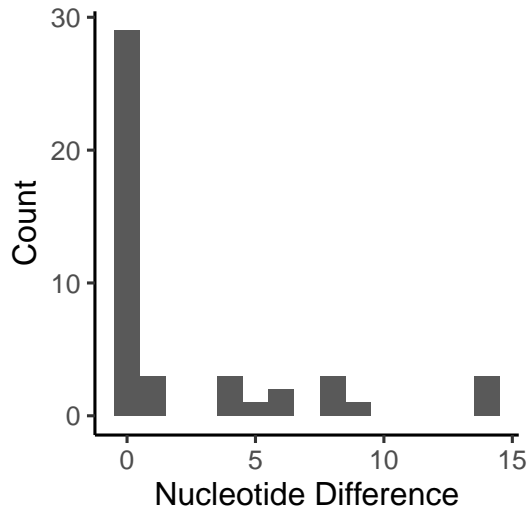
### IGHV3-33\*08

1107 sequences assigned  
861 (77.8%) exact matches, in which:  
824 unique CDR3  
6 unique J



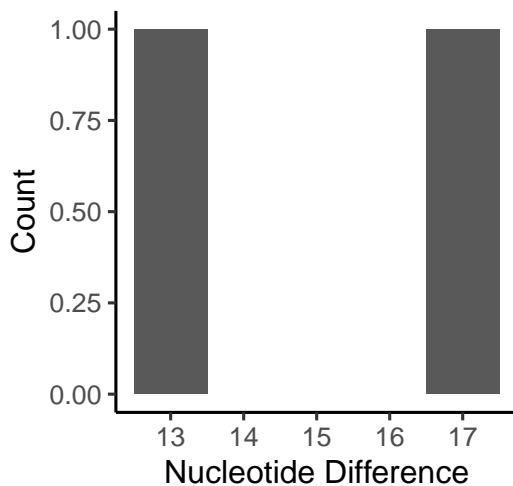
### IGHV3-20\*01\_02

45 sequences assigned  
29 (64.4%) exact matches, in which:  
28 unique CDR3  
5 unique J



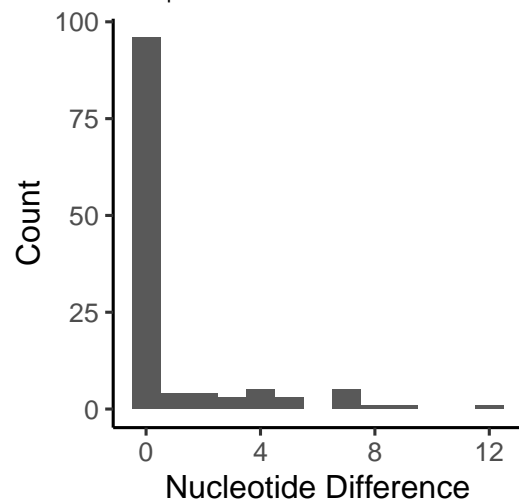
### IGHV3-30-3\*03

2 sequences assigned  
No exact matches.



### IGHV3-43\*01

124 sequences assigned  
96 (77.4%) exact matches, in which:  
90 unique CDR3  
5 unique J



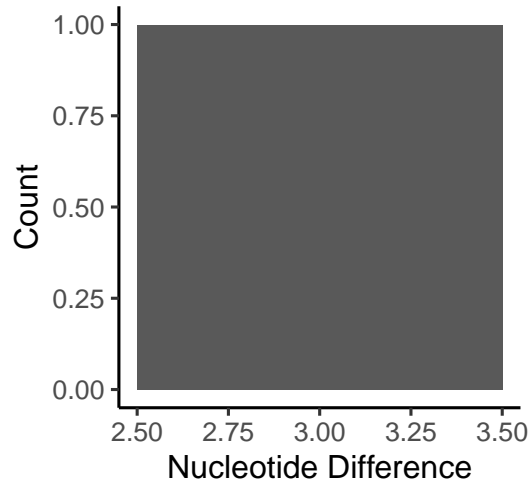
### IGHV3-47\*02

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



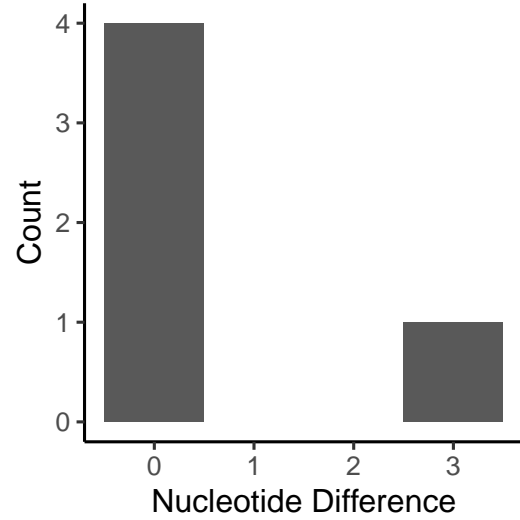
### IGHV3-52\*01\_03

1 sequences assigned  
No exact matches.



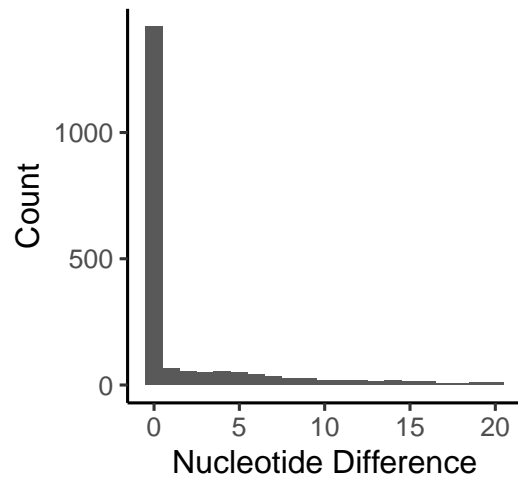
### IGHV3-66\*03

5 sequences assigned  
4 (80%) exact matches, in which:  
4 unique CDR3  
3 unique J



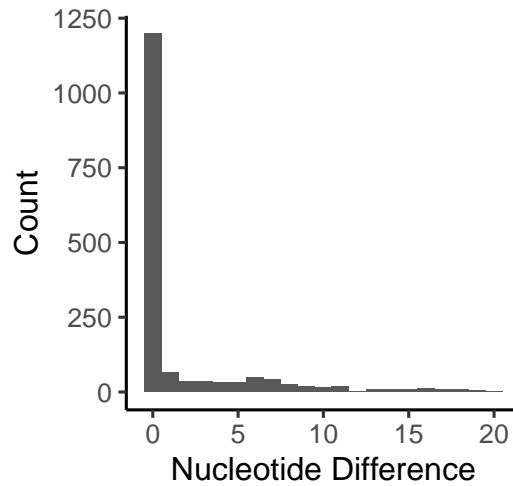
### IGHV3-48\*02

1967 sequences assigned  
1419 (72.1%) exact matches, in which:  
1280 unique CDR3  
6 unique J



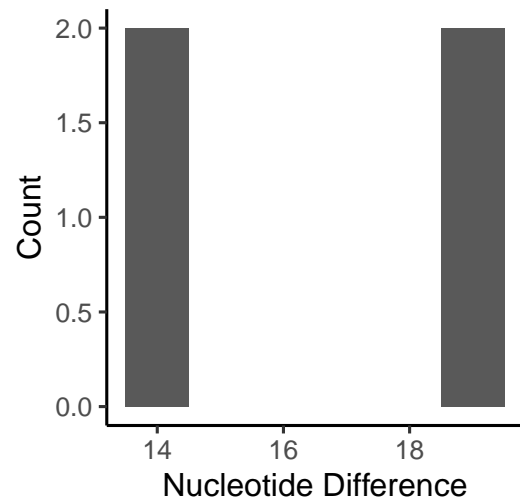
### IGHV3-53\*01\_02

1642 sequences assigned  
1198 (73%) exact matches, in which:  
1103 unique CDR3  
6 unique J



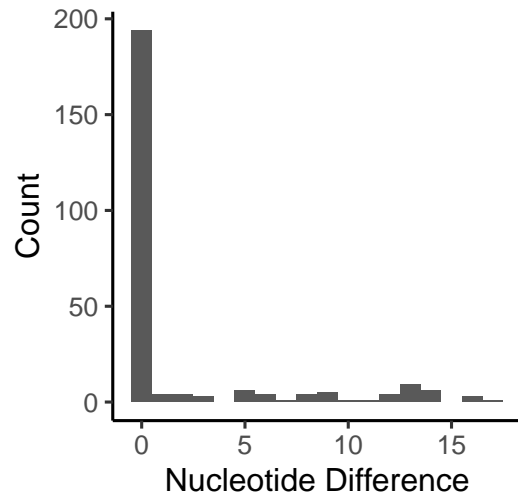
### IGHV3-66\*04

7 sequences assigned  
No exact matches.



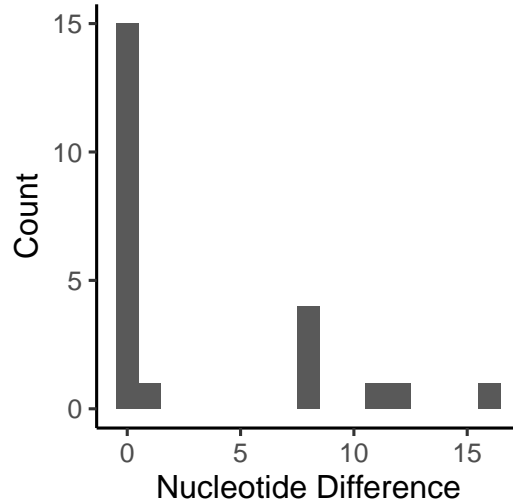
### IGHV3-49\*03\_05

254 sequences assigned  
194 (76.4%) exact matches, in which:  
190 unique CDR3  
6 unique J



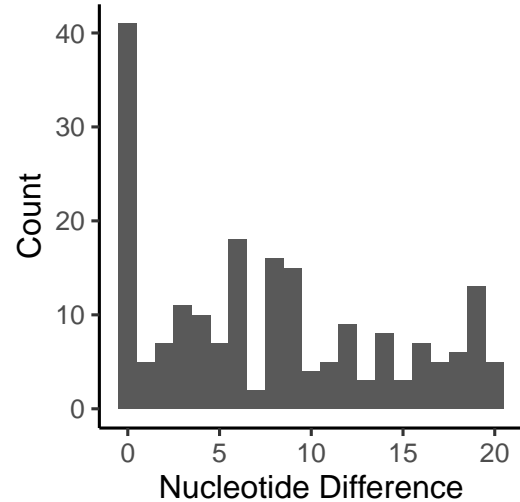
### IGHV3-64\*02\_07

25 sequences assigned  
15 (60%) exact matches, in which:  
13 unique CDR3  
4 unique J



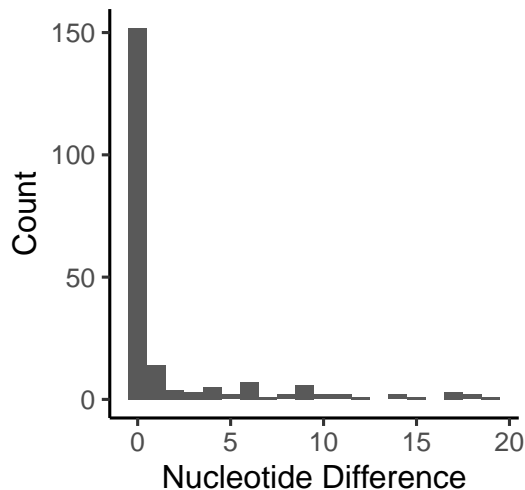
### IGHV3-72\*01

208 sequences assigned  
41 (19.7%) exact matches, in which:  
39 unique CDR3  
5 unique J



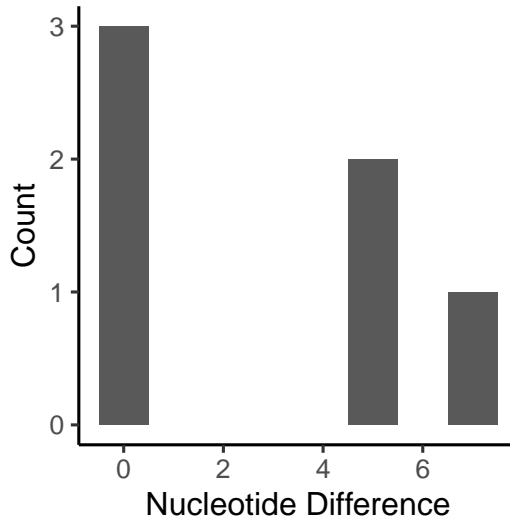
### IGHV3-73\*01\_02

212 sequences assigned  
152 (71.7%) exact matches, in which:  
140 unique CDR3  
5 unique J



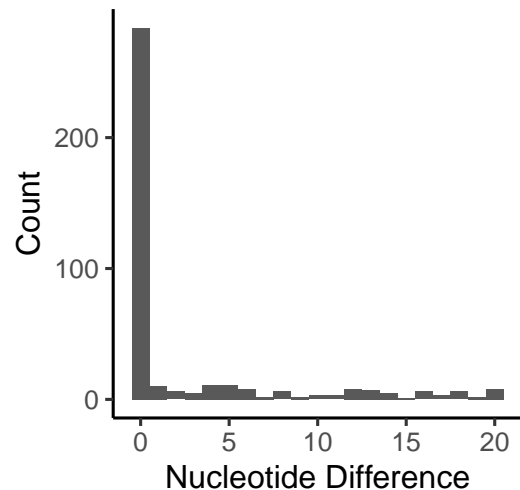
### IGHV3-64D\*06

6 sequences assigned  
3 (50%) exact matches, in which:  
3 unique CDR3  
2 unique J



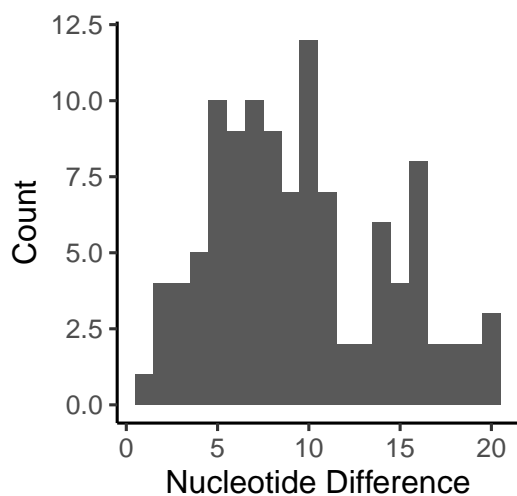
### IGHV4-4\*02\_03

419 sequences assigned  
284 (67.8%) exact matches, in which:  
278 unique CDR3  
6 unique J



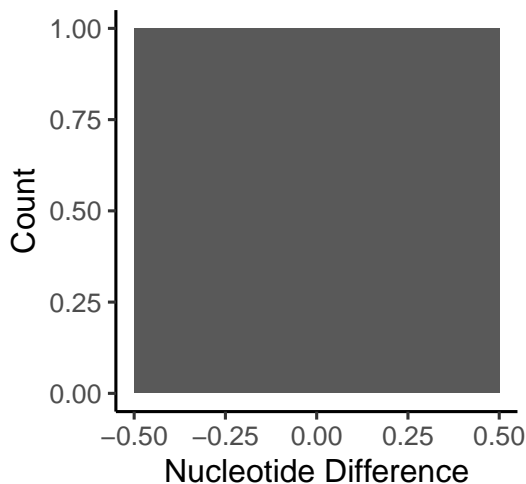
### IGHV3-74\*03

126 sequences assigned  
No exact matches.



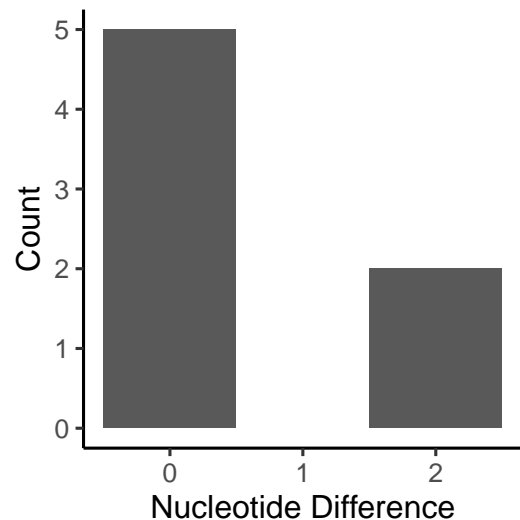
### IGHV3-64D\*08

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



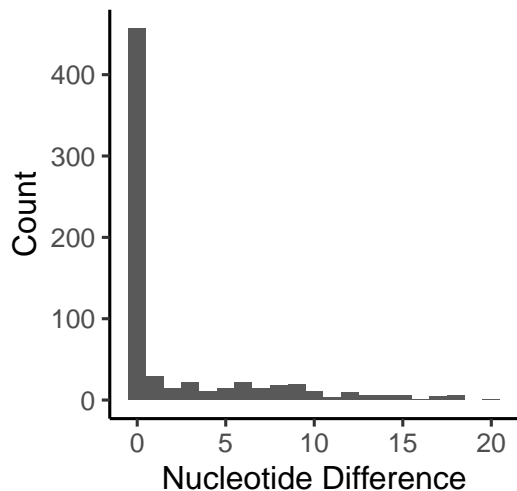
### IGHV4-28\*01\_07

7 sequences assigned  
5 (71.4%) exact matches, in which:  
5 unique CDR3  
4 unique J



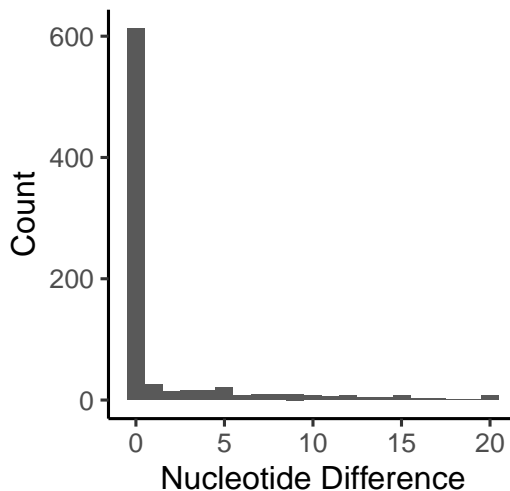
### IGHV3-74\*01\_02

670 sequences assigned  
457 (68.2%) exact matches, in which:  
431 unique CDR3  
6 unique J



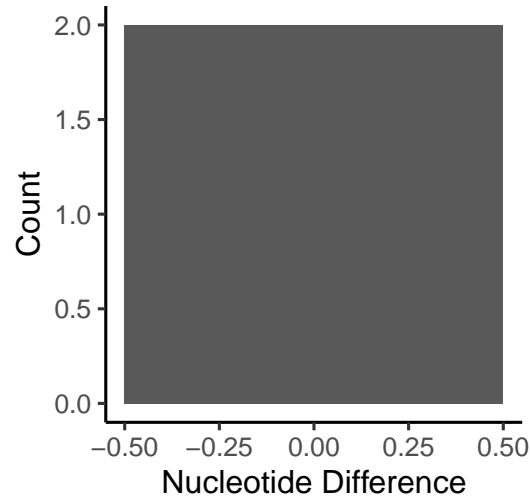
### IGHV4-4\*07

797 sequences assigned  
613 (76.9%) exact matches, in which:  
579 unique CDR3  
6 unique J



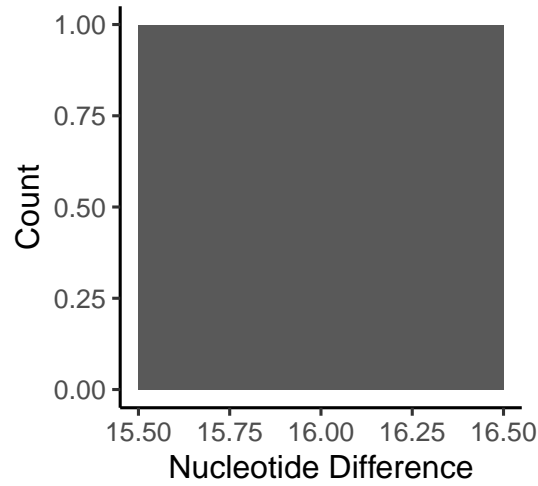
### IGHV4-28\*02\_05

2 sequences assigned  
2 (100%) exact matches, in which:  
2 unique CDR3  
1 unique J



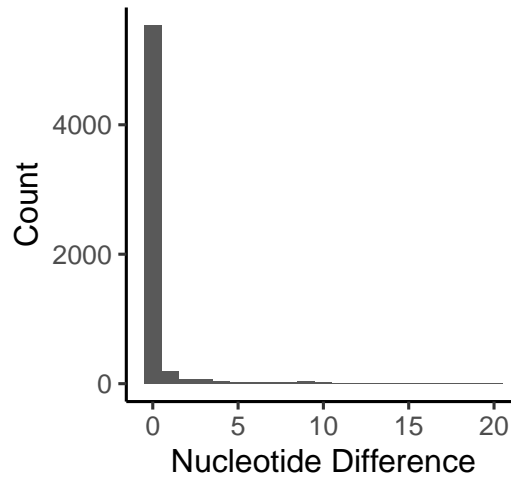
### IGHV4-30-2\*01

1 sequences assigned  
No exact matches.



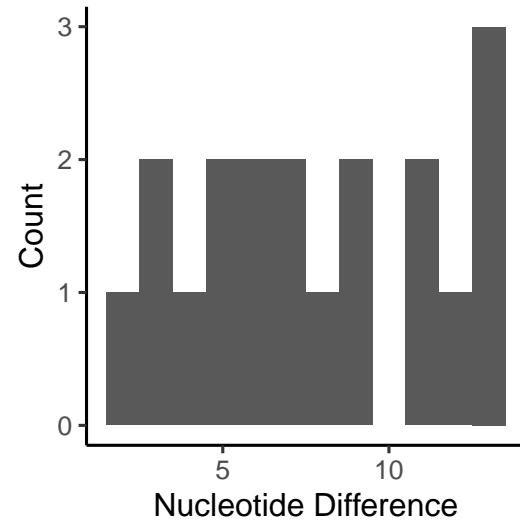
### IGHV4-34\*01\_02

6188 sequences assigned  
5535 (89.4%) exact matches, in which:  
5219 unique CDR3  
6 unique J



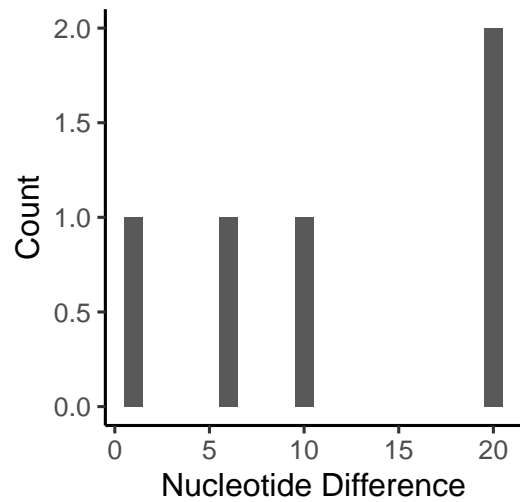
### IGHV4-39\*02

27 sequences assigned  
No exact matches.



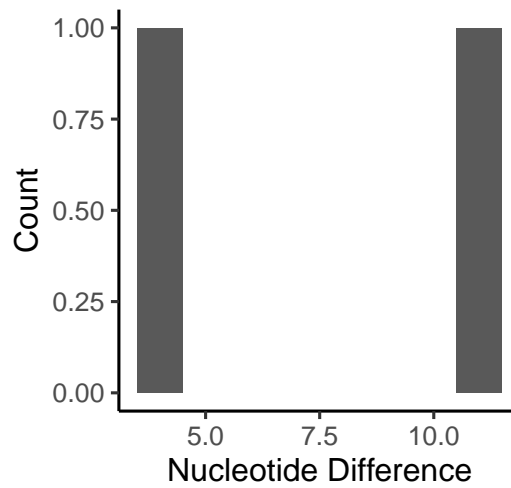
### IGHV4-31\*02

5 sequences assigned  
No exact matches.



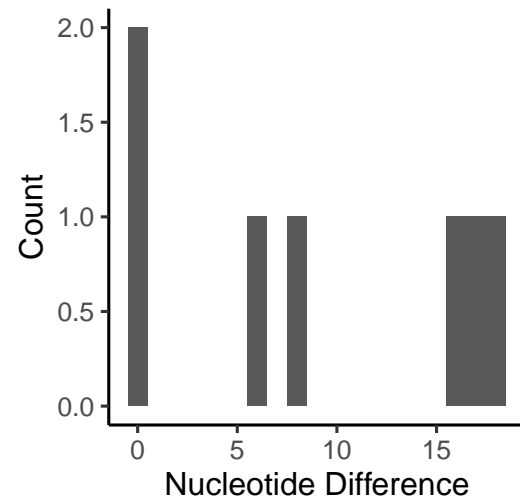
### IGHV4-38-2\*01

2 sequences assigned  
No exact matches.



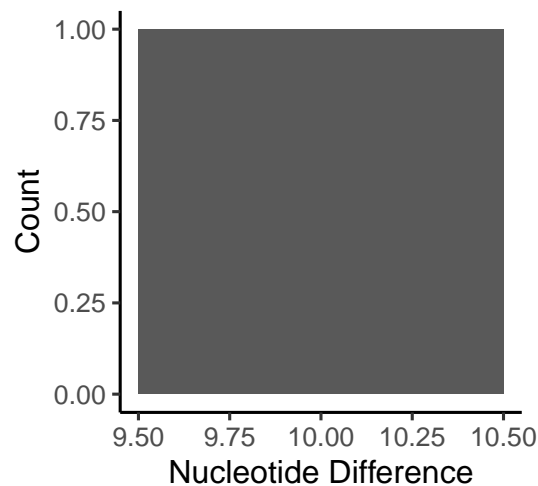
### IGHV4-39\*07

8 sequences assigned  
2 (25%) exact matches, in which:  
2 unique CDR3  
1 unique J



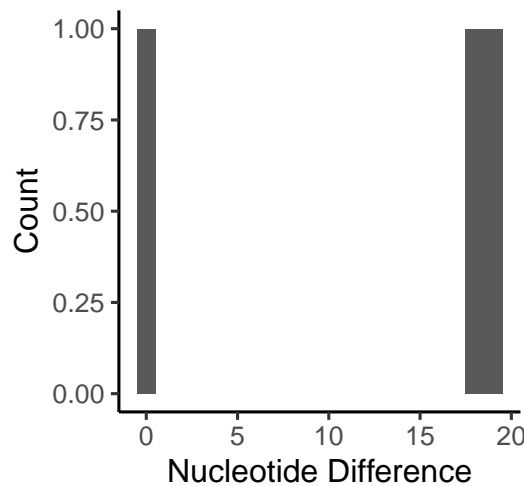
### IGHV4-31\*03\_04

2 sequences assigned  
No exact matches.



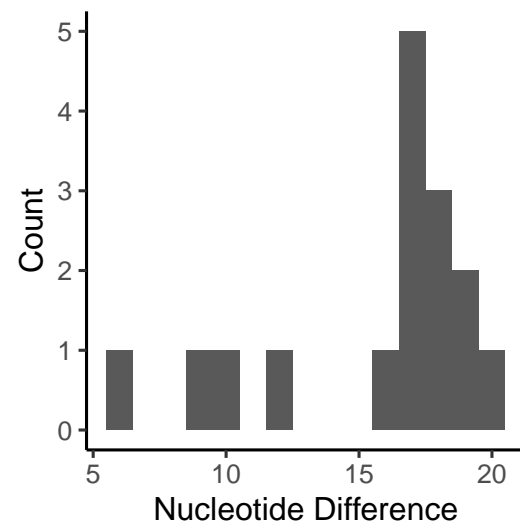
### IGHV4-38-2\*02

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



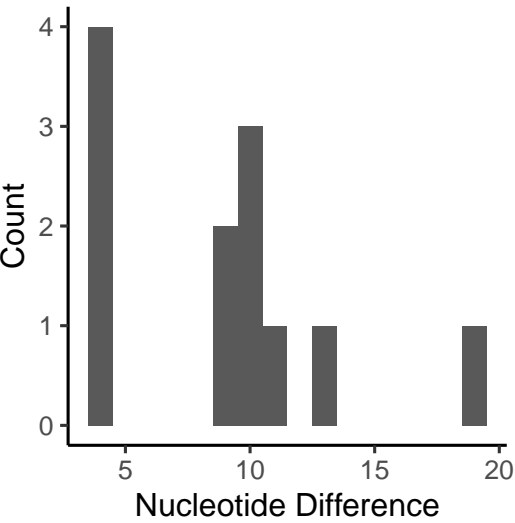
### IGHV4-59\*02

18 sequences assigned  
No exact matches.



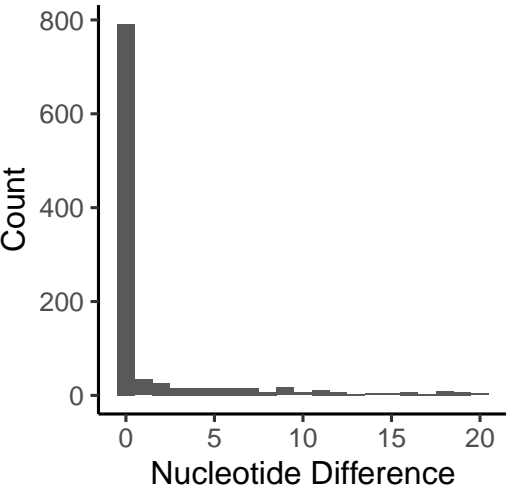
IGHV4-59\*11

12 sequences assigned  
No exact matches.



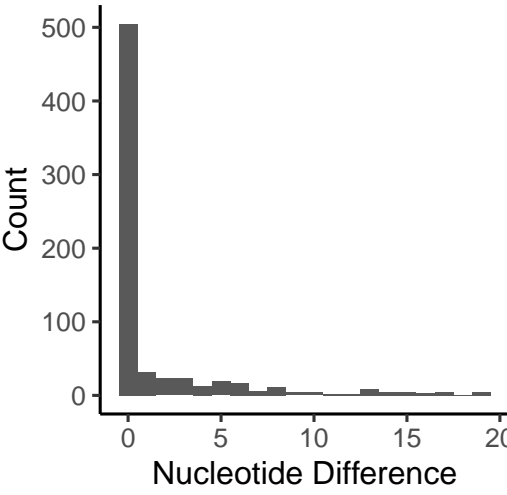
IGHV4-61\*01

1026 sequences assigned  
792 (77.2%) exact matches, in which:  
747 unique CDR3  
6 unique J



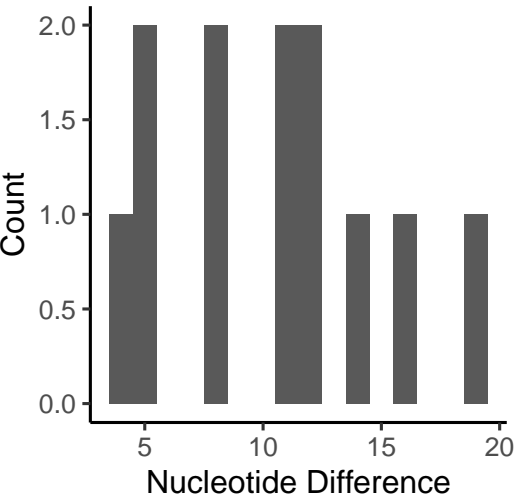
IGHV6-1\*01\_02

702 sequences assigned  
505 (71.9%) exact matches, in which:  
499 unique CDR3  
6 unique J



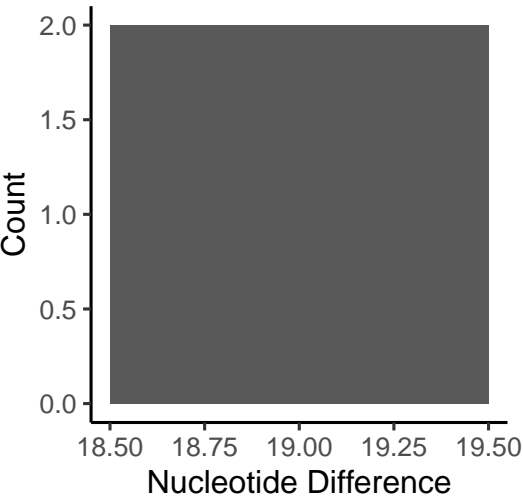
IGHV4-59\*12

13 sequences assigned  
No exact matches.



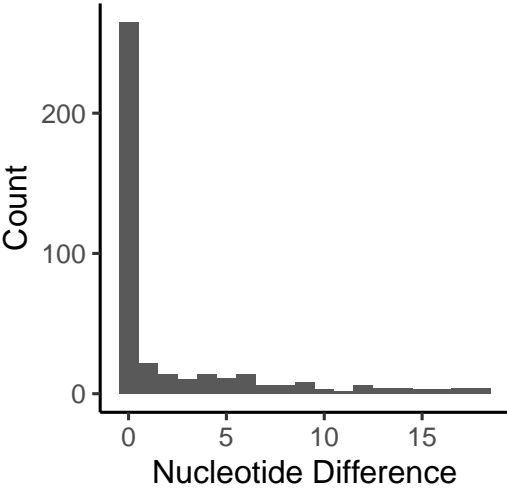
IGHV4/OR15-8\*02

2 sequences assigned  
No exact matches.



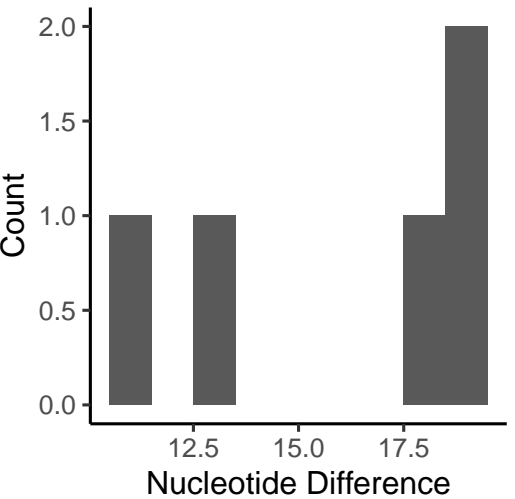
IGHV7-4-1\*02

405 sequences assigned  
265 (65.4%) exact matches, in which:  
258 unique CDR3  
6 unique J



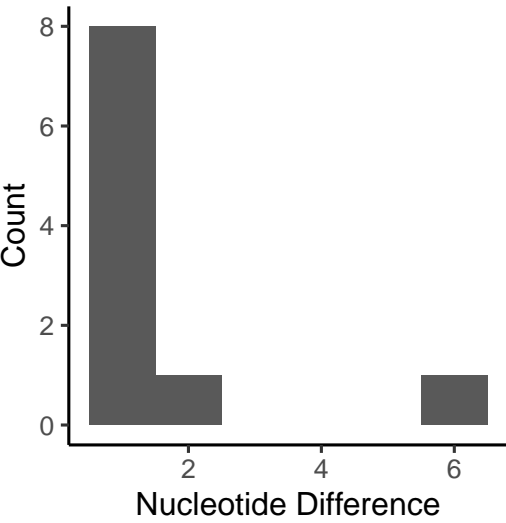
IGHV4-59\*13

8 sequences assigned  
No exact matches.



IGHV5-51\*04

10 sequences assigned  
No exact matches.







[illegible]