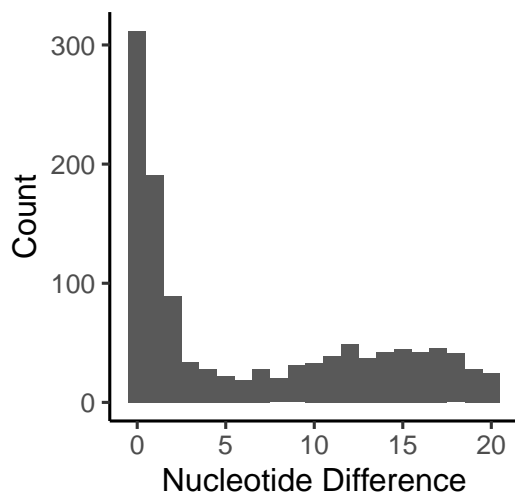


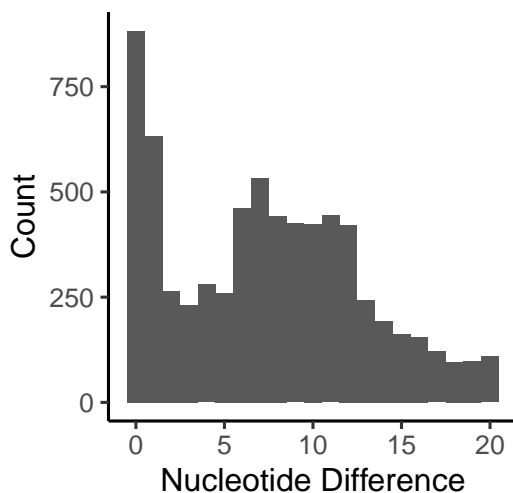
### IGHV1-2\*04

1449 sequences assigned  
312 (21.5%) exact matches, in which:  
295 unique CDR3  
6 unique J



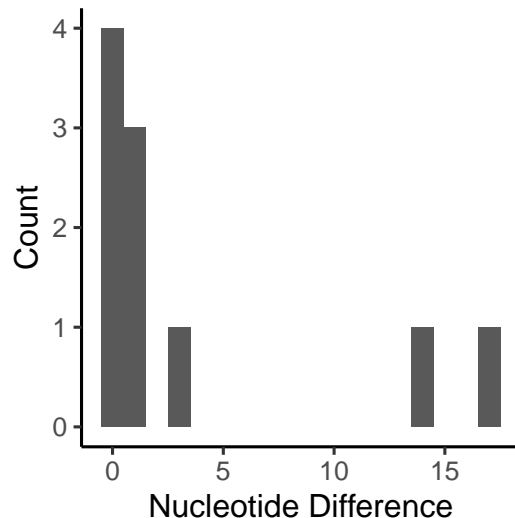
### IGHV1-18\*01

10135 sequences assigned  
883 (8.7%) exact matches, in which:  
807 unique CDR3  
6 unique J



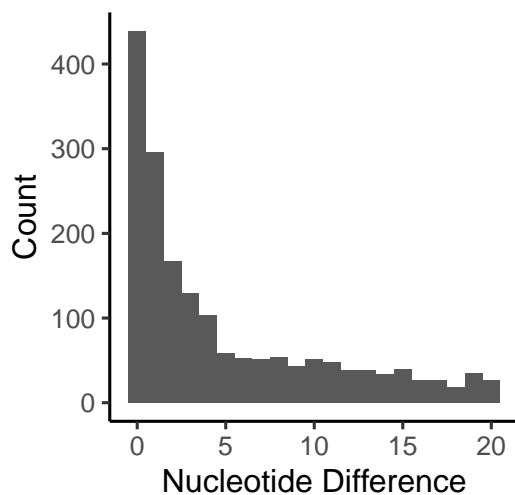
### IGHV1-45\*02

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



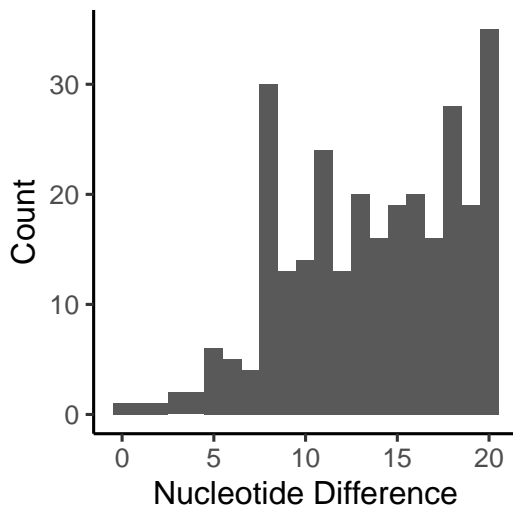
### IGHV1-3\*01\_05

1902 sequences assigned  
439 (23.1%) exact matches, in which:  
408 unique CDR3  
6 unique J



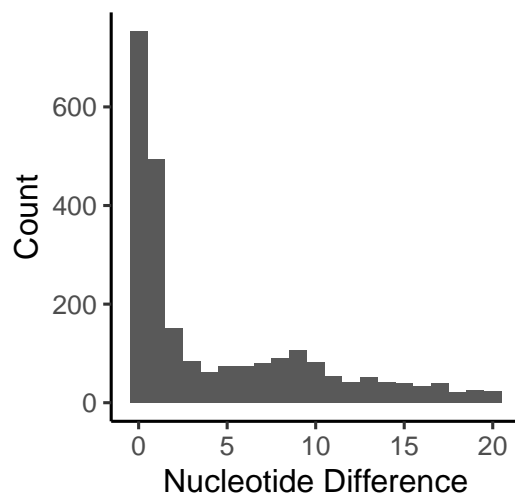
### IGHV1-18\*04

7048 sequences assigned  
1 (0%) exact matches, in which:  
1 unique CDR3  
1 unique J



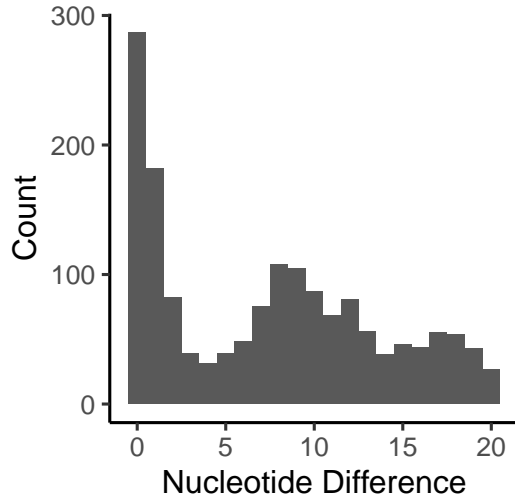
### IGHV1-46\*01

2767 sequences assigned  
754 (27.2%) exact matches, in which:  
693 unique CDR3  
6 unique J



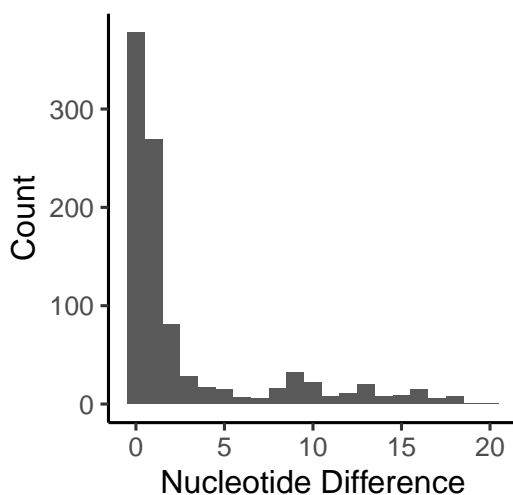
### IGHV1-8\*01

1689 sequences assigned  
287 (17%) exact matches, in which:  
266 unique CDR3  
6 unique J



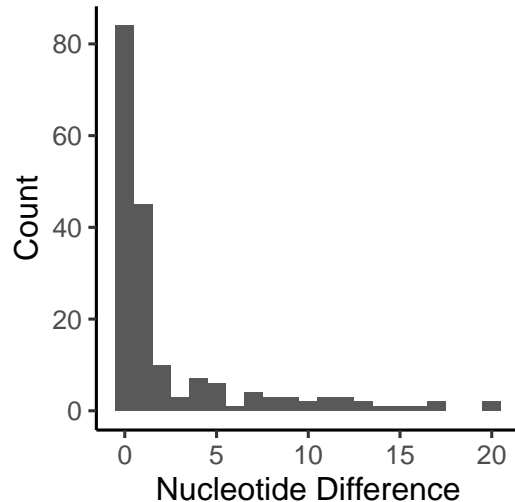
### IGHV1-24\*01

997 sequences assigned  
378 (37.9%) exact matches, in which:  
349 unique CDR3  
6 unique J



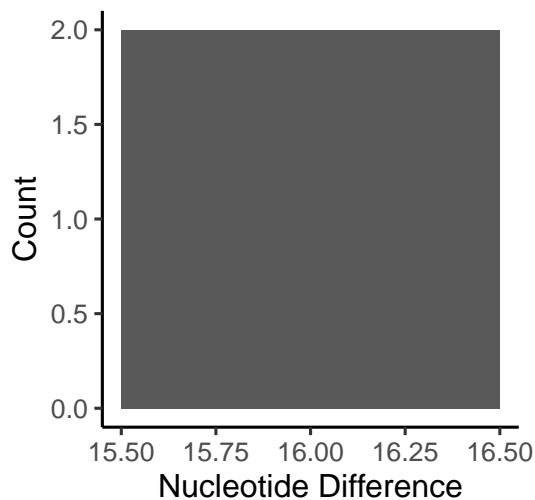
### IGHV1-58\*01\_03

184 sequences assigned  
84 (45.7%) exact matches, in which:  
77 unique CDR3  
5 unique J



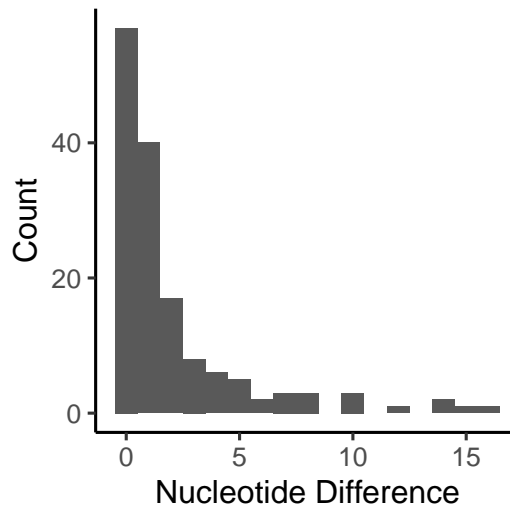
### IGHV1-69-2\*01

3 sequences assigned  
No exact matches.



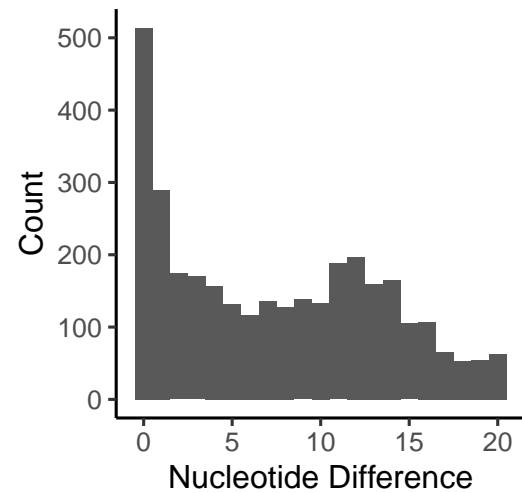
### IGHV2-26\*01

160 sequences assigned  
57 (35.6%) exact matches, in which:  
53 unique CDR3  
4 unique J



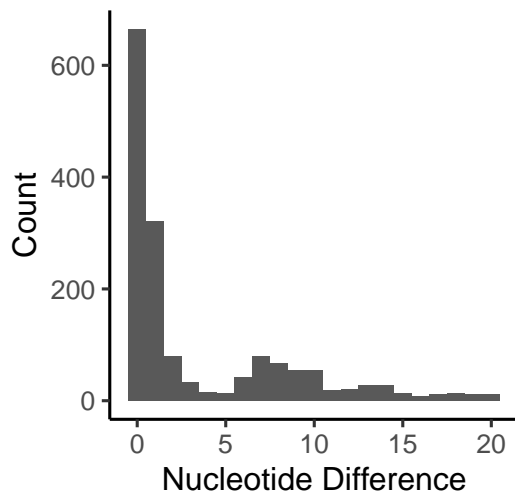
### IGHV3-7\*01

3493 sequences assigned  
514 (14.7%) exact matches, in which:  
366 unique CDR3  
6 unique J



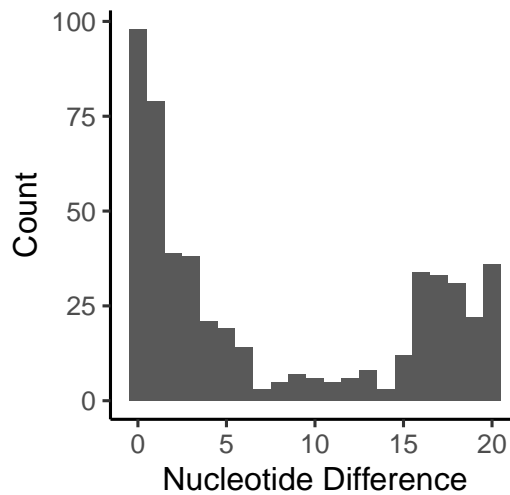
### IGHV1-69\*06\_14

1701 sequences assigned  
665 (39.1%) exact matches, in which:  
628 unique CDR3  
6 unique J



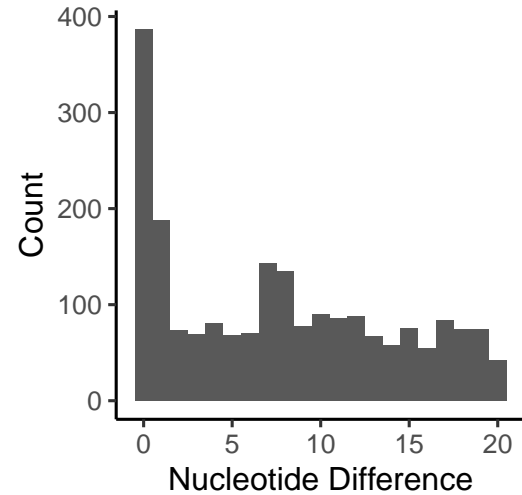
### IGHV2-70\*01

782 sequences assigned  
98 (12.5%) exact matches, in which:  
90 unique CDR3  
4 unique J



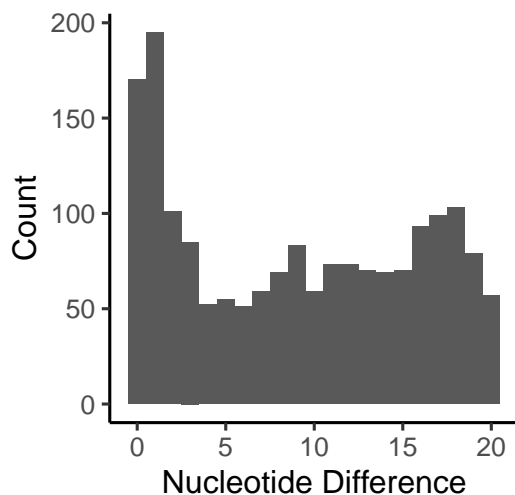
### IGHV3-7\*03

2360 sequences assigned  
387 (16.4%) exact matches, in which:  
277 unique CDR3  
5 unique J



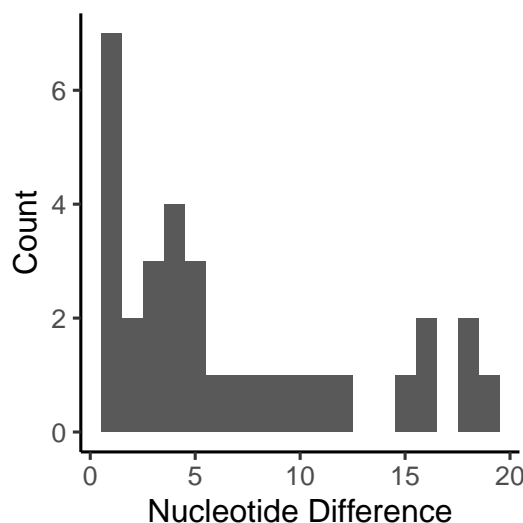
### IGHV2-5\*02

3698 sequences assigned  
170 (4.6%) exact matches, in which:  
146 unique CDR3  
5 unique J



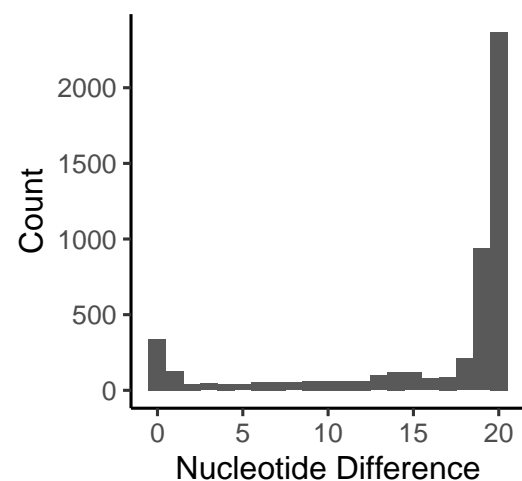
### IGHV2-70\*12

44 sequences assigned  
No exact matches.



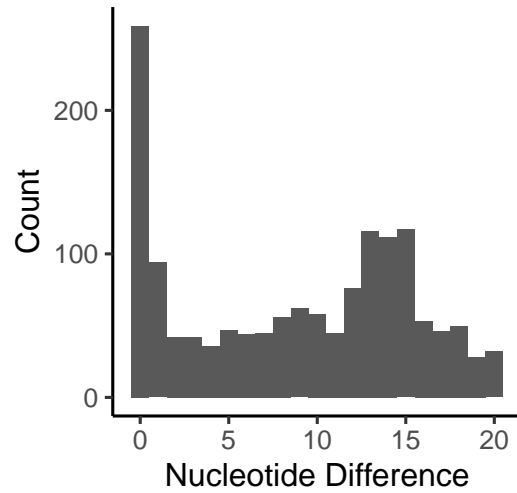
### IGHV3-9\*01

6745 sequences assigned  
338 (5%) exact matches, in which:  
256 unique CDR3  
6 unique J



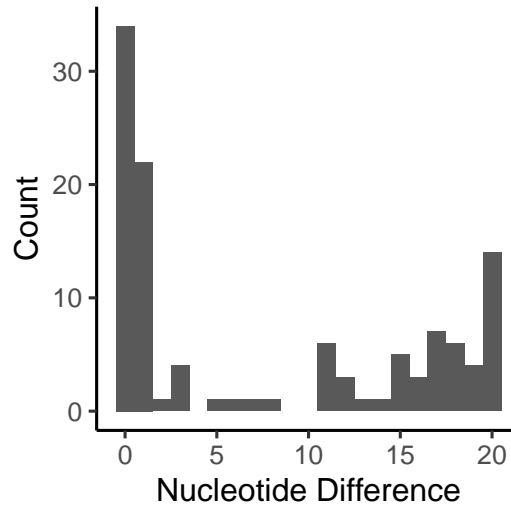
### IGHV3-11\*01

1703 sequences assigned  
259 (15.2%) exact matches, in which:  
197 unique CDR3  
5 unique J



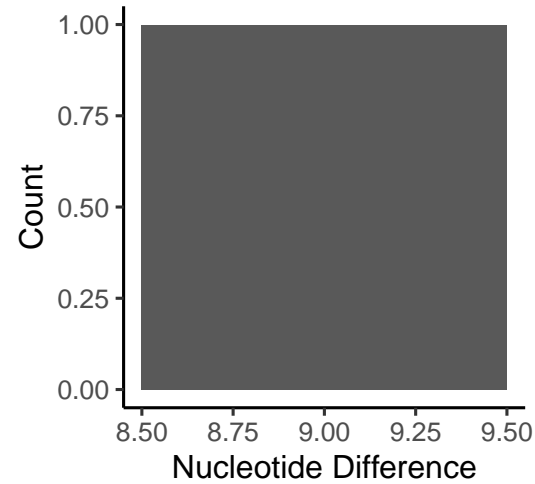
### IGHV3-13\*01

142 sequences assigned  
34 (23.9%) exact matches, in which:  
28 unique CDR3  
5 unique J



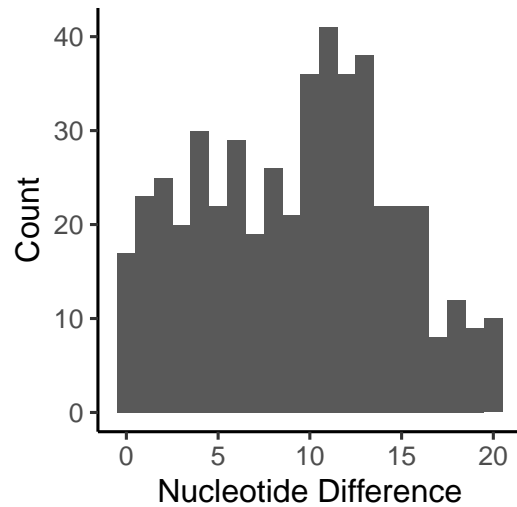
### IGHV3-19\*01

1 sequences assigned  
No exact matches.



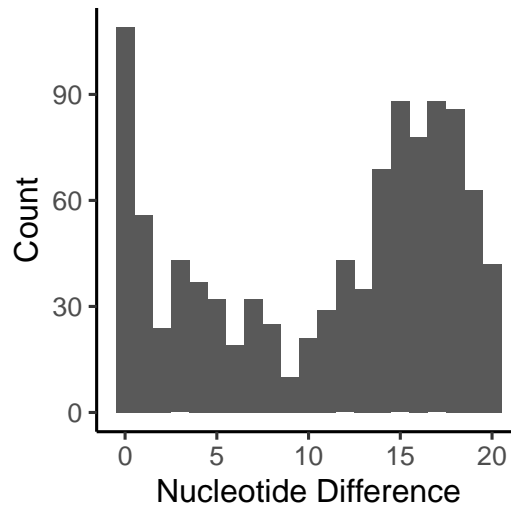
### IGHV3-11\*04

574 sequences assigned  
17 (3%) exact matches, in which:  
17 unique CDR3  
5 unique J



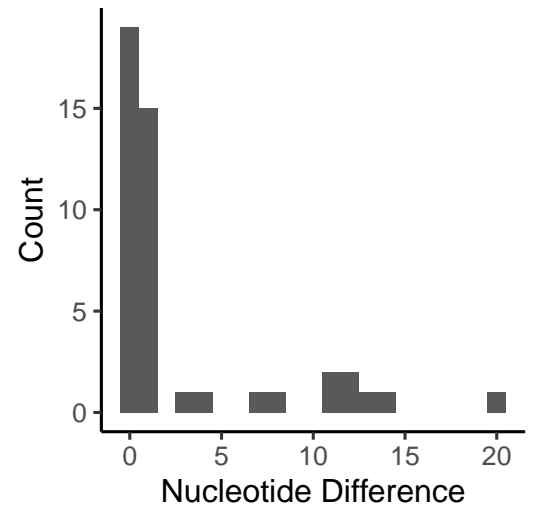
### IGHV3-15\*07

1430 sequences assigned  
109 (7.6%) exact matches, in which:  
78 unique CDR3  
5 unique J



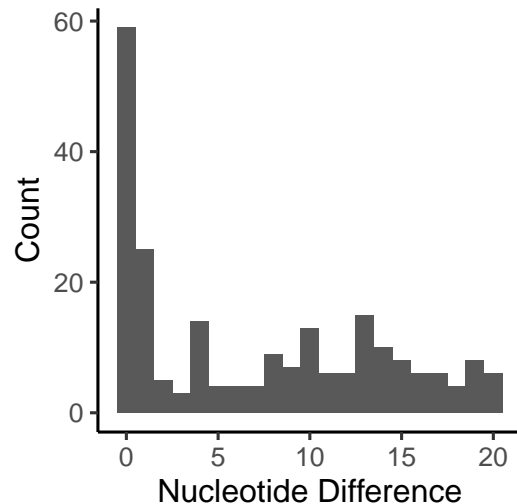
### IGHV3-20\*01\_02

46 sequences assigned  
19 (41.3%) exact matches, in which:  
12 unique CDR3  
3 unique J



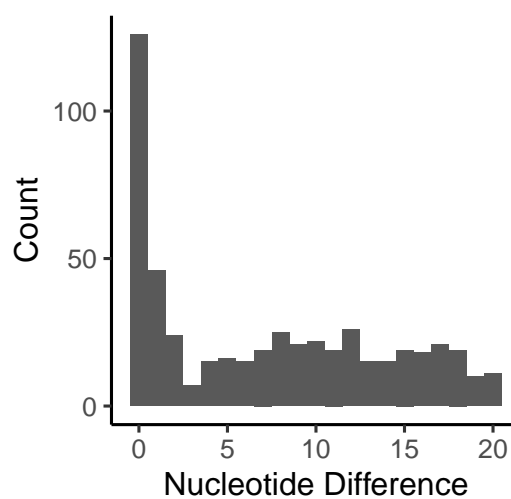
### IGHV3-11\*06

452 sequences assigned  
59 (13.1%) exact matches, in which:  
42 unique CDR3  
4 unique J



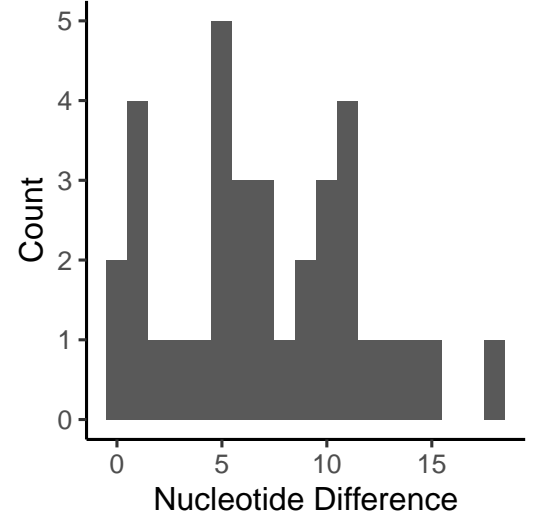
### IGHV3-15\*01\_02

659 sequences assigned  
126 (19.1%) exact matches, in which:  
95 unique CDR3  
5 unique J



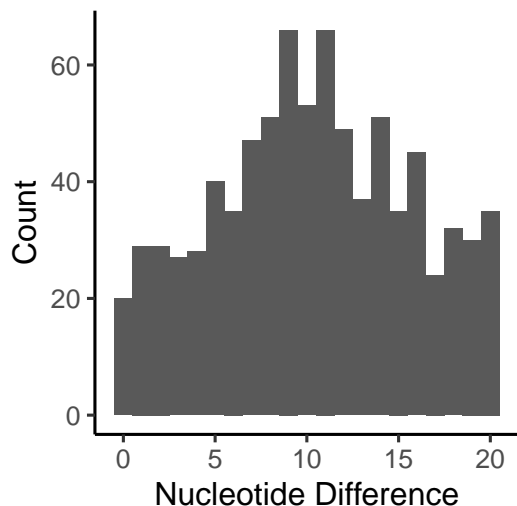
### IGHV3-20\*03\_04

56 sequences assigned  
2 (3.6%) exact matches, in which:  
1 unique CDR3  
1 unique J



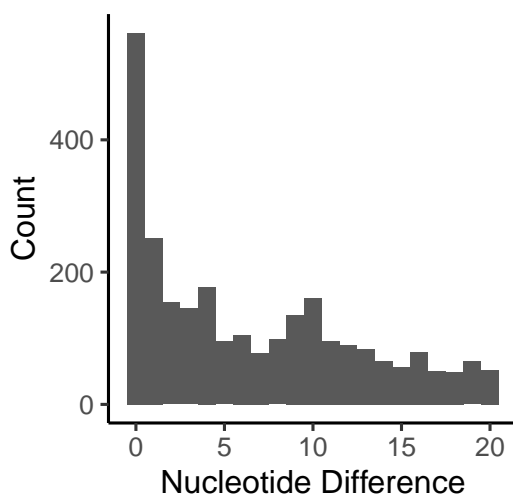
### IGHV3-21\*04

1408 sequences assigned  
20 (1.4%) exact matches, in which:  
20 unique CDR3  
3 unique J



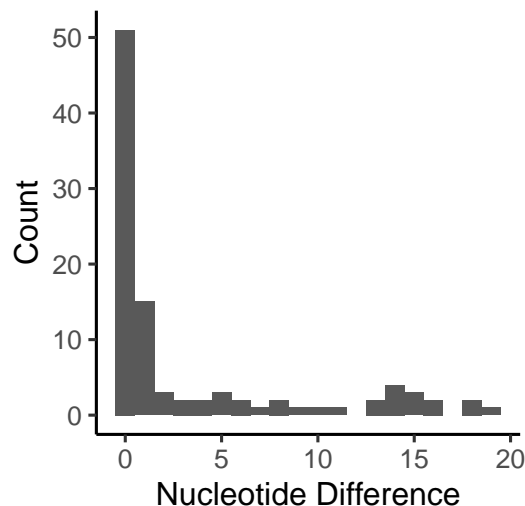
### IGHV3-33\*01

4364 sequences assigned  
562 (12.9%) exact matches, in which:  
439 unique CDR3  
6 unique J



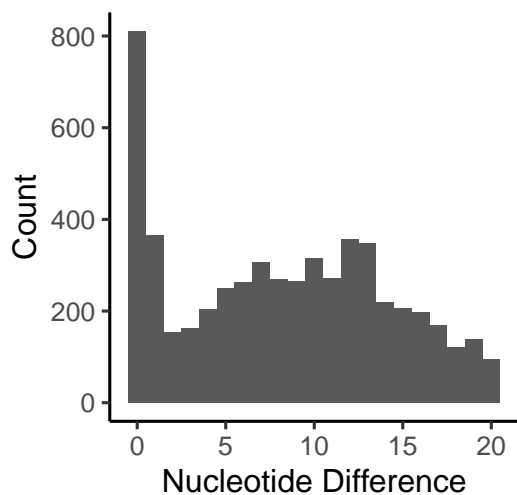
### IGHV3-43\*01

102 sequences assigned  
51 (50%) exact matches, in which:  
39 unique CDR3  
6 unique J



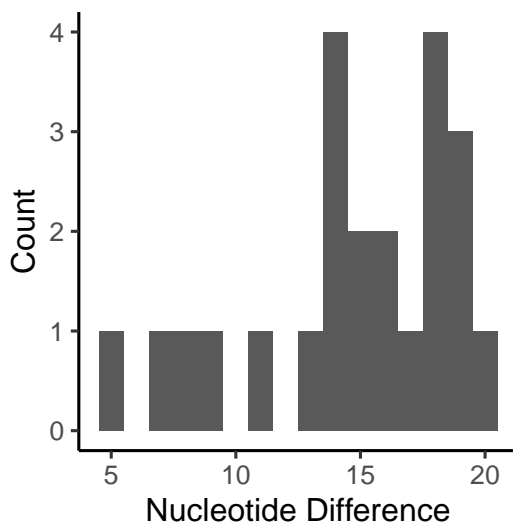
### IGHV3-21\*01\_02

12875 sequences assigned  
811 (6.3%) exact matches, in which:  
580 unique CDR3  
6 unique J



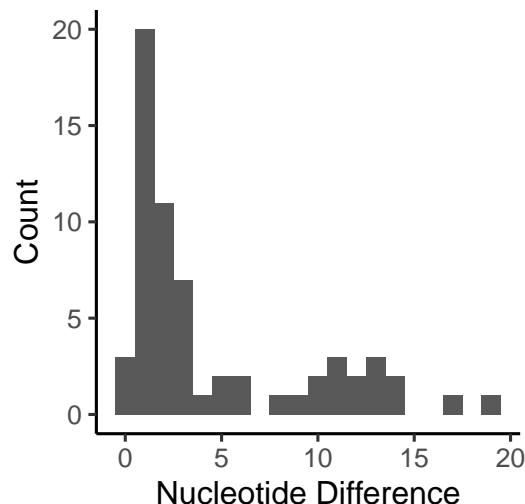
### IGHV3-33\*05

73 sequences assigned  
No exact matches.



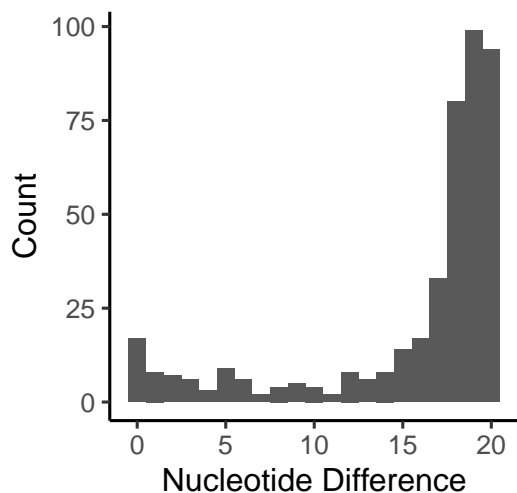
### IGHV3-47\*02

63 sequences assigned  
3 (4.8%) exact matches, in which:  
1 unique CDR3  
1 unique J



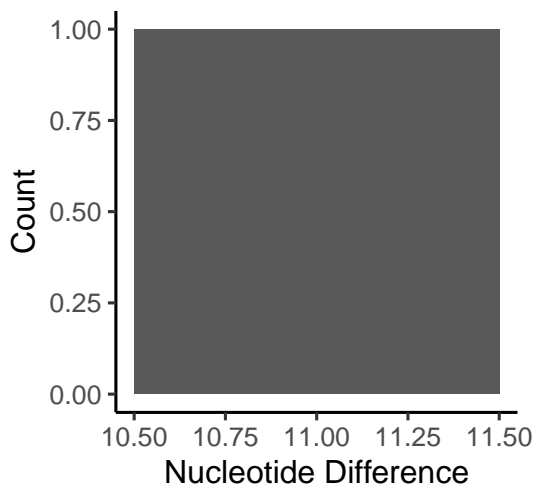
### IGHV3-30\*03

2736 sequences assigned  
17 (0.6%) exact matches, in which:  
17 unique CDR3  
4 unique J



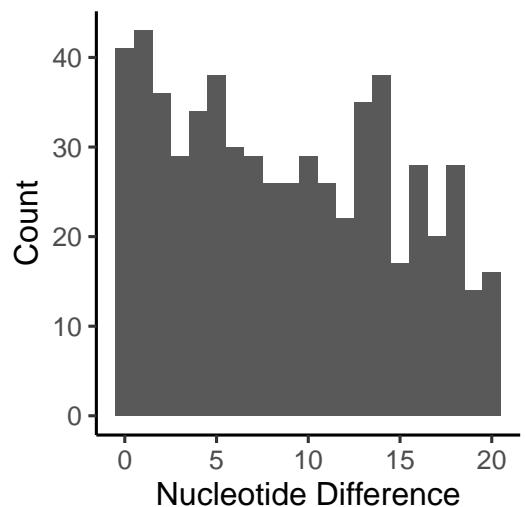
### IGHV3-35\*01

1 sequences assigned  
No exact matches.



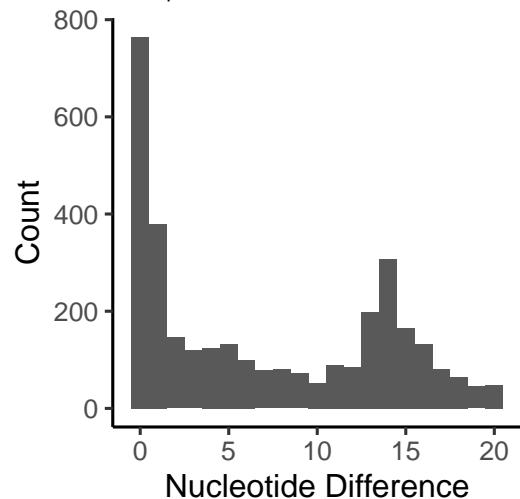
### IGHV3-48\*01

701 sequences assigned  
41 (5.8%) exact matches, in which:  
39 unique CDR3  
4 unique J



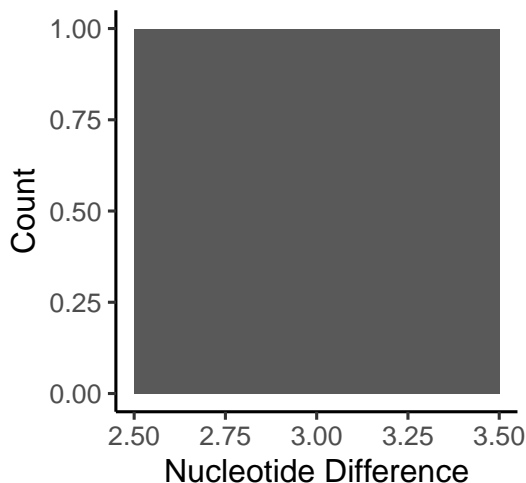
### IGHV3-48\*02

3641 sequences assigned  
765 (21%) exact matches, in which:  
530 unique CDR3  
6 unique J



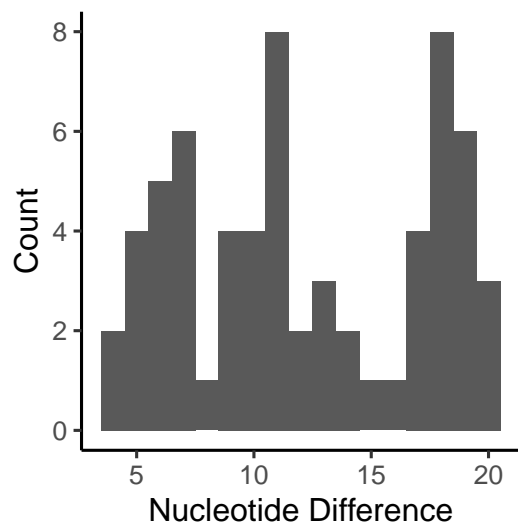
### IGHV3-52\*02

1 sequences assigned  
No exact matches.



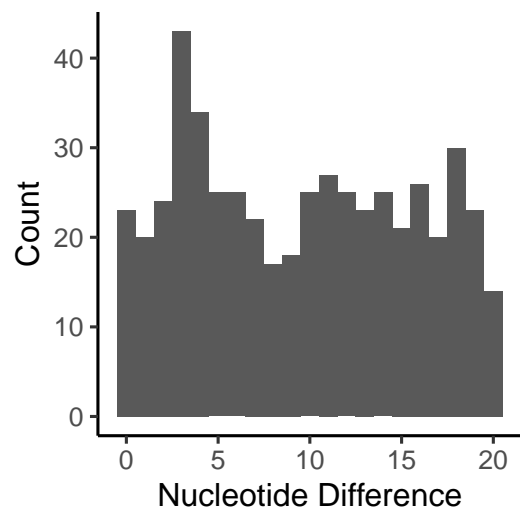
### IGHV3-64\*04

85 sequences assigned  
No exact matches.



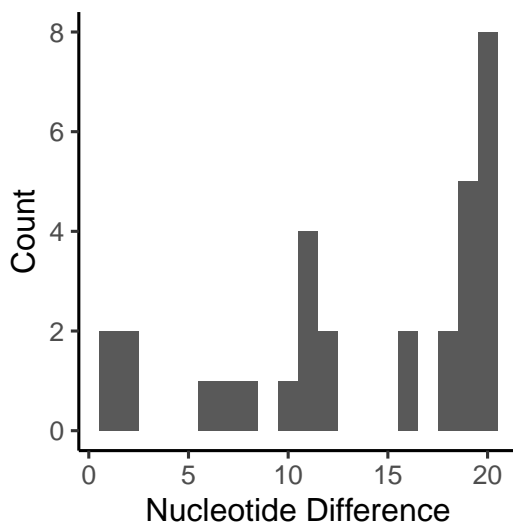
### IGHV3-48\*04

569 sequences assigned  
23 (4%) exact matches, in which:  
22 unique CDR3  
3 unique J



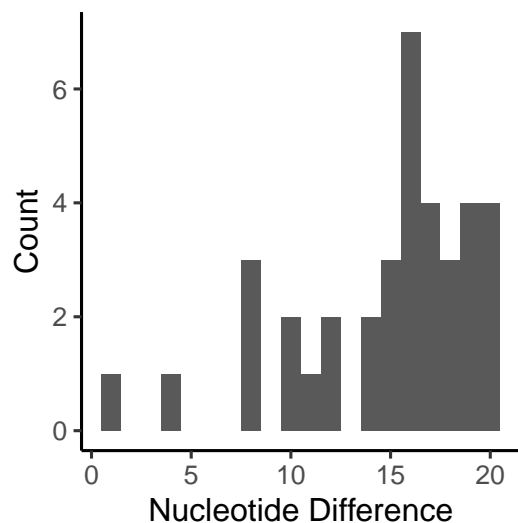
### IGHV3-53\*05

112 sequences assigned  
No exact matches.



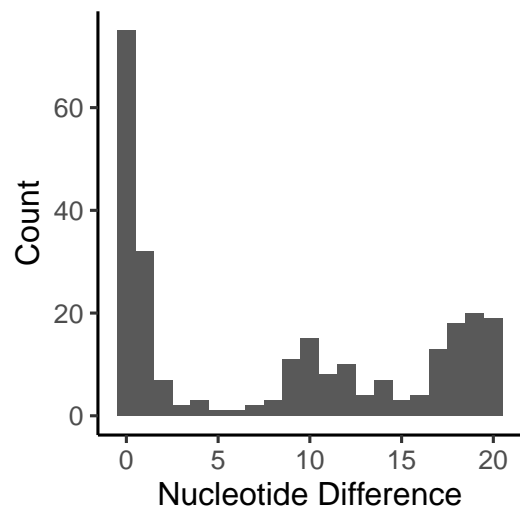
### IGHV3-66\*01

59 sequences assigned  
No exact matches.



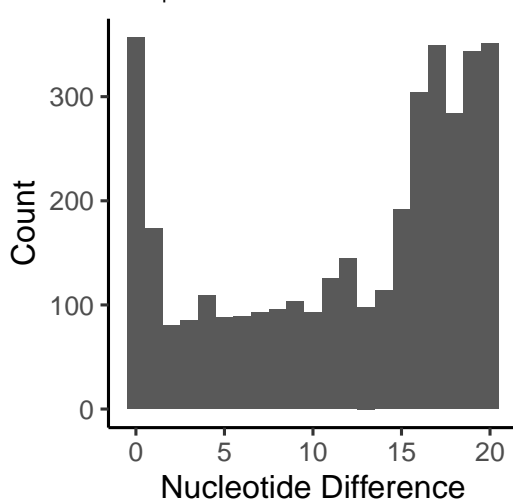
### IGHV3-49\*03\_05

898 sequences assigned  
75 (8.4%) exact matches, in which:  
57 unique CDR3  
5 unique J



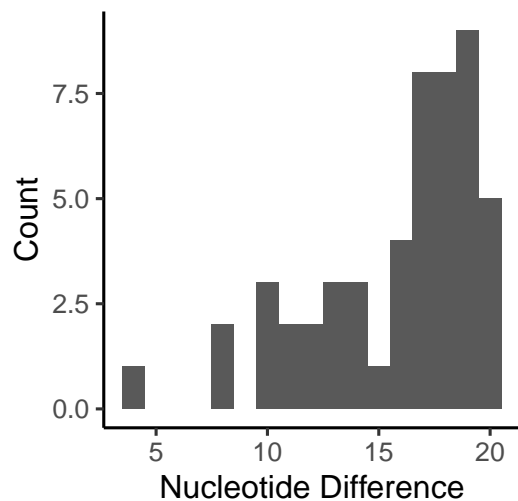
### IGHV3-53\*01\_02

9823 sequences assigned  
357 (3.6%) exact matches, in which:  
259 unique CDR3  
6 unique J



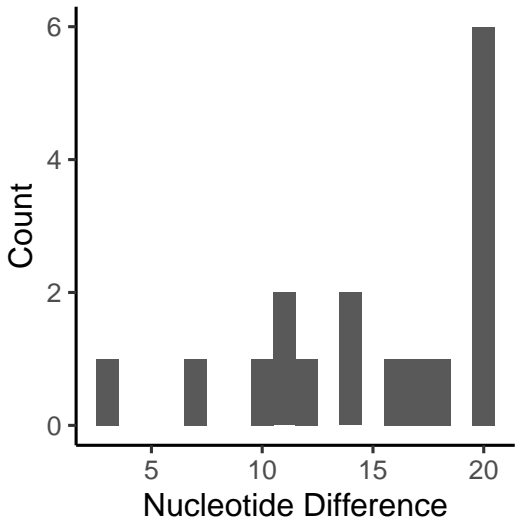
### IGHV3-66\*02

233 sequences assigned  
No exact matches.



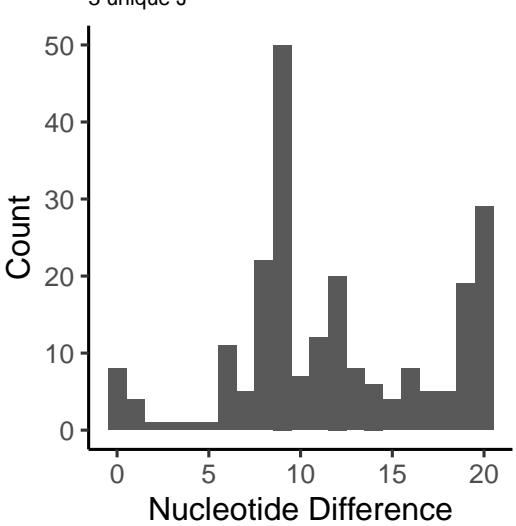
IGHV3-66\*03

54 sequences assigned  
No exact matches.



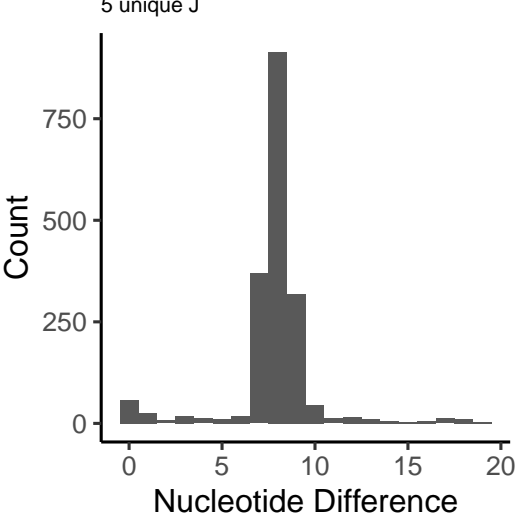
IGHV3-72\*01

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



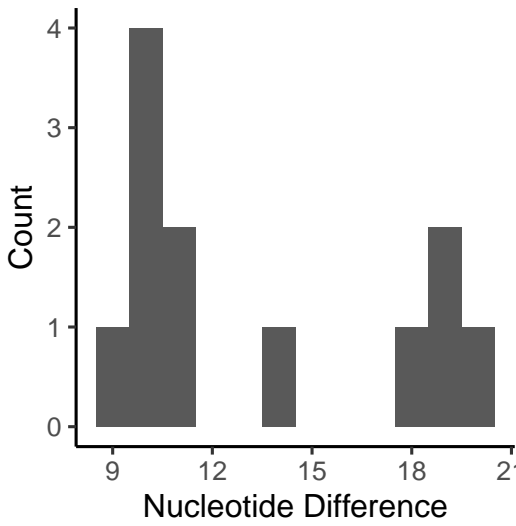
IGHV3-64D\*06

1925 sequences assigned  
58 (3%) exact matches, in which:  
42 unique CDR3  
5 unique J



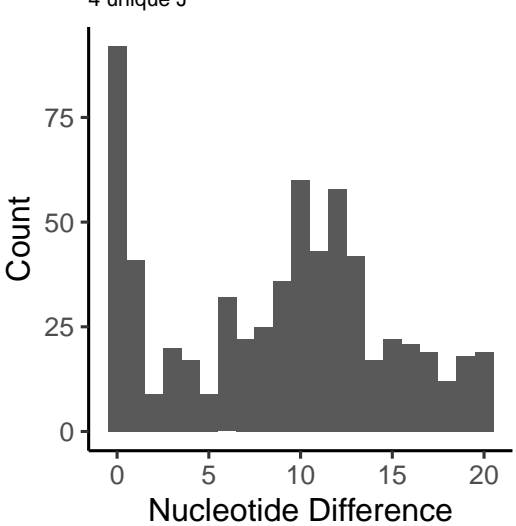
IGHV3-69-1\*01

81 sequences assigned  
No exact matches.



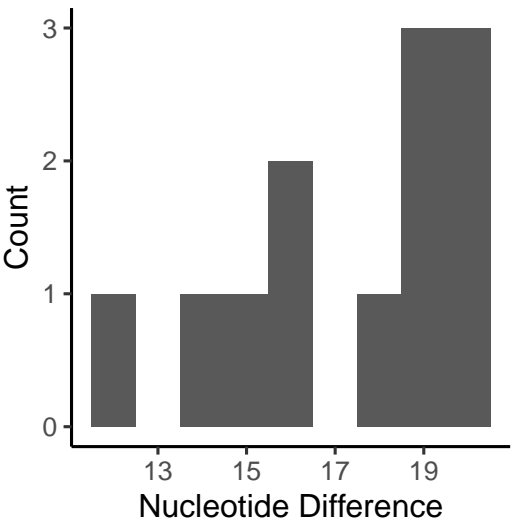
IGHV3-73\*01\_02

940 sequences assigned  
92 (9.8%) exact matches, in which:  
62 unique CDR3  
4 unique J



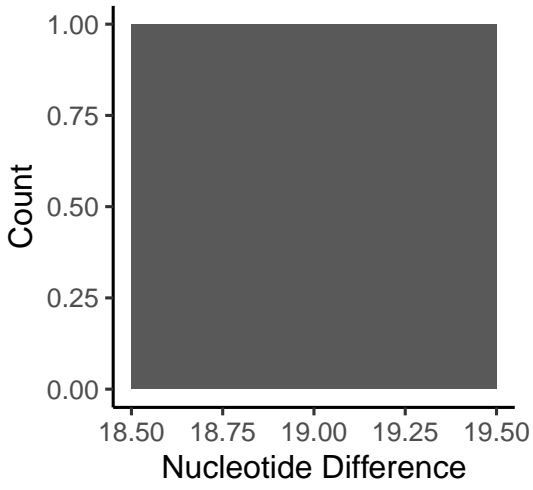
IGHV3-NL1\*01

63 sequences assigned  
No exact matches.



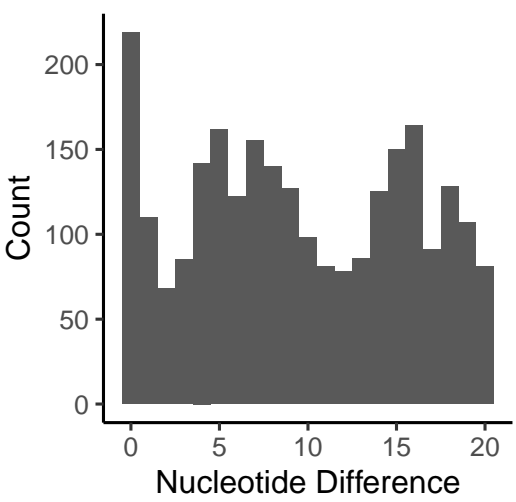
IGHV3-69-1\*02

42 sequences assigned  
No exact matches.



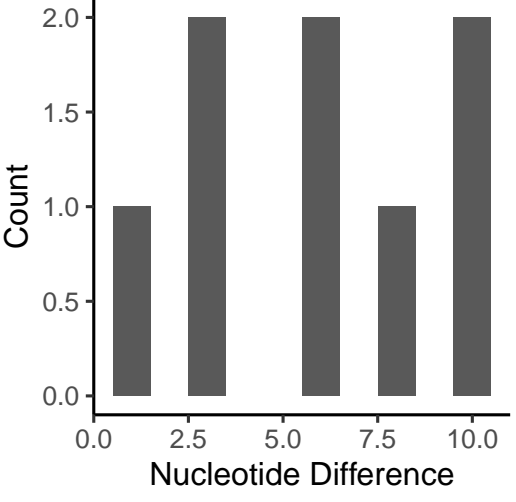
IGHV3-74\*01\_02

3059 sequences assigned  
219 (7.2%) exact matches, in which:  
162 unique CDR3  
5 unique J



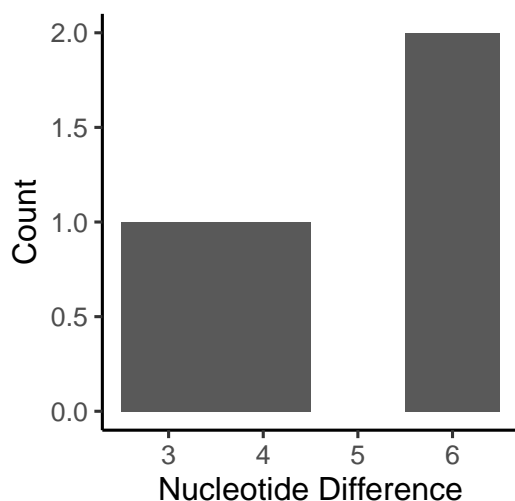
IGHV4-28\*03

9 sequences assigned  
No exact matches.



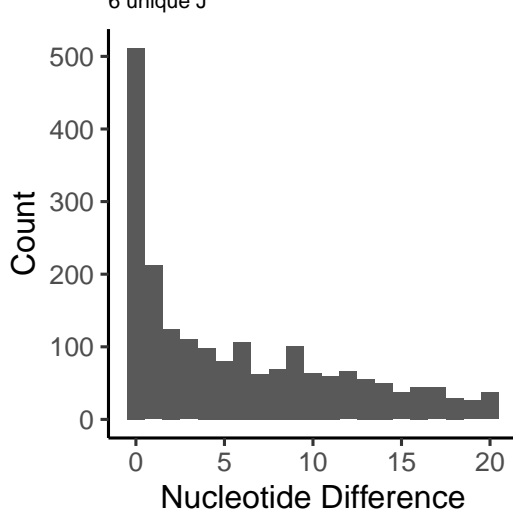
### IGHV4-28\*01\_07

4 sequences assigned  
No exact matches.



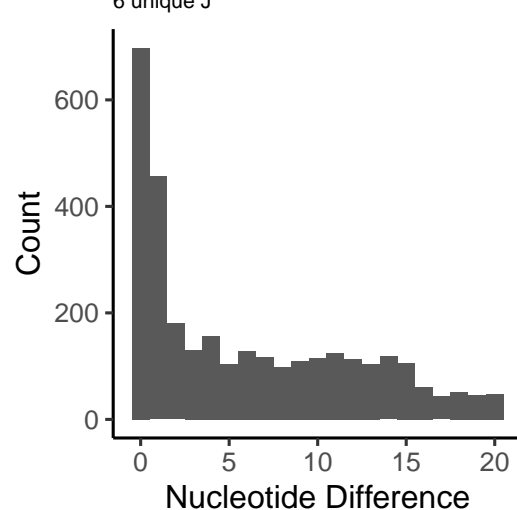
### IGHV4-31\*03\_04

3060 sequences assigned  
512 (16.7%) exact matches, in which:  
461 unique CDR3  
6 unique J



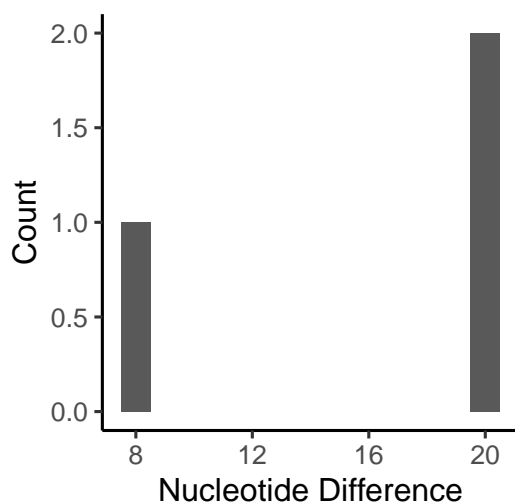
### IGHV4-39\*01\_05

3649 sequences assigned  
698 (19.1%) exact matches, in which:  
629 unique CDR3  
6 unique J



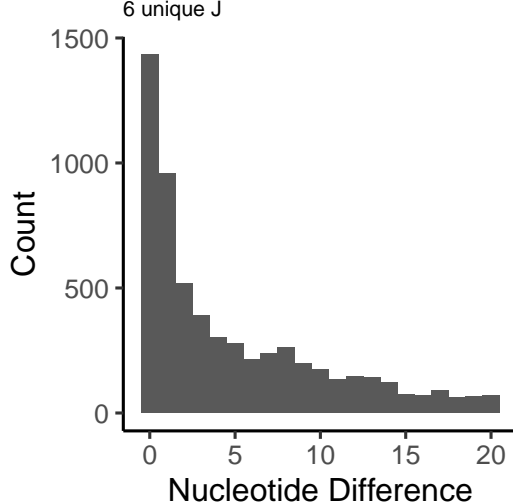
### IGHV4-30-4\*01

7 sequences assigned  
No exact matches.



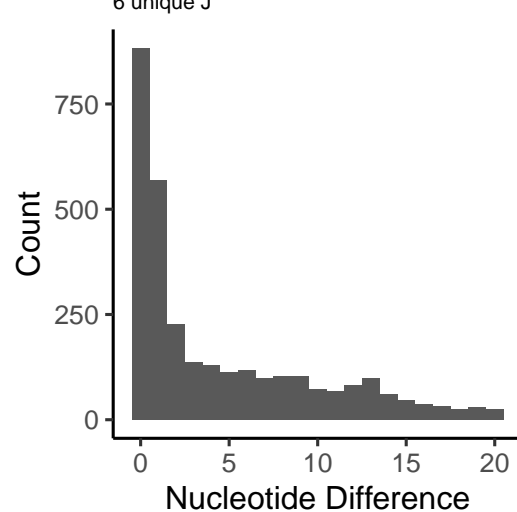
### IGHV4-34\*01\_02

6656 sequences assigned  
1433 (21.5%) exact matches, in which:  
1241 unique CDR3  
6 unique J



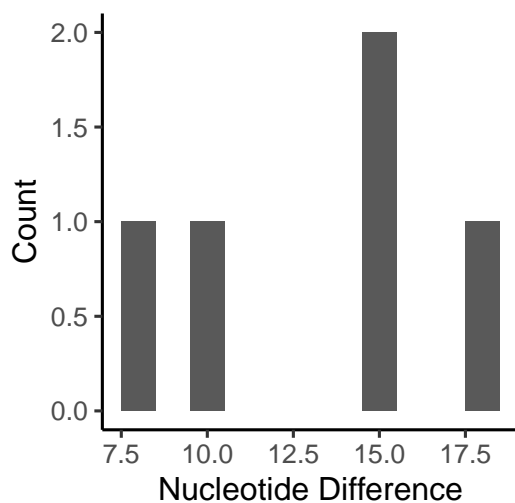
### IGHV4-59\*01\_07

3251 sequences assigned  
883 (27.2%) exact matches, in which:  
790 unique CDR3  
6 unique J



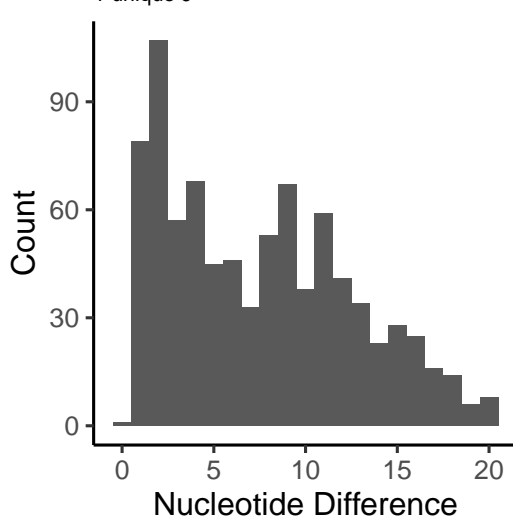
### IGHV4-30-4\*08

9 sequences assigned  
No exact matches.



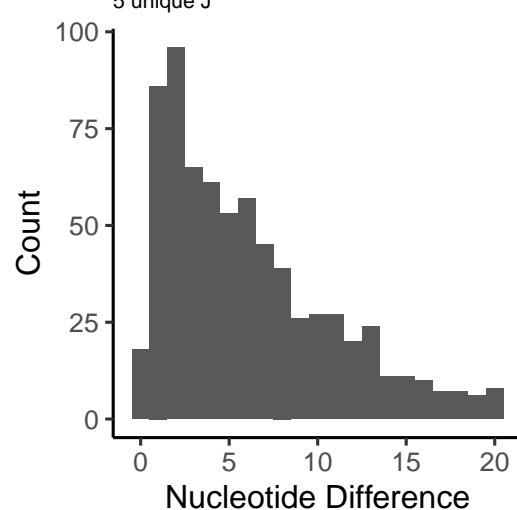
### IGHV4-39\*07

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



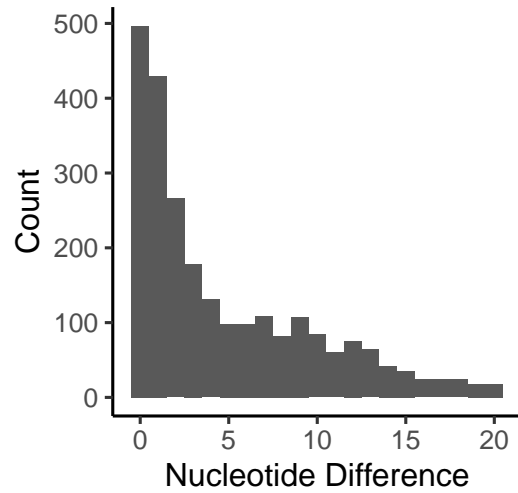
### IGHV4-59\*12

780 sequences assigned  
18 (2.3%) exact matches, in which:  
18 unique CDR3  
5 unique J



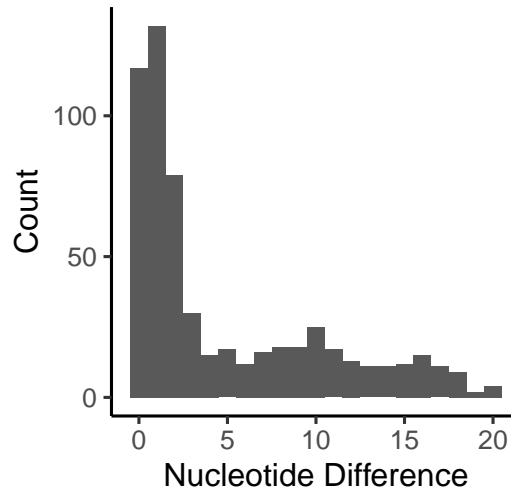
### IGHV4-61\*01

2683 sequences assigned  
497 (18.5%) exact matches, in which:  
451 unique CDR3  
6 unique J



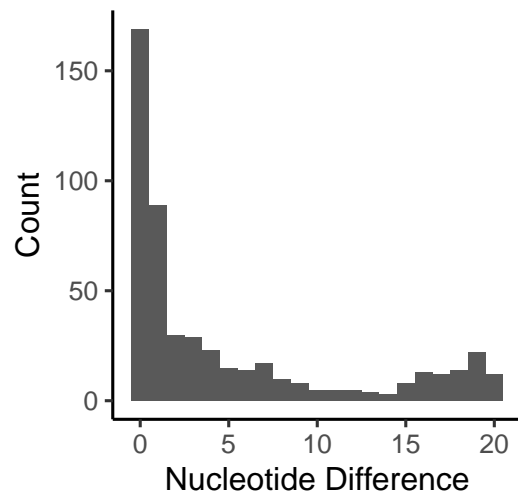
### IGHV6-1\*01\_02

701 sequences assigned  
117 (16.7%) exact matches, in which:  
101 unique CDR3  
4 unique J



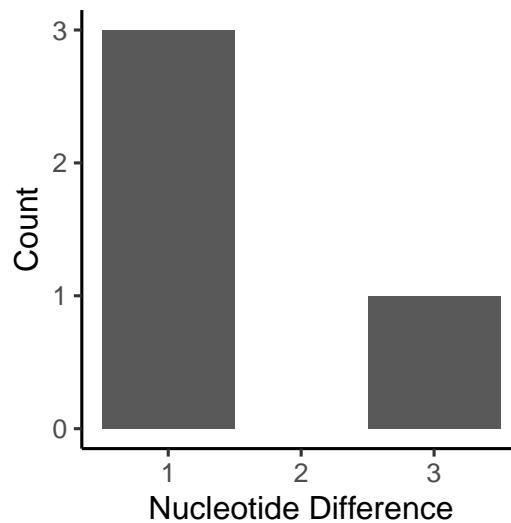
### IGHV5-10-1\*01\_03

611 sequences assigned  
169 (27.7%) exact matches, in which:  
150 unique CDR3  
6 unique J



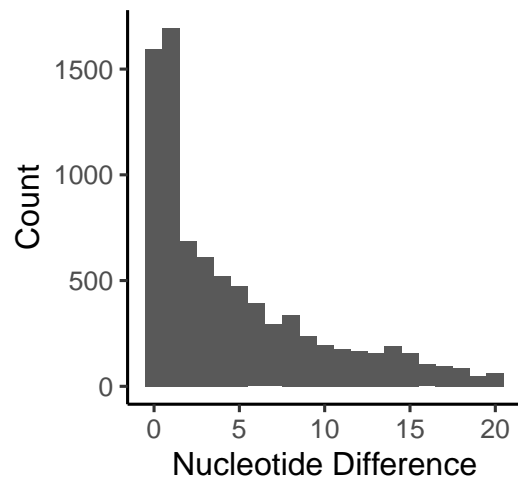
### IGHV7-4-1\*01

4 sequences assigned  
No exact matches.



### IGHV5-51\*01\_03

8784 sequences assigned  
1595 (18.2%) exact matches, in which:  
1286 unique CDR3  
6 unique J







Novel sequence(s)IGHV5-51\*07\_A128G are not listed in the genotype and will be ignored.

Warning – no inferred sequences found.

Novel sequence(s)IGHV5-51\*07\_A128G are not listed in the genotype and will be ignored.

Novel sequence(s)IGHV5-51\*07\_A128G are not listed in the genotype and will be ignored.

Novel sequence(s)IGHV7-4-1\*02\_T63C are not listed in the genotype and will be ignored.

Novel sequence(s)IGHV7-4-1\*02\_T63C are not listed in the genotype and will be ignored.

Warning – no inferred sequences found.

Warning:IGHV4-31\*02,IGHV4-31\*03\_04 have identical germline sequences.

Warning – no inferred sequences found.

Warning – no inferred sequences found.

Warning:IGHV4-31\*02,IGHV4-31\*03\_04 have identical germline sequences.

Novel sequence(s)IGHV4-59\*02\_G88AIGHV5-51\*07\_A128G are not listed in the genotype and will be ignored.

Novel sequence(s)IGHV4-59\*02\_G88AIGHV5-51\*07\_A128G are not listed in the genotype and will be ignored.