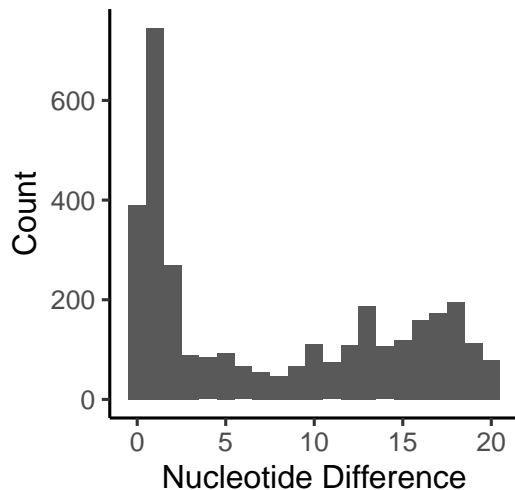


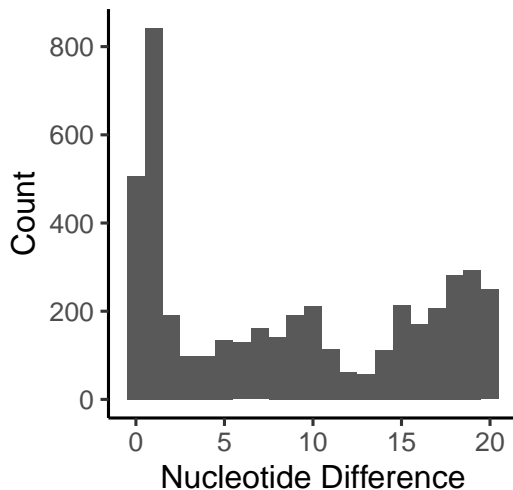
### IGHV1-2\*02

4636 sequences assigned  
390 (8.4%) exact matches, in which:  
308 unique CDR3  
6 unique J



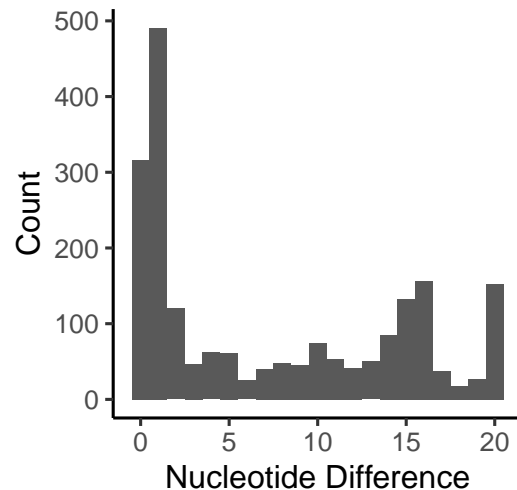
### IGHV1-18\*04

5673 sequences assigned  
507 (8.9%) exact matches, in which:  
378 unique CDR3  
5 unique J



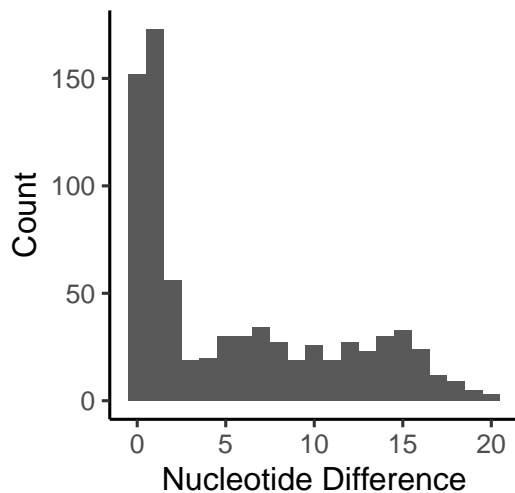
### IGHV1-46\*01

2816 sequences assigned  
316 (11.2%) exact matches, in which:  
238 unique CDR3  
6 unique J



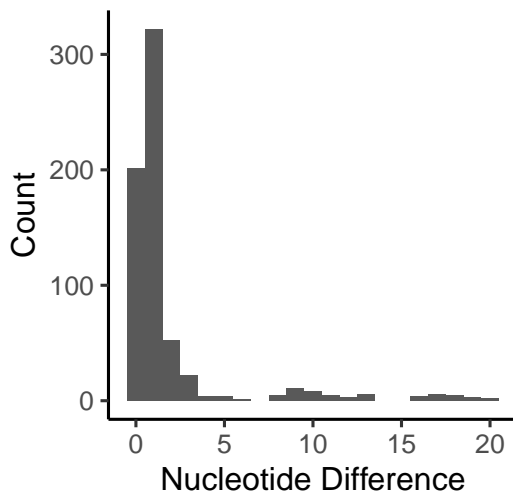
### IGHV1-3\*01\_05

821 sequences assigned  
152 (18.5%) exact matches, in which:  
122 unique CDR3  
6 unique J



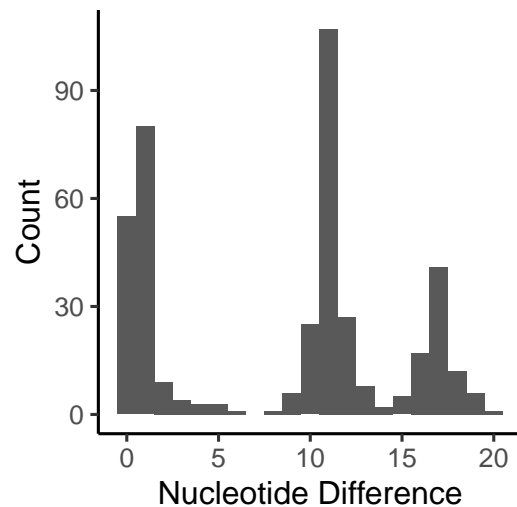
### IGHV1-24\*01

695 sequences assigned  
201 (28.9%) exact matches, in which:  
161 unique CDR3  
6 unique J



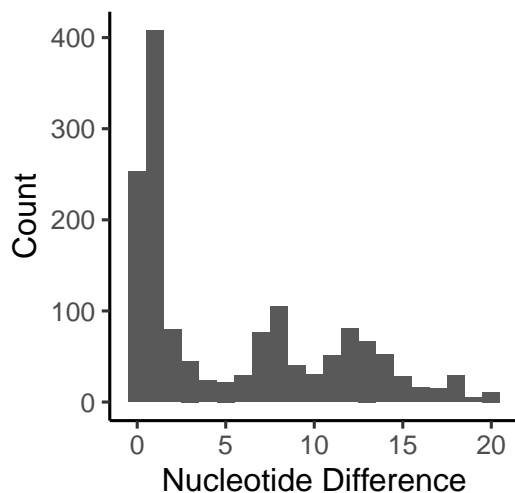
### IGHV1-58\*01\_03

500 sequences assigned  
55 (11%) exact matches, in which:  
39 unique CDR3  
4 unique J



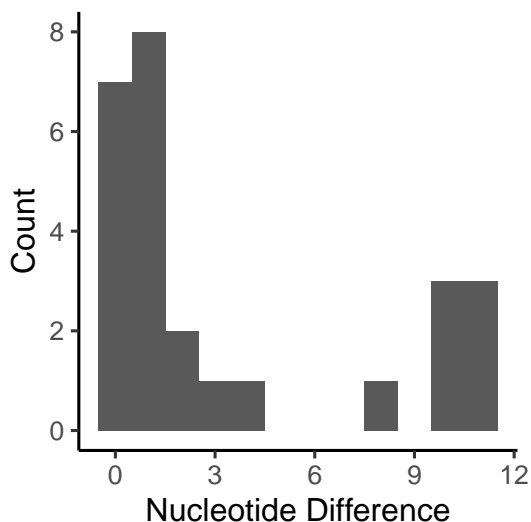
### IGHV1-8\*01

1527 sequences assigned  
253 (16.6%) exact matches, in which:  
206 unique CDR3  
6 unique J



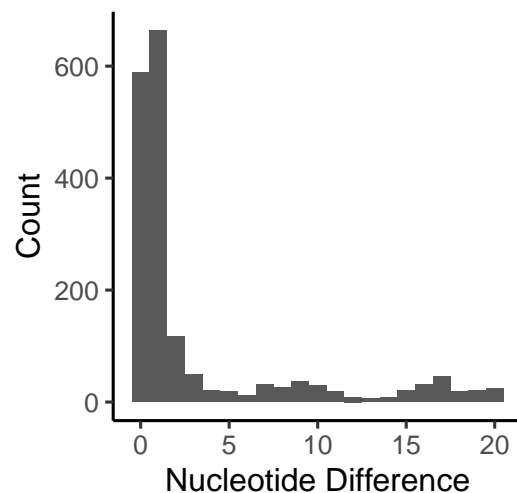
### IGHV1-45\*02

102 sequences assigned  
7 (6.9%) exact matches, in which:  
6 unique CDR3  
3 unique J



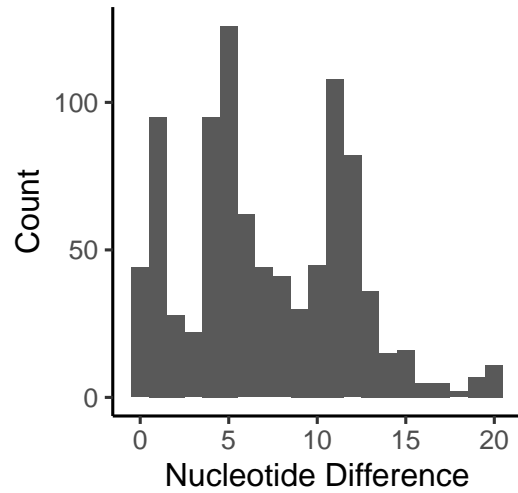
### IGHV1-69\*06\_14

2941 sequences assigned  
589 (20%) exact matches, in which:  
515 unique CDR3  
6 unique J



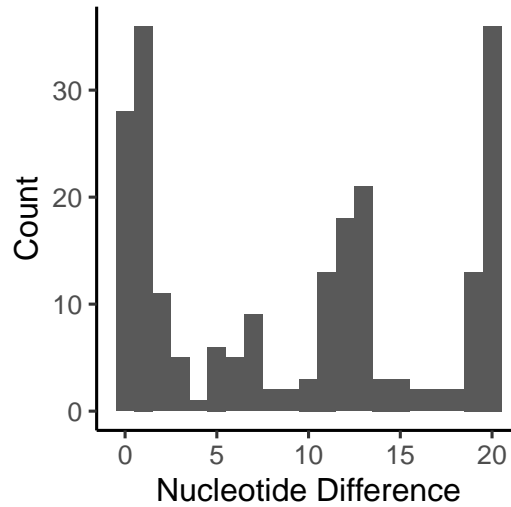
### IGHV2-5\*01

953 sequences assigned  
44 (4.6%) exact matches, in which:  
34 unique CDR3  
4 unique J



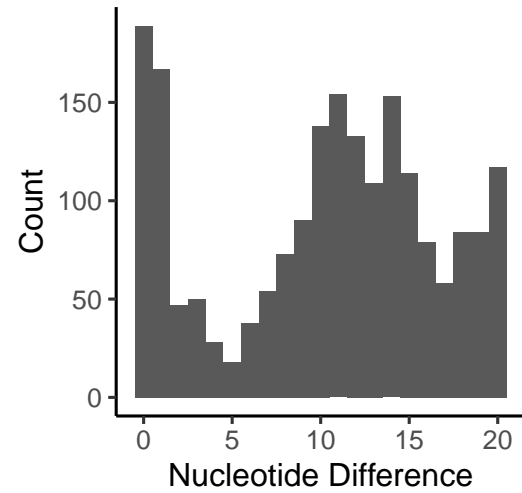
### IGHV2-70\*01

286 sequences assigned  
28 (9.8%) exact matches, in which:  
21 unique CDR3  
4 unique J



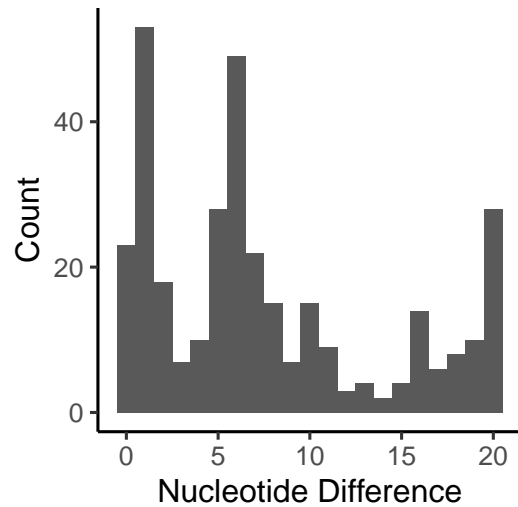
### IGHV3-7\*03

2532 sequences assigned  
189 (7.5%) exact matches, in which:  
114 unique CDR3  
6 unique J



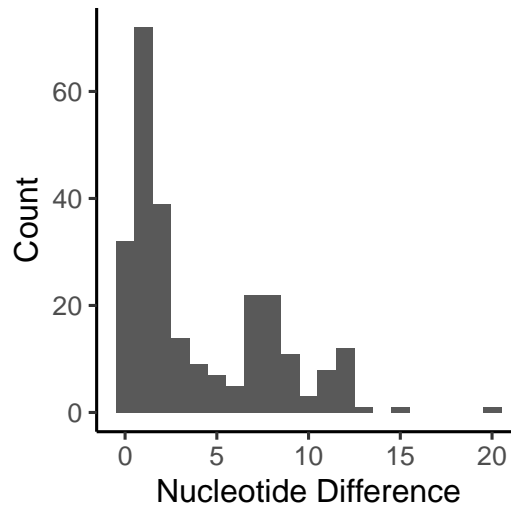
### IGHV2-5\*02

513 sequences assigned  
23 (4.5%) exact matches, in which:  
17 unique CDR3  
4 unique J



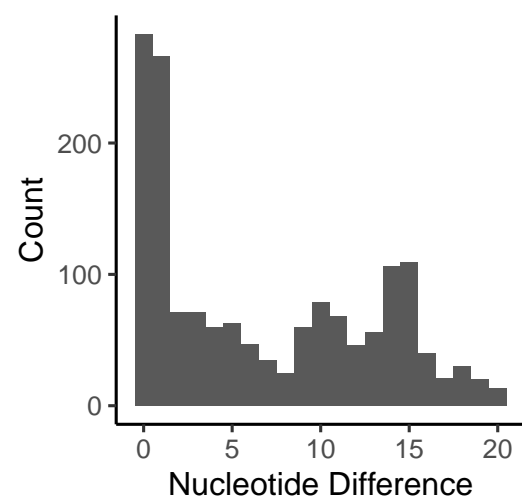
### IGHV2-70\*11\_15

262 sequences assigned  
32 (12.2%) exact matches, in which:  
27 unique CDR3  
5 unique J



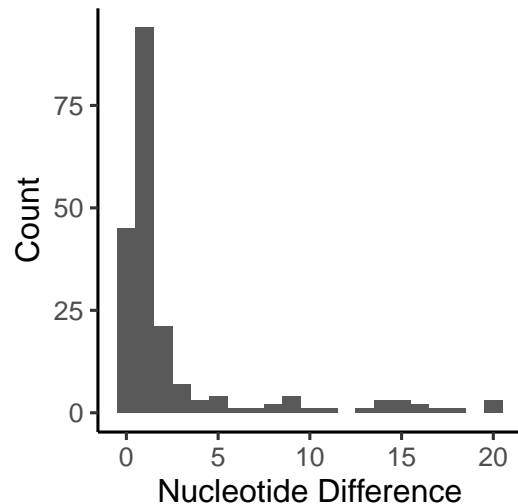
### IGHV3-9\*01

1818 sequences assigned  
283 (15.6%) exact matches, in which:  
161 unique CDR3  
6 unique J



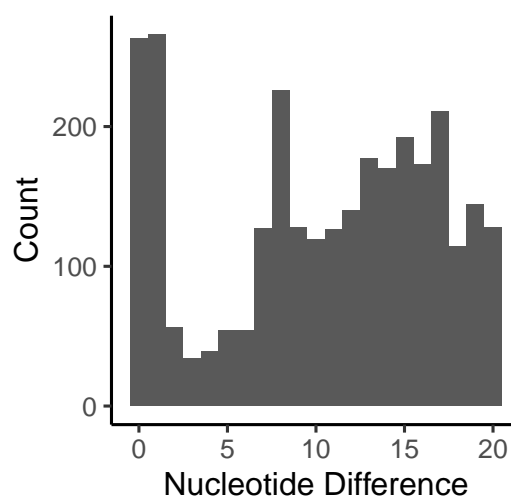
### IGHV2-26\*01

276 sequences assigned  
45 (16.3%) exact matches, in which:  
35 unique CDR3  
5 unique J



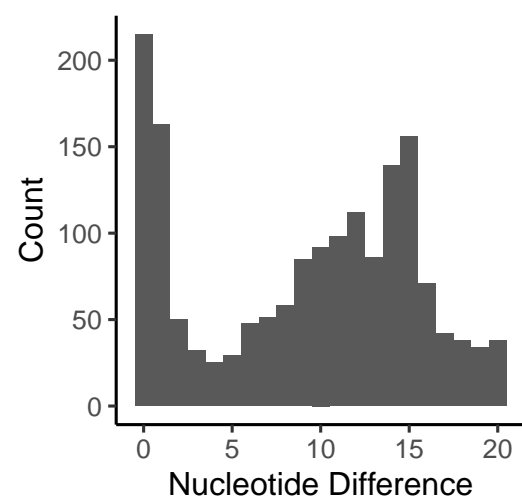
### IGHV3-7\*01

3652 sequences assigned  
263 (7.2%) exact matches, in which:  
160 unique CDR3  
5 unique J



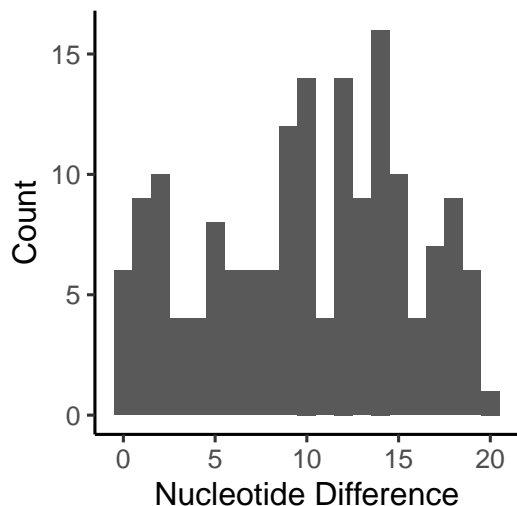
### IGHV3-11\*01

2571 sequences assigned  
215 (8.4%) exact matches, in which:  
126 unique CDR3  
6 unique J



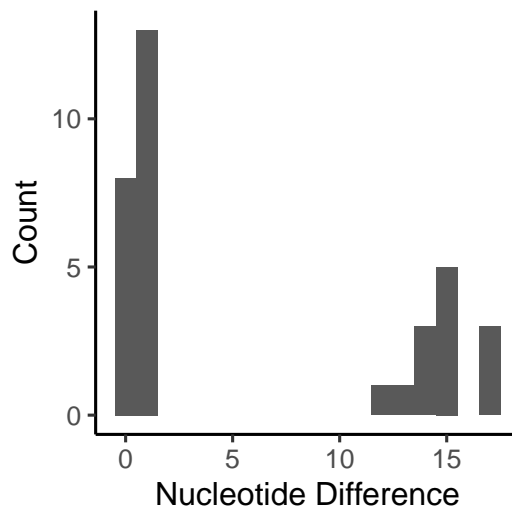
### IGHV3-11\*04

189 sequences assigned  
6 (3.2%) exact matches, in which:  
6 unique CDR3  
4 unique J



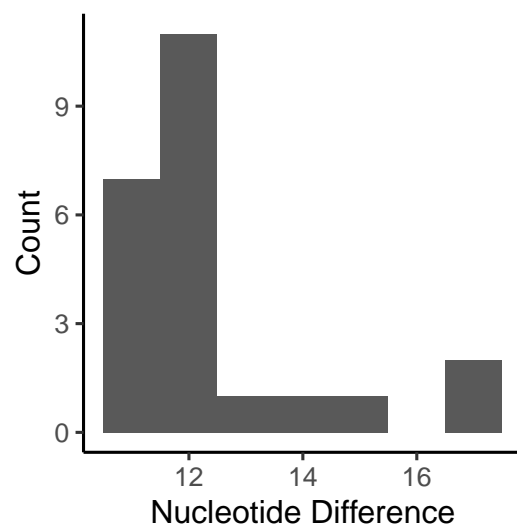
### IGHV3-13\*05

37 sequences assigned  
8 (21.6%) exact matches, in which:  
5 unique CDR3  
3 unique J



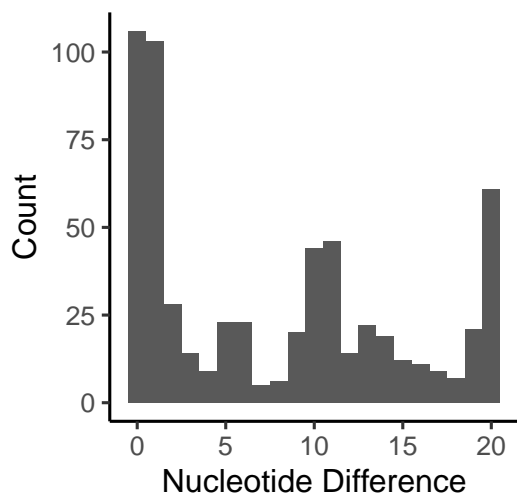
### IGHV3-20\*03\_04

26 sequences assigned  
No exact matches.



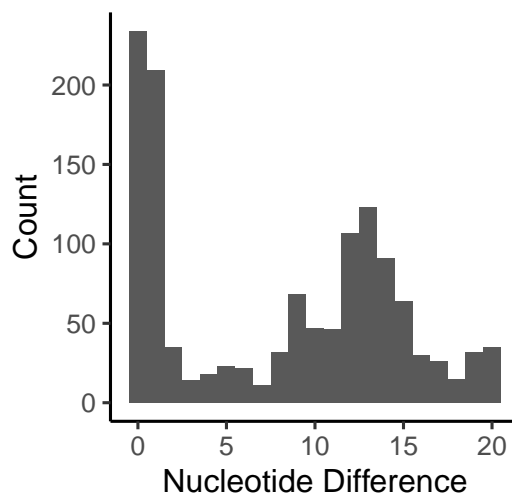
### IGHV3-11\*06

737 sequences assigned  
106 (14.4%) exact matches, in which:  
62 unique CDR3  
5 unique J



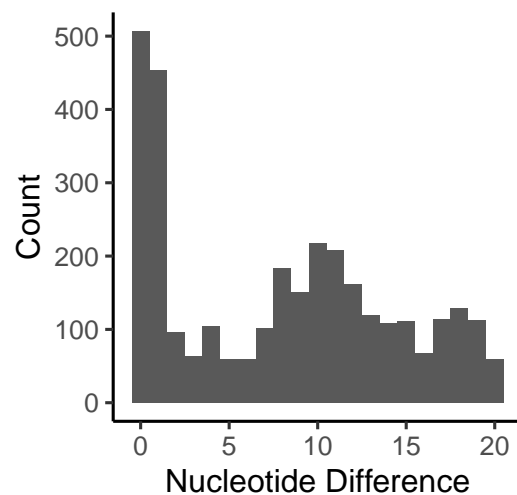
### IGHV3-15\*01\_02

1765 sequences assigned  
234 (13.3%) exact matches, in which:  
129 unique CDR3  
6 unique J



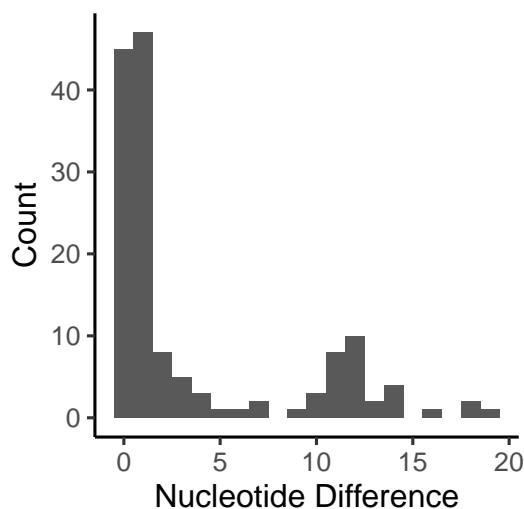
### IGHV3-21\*01\_02

3807 sequences assigned  
507 (13.3%) exact matches, in which:  
296 unique CDR3  
6 unique J



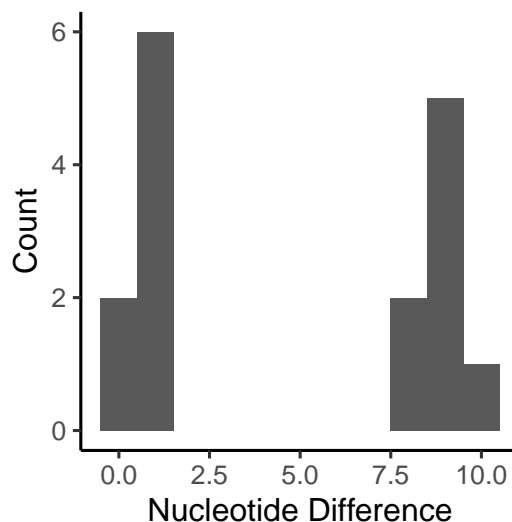
### IGHV3-13\*01

148 sequences assigned  
45 (30.4%) exact matches, in which:  
26 unique CDR3  
5 unique J



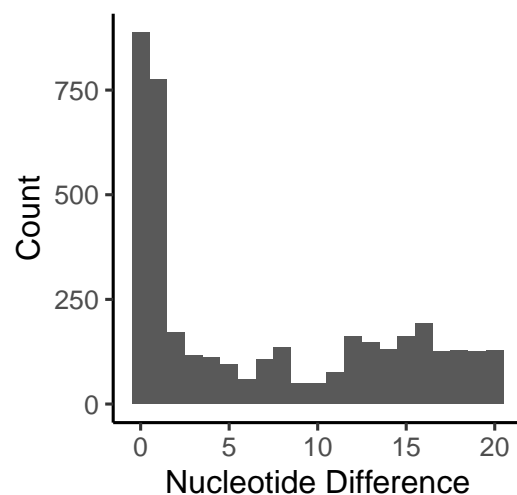
### IGHV3-20\*01\_02

16 sequences assigned  
2 (12.5%) exact matches, in which:  
1 unique CDR3  
1 unique J



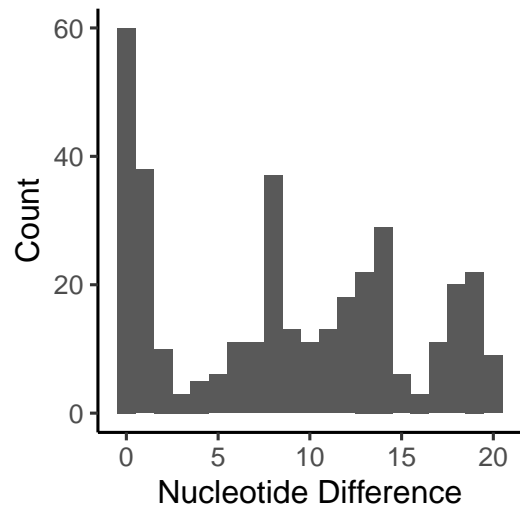
### IGHV3-30-3\*01

5046 sequences assigned  
888 (17.6%) exact matches, in which:  
518 unique CDR3  
6 unique J



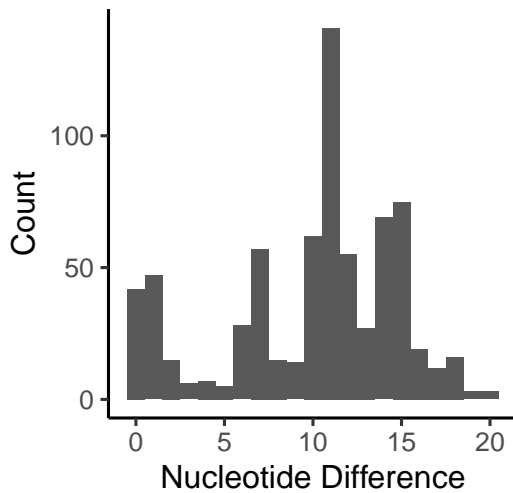
### IGHV3-30\*03

485 sequences assigned  
60 (12.4%) exact matches, in which:  
54 unique CDR3  
4 unique J



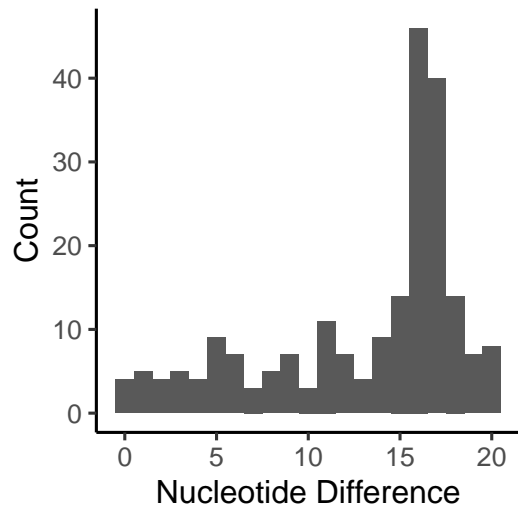
### IGHV3-43\*01

865 sequences assigned  
42 (4.9%) exact matches, in which:  
24 unique CDR3  
4 unique J



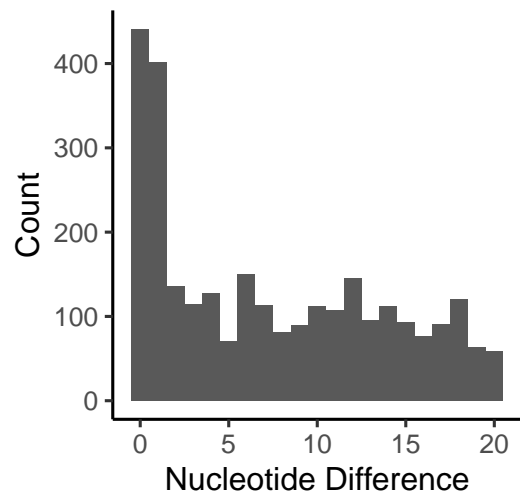
### IGHV3-48\*04

266 sequences assigned  
4 (1.5%) exact matches, in which:  
3 unique CDR3  
2 unique J



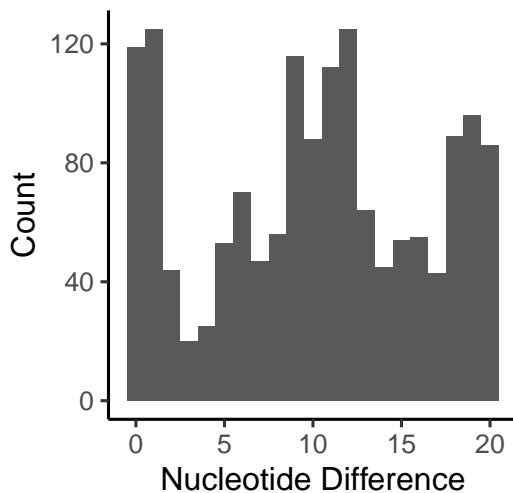
### IGHV3-33\*01

3607 sequences assigned  
441 (12.2%) exact matches, in which:  
256 unique CDR3  
6 unique J



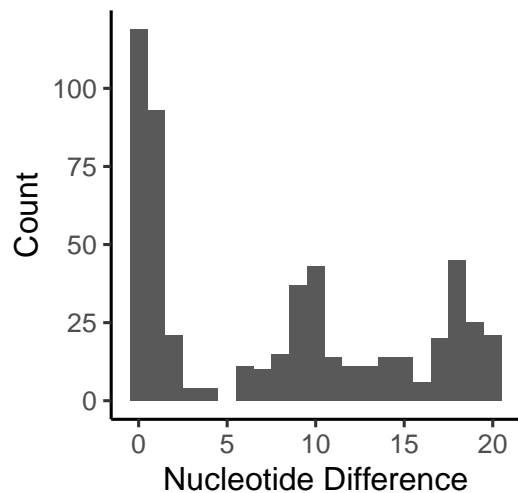
### IGHV3-48\*01

1805 sequences assigned  
119 (6.6%) exact matches, in which:  
66 unique CDR3  
6 unique J



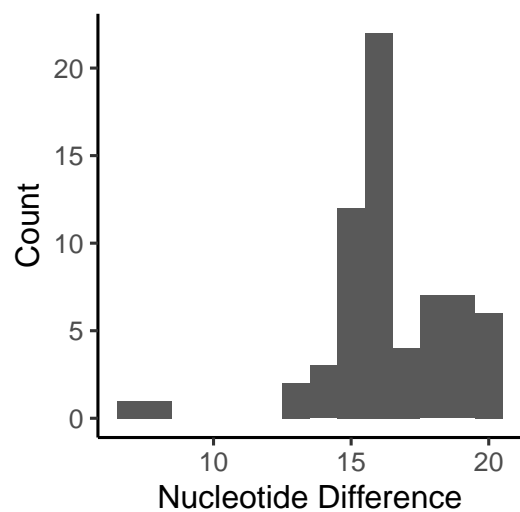
### IGHV3-49\*03\_05

640 sequences assigned  
119 (18.6%) exact matches, in which:  
63 unique CDR3  
5 unique J



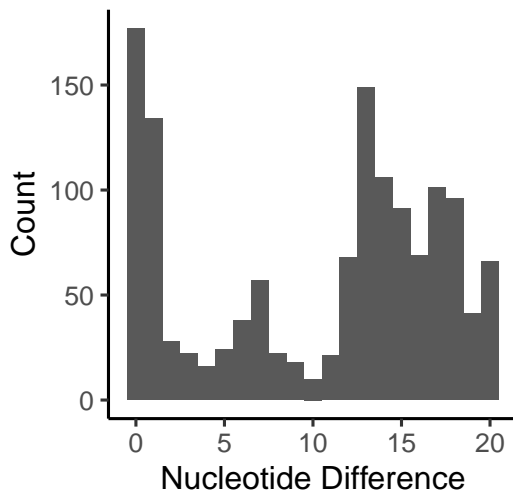
### IGHV3-33\*05

82 sequences assigned  
No exact matches.



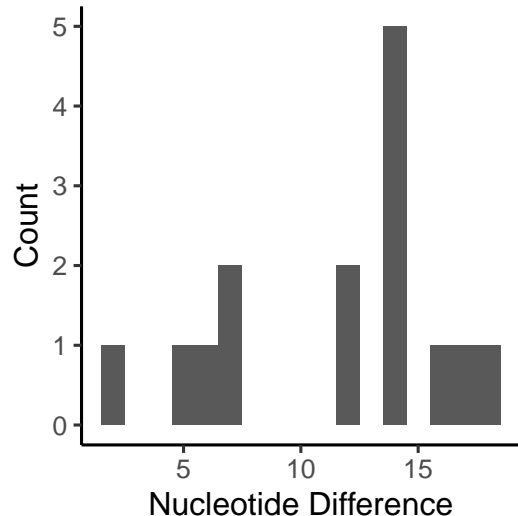
### IGHV3-48\*02

1867 sequences assigned  
177 (9.5%) exact matches, in which:  
98 unique CDR3  
4 unique J



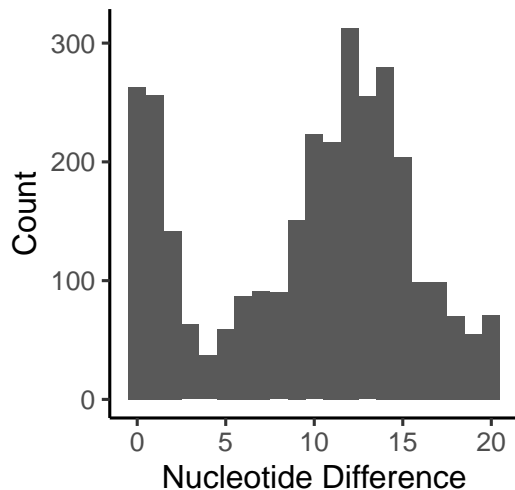
### IGHV3-53\*05

19 sequences assigned  
No exact matches.



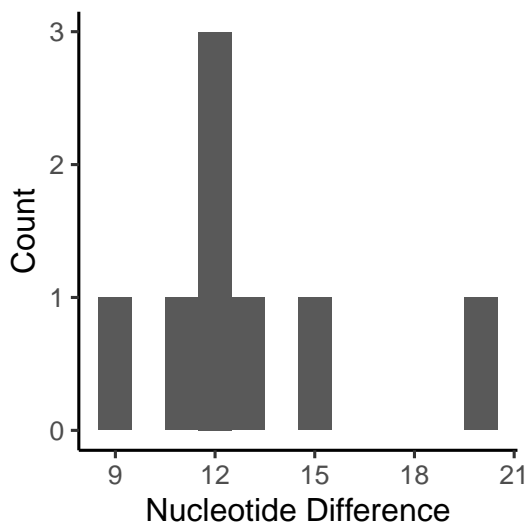
### IGHV3-53\*01\_02

3779 sequences assigned  
263 (7%) exact matches, in which:  
161 unique CDR3  
6 unique J



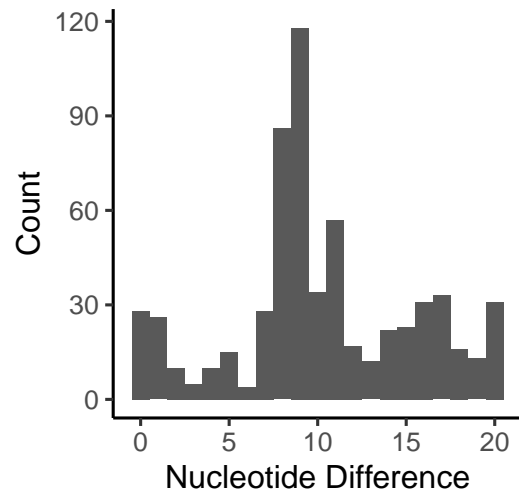
### IGHV3-66\*02

11 sequences assigned  
No exact matches.



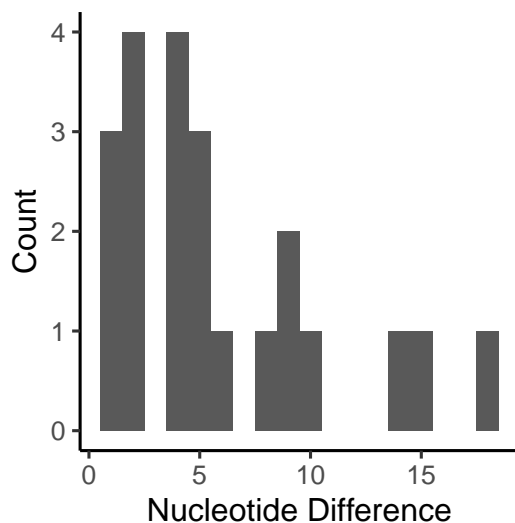
### IGHV3-72\*01

688 sequences assigned  
28 (4.1%) exact matches, in which:  
18 unique CDR3  
3 unique J



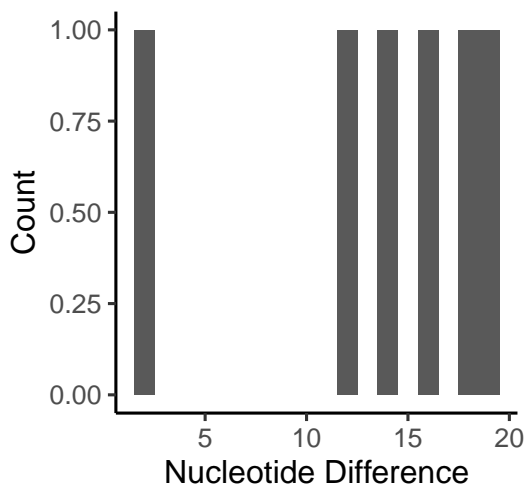
### IGHV3-64\*04

27 sequences assigned  
No exact matches.



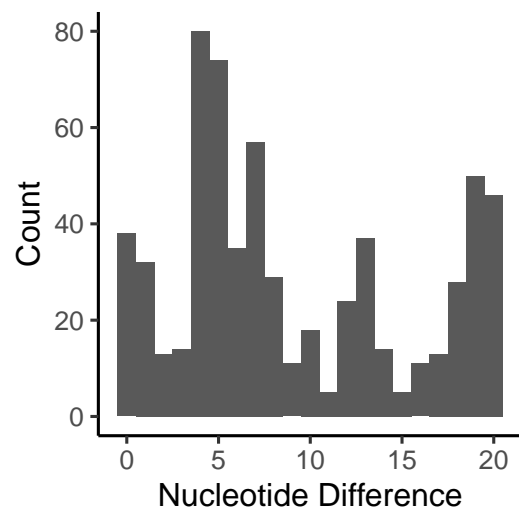
### IGHV3-66\*03

9 sequences assigned  
No exact matches.



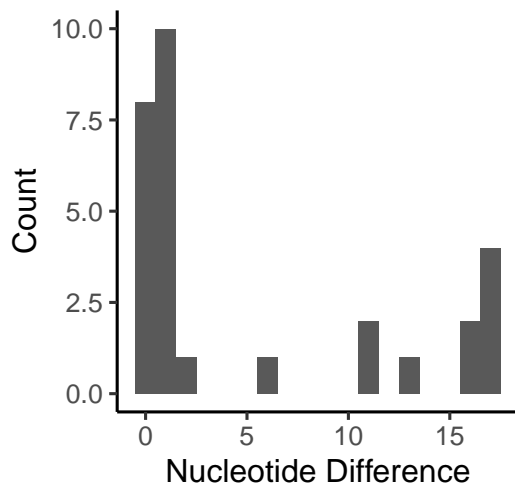
### IGHV3-73\*01\_02

756 sequences assigned  
38 (5%) exact matches, in which:  
19 unique CDR3  
3 unique J



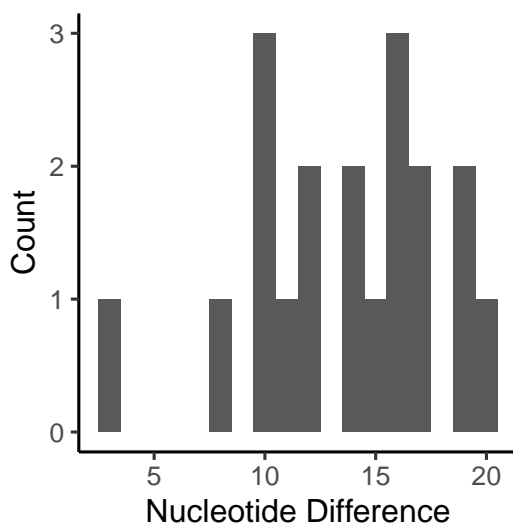
### IGHV3-64\*02\_07

29 sequences assigned  
8 (27.6%) exact matches, in which:  
6 unique CDR3  
2 unique J



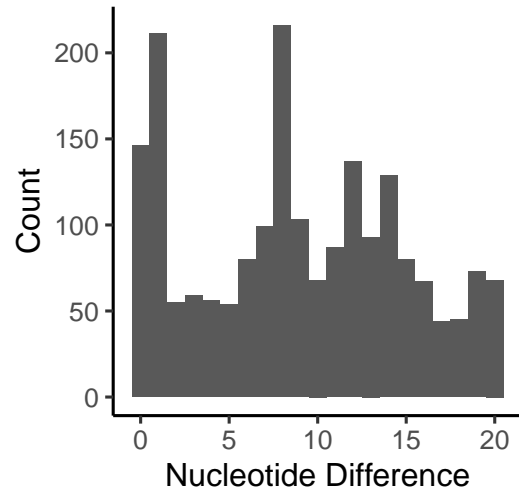
### IGHV3-69-1\*01

101 sequences assigned  
No exact matches.



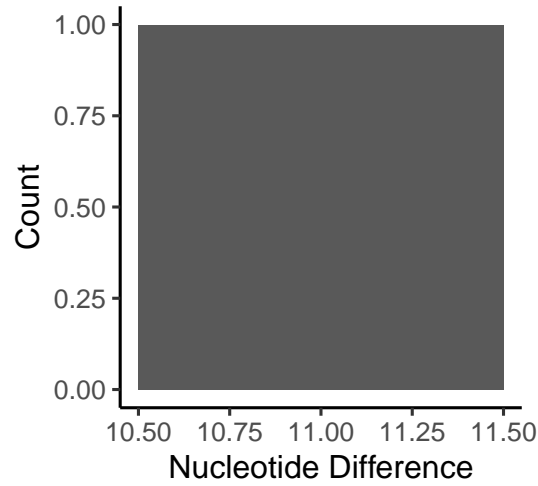
### IGHV3-74\*01\_02

2585 sequences assigned  
146 (5.6%) exact matches, in which:  
83 unique CDR3  
5 unique J



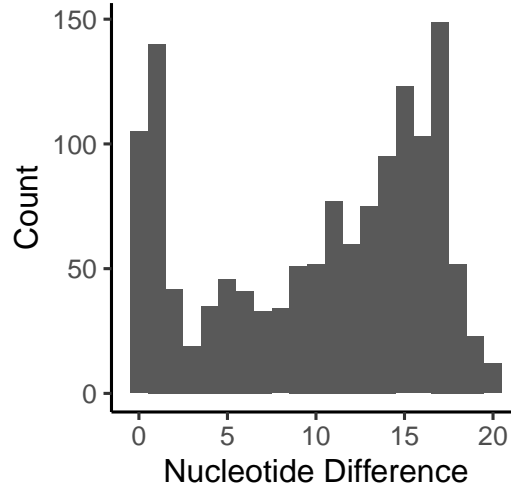
### IGHV3-43D\*04

5 sequences assigned  
No exact matches.



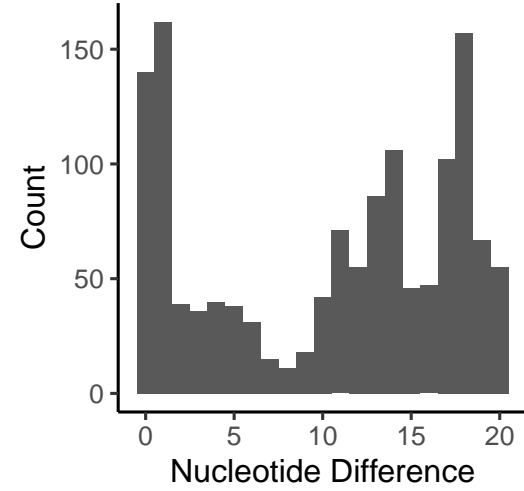
### IGHV4-4\*07

1594 sequences assigned  
105 (6.6%) exact matches, in which:  
76 unique CDR3  
6 unique J



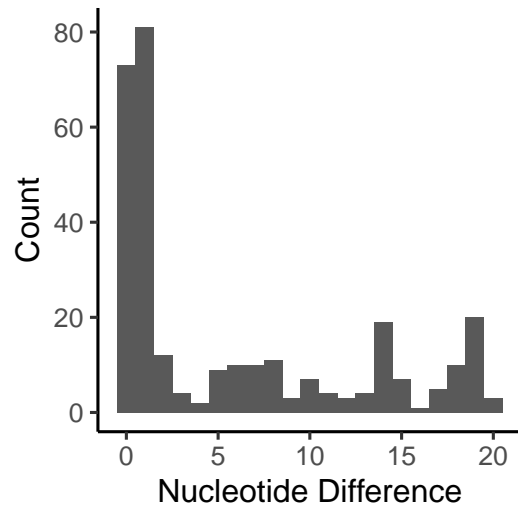
### IGHV4-30-4\*01

2440 sequences assigned  
140 (5.7%) exact matches, in which:  
111 unique CDR3  
5 unique J



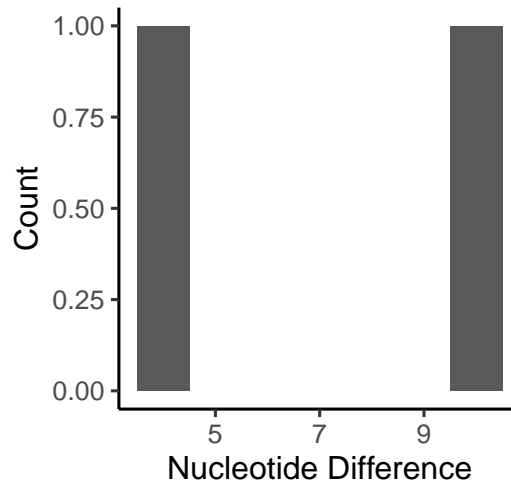
### IGHV3-64D\*06

488 sequences assigned  
73 (15%) exact matches, in which:  
36 unique CDR3  
4 unique J



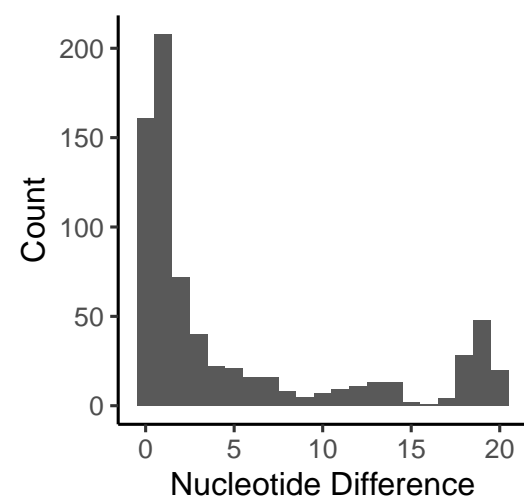
### IGHV4-28\*03

15 sequences assigned  
No exact matches.



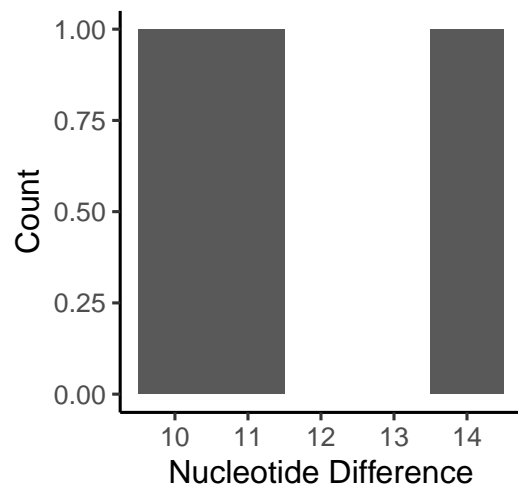
### IGHV4-30-2\*01

867 sequences assigned  
161 (18.6%) exact matches, in which:  
114 unique CDR3  
5 unique J



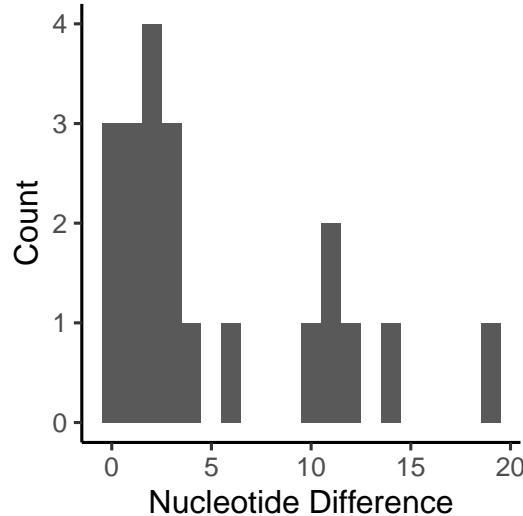
### IGHV3-NL1\*01

9 sequences assigned  
No exact matches.



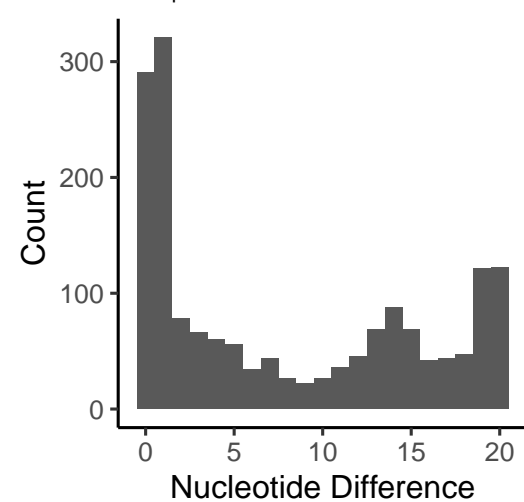
### IGHV4-28\*01\_07

21 sequences assigned  
3 (14.3%) exact matches, in which:  
2 unique CDR3  
1 unique J



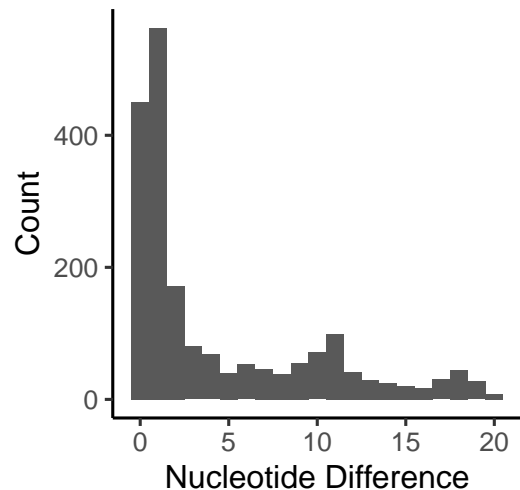
### IGHV4-31\*03\_04

2334 sequences assigned  
291 (12.5%) exact matches, in which:  
245 unique CDR3  
6 unique J



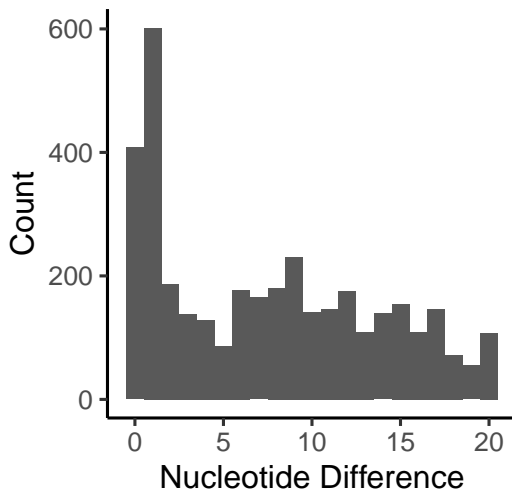
### IGHV4-34\*01\_02

2378 sequences assigned  
451 (19%) exact matches, in which:  
319 unique CDR3  
5 unique J



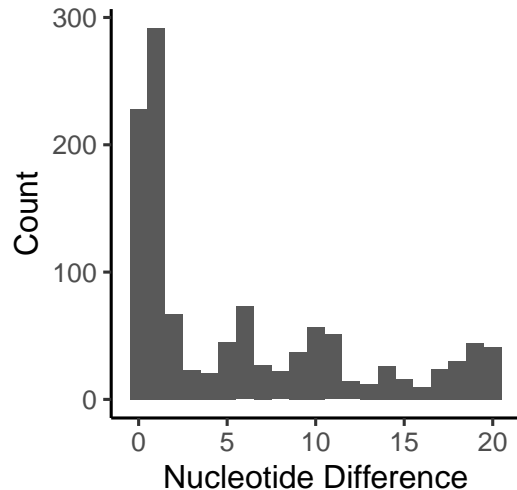
### IGHV4-59\*01\_07

5705 sequences assigned  
408 (7.2%) exact matches, in which:  
319 unique CDR3  
6 unique J



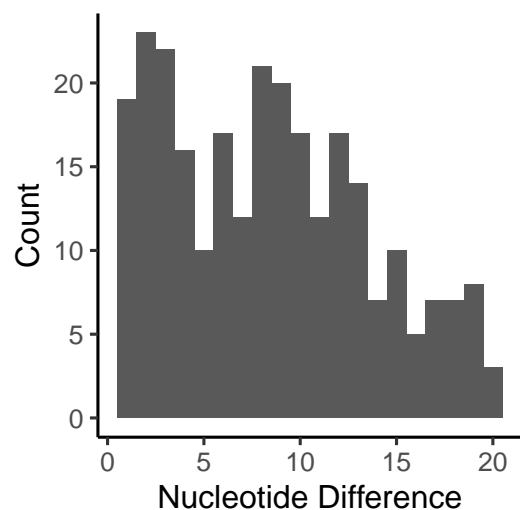
### IGHV5-10-1\*01\_03

1333 sequences assigned  
228 (17.1%) exact matches, in which:  
148 unique CDR3  
5 unique J



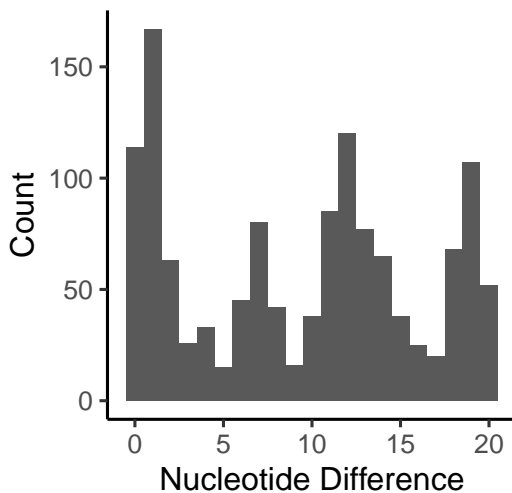
### IGHV4-39\*07

290 sequences assigned  
No exact matches.



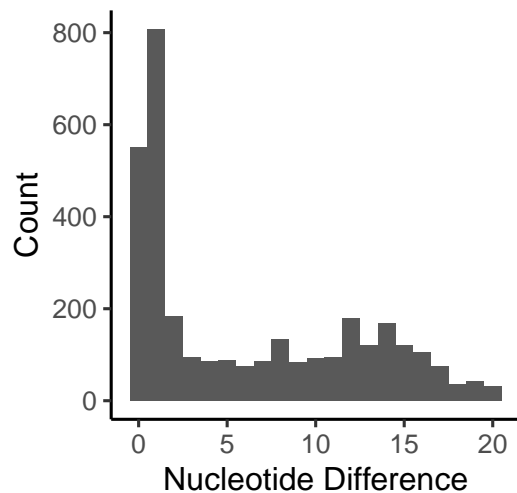
### IGHV4-61\*01

1762 sequences assigned  
114 (6.5%) exact matches, in which:  
96 unique CDR3  
6 unique J



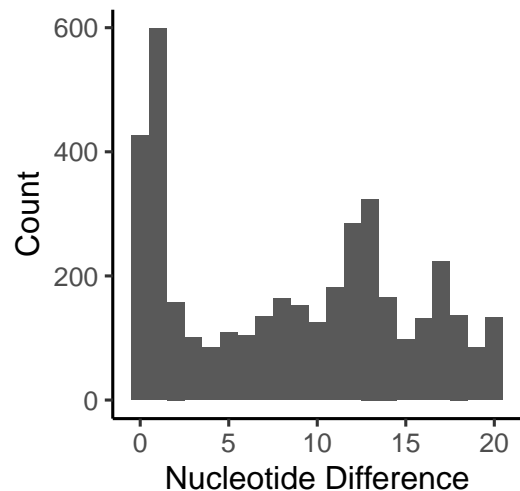
### IGHV5-51\*01\_03

3910 sequences assigned  
551 (14.1%) exact matches, in which:  
389 unique CDR3  
6 unique J



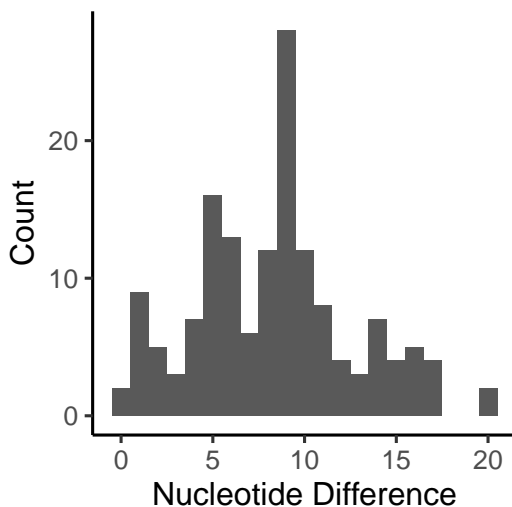
### IGHV4-39\*01\_05

5358 sequences assigned  
426 (8%) exact matches, in which:  
316 unique CDR3  
6 unique J



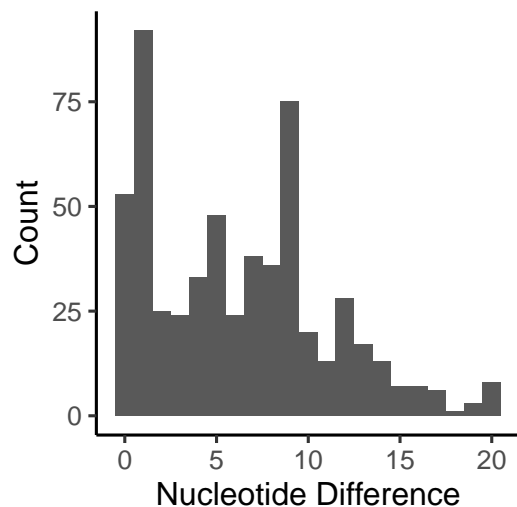
### IGHV4-61\*08

494 sequences assigned  
2 (0.4%) exact matches, in which:  
2 unique CDR3  
2 unique J



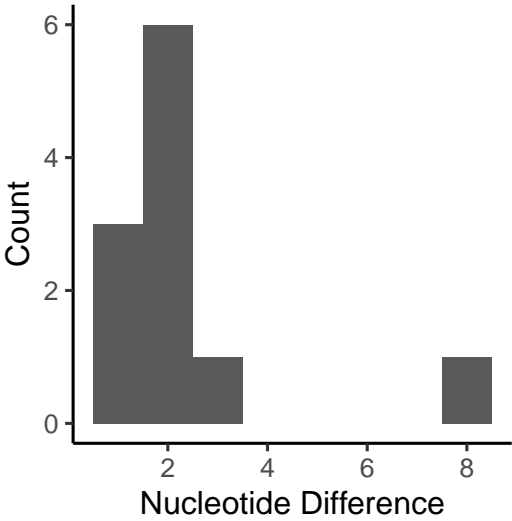
### IGHV6-1\*01\_02

749 sequences assigned  
53 (7.1%) exact matches, in which:  
39 unique CDR3  
5 unique J



# IGHV7-4-1\*01

11 sequences assigned  
No exact matches.







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.

Novel sequence(s)IGHV4–59\*02\_G88A are not listed in the genotype and will be ignored.