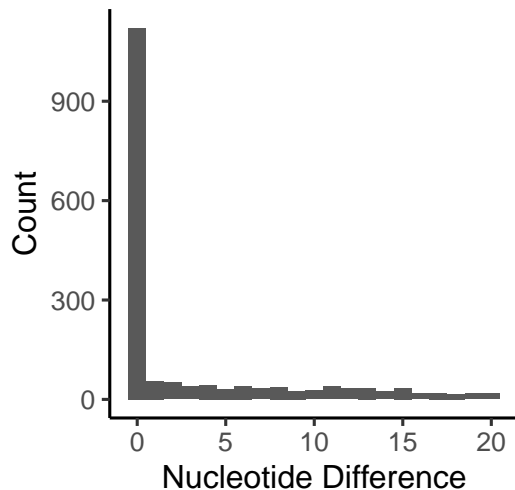


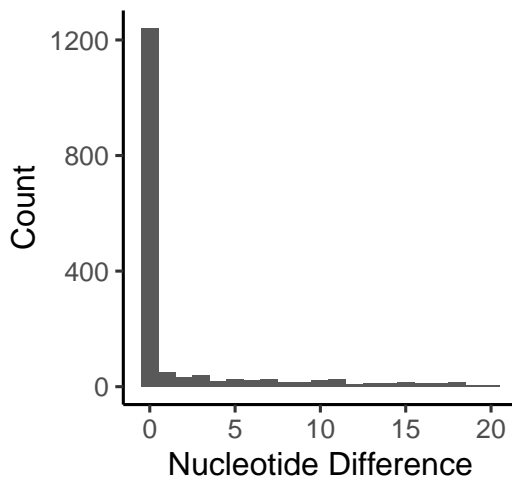
### IGHV1-2\*02

1875 sequences assigned  
1122 (59.8%) exact matches, in which:  
1120 unique CDR3  
6 unique J



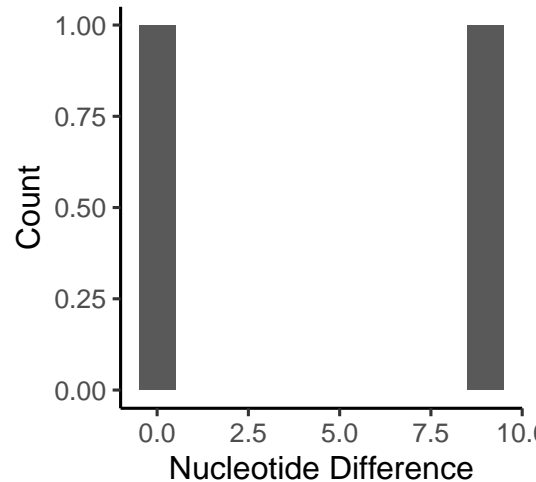
### IGHV1-8\*01

1675 sequences assigned  
1240 (74%) exact matches, in which:  
1239 unique CDR3  
6 unique J



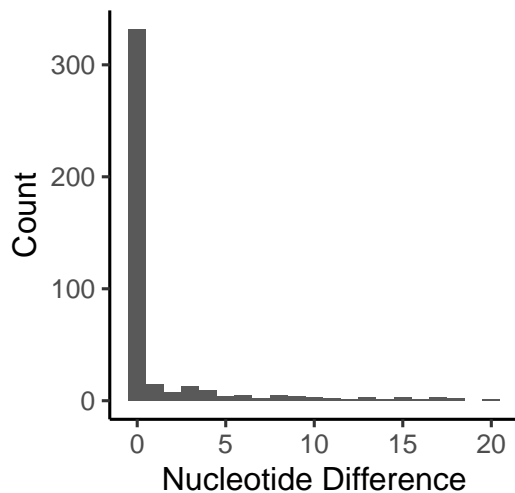
### IGHV1-45\*02

2 sequences assigned  
1 (50%) exact matches, in which:  
1 unique CDR3  
1 unique J



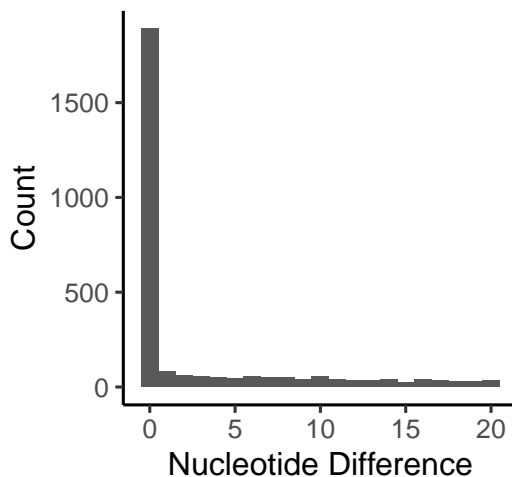
### IGHV1-2\*04

420 sequences assigned  
332 (79%) exact matches, in which:  
332 unique CDR3  
6 unique J



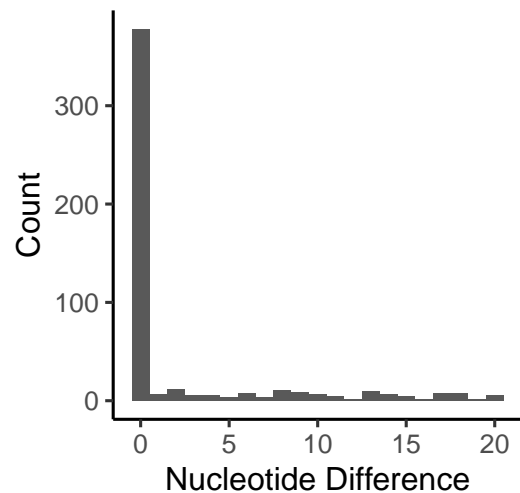
### IGHV1-18\*01

2979 sequences assigned  
1890 (63.4%) exact matches, in which:  
1888 unique CDR3  
6 unique J



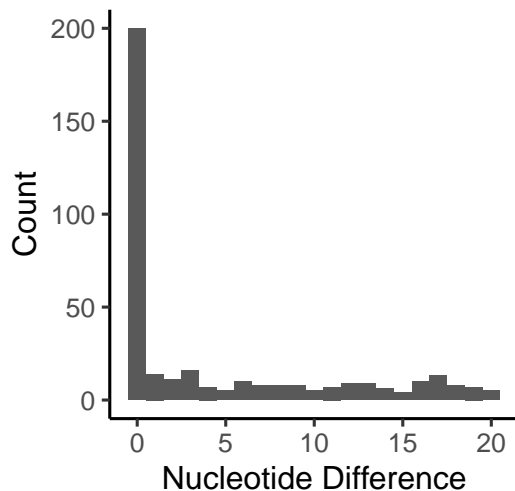
### IGHV1-46\*01

541 sequences assigned  
378 (69.9%) exact matches, in which:  
378 unique CDR3  
6 unique J



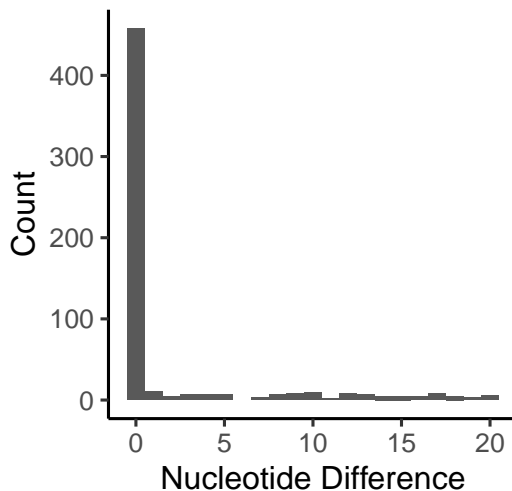
### IGHV1-3\*01\_05

417 sequences assigned  
200 (48%) exact matches, in which:  
200 unique CDR3  
6 unique J



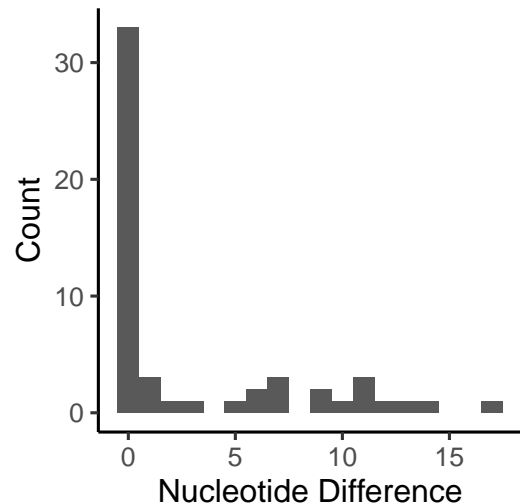
### IGHV1-24\*01

605 sequences assigned  
458 (75.7%) exact matches, in which:  
458 unique CDR3  
6 unique J



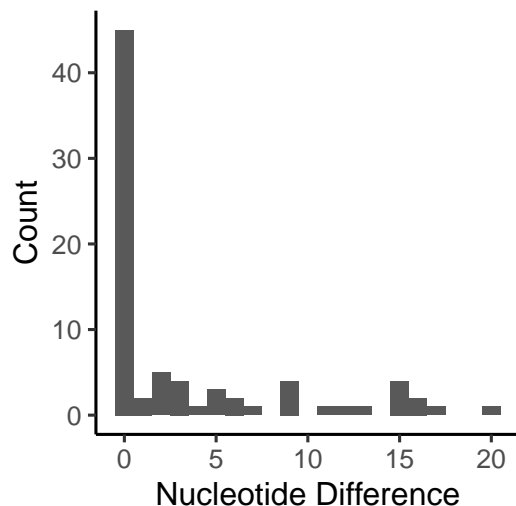
### IGHV1-58\*02

57 sequences assigned  
33 (57.9%) exact matches, in which:  
33 unique CDR3  
5 unique J



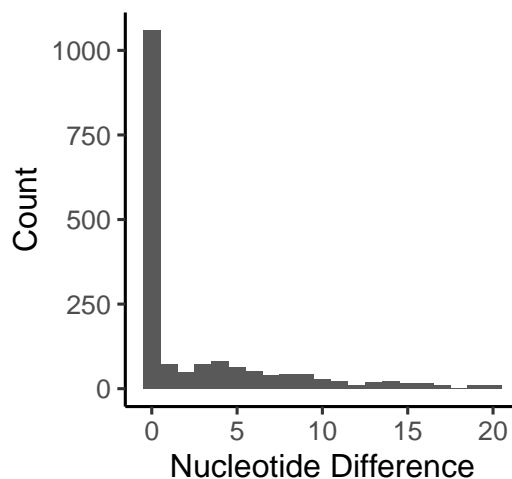
### IGHV1-58\*01\_03

88 sequences assigned  
45 (51.1%) exact matches, in which:  
45 unique CDR3  
5 unique J



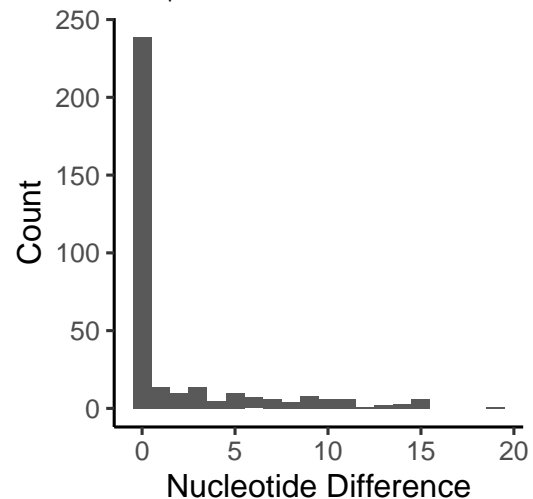
### IGHV2-5\*02

1779 sequences assigned  
1059 (59.5%) exact matches, in which:  
1056 unique CDR3  
6 unique J



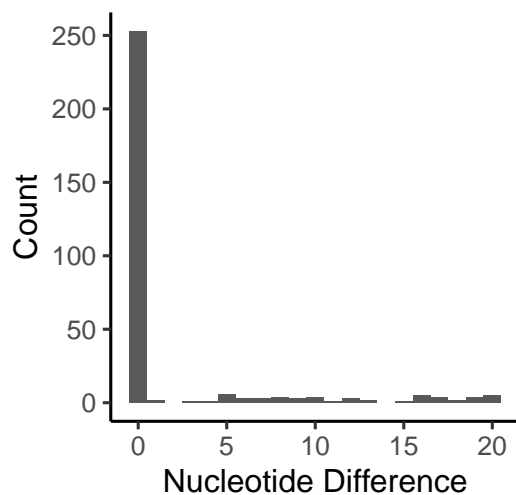
### IGHV2-70\*11\_15

347 sequences assigned  
239 (68.9%) exact matches, in which:  
239 unique CDR3  
5 unique J



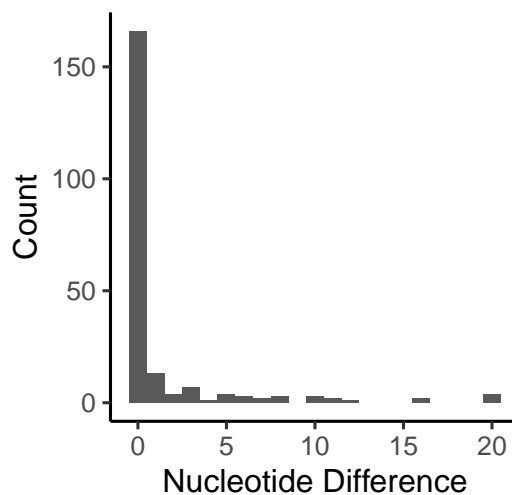
### IGHV1-69\*04\_09

335 sequences assigned  
253 (75.5%) exact matches, in which:  
253 unique CDR3  
6 unique J



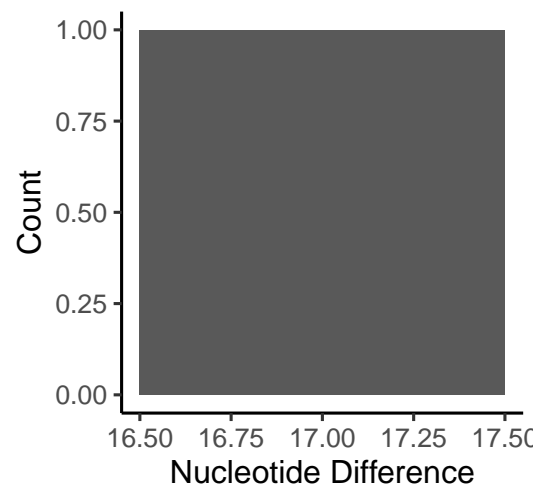
### IGHV2-26\*01

221 sequences assigned  
166 (75.1%) exact matches, in which:  
166 unique CDR3  
6 unique J



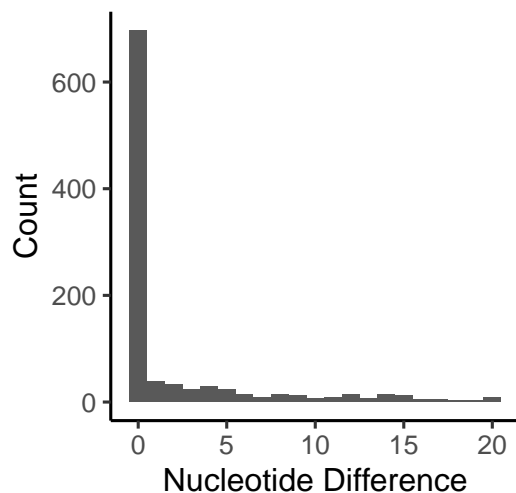
### IGHV2-70D\*04

1 sequences assigned  
No exact matches.



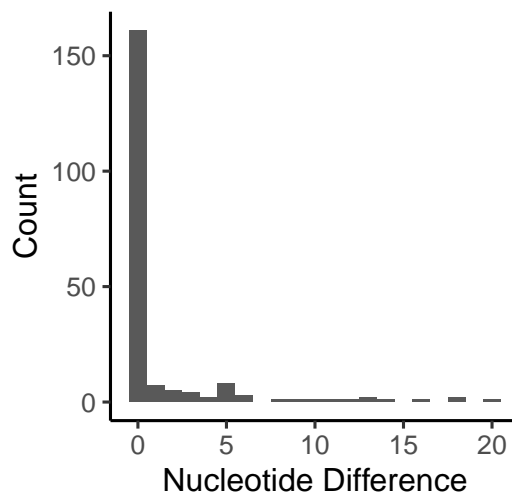
### IGHV2-5\*01

1006 sequences assigned  
697 (69.3%) exact matches, in which:  
695 unique CDR3  
6 unique J



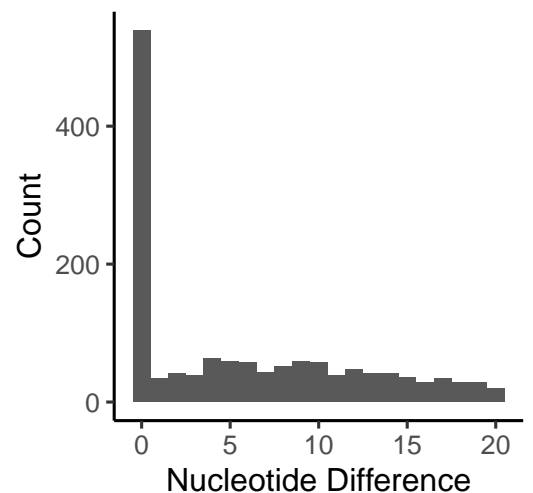
### IGHV2-70\*01

207 sequences assigned  
161 (77.8%) exact matches, in which:  
160 unique CDR3  
6 unique J



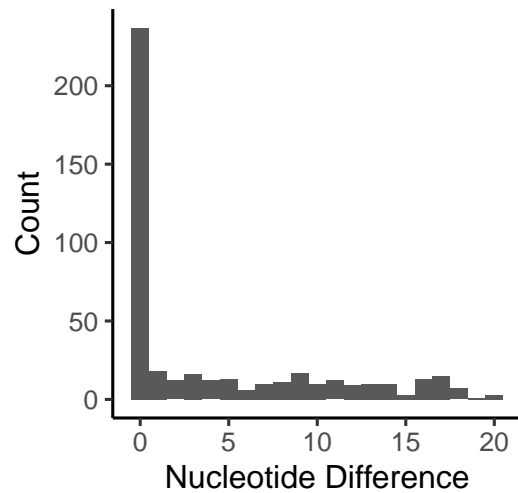
### IGHV3-7\*01

1513 sequences assigned  
539 (35.6%) exact matches, in which:  
536 unique CDR3  
6 unique J



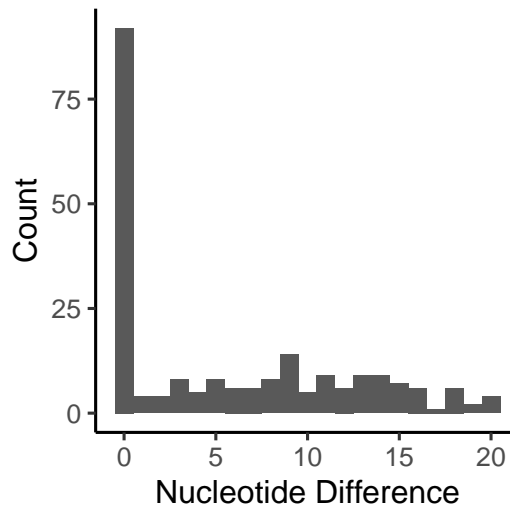
### IGHV3-9\*01

481 sequences assigned  
237 (49.3%) exact matches, in which:  
236 unique CDR3  
6 unique J



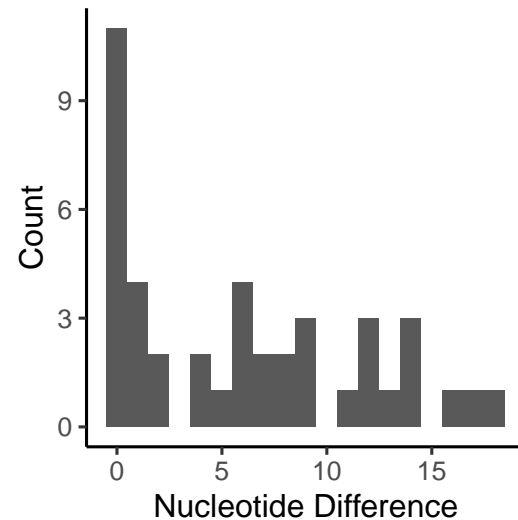
### IGHV3-15\*07

255 sequences assigned  
92 (36.1%) exact matches, in which:  
92 unique CDR3  
5 unique J



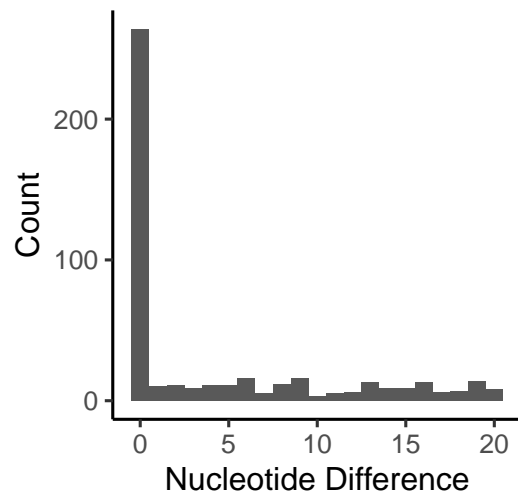
### IGHV3-20\*03\_04

44 sequences assigned  
11 (25%) exact matches, in which:  
11 unique CDR3  
4 unique J



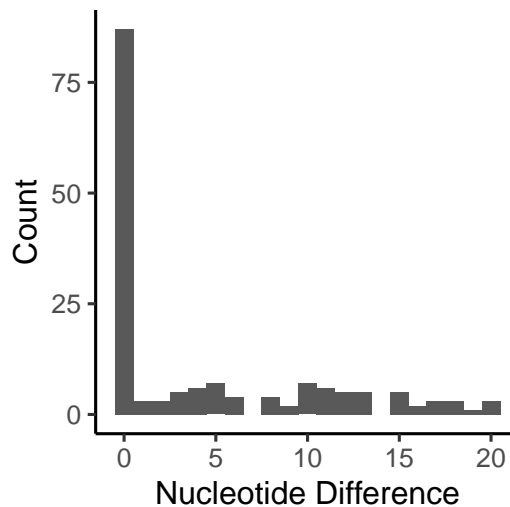
### IGHV3-11\*01

510 sequences assigned  
264 (51.8%) exact matches, in which:  
264 unique CDR3  
6 unique J



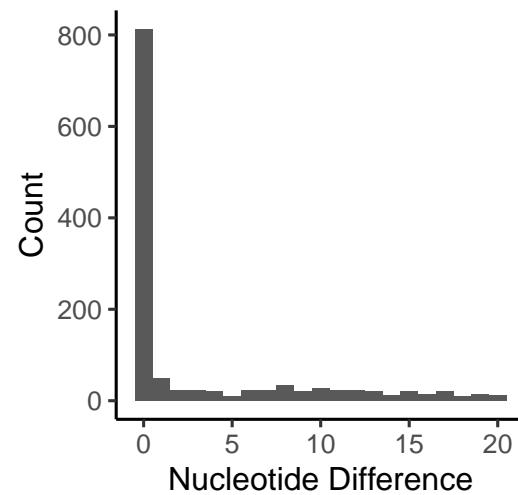
### IGHV3-15\*01\_02

182 sequences assigned  
87 (47.8%) exact matches, in which:  
87 unique CDR3  
5 unique J



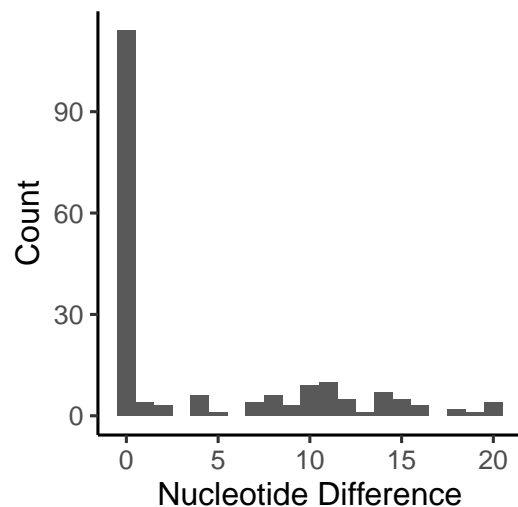
### IGHV3-21\*01\_02

1323 sequences assigned  
813 (61.5%) exact matches, in which:  
812 unique CDR3  
6 unique J



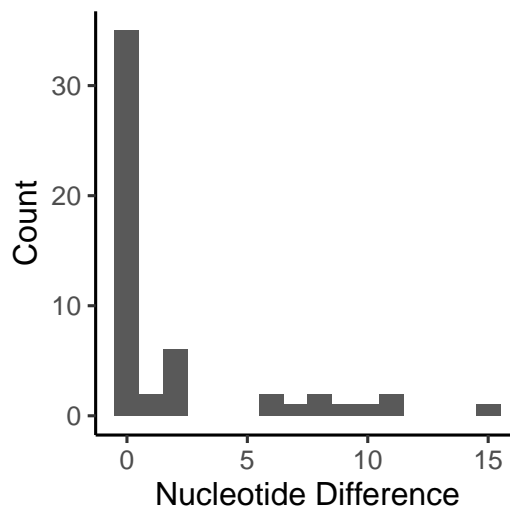
### IGHV3-13\*01

206 sequences assigned  
114 (55.3%) exact matches, in which:  
114 unique CDR3  
5 unique J



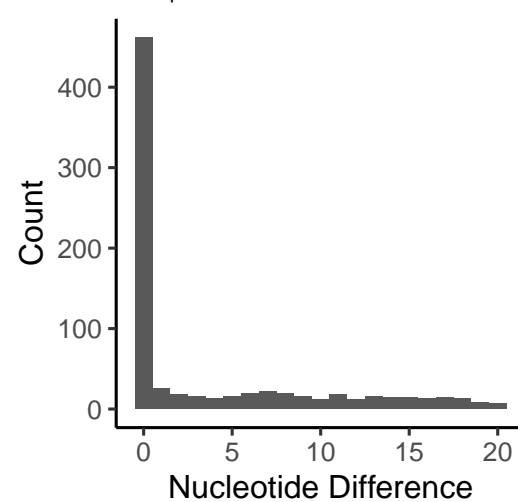
### IGHV3-20\*01\_02

55 sequences assigned  
35 (63.6%) exact matches, in which:  
35 unique CDR3  
5 unique J



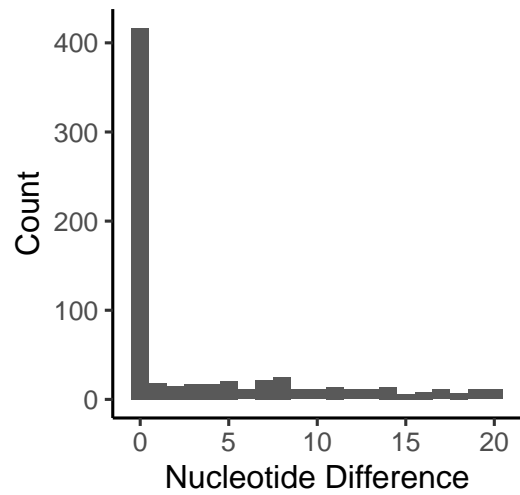
### IGHV3-30-3\*01

836 sequences assigned  
462 (55.3%) exact matches, in which:  
461 unique CDR3  
6 unique J



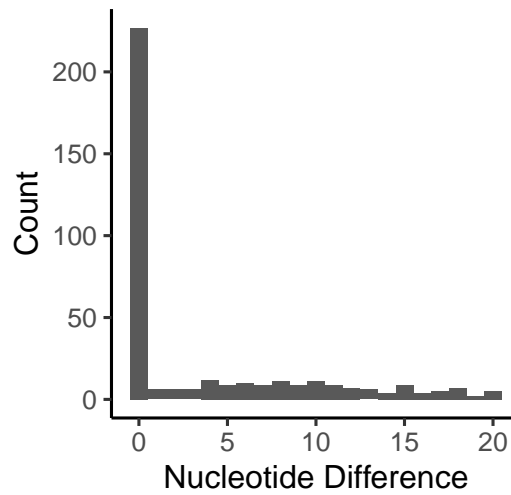
### IGHV3–33\*01

752 sequences assigned  
417 (55.5%) exact matches, in which:  
417 unique CDR3  
6 unique J



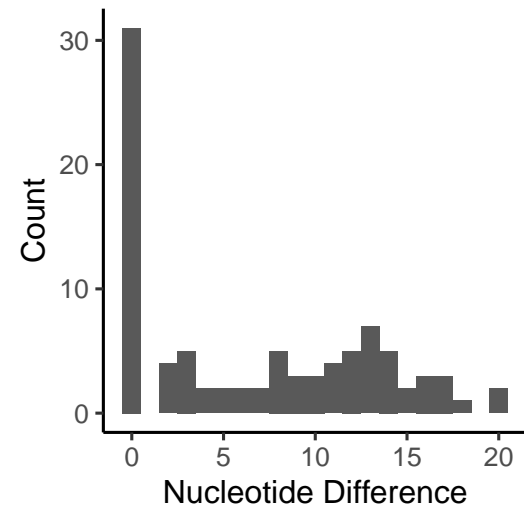
### IGHV3–43\*02

394 sequences assigned  
227 (57.6%) exact matches, in which:  
226 unique CDR3  
6 unique J



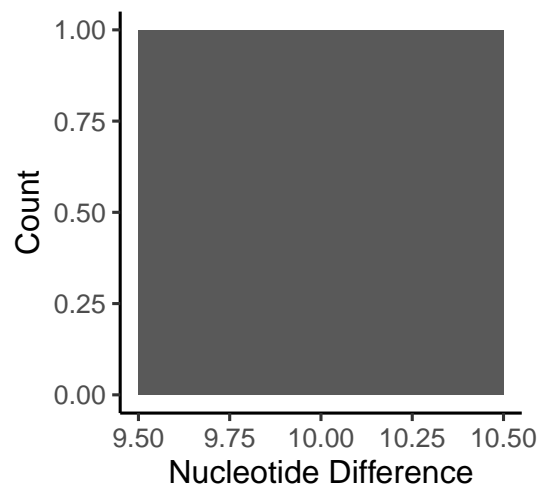
### IGHV3–49\*04

107 sequences assigned  
31 (29%) exact matches, in which:  
31 unique CDR3  
4 unique J



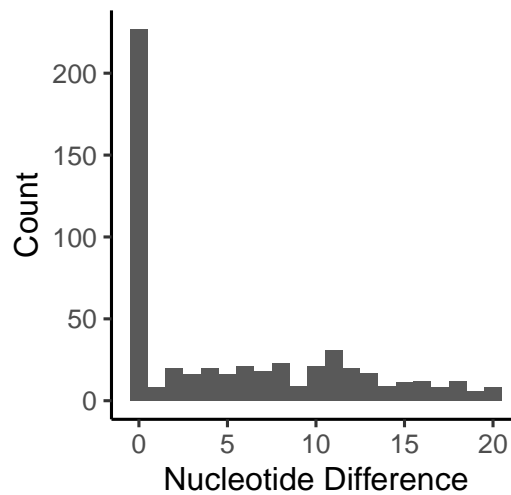
### IGHV3–35\*01

1 sequences assigned  
No exact matches.



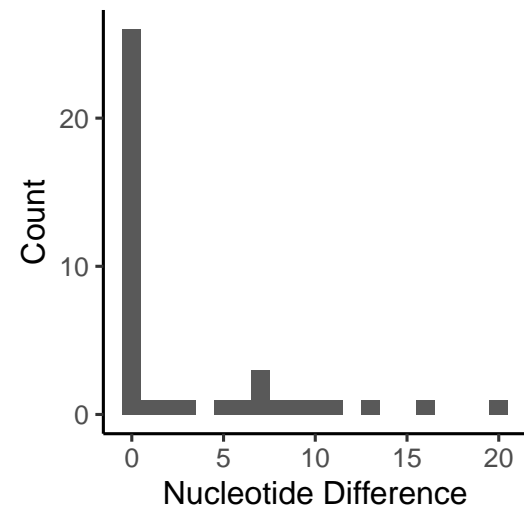
### IGHV3–48\*02

589 sequences assigned  
227 (38.5%) exact matches, in which:  
226 unique CDR3  
6 unique J



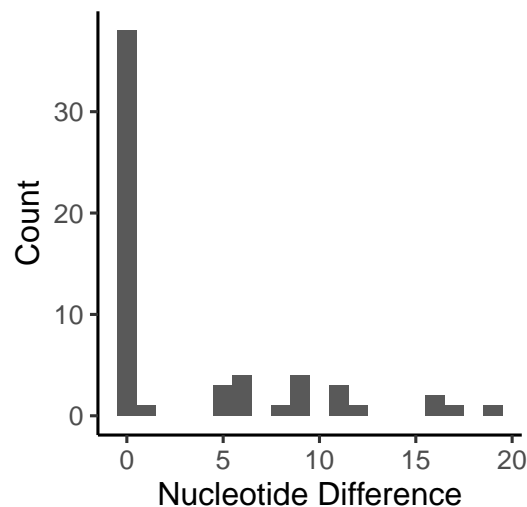
### IGHV3–49\*03\_05

43 sequences assigned  
26 (60.5%) exact matches, in which:  
26 unique CDR3  
5 unique J



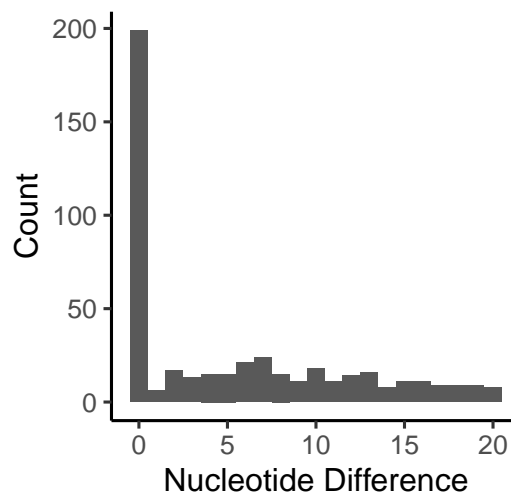
### IGHV3–43\*01

64 sequences assigned  
38 (59.4%) exact matches, in which:  
38 unique CDR3  
5 unique J



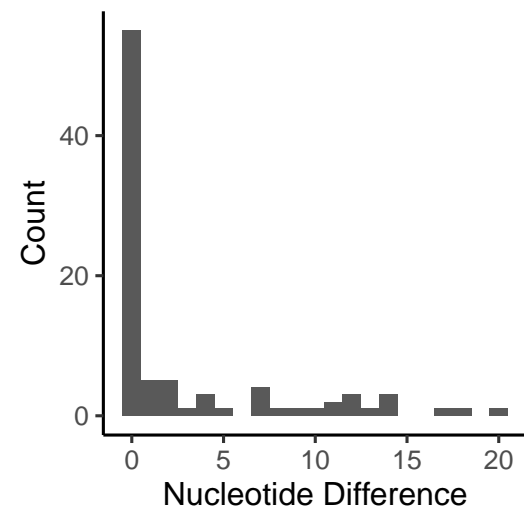
### IGHV3–48\*03

499 sequences assigned  
199 (39.9%) exact matches, in which:  
199 unique CDR3  
6 unique J



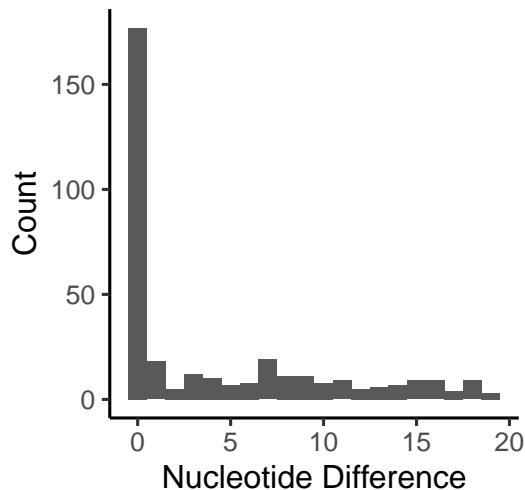
### IGHV3–53\*04

97 sequences assigned  
55 (56.7%) exact matches, in which:  
55 unique CDR3  
5 unique J



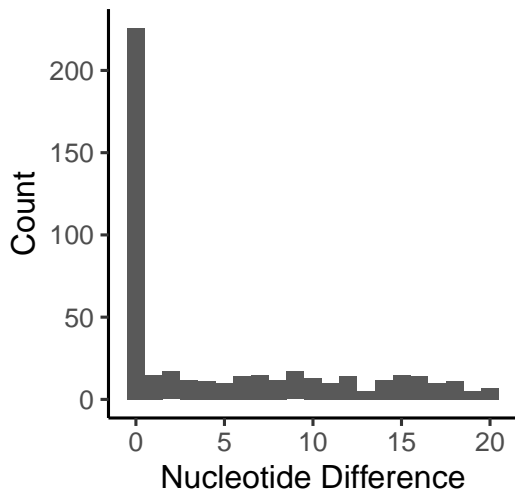
### IGHV3-53\*01\_02

370 sequences assigned  
177 (47.8%) exact matches, in which:  
175 unique CDR3  
5 unique J



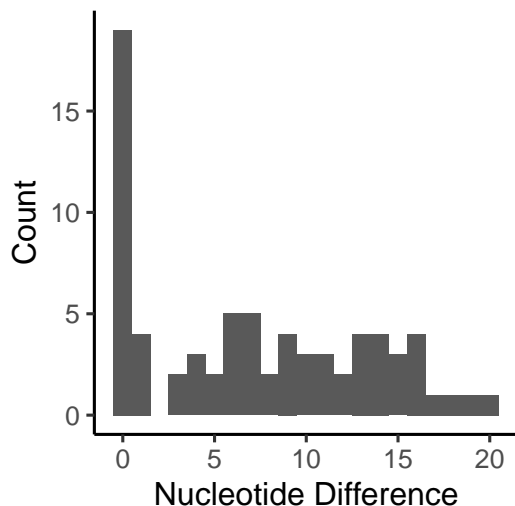
### IGHV3-66\*01

497 sequences assigned  
226 (45.5%) exact matches, in which:  
223 unique CDR3  
6 unique J



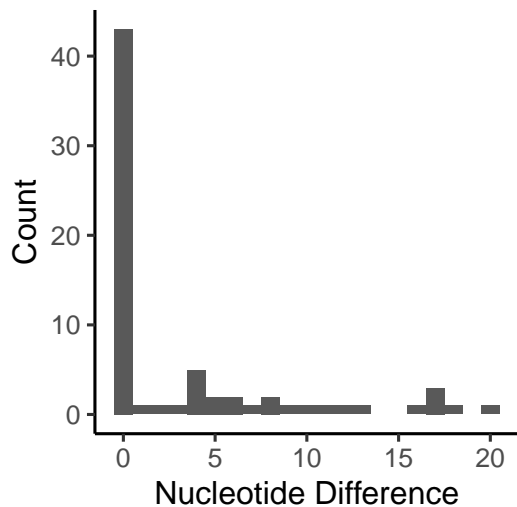
### IGHV3-73\*01\_02

88 sequences assigned  
19 (21.6%) exact matches, in which:  
18 unique CDR3  
4 unique J



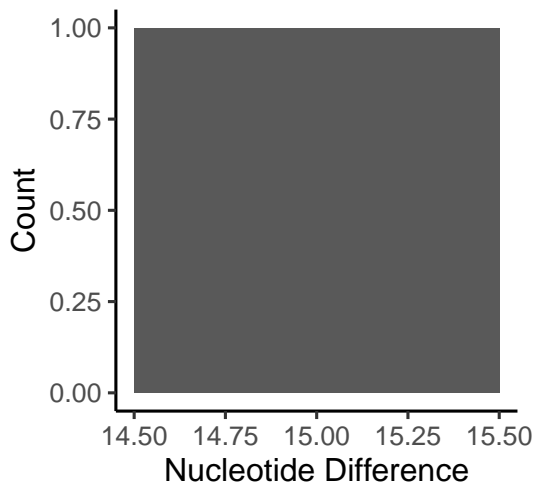
### IGHV3-64\*01

79 sequences assigned  
43 (54.4%) exact matches, in which:  
43 unique CDR3  
5 unique J



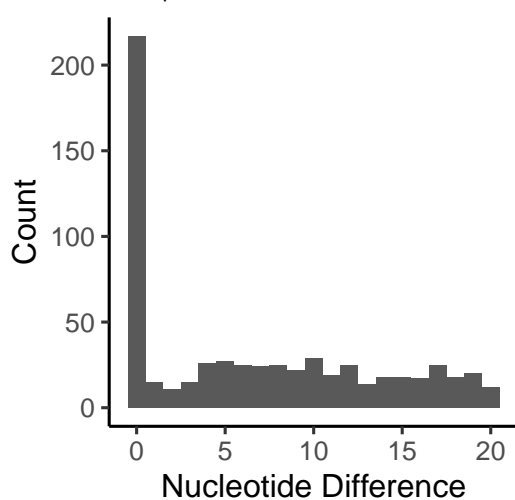
### IGHV3-69-1\*01

4 sequences assigned  
No exact matches.



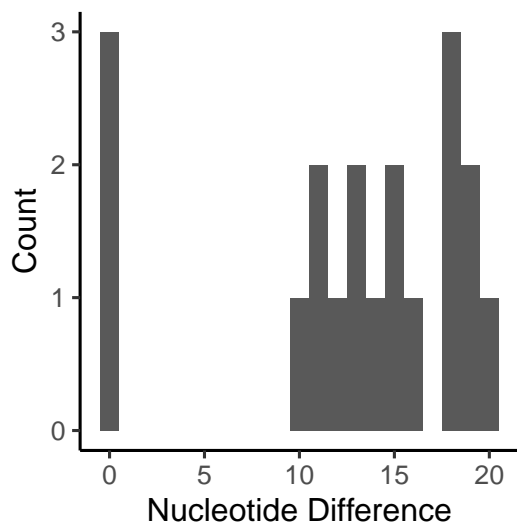
### IGHV3-74\*01\_02

685 sequences assigned  
217 (31.7%) exact matches, in which:  
213 unique CDR3  
5 unique J



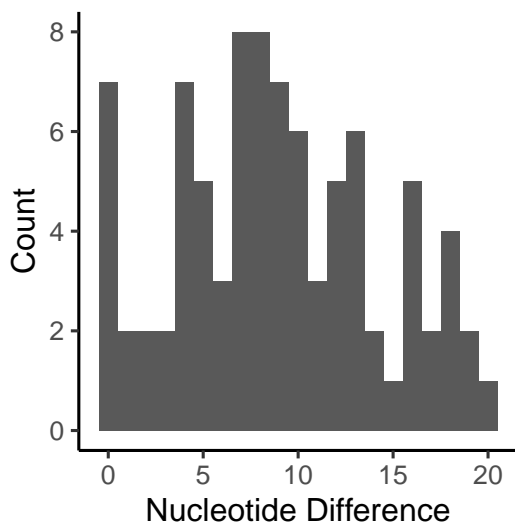
### IGHV3-64\*02\_07

26 sequences assigned  
3 (11.5%) exact matches, in which:  
3 unique CDR3  
2 unique J



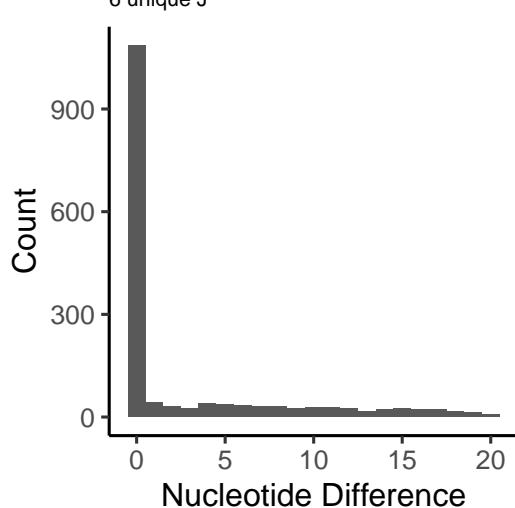
### IGHV3-72\*01

98 sequences assigned  
7 (7.1%) exact matches, in which:  
7 unique CDR3  
3 unique J



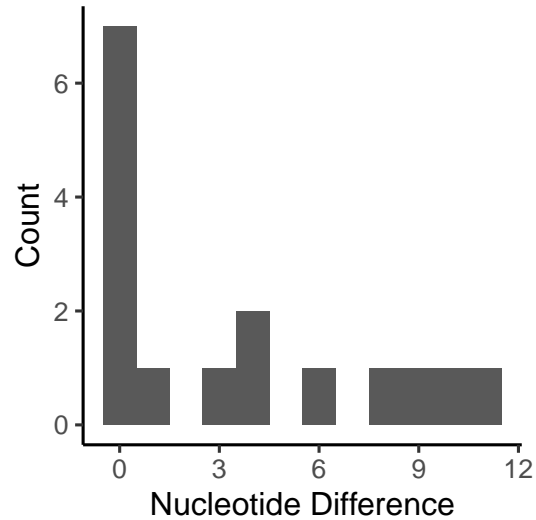
### IGHV4-4\*07

1659 sequences assigned  
1086 (65.5%) exact matches, in which:  
1073 unique CDR3  
6 unique J



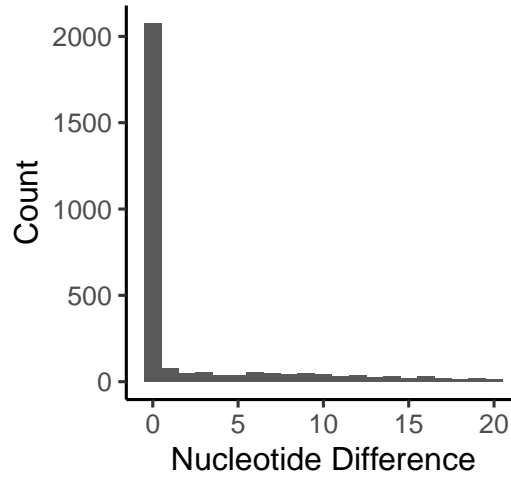
### IGHV4-28\*01\_07

20 sequences assigned  
7 (35%) exact matches, in which:  
7 unique CDR3  
5 unique J



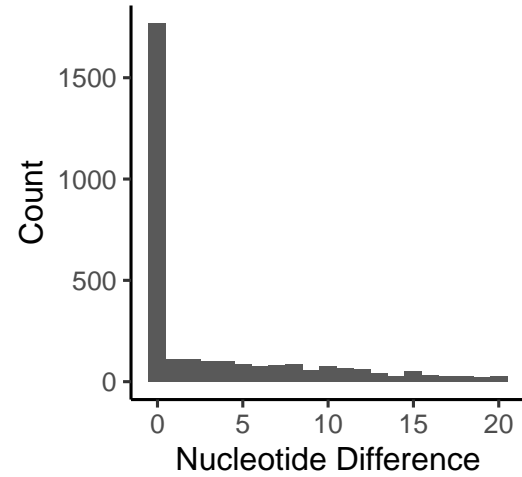
### IGHV4-31\*03\_04

2962 sequences assigned  
2075 (70.1%) exact matches, in which:  
2054 unique CDR3  
6 unique J



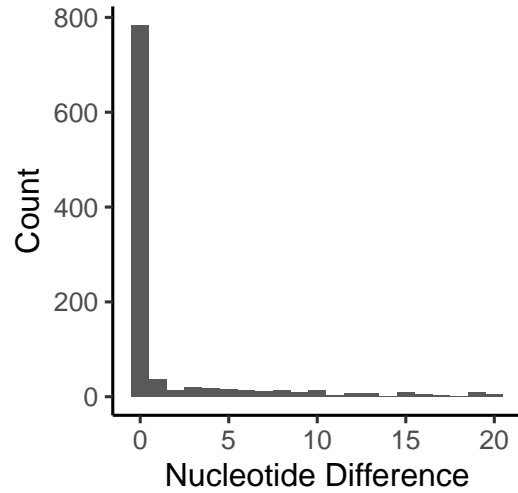
### IGHV4-59\*08

3203 sequences assigned  
1768 (55.2%) exact matches, in which:  
1742 unique CDR3  
6 unique J



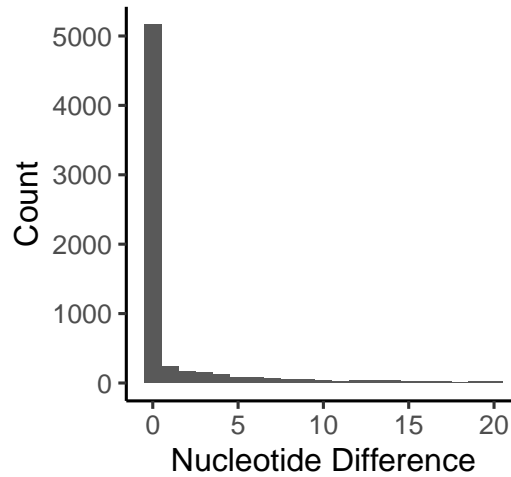
### IGHV4-30-2\*01

1039 sequences assigned  
784 (75.5%) exact matches, in which:  
759 unique CDR3  
6 unique J



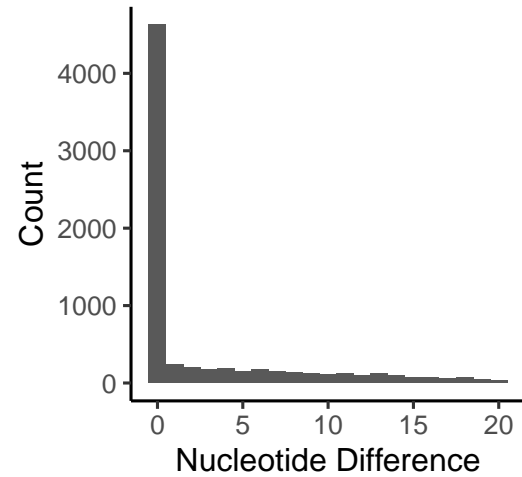
### IGHV4-34\*01\_02

6548 sequences assigned  
5162 (78.8%) exact matches, in which:  
5075 unique CDR3  
6 unique J



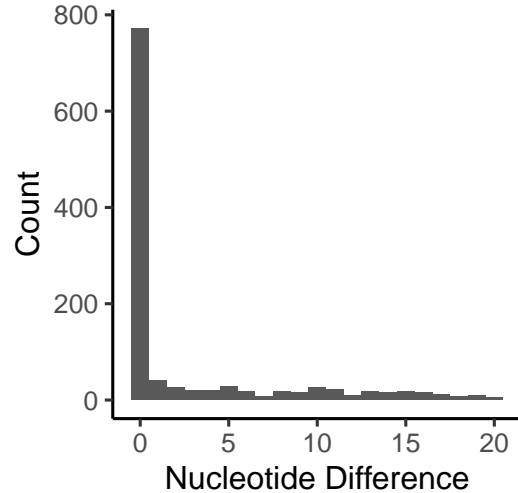
### IGHV4-59\*01\_07

7338 sequences assigned  
4628 (63.1%) exact matches, in which:  
4550 unique CDR3  
6 unique J



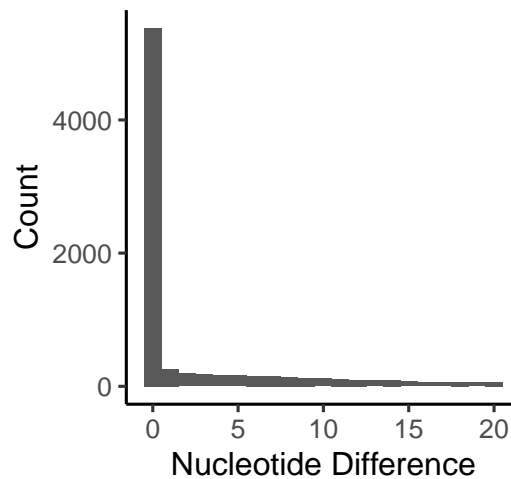
### IGHV4-30-4\*01

1190 sequences assigned  
772 (64.9%) exact matches, in which:  
765 unique CDR3  
6 unique J



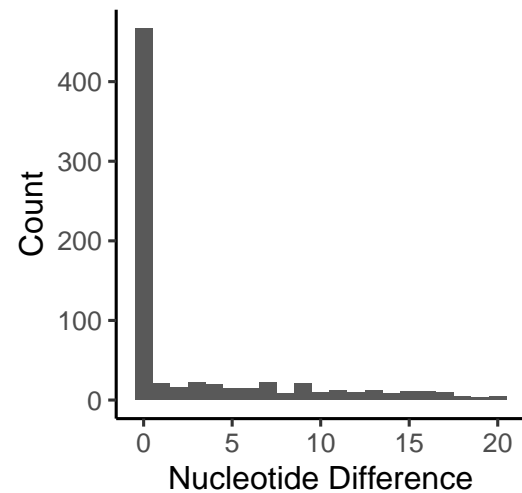
### IGHV4-39\*01\_05

8131 sequences assigned  
5380 (66.2%) exact matches, in which:  
5293 unique CDR3  
6 unique J



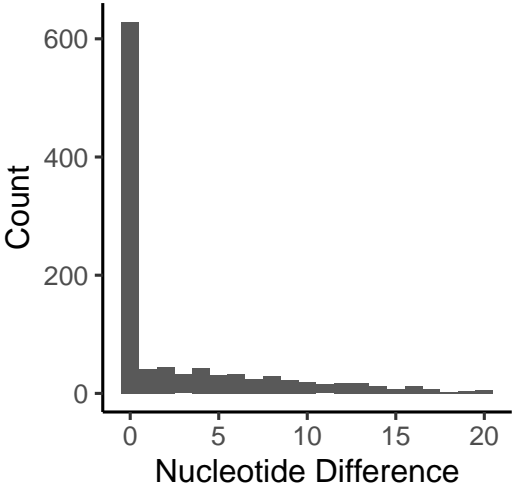
### IGHV4-61\*01

757 sequences assigned  
467 (61.7%) exact matches, in which:  
462 unique CDR3  
6 unique J



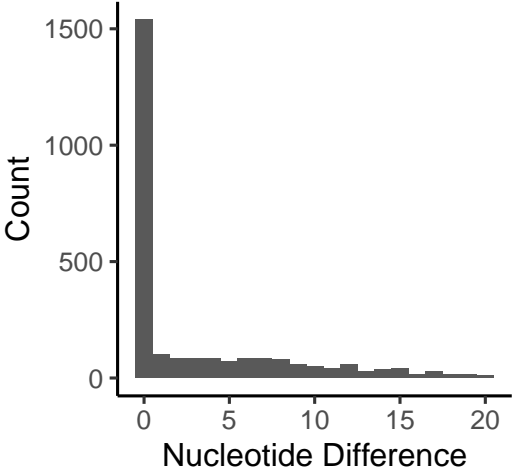
IGHV5–51\*01\_03

1076 sequences assigned  
629 (58.5%) exact matches, in which:  
629 unique CDR3  
6 unique J



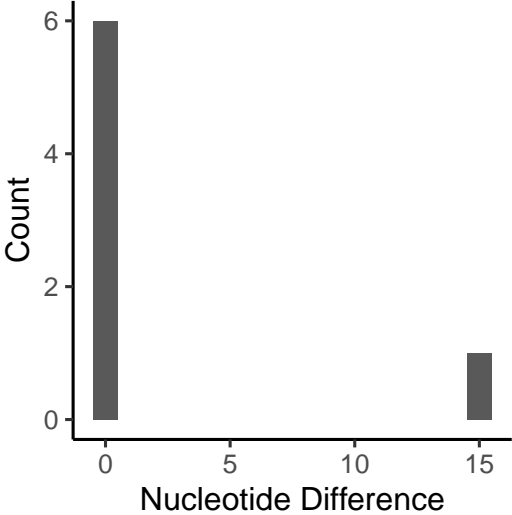
IGHV6–1\*01\_02

2684 sequences assigned  
1539 (57.3%) exact matches, in which:  
1534 unique CDR3  
6 unique J



IGHV7–4–1\*01

7 sequences assigned  
6 (85.7%) exact matches, in which:  
6 unique CDR3  
2 unique J







Novel sequence(s)IGHV4-39\*02\_C258G IGHV4-59\*02\_G88A IGHV5-51\*07\_A128G are not listed in the genotype and will be ignored.