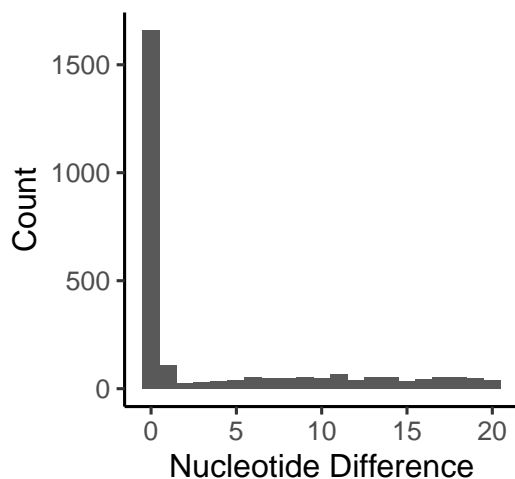


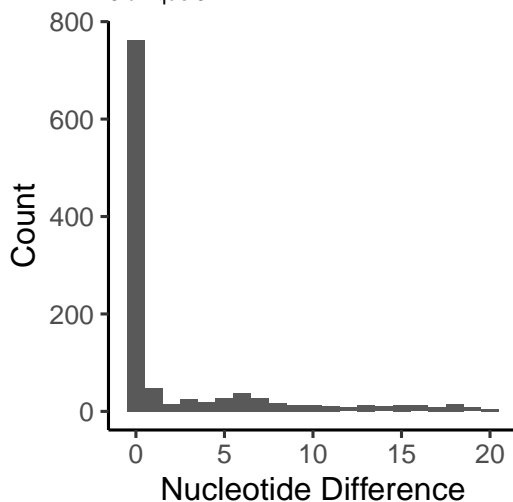
### IGHV1-2\*02

2889 sequences assigned  
1659 (57.4%) exact matches, in which:  
1650 unique CDR3  
6 unique J



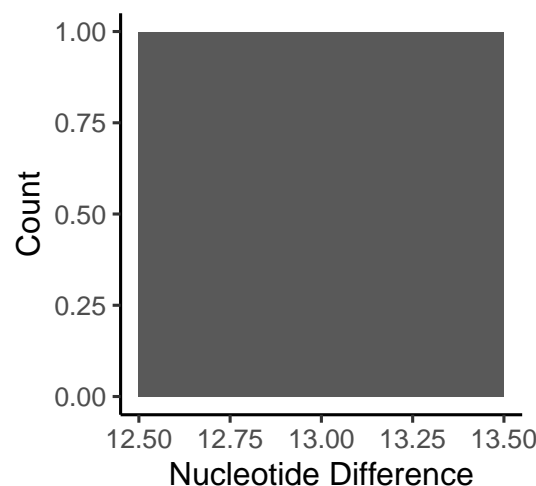
### IGHV1-8\*01

1220 sequences assigned  
763 (62.5%) exact matches, in which:  
763 unique CDR3  
6 unique J



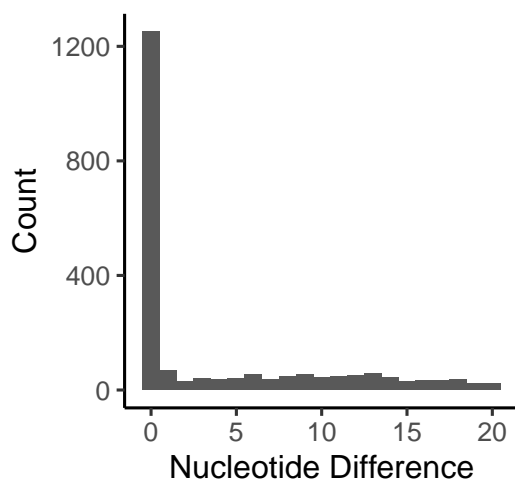
### IGHV1-45\*02

3 sequences assigned  
No exact matches.



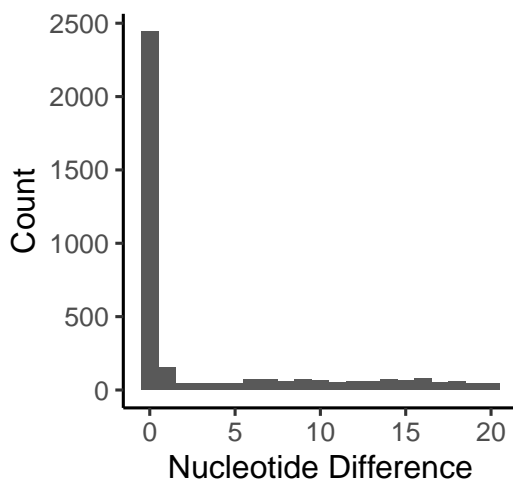
### IGHV1-2\*06

2306 sequences assigned  
1251 (54.2%) exact matches, in which:  
1249 unique CDR3  
6 unique J



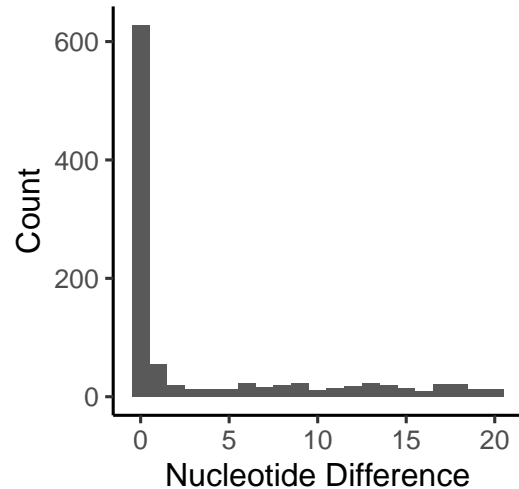
### IGHV1-18\*01

4048 sequences assigned  
2442 (60.3%) exact matches, in which:  
2433 unique CDR3  
6 unique J



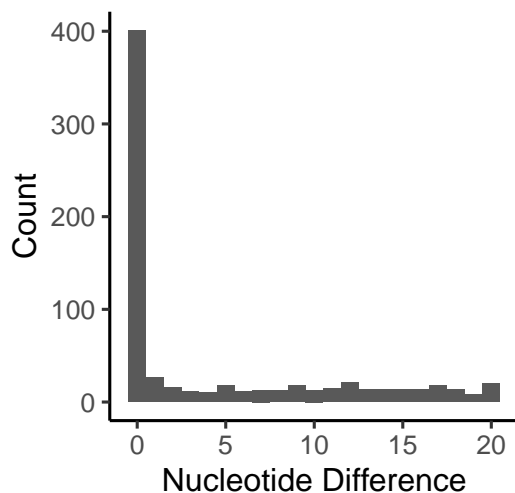
### IGHV1-46\*01

1108 sequences assigned  
628 (56.7%) exact matches, in which:  
627 unique CDR3  
6 unique J



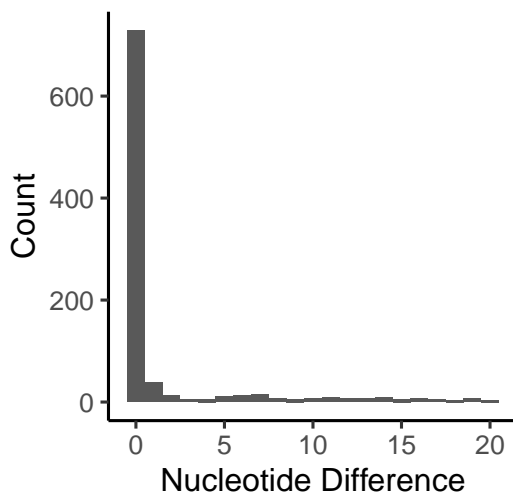
### IGHV1-3\*01\_05

766 sequences assigned  
401 (52.3%) exact matches, in which:  
399 unique CDR3  
6 unique J



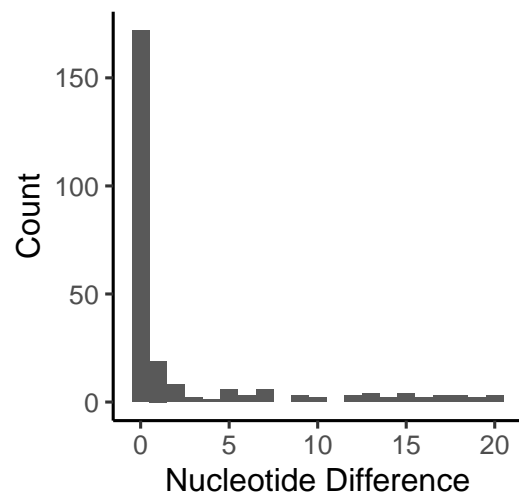
### IGHV1-24\*01

969 sequences assigned  
729 (75.2%) exact matches, in which:  
729 unique CDR3  
6 unique J



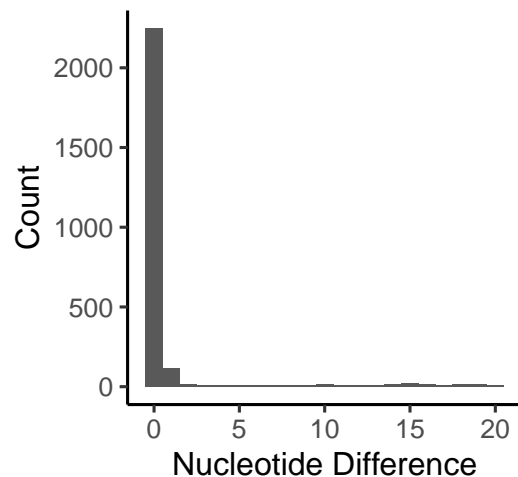
### IGHV1-58\*01\_03

268 sequences assigned  
172 (64.2%) exact matches, in which:  
171 unique CDR3  
6 unique J



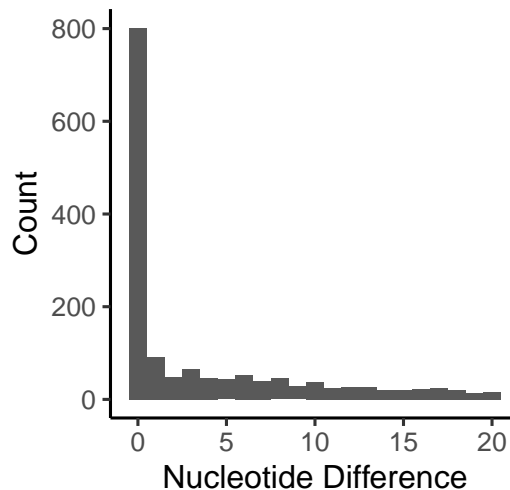
### IGHV1-69\*01\_12\_13

2794 sequences assigned  
2247 (80.4%) exact matches, in which:  
2242 unique CDR3  
6 unique J



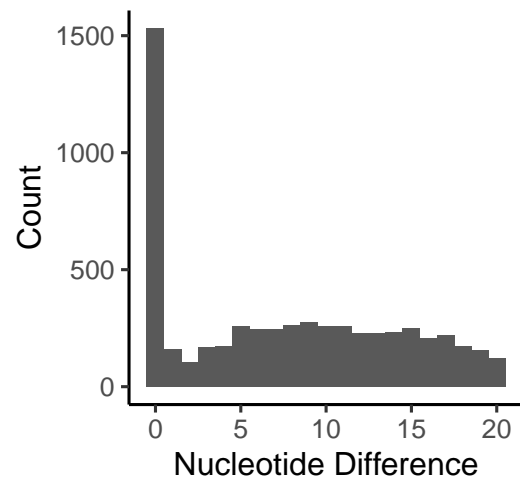
### IGHV2-5\*02

1644 sequences assigned  
802 (48.8%) exact matches, in which:  
798 unique CDR3  
6 unique J



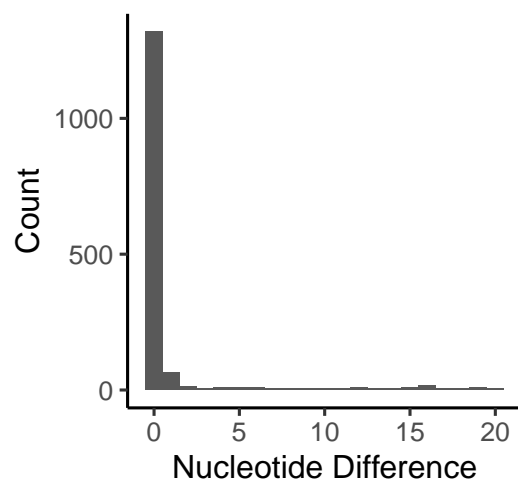
### IGHV3-7\*01

6405 sequences assigned  
1531 (23.9%) exact matches, in which:  
1478 unique CDR3  
6 unique J



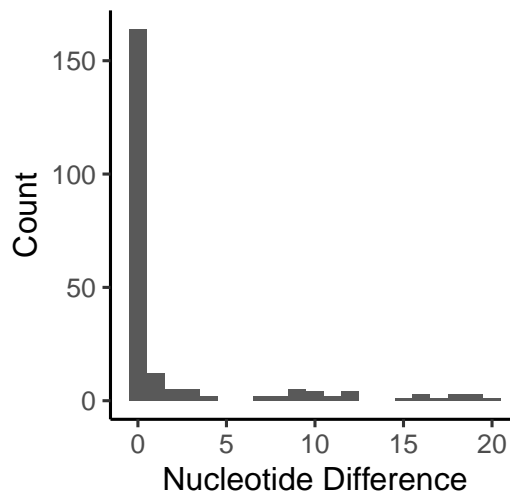
### IGHV1-69\*06\_14

1655 sequences assigned  
1319 (79.7%) exact matches, in which:  
1315 unique CDR3  
6 unique J



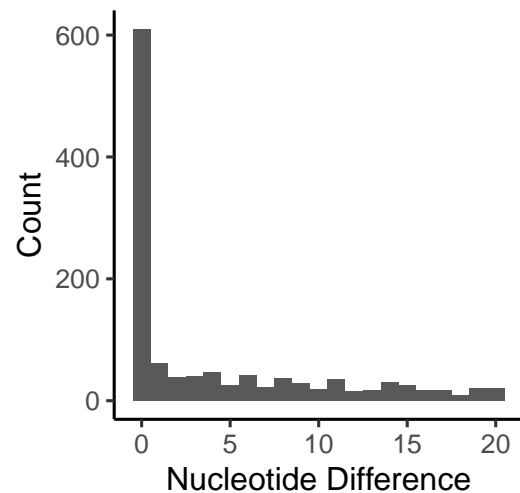
### IGHV2-26\*01

245 sequences assigned  
164 (66.9%) exact matches, in which:  
164 unique CDR3  
5 unique J



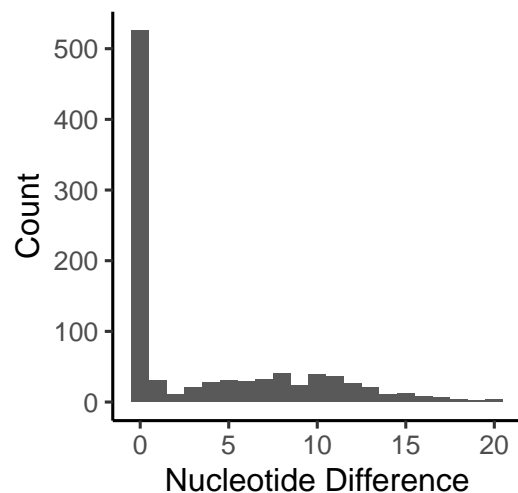
### IGHV3-9\*01

1283 sequences assigned  
610 (47.5%) exact matches, in which:  
594 unique CDR3  
6 unique J



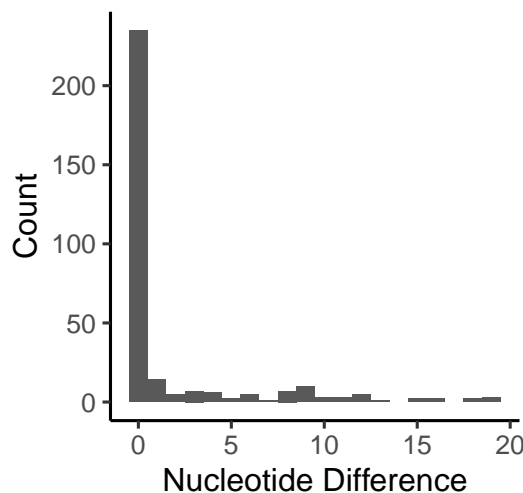
### IGHV2-5\*01

968 sequences assigned  
526 (54.3%) exact matches, in which:  
523 unique CDR3  
6 unique J



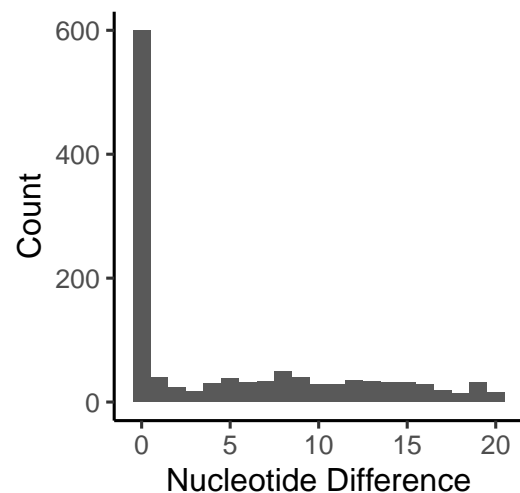
### IGHV2-70\*01

326 sequences assigned  
235 (72.1%) exact matches, in which:  
234 unique CDR3  
5 unique J



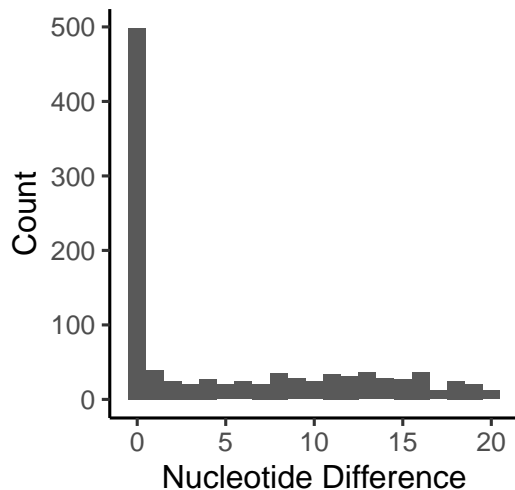
### IGHV3-11\*01

1398 sequences assigned  
600 (42.9%) exact matches, in which:  
583 unique CDR3  
6 unique J



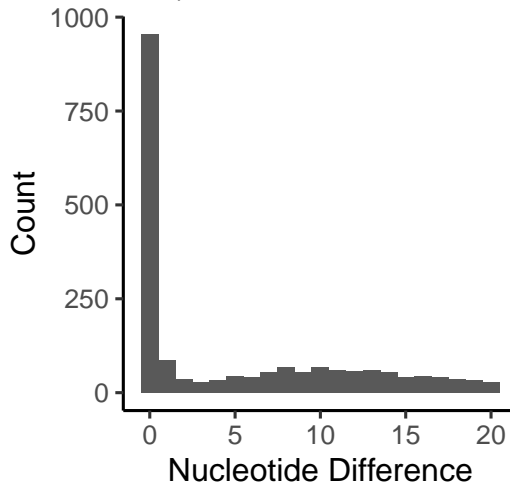
### IGHV3-11\*06\_T300C

1200 sequences assigned  
499 (41.6%) exact matches, in which:  
484 unique CDR3  
6 unique J



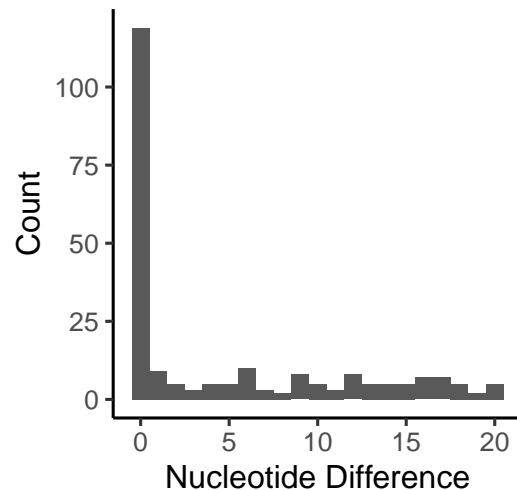
### IGHV3-15\*07

2104 sequences assigned  
954 (45.3%) exact matches, in which:  
915 unique CDR3  
6 unique J



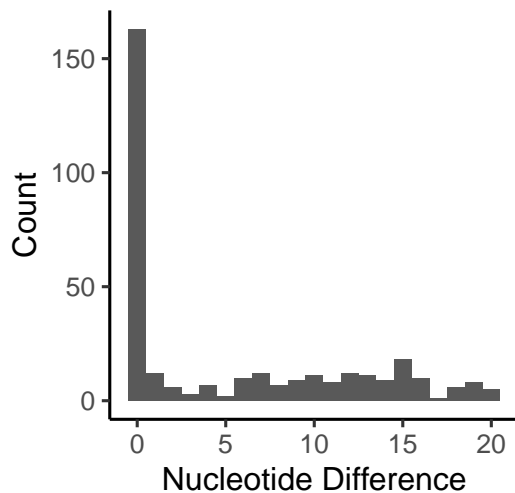
### IGHV3-20\*01\_02

254 sequences assigned  
119 (46.9%) exact matches, in which:  
112 unique CDR3  
5 unique J



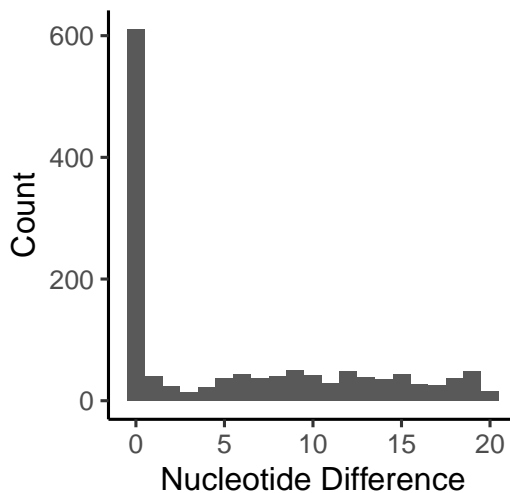
### IGHV3-13\*01

390 sequences assigned  
163 (41.8%) exact matches, in which:  
156 unique CDR3  
5 unique J



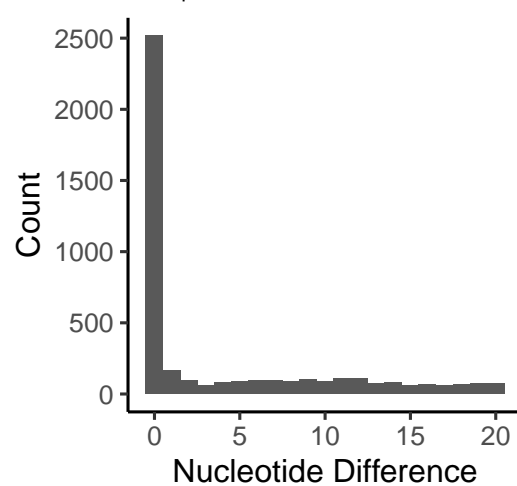
### IGHV3-15\*01\_02

1425 sequences assigned  
611 (42.9%) exact matches, in which:  
592 unique CDR3  
6 unique J



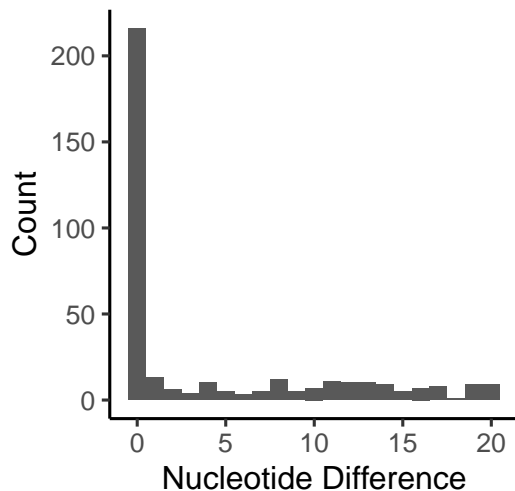
### IGHV3-21\*01\_02

4712 sequences assigned  
2517 (53.4%) exact matches, in which:  
2393 unique CDR3  
6 unique J



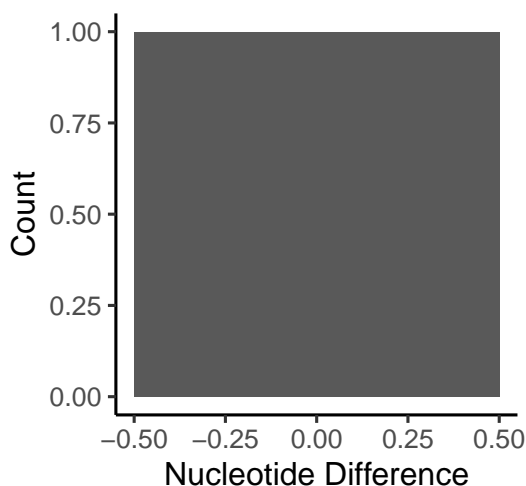
### IGHV3-13\*04

389 sequences assigned  
216 (55.5%) exact matches, in which:  
210 unique CDR3  
5 unique J



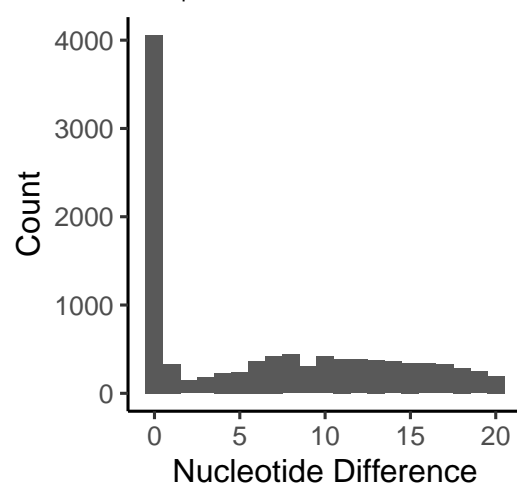
### IGHV3-19\*01

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



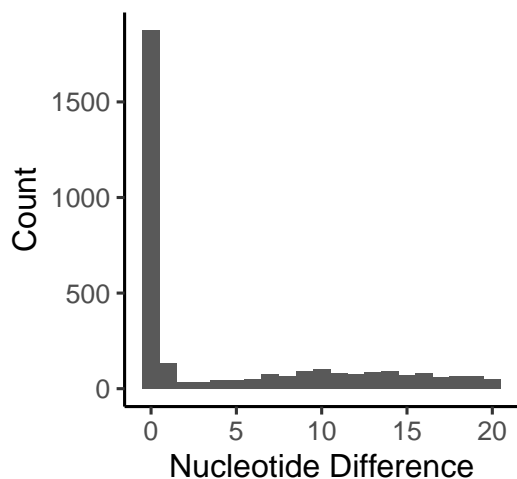
### IGHV3-23\*01\_04

11926 sequences assigned  
4058 (34%) exact matches, in which:  
3894 unique CDR3  
6 unique J



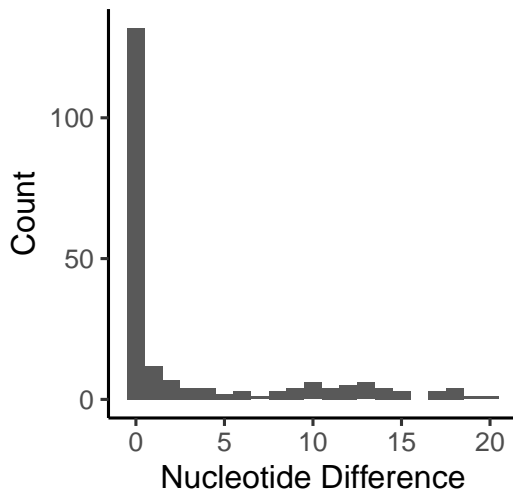
### IGHV3-30-3\*01

3747 sequences assigned  
1874 (50%) exact matches, in which:  
1830 unique CDR3  
6 unique J



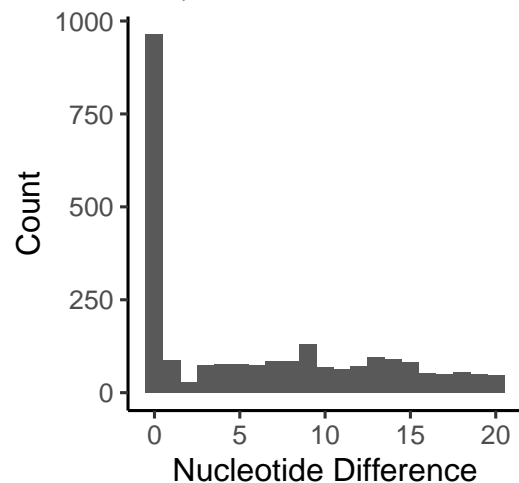
### IGHV3-43\*01

237 sequences assigned  
132 (55.7%) exact matches, in which:  
128 unique CDR3  
6 unique J



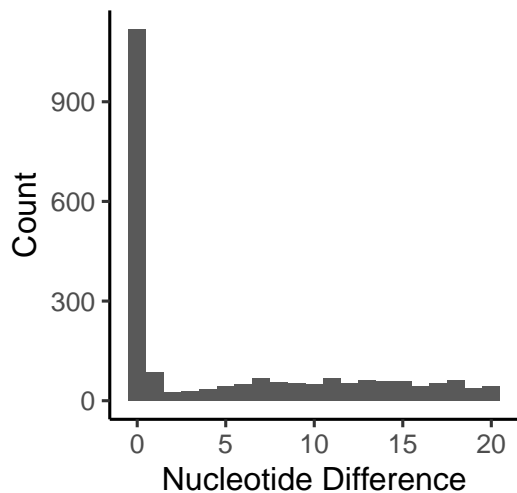
### IGHV3-48\*03

2729 sequences assigned  
964 (35.3%) exact matches, in which:  
925 unique CDR3  
6 unique J



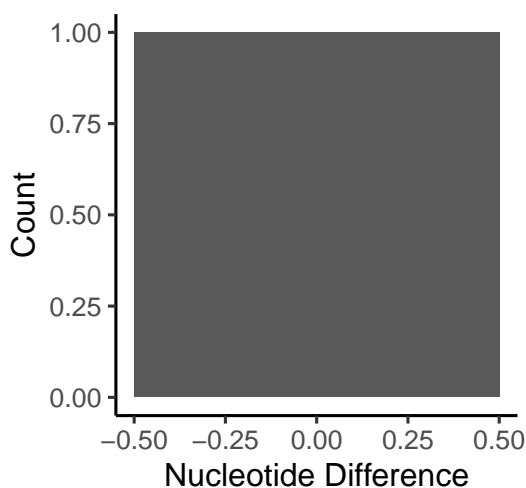
### IGHV3-33\*01

2465 sequences assigned  
1119 (45.4%) exact matches, in which:  
1088 unique CDR3  
6 unique J



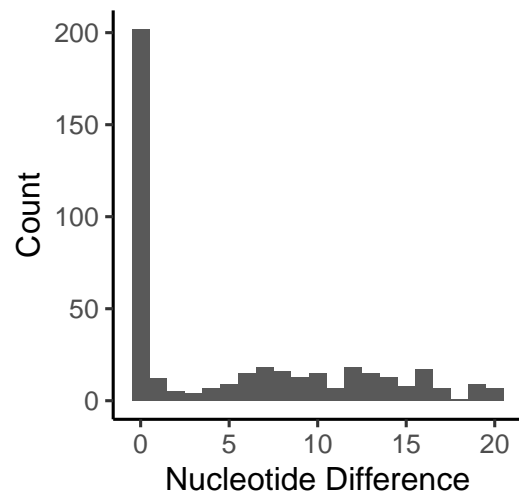
### IGHV3-47\*02

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



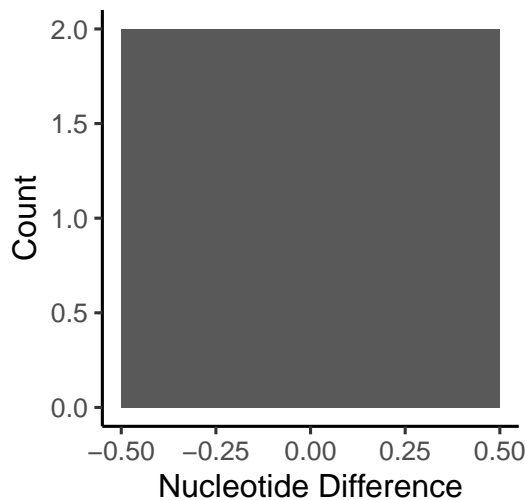
### IGHV3-49\*04

448 sequences assigned  
202 (45.1%) exact matches, in which:  
202 unique CDR3  
6 unique J



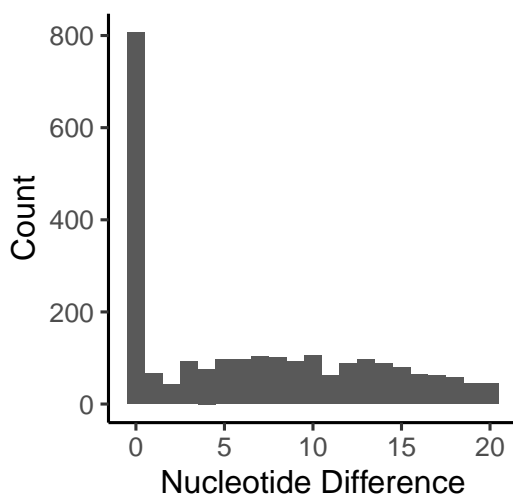
### IGHV3-35\*01

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



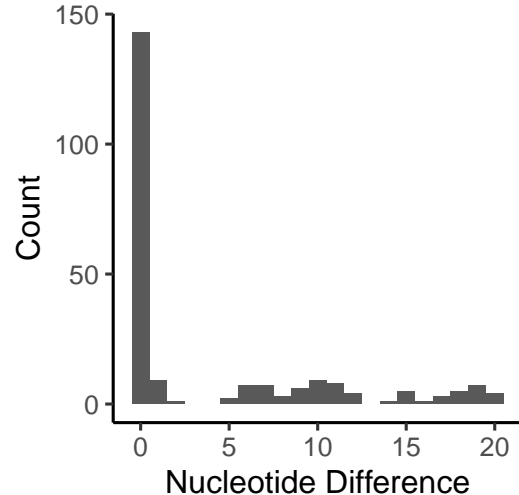
### IGHV3-48\*02

2793 sequences assigned  
807 (28.9%) exact matches, in which:  
761 unique CDR3  
6 unique J



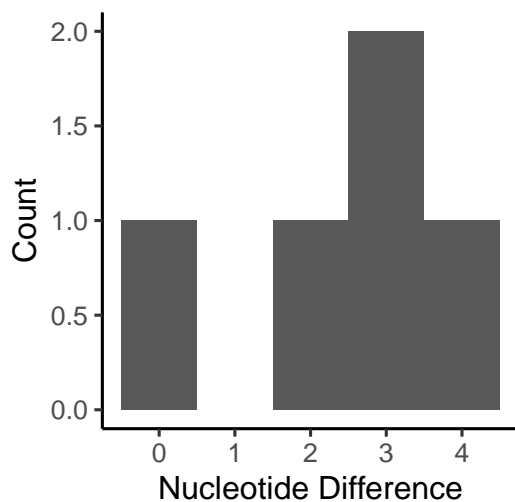
### IGHV3-49\*03\_05

240 sequences assigned  
143 (59.6%) exact matches, in which:  
141 unique CDR3  
5 unique J



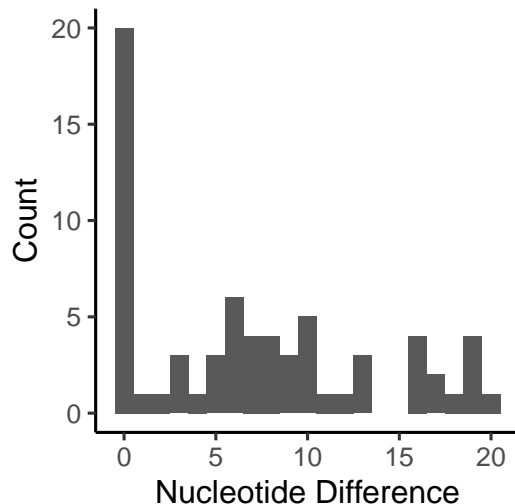
### IGHV3-52\*01\_03

5 sequences assigned  
1 (20%) exact matches, in which:  
1 unique CDR3  
1 unique J



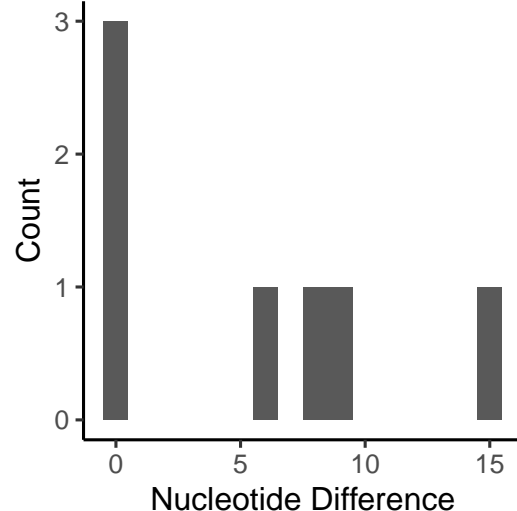
### IGHV3-64\*02\_07

73 sequences assigned  
20 (27.4%) exact matches, in which:  
19 unique CDR3  
4 unique J



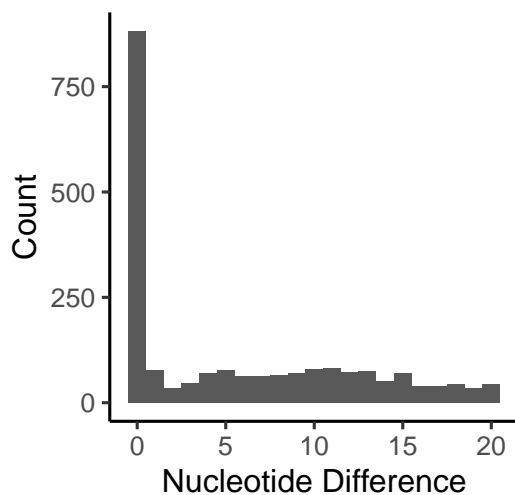
### IGHV3-69-1\*01

20 sequences assigned  
3 (15%) exact matches, in which:  
3 unique CDR3  
2 unique J



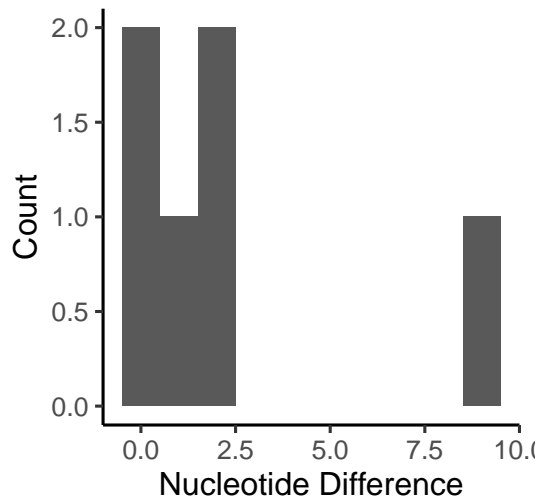
### IGHV3-53\*01\_02

2284 sequences assigned  
882 (38.6%) exact matches, in which:  
834 unique CDR3  
6 unique J



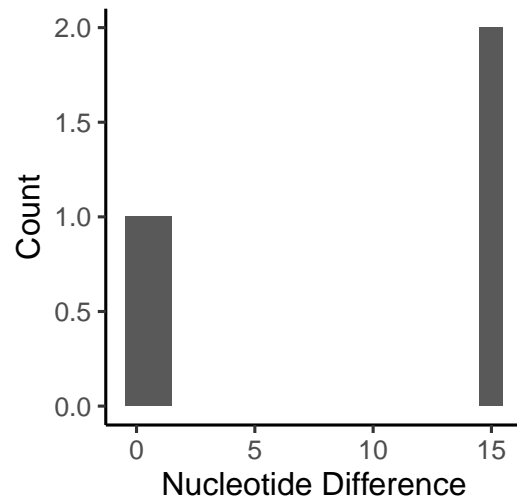
### IGHV3-66\*03

7 sequences assigned  
2 (28.6%) exact matches, in which:  
2 unique CDR3  
2 unique J



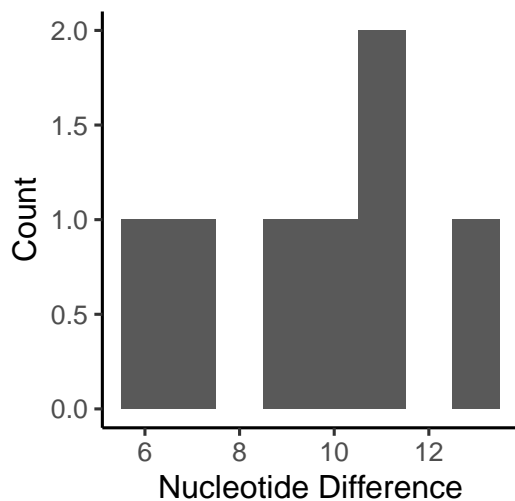
### IGHV3-69-1\*02

9 sequences assigned  
1 (11.1%) exact matches, in which:  
1 unique CDR3  
1 unique J



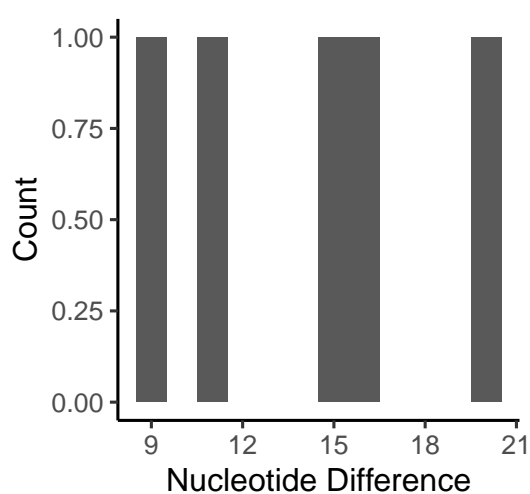
### IGHV3-64\*05

8 sequences assigned  
No exact matches.



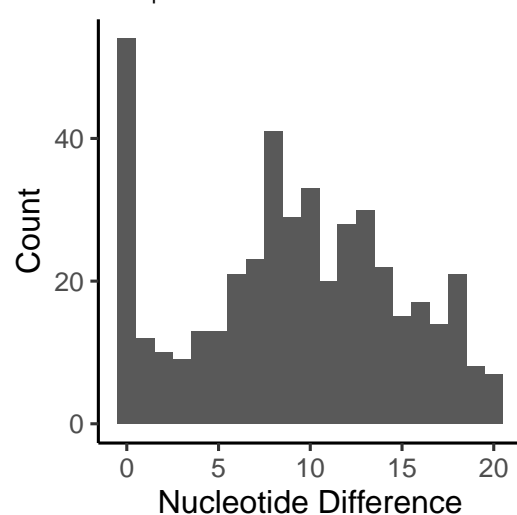
### IGHV3-66\*04

7 sequences assigned  
No exact matches.



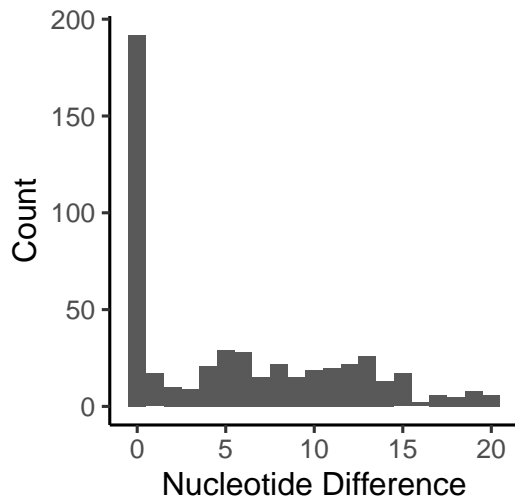
### IGHV3-72\*01

490 sequences assigned  
54 (11%) exact matches, in which:  
51 unique CDR3  
5 unique J



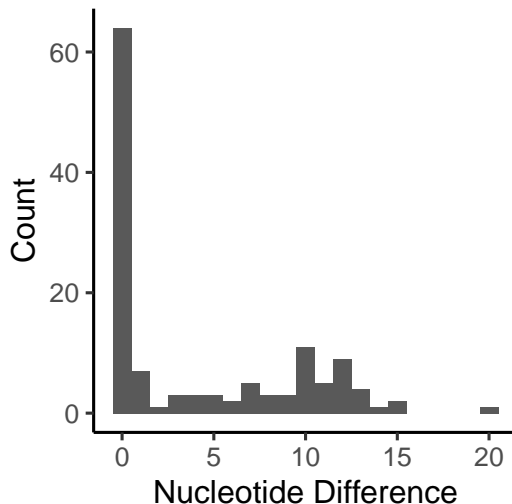
### IGHV3-73\*01\_02

586 sequences assigned  
192 (32.8%) exact matches, in which:  
190 unique CDR3  
6 unique J



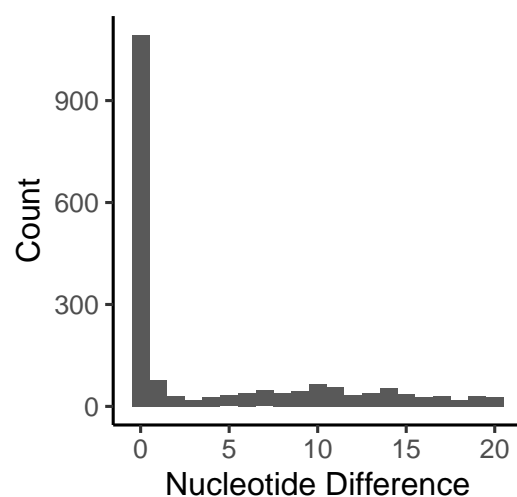
### IGHV3-43D\*04

139 sequences assigned  
64 (46%) exact matches, in which:  
62 unique CDR3  
6 unique J



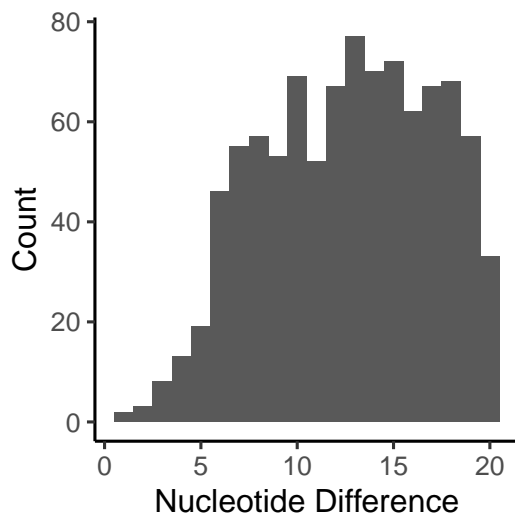
### IGHV4-4\*07

2001 sequences assigned  
1094 (54.7%) exact matches, in which:  
1066 unique CDR3  
6 unique J



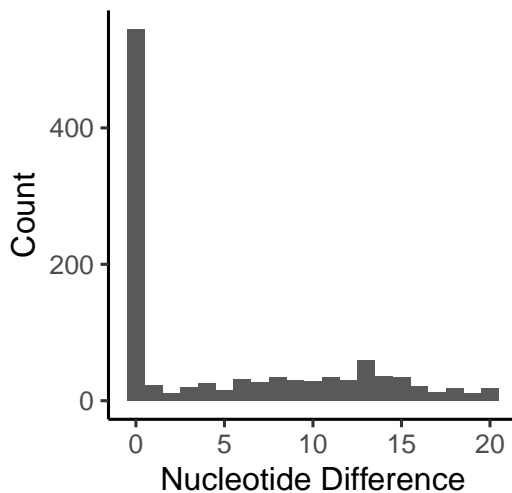
### IGHV3-74\*03

1170 sequences assigned  
No exact matches.



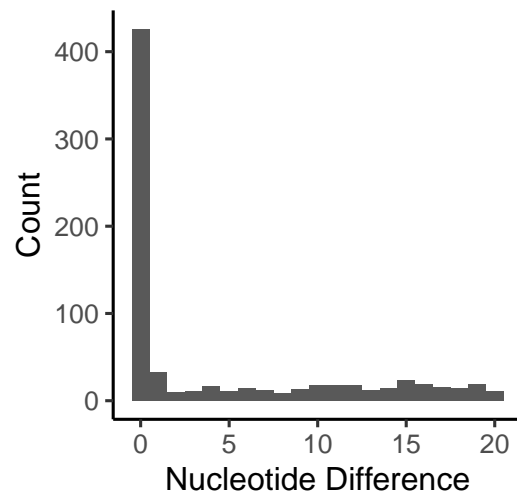
### IGHV3-64D\*09

1285 sequences assigned  
545 (42.4%) exact matches, in which:  
535 unique CDR3  
6 unique J



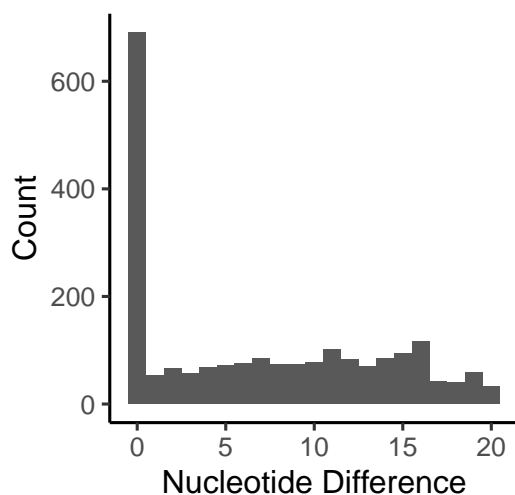
### IGHV4-4\*02\_03

874 sequences assigned  
426 (48.7%) exact matches, in which:  
420 unique CDR3  
6 unique J



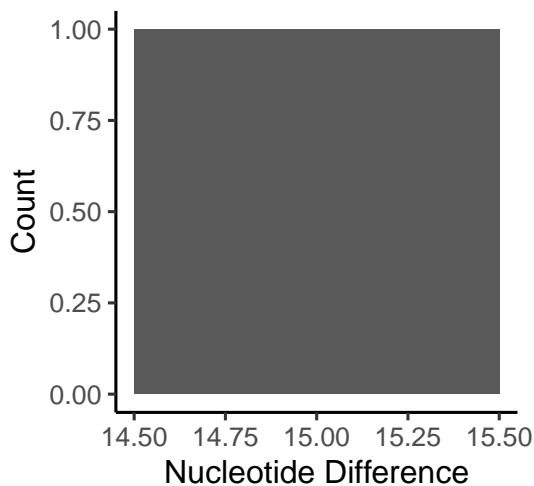
### IGHV3-74\*01\_02

2419 sequences assigned  
691 (28.6%) exact matches, in which:  
655 unique CDR3  
6 unique J



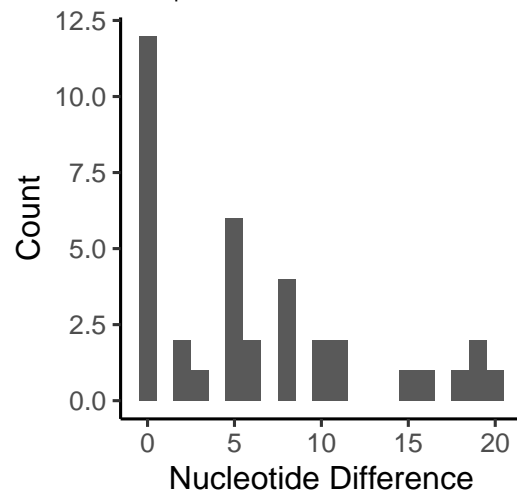
### IGHV3-NL1\*01

4 sequences assigned  
No exact matches.



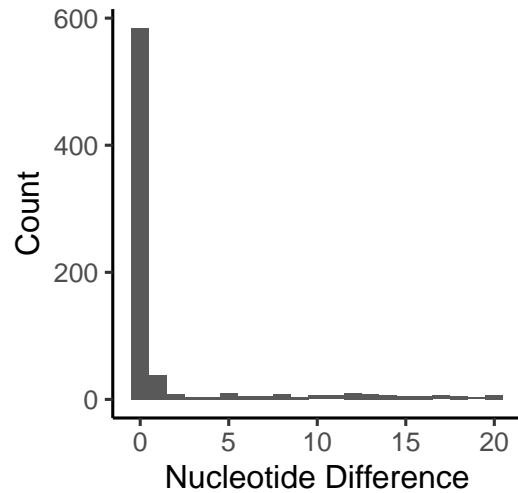
### IGHV4-28\*01\_07

40 sequences assigned  
12 (30%) exact matches, in which:  
11 unique CDR3  
5 unique J



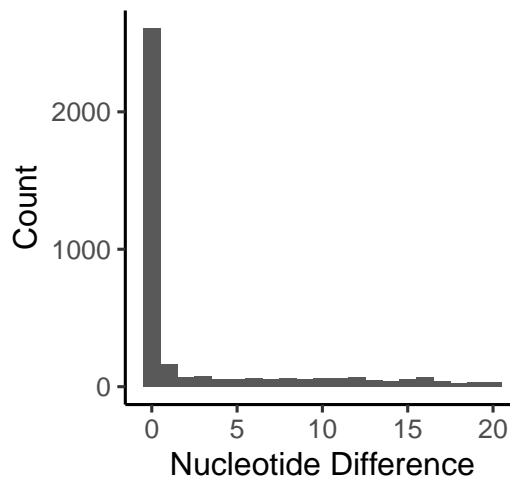
### IGHV4-30-2\*01

818 sequences assigned  
585 (71.5%) exact matches, in which:  
571 unique CDR3  
6 unique J



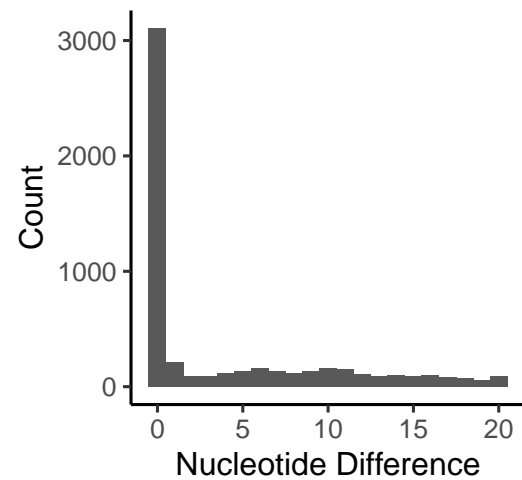
### IGHV4-34\*01\_02

4129 sequences assigned  
2607 (63.1%) exact matches, in which:  
2534 unique CDR3  
6 unique J



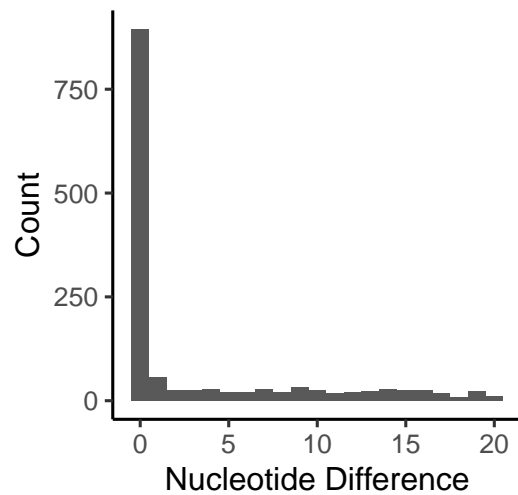
### IGHV4-59\*02\_G88A

5926 sequences assigned  
3105 (52.4%) exact matches, in which:  
3003 unique CDR3  
6 unique J



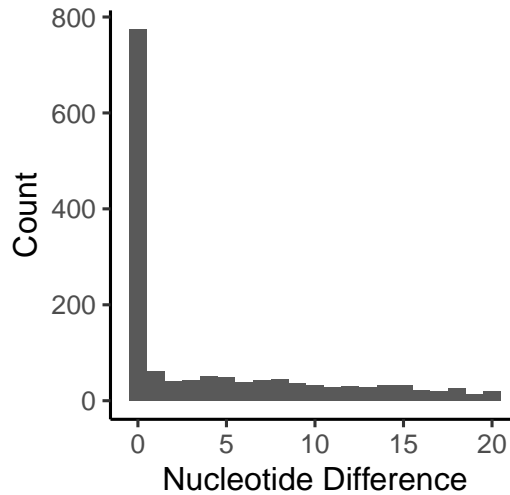
### IGHV4-30-4\*01

1582 sequences assigned  
895 (56.6%) exact matches, in which:  
878 unique CDR3  
6 unique J



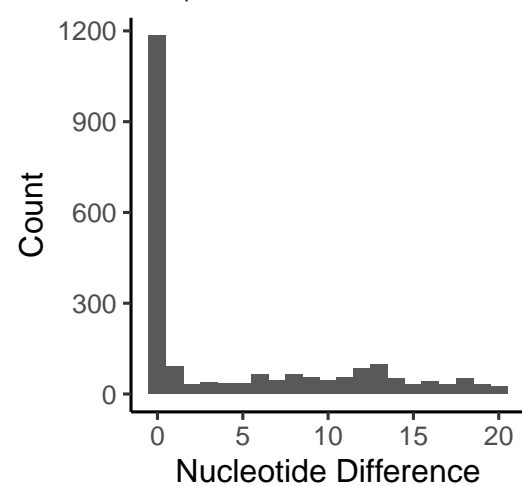
### IGHV4-38-2\*02\_A70G

1626 sequences assigned  
775 (47.7%) exact matches, in which:  
760 unique CDR3  
6 unique J



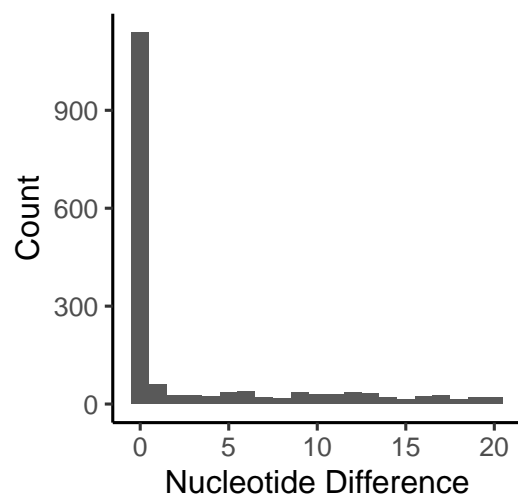
### IGHV4-61\*01

2454 sequences assigned  
1184 (48.2%) exact matches, in which:  
1150 unique CDR3  
6 unique J



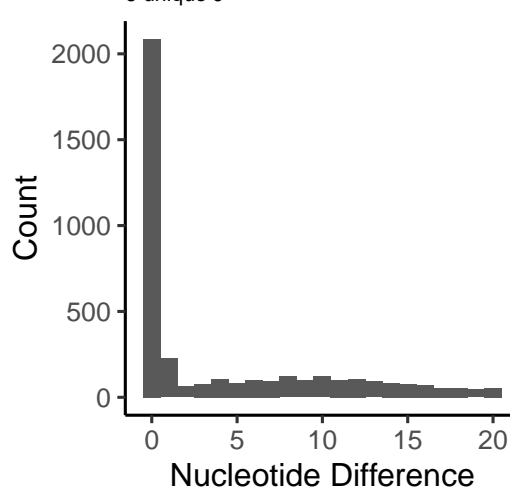
### IGHV4-31\*02

1930 sequences assigned  
1139 (59%) exact matches, in which:  
1123 unique CDR3  
6 unique J



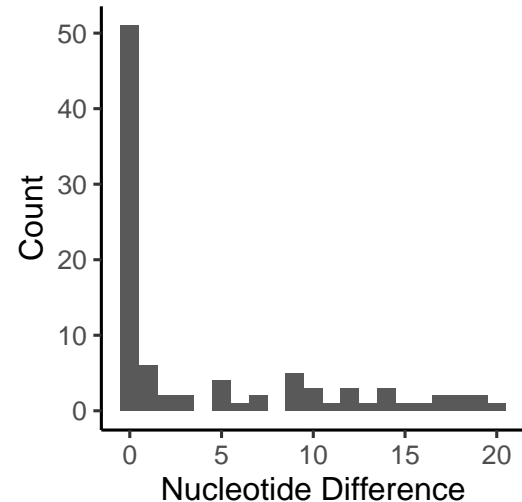
### IGHV4-39\*02\_C258G

4295 sequences assigned  
2086 (48.6%) exact matches, in which:  
2031 unique CDR3  
6 unique J



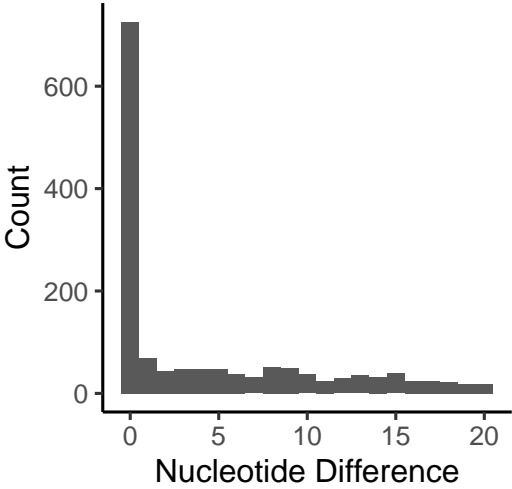
### IGHV5-10-1\*01\_03

117 sequences assigned  
51 (43.6%) exact matches, in which:  
51 unique CDR3  
5 unique J



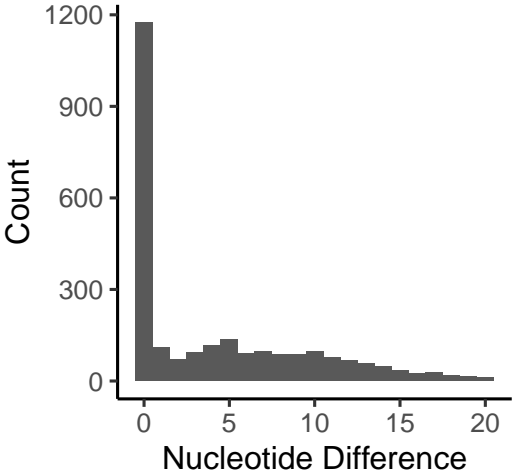
IGHV5–51\*07\_A128G

1572 sequences assigned  
726 (46.2%) exact matches, in which:  
724 unique CDR3  
6 unique J



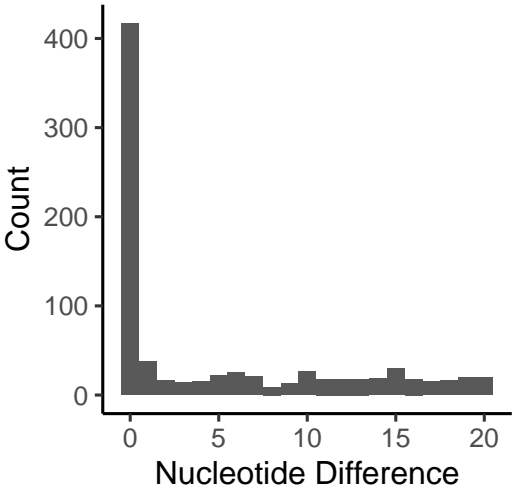
IGHV6–1\*01\_02

2579 sequences assigned  
1174 (45.5%) exact matches, in which:  
1169 unique CDR3  
6 unique J



IGHV7–4–1\*02

886 sequences assigned  
417 (47.1%) exact matches, in which:  
416 unique CDR3  
6 unique J







Warning – no inferred sequences found.