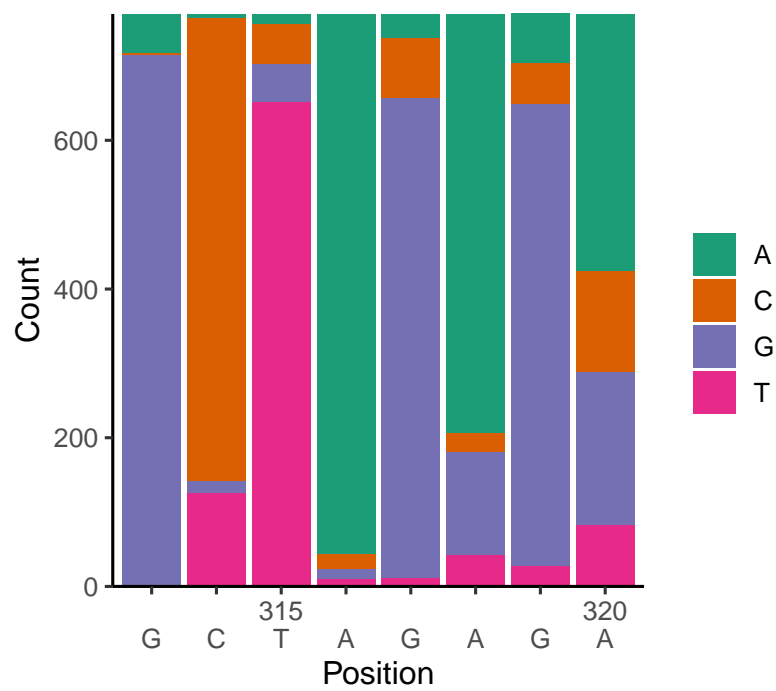
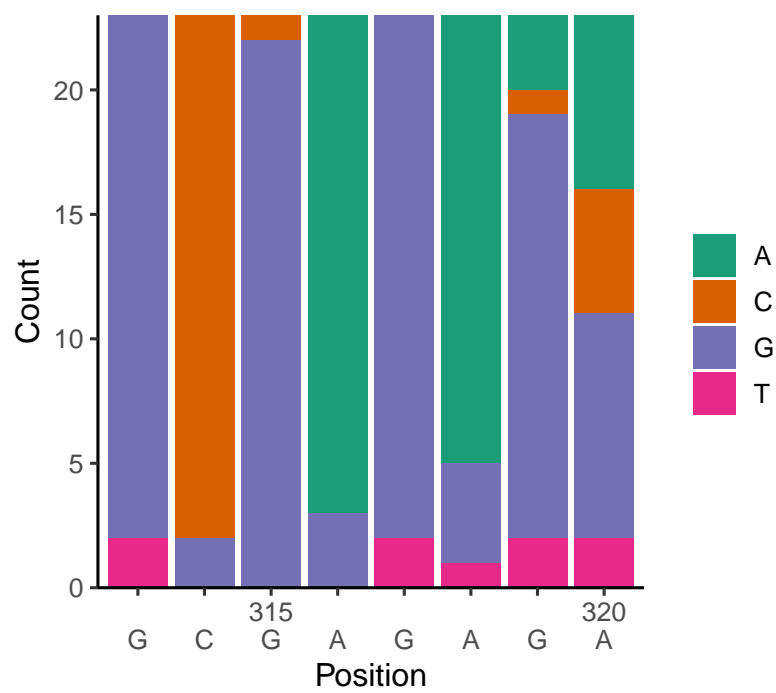


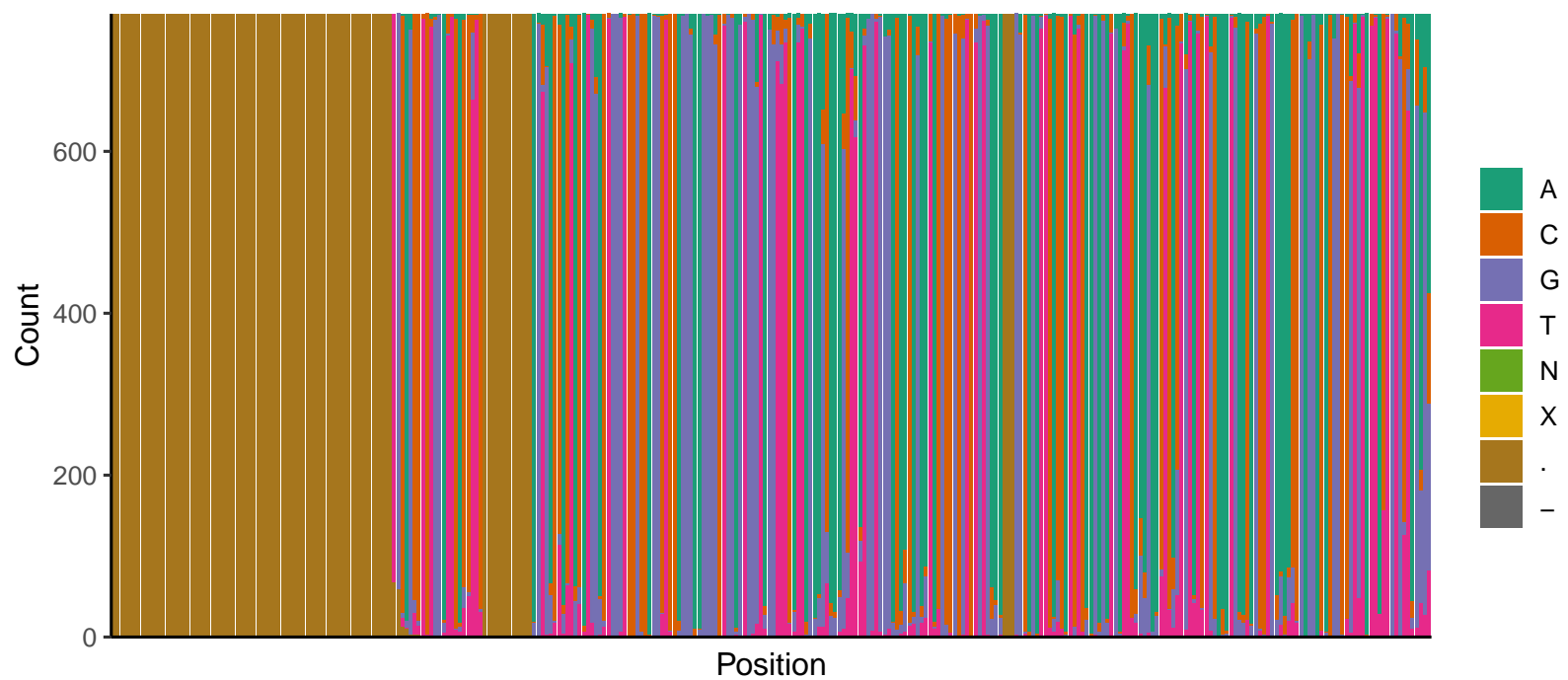
Gene IGHV3-72\*01\_T159A\_C162T\_C163T\_G164T\_T165C\_C167T\_A173G\_A181T\_C183



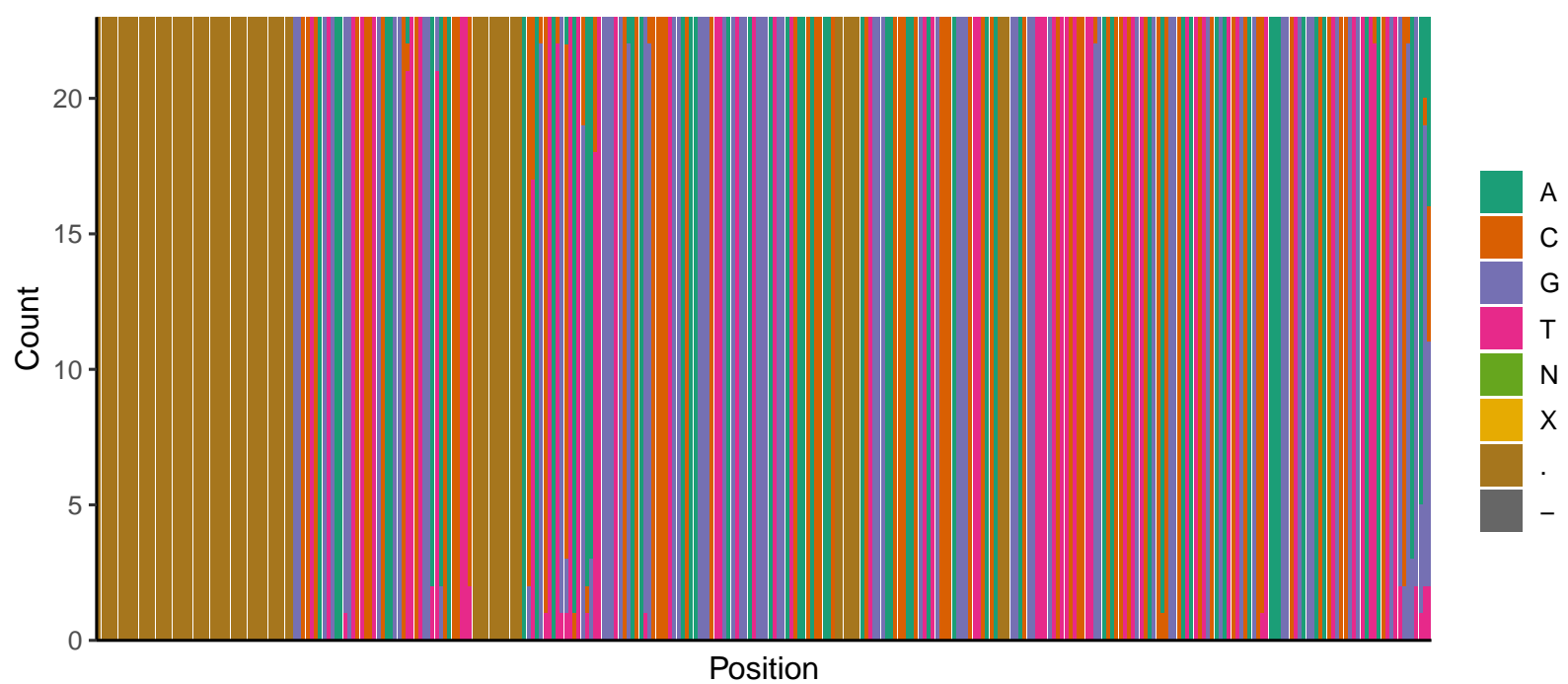
Gene IGHV7-4-1\*01\_T63C



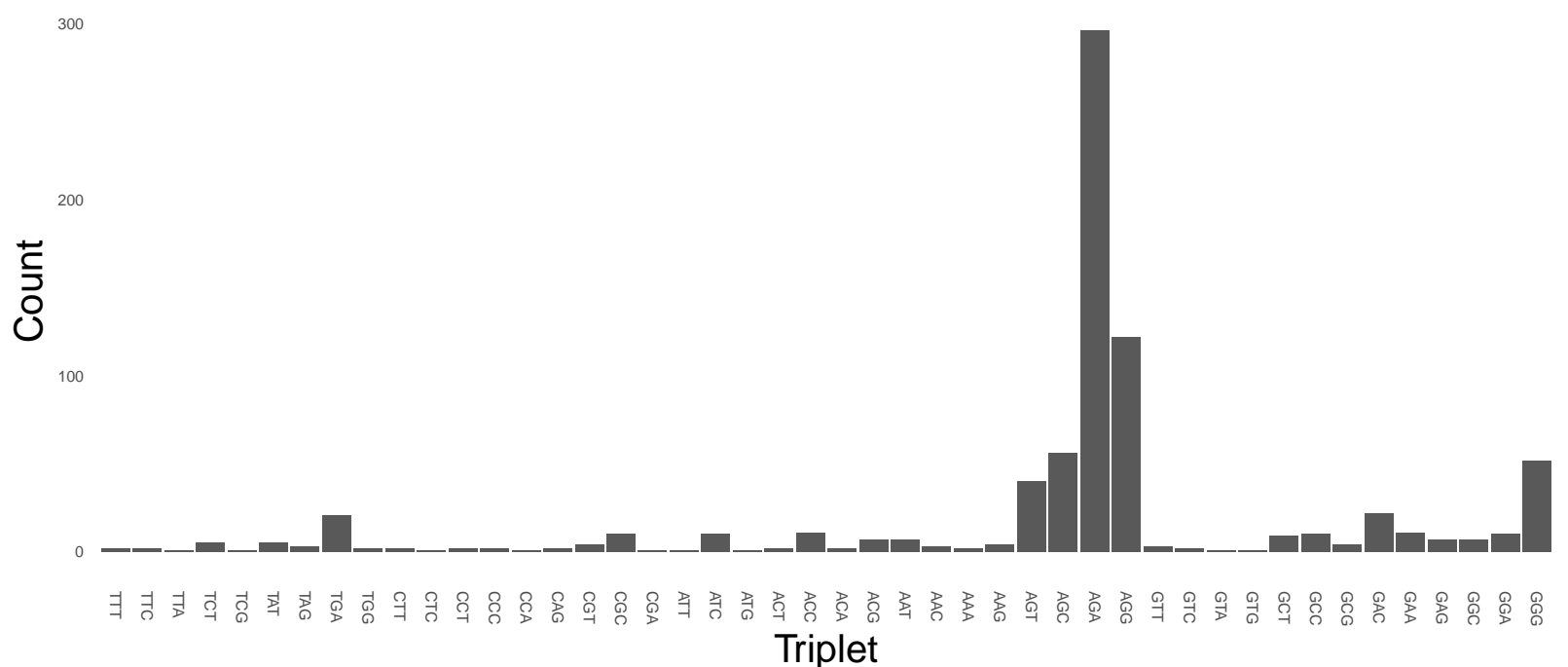
Gene IGHV3-72\*01\_T159A\_C162T\_C163T\_G164T\_T165C\_C167T\_A173G\_A181T\_C183



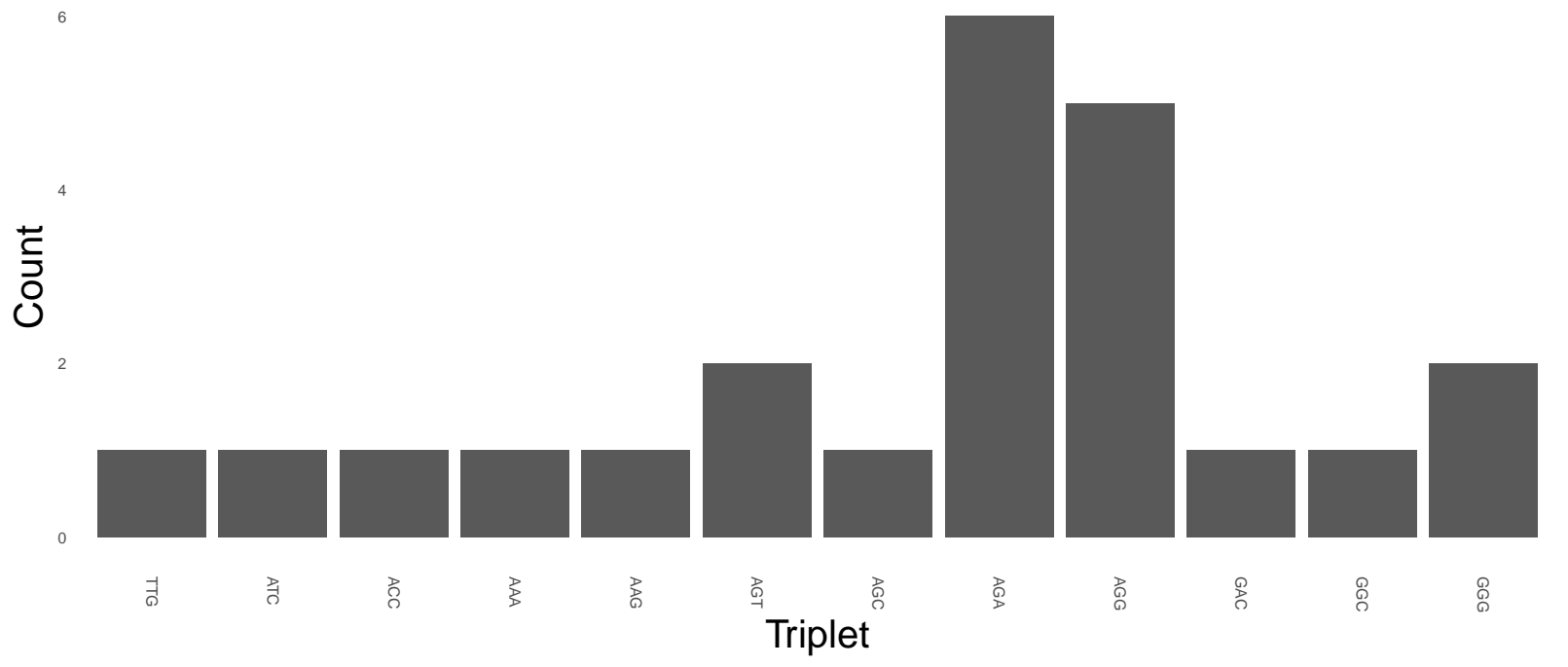
Gene IGHV7-4-1\*01\_T63C



IGHV3-72\*01\_T159A\_C162T\_C163T\_G164T\_T165C\_C167T\_A173G\_A181T\_C183T\_A184G\_T1

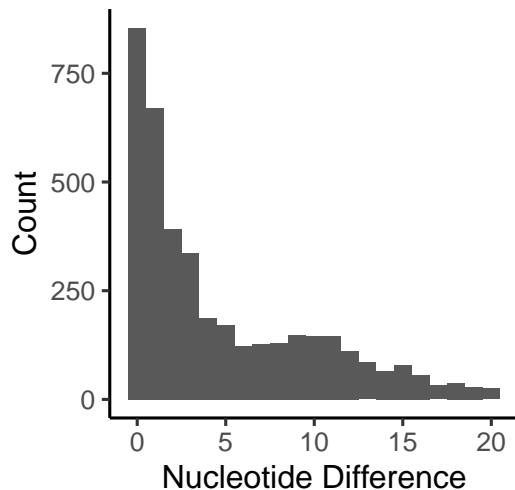


IGHV7-4-1\*01\_T63C- Final 3 nucleotides as a triplet



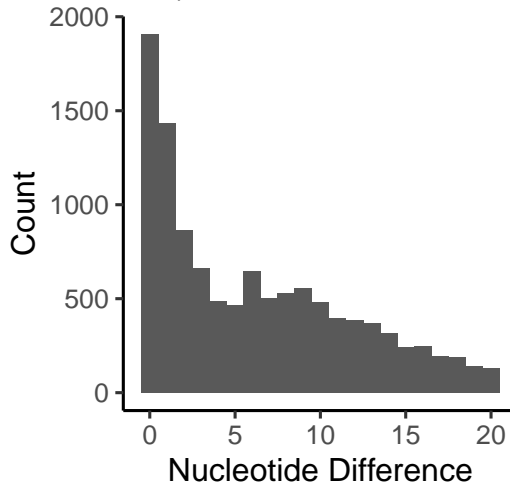
### IGHV1-2\*04

4152 sequences assigned  
855 (20.6%) exact matches, in which:  
798 unique CDR3  
6 unique J



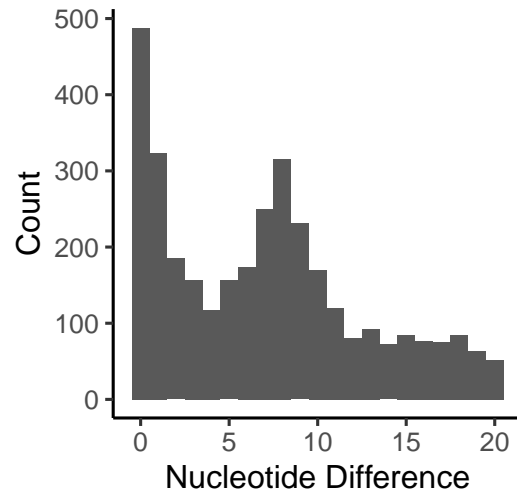
### IGHV1-18\*01

11999 sequences assigned  
1906 (15.9%) exact matches, in which:  
1780 unique CDR3  
6 unique J



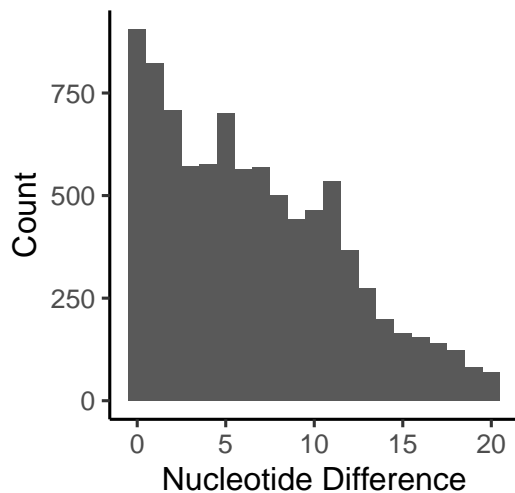
### IGHV1-46\*01

3817 sequences assigned  
488 (12.8%) exact matches, in which:  
465 unique CDR3  
6 unique J



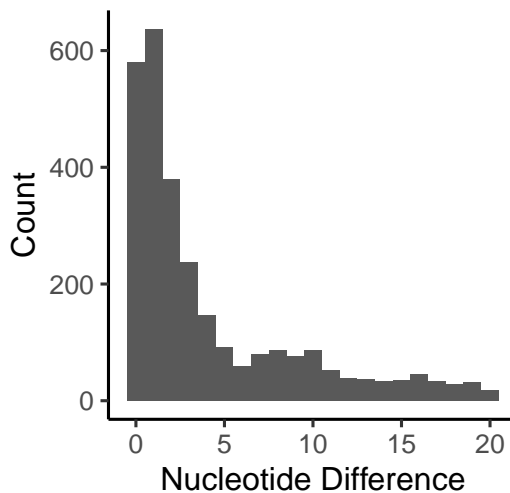
### IGHV1-3\*01\_05

9557 sequences assigned  
906 (9.5%) exact matches, in which:  
823 unique CDR3  
6 unique J



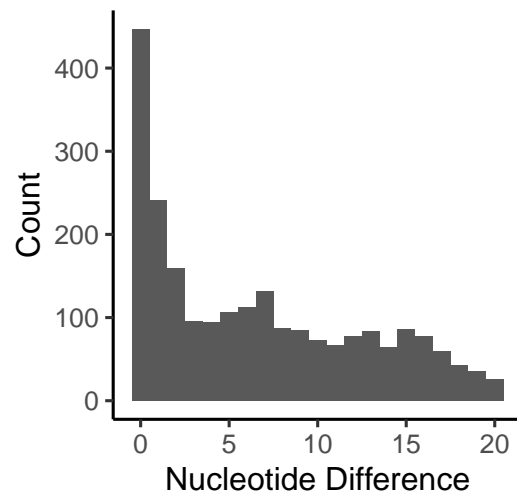
### IGHV1-24\*01

2881 sequences assigned  
580 (20.1%) exact matches, in which:  
515 unique CDR3  
6 unique J



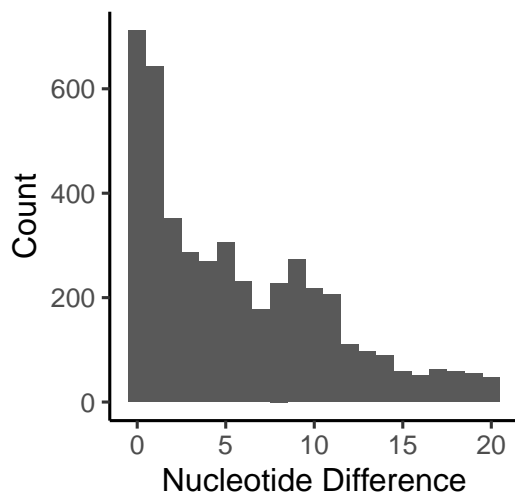
### IGHV1-46\*04

2468 sequences assigned  
447 (18.1%) exact matches, in which:  
428 unique CDR3  
6 unique J



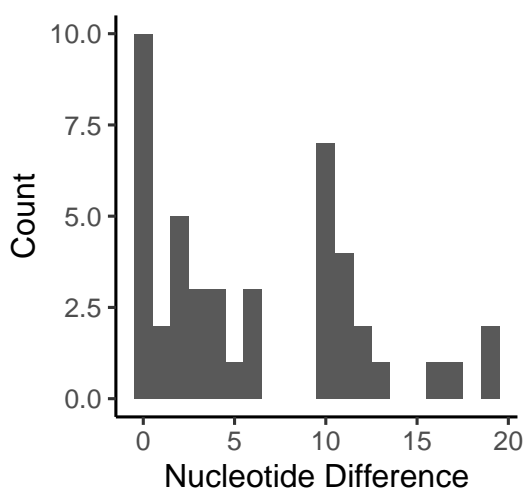
### IGHV1-8\*01

4795 sequences assigned  
712 (14.8%) exact matches, in which:  
656 unique CDR3  
6 unique J



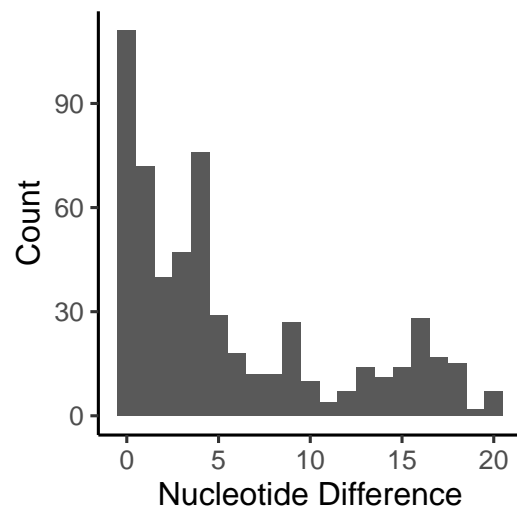
### IGHV1-45\*02

45 sequences assigned  
10 (22.2%) exact matches, in which:  
9 unique CDR3  
3 unique J



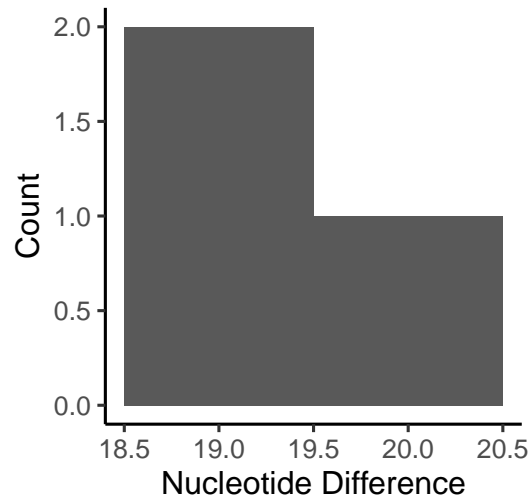
### IGHV1-58\*02

624 sequences assigned  
111 (17.8%) exact matches, in which:  
107 unique CDR3  
6 unique J



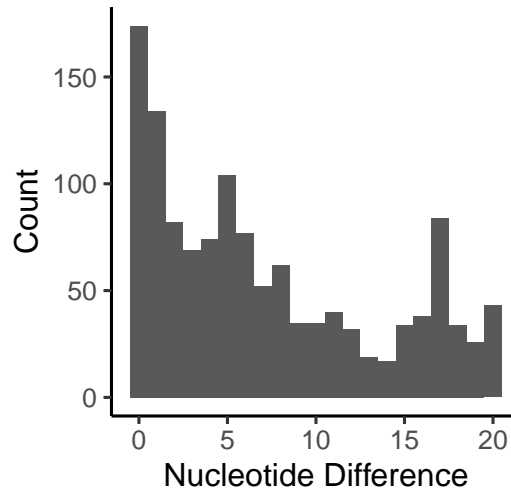
### IGHV1-69-2\*01

3 sequences assigned  
No exact matches.



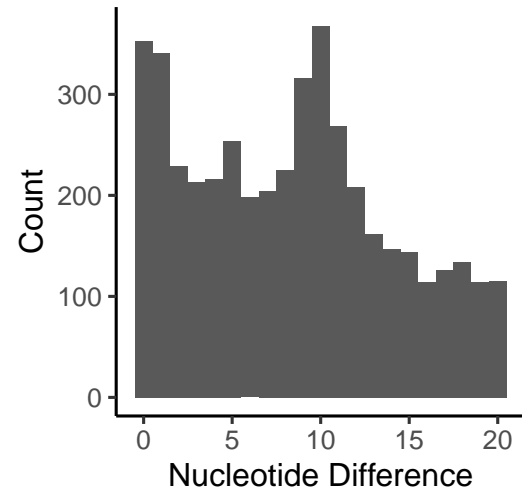
### IGHV2-5\*02

1421 sequences assigned  
174 (12.2%) exact matches, in which:  
159 unique CDR3  
6 unique J



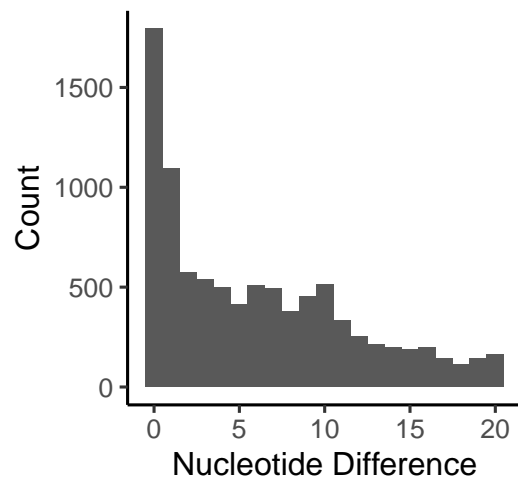
### IGHV3-7\*01

4884 sequences assigned  
353 (7.2%) exact matches, in which:  
316 unique CDR3  
6 unique J



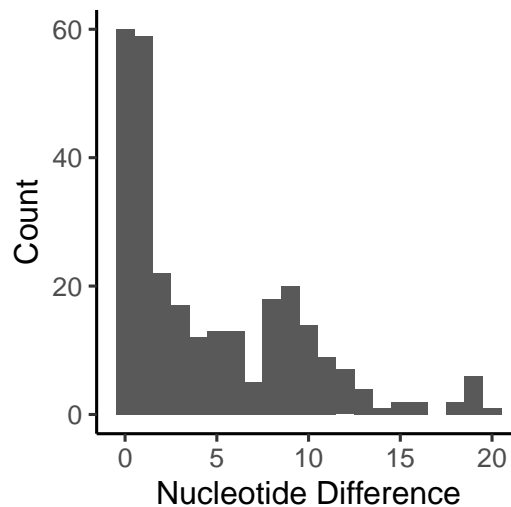
### IGHV1-69\*04\_09

10078 sequences assigned  
1794 (17.8%) exact matches, in which:  
1721 unique CDR3  
6 unique J



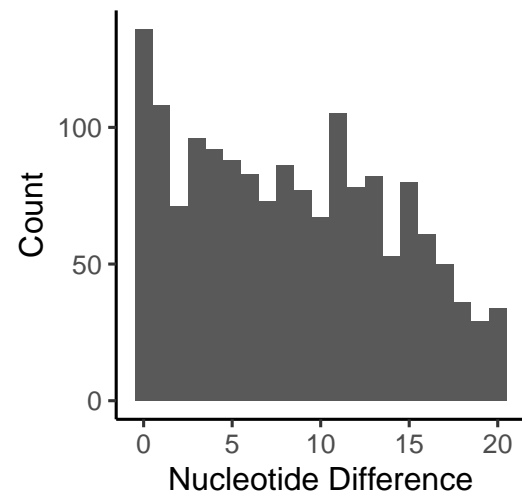
### IGHV2-26\*01

301 sequences assigned  
60 (19.9%) exact matches, in which:  
55 unique CDR3  
5 unique J



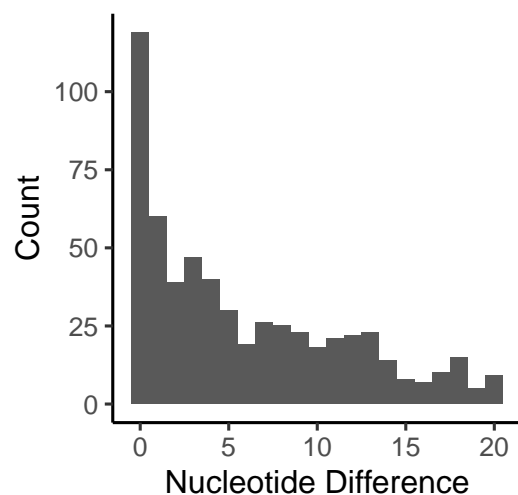
### IGHV3-7\*04

1782 sequences assigned  
136 (7.6%) exact matches, in which:  
127 unique CDR3  
6 unique J



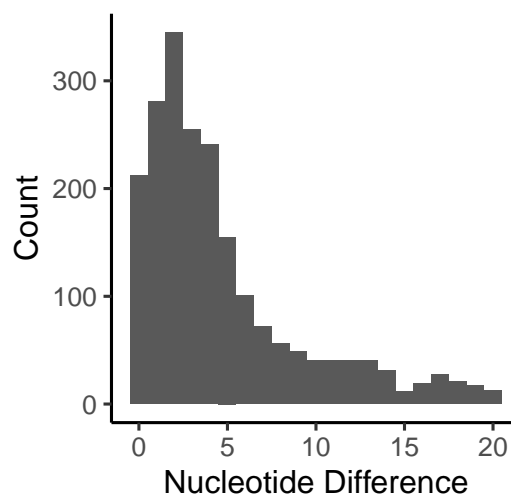
### IGHV2-5\*01

615 sequences assigned  
119 (19.3%) exact matches, in which:  
118 unique CDR3  
6 unique J



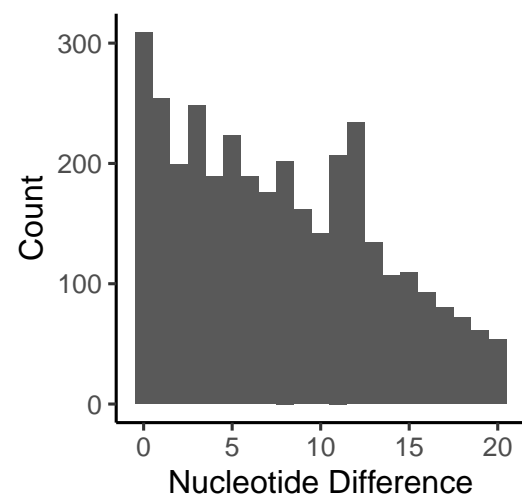
### IGHV2-70\*11\_15

2159 sequences assigned  
212 (9.8%) exact matches, in which:  
193 unique CDR3  
6 unique J



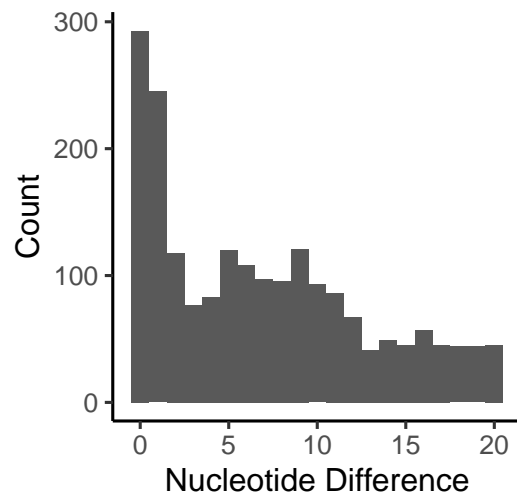
### IGHV3-9\*01

3765 sequences assigned  
309 (8.2%) exact matches, in which:  
281 unique CDR3  
6 unique J



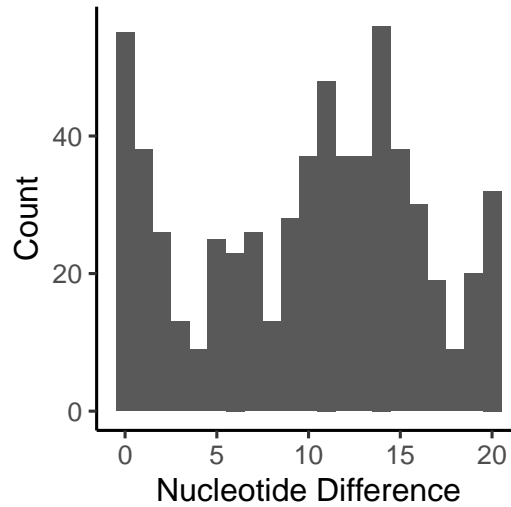
### IGHV3-11\*01

2304 sequences assigned  
293 (12.7%) exact matches, in which:  
272 unique CDR3  
6 unique J



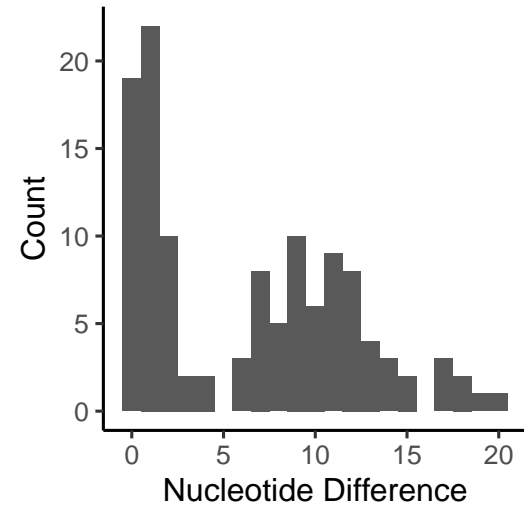
### IGHV3-13\*01

769 sequences assigned  
55 (7.2%) exact matches, in which:  
51 unique CDR3  
5 unique J



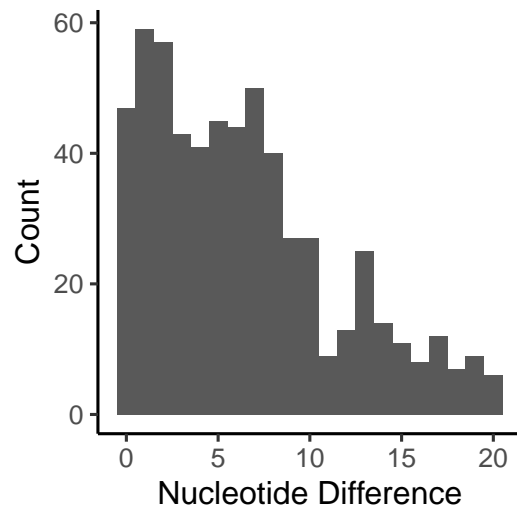
### IGHV3-20\*01\_02

121 sequences assigned  
19 (15.7%) exact matches, in which:  
19 unique CDR3  
5 unique J



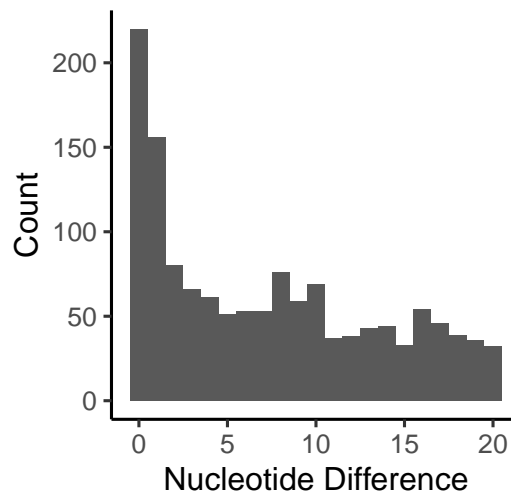
### IGHV3-11\*04

621 sequences assigned  
47 (7.6%) exact matches, in which:  
47 unique CDR3  
6 unique J



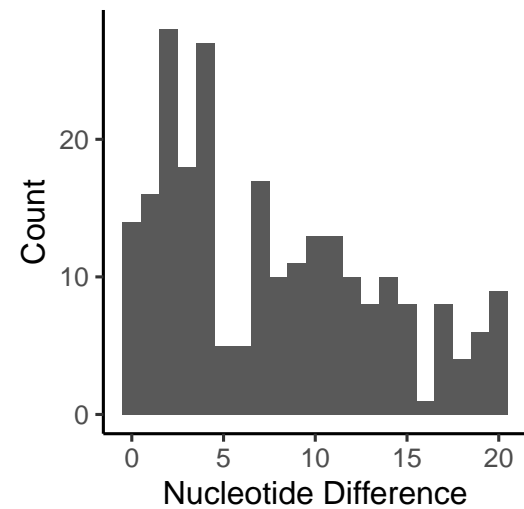
### IGHV3-15\*07

1536 sequences assigned  
220 (14.3%) exact matches, in which:  
211 unique CDR3  
6 unique J



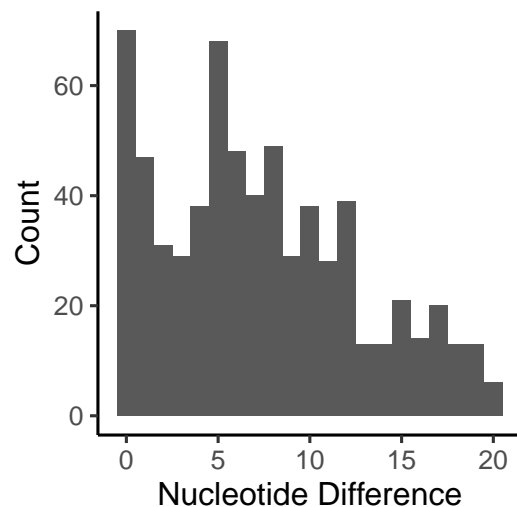
### IGHV3-20\*03\_04

314 sequences assigned  
14 (4.5%) exact matches, in which:  
13 unique CDR3  
3 unique J



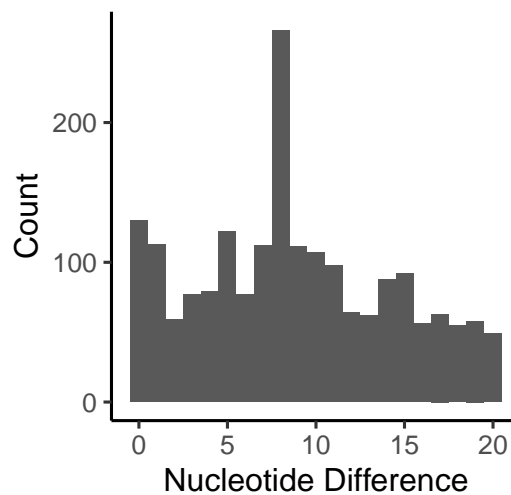
### IGHV3-11\*06

740 sequences assigned  
70 (9.5%) exact matches, in which:  
67 unique CDR3  
6 unique J



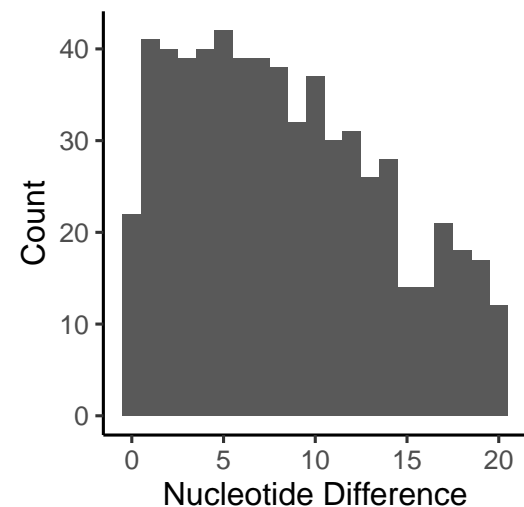
### IGHV3-15\*01\_02

2436 sequences assigned  
130 (5.3%) exact matches, in which:  
126 unique CDR3  
6 unique J



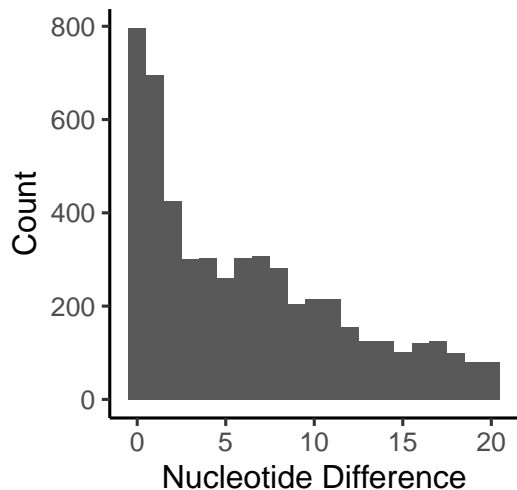
### IGHV3-21\*04

755 sequences assigned  
22 (2.9%) exact matches, in which:  
22 unique CDR3  
6 unique J



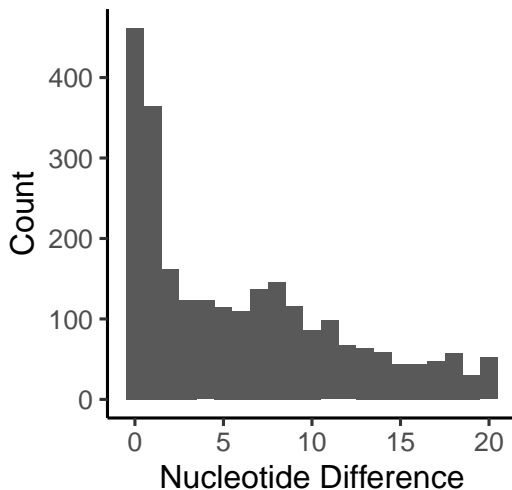
### IGHV3-21\*01\_02

6317 sequences assigned  
797 (12.6%) exact matches, in which:  
743 unique CDR3  
6 unique J



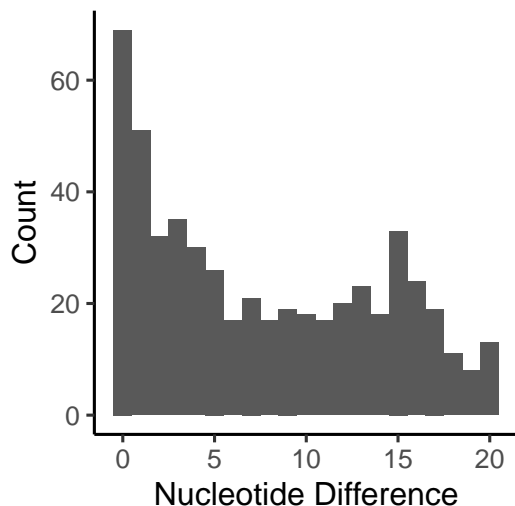
### IGHV3-30\*03

2777 sequences assigned  
462 (16.6%) exact matches, in which:  
418 unique CDR3  
6 unique J



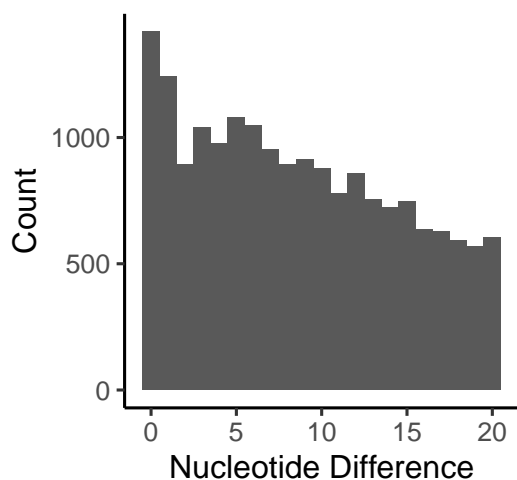
### IGHV3-43\*01

648 sequences assigned  
69 (10.6%) exact matches, in which:  
66 unique CDR3  
6 unique J



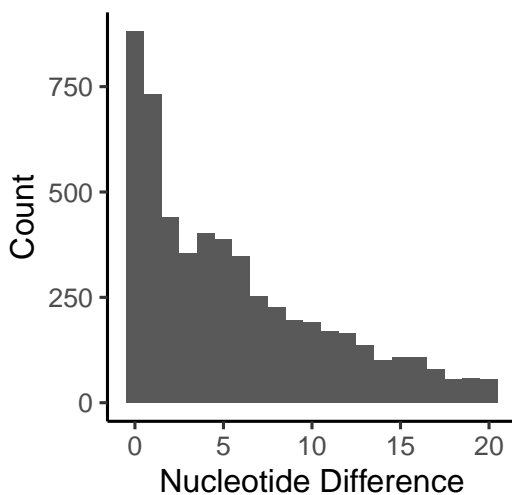
### IGHV3-23\*01\_04

21494 sequences assigned  
1419 (6.6%) exact matches, in which:  
1337 unique CDR3  
6 unique J



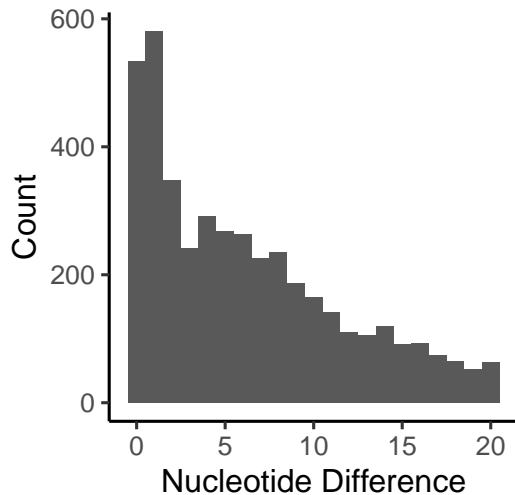
### IGHV3-33\*01

5980 sequences assigned  
882 (14.7%) exact matches, in which:  
835 unique CDR3  
6 unique J



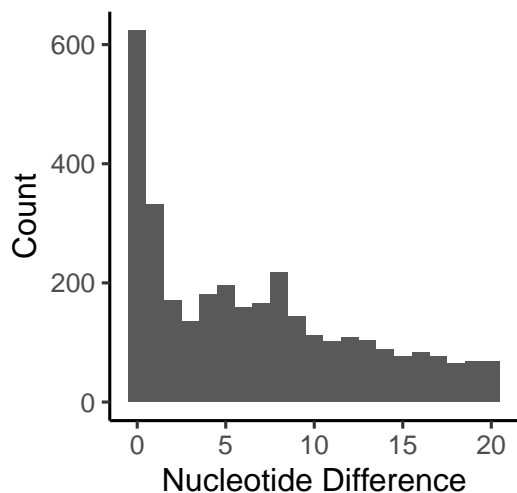
### IGHV3-48\*01

4534 sequences assigned  
533 (11.8%) exact matches, in which:  
476 unique CDR3  
6 unique J



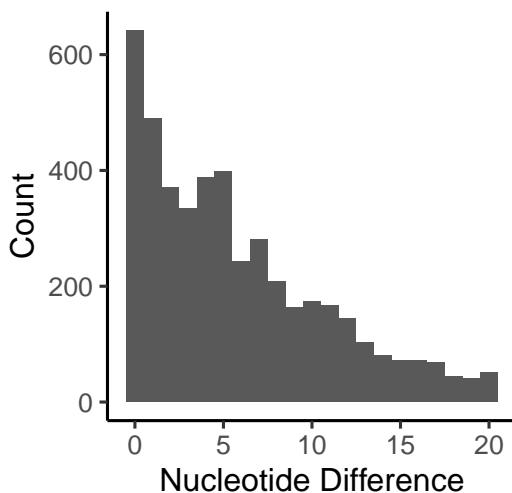
### IGHV3-30-3\*01

3827 sequences assigned  
624 (16.3%) exact matches, in which:  
596 unique CDR3  
6 unique J



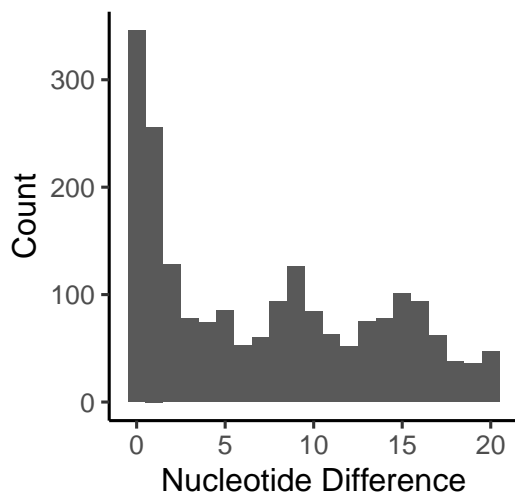
### IGHV3-33\*08

4782 sequences assigned  
642 (13.4%) exact matches, in which:  
610 unique CDR3  
6 unique J



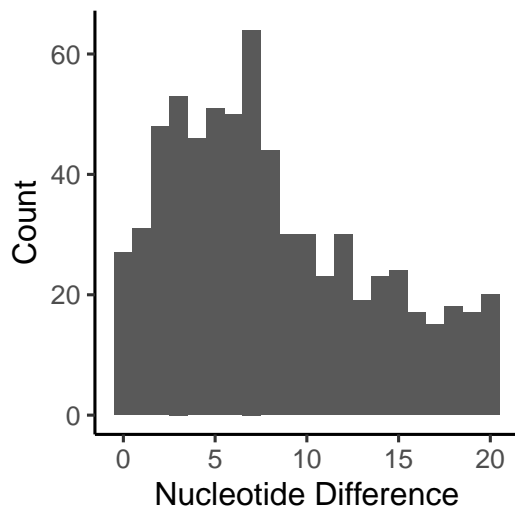
### IGHV3-48\*02

2386 sequences assigned  
346 (14.5%) exact matches, in which:  
315 unique CDR3  
6 unique J



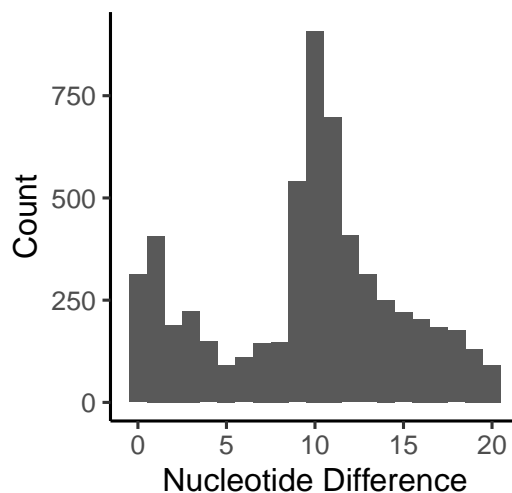
### IGHV3-48\*04

760 sequences assigned  
27 (3.6%) exact matches, in which:  
27 unique CDR3  
5 unique J



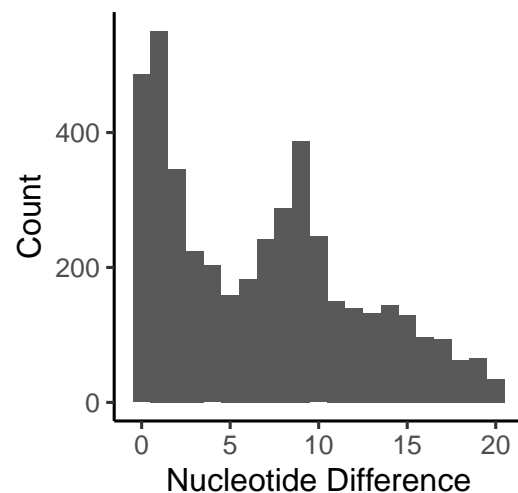
### IGHV3-53\*01\_02

6663 sequences assigned  
313 (4.7%) exact matches, in which:  
274 unique CDR3  
6 unique J



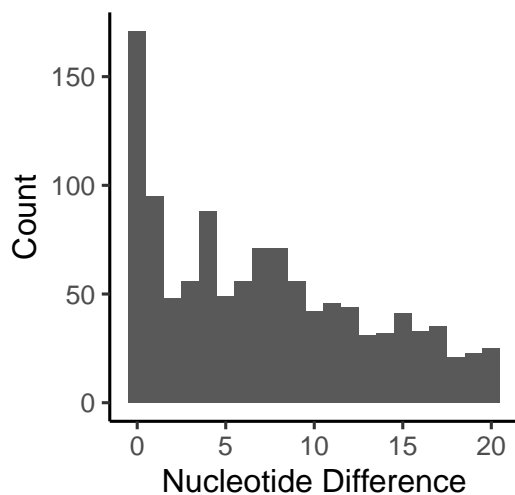
### IGHV3-66\*01

4753 sequences assigned  
486 (10.2%) exact matches, in which:  
451 unique CDR3  
6 unique J



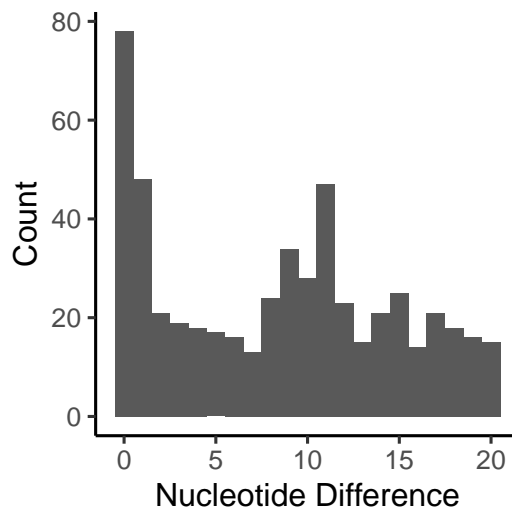
### IGHV3-49\*03\_05

1322 sequences assigned  
171 (12.9%) exact matches, in which:  
158 unique CDR3  
6 unique J



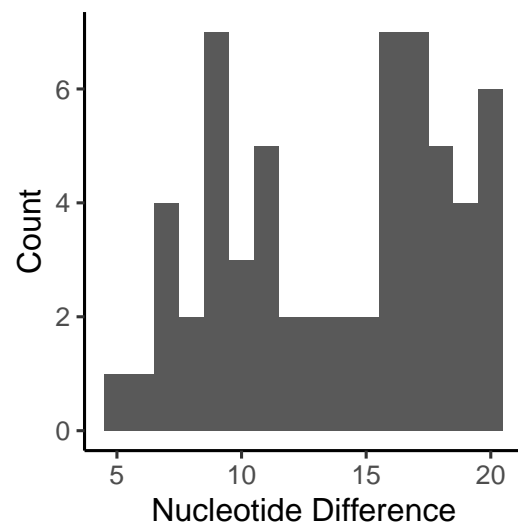
### IGHV3-64\*01

589 sequences assigned  
78 (13.2%) exact matches, in which:  
72 unique CDR3  
6 unique J



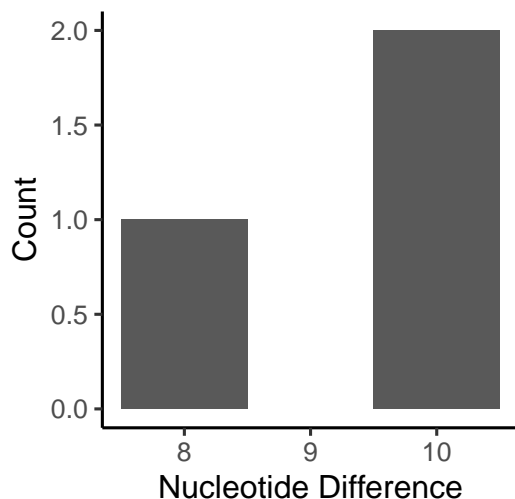
### IGHV3-69-1\*01

80 sequences assigned  
No exact matches.



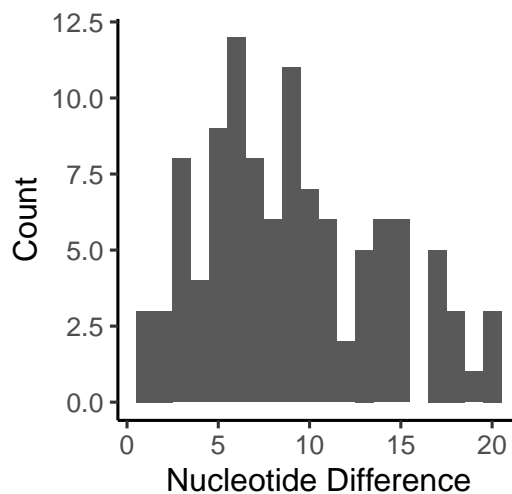
### IGHV3-52\*01\_03

3 sequences assigned  
No exact matches.



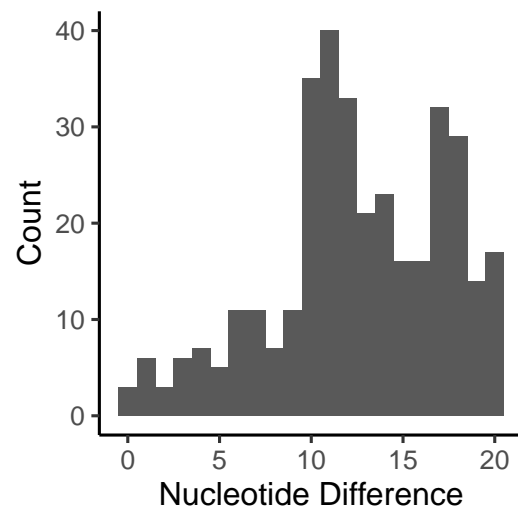
### IGHV3-64\*04

117 sequences assigned  
No exact matches.



### IGHV3-72\*01

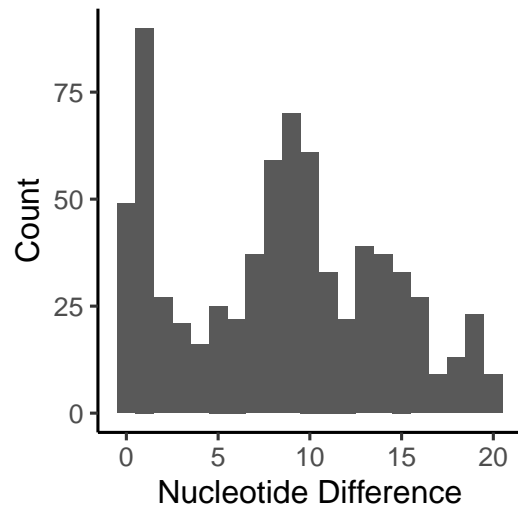
464 sequences assigned  
3 (0.6%) exact matches, in which:  
3 unique CDR3  
2 unique J





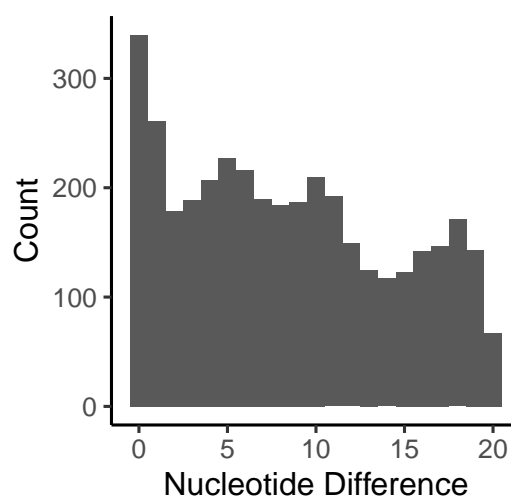
### IGHV3-72\*01\_T159A\_C16

770 sequences assigned  
49 (6.4%) exact matches, in which:  
39 unique CDR3  
5 unique J



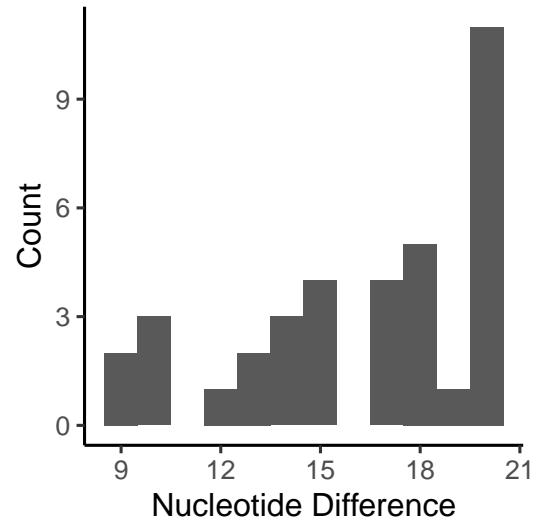
### IGHV3-74\*01\_02

4119 sequences assigned  
340 (8.3%) exact matches, in which:  
316 unique CDR3  
6 unique J



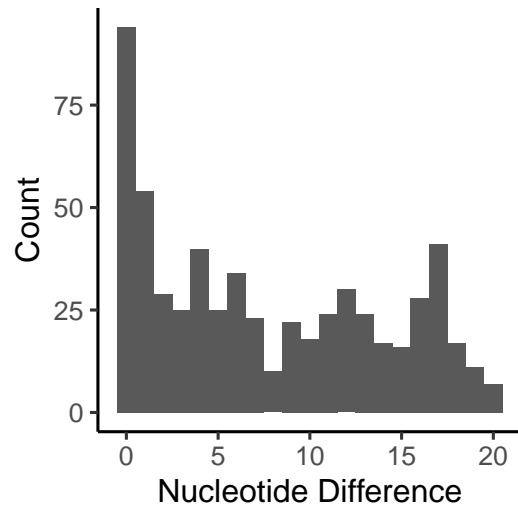
### IGHV3-64D\*08

73 sequences assigned  
No exact matches.



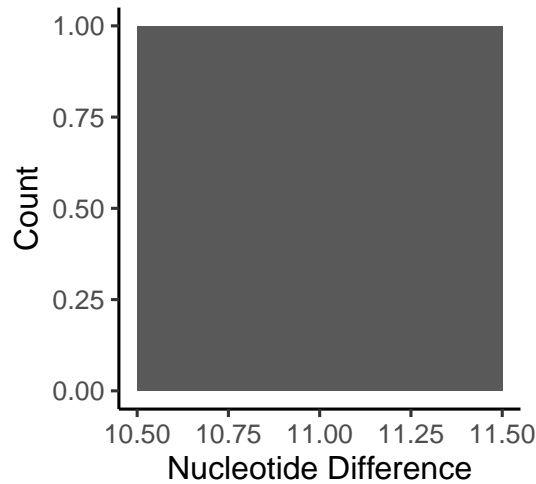
### IGHV3-73\*01\_02

666 sequences assigned  
94 (14.1%) exact matches, in which:  
88 unique CDR3  
6 unique J



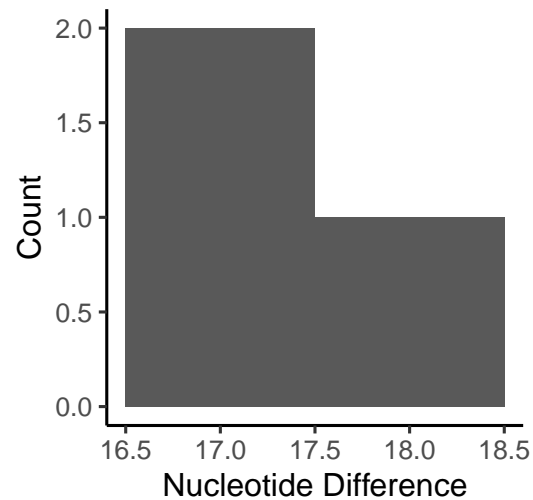
### IGHV3-43D\*04

4 sequences assigned  
No exact matches.



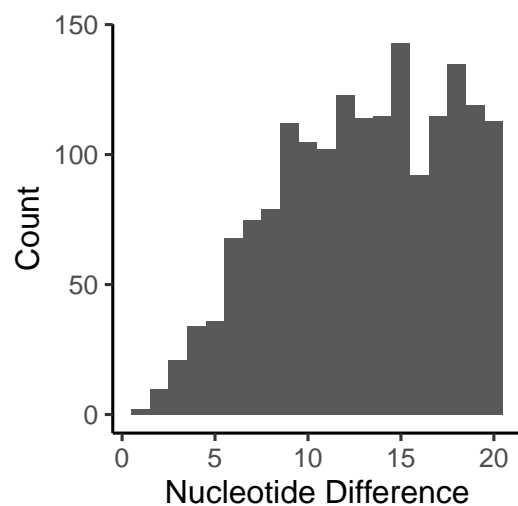
### IGHV3-64D\*09

3 sequences assigned  
No exact matches.



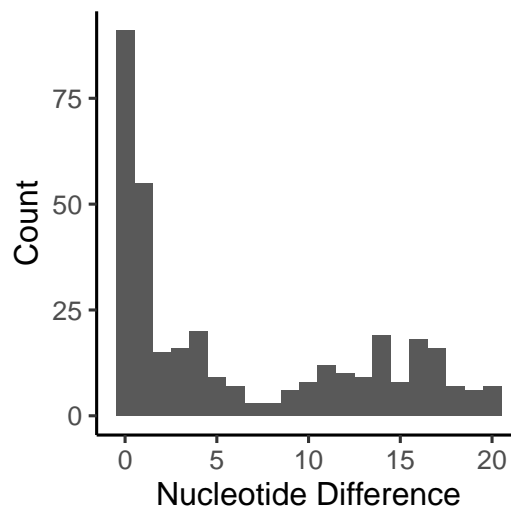
### IGHV3-74\*03

2190 sequences assigned  
No exact matches.



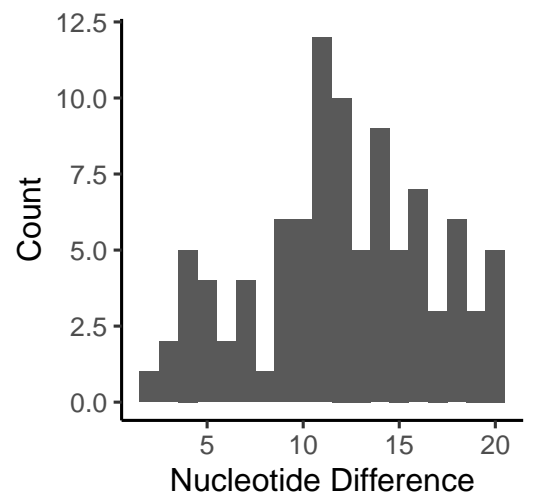
### IGHV3-64D\*06

372 sequences assigned  
91 (24.5%) exact matches, in which:  
83 unique CDR3  
6 unique J



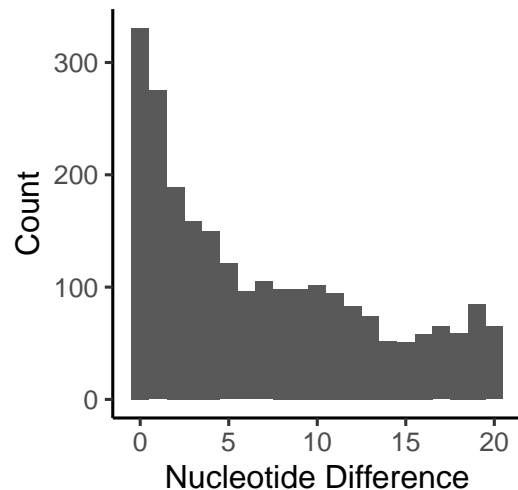
### IGHV3-NL1\*01

108 sequences assigned  
No exact matches.



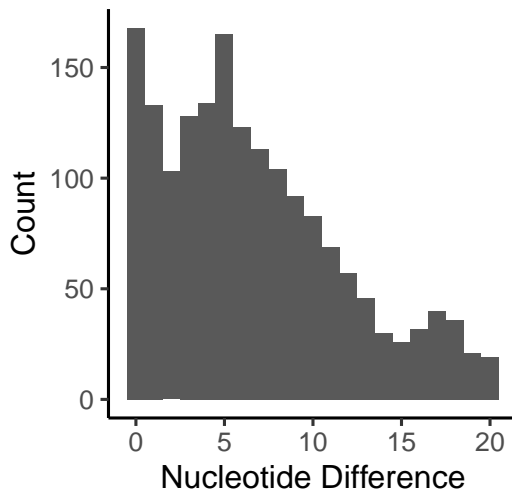
### IGHV4-4\*02\_03

2809 sequences assigned  
331 (11.8%) exact matches, in which:  
300 unique CDR3  
6 unique J



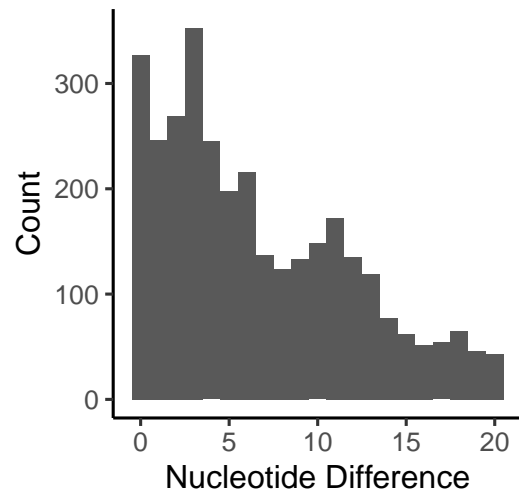
### IGHV4-30-4\*01

1888 sequences assigned  
168 (8.9%) exact matches, in which:  
160 unique CDR3  
6 unique J



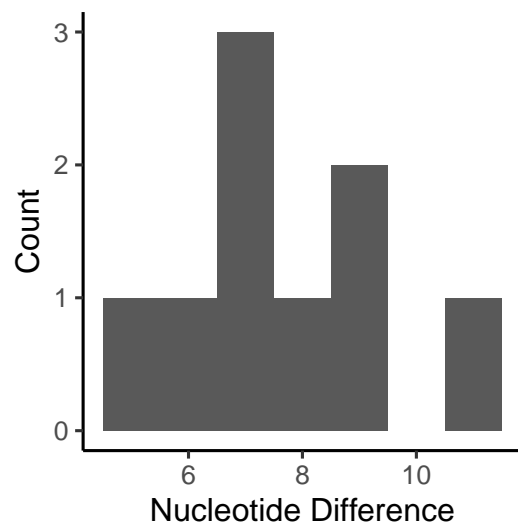
### IGHV4-31\*02

3461 sequences assigned  
327 (9.4%) exact matches, in which:  
308 unique CDR3  
6 unique J



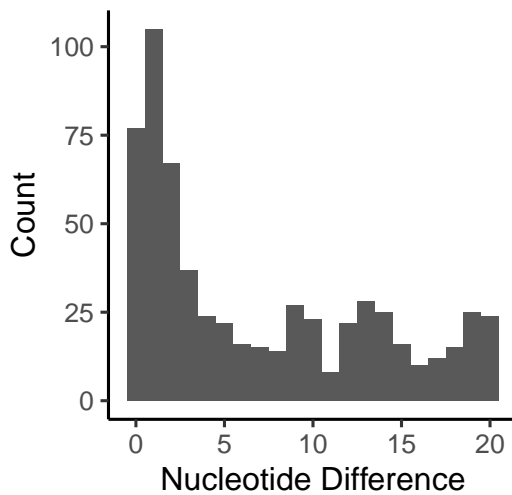
### IGHV4-28\*03

9 sequences assigned  
No exact matches.



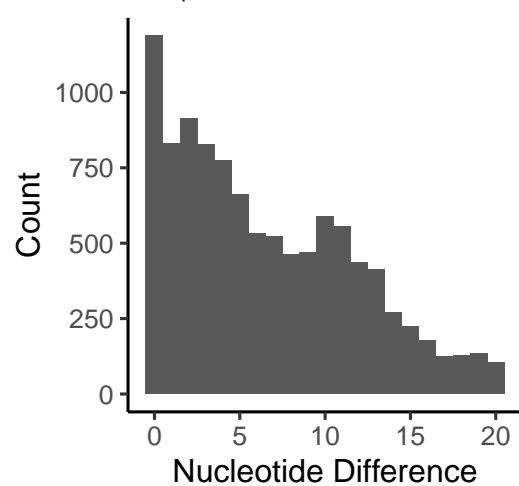
### IGHV4-30-2\*01

737 sequences assigned  
77 (10.4%) exact matches, in which:  
66 unique CDR3  
6 unique J



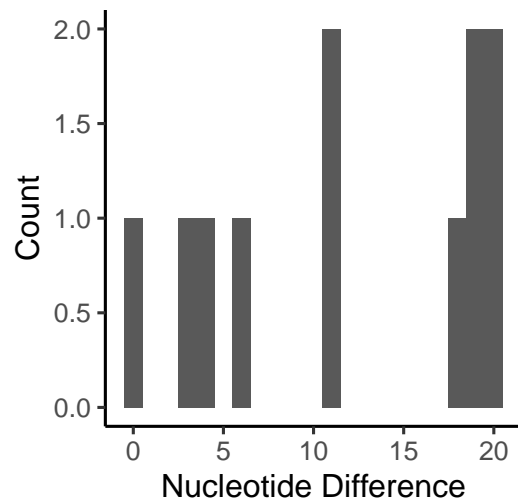
### IGHV4-34\*01\_02

11086 sequences assigned  
1188 (10.7%) exact matches, in which:  
1138 unique CDR3  
6 unique J



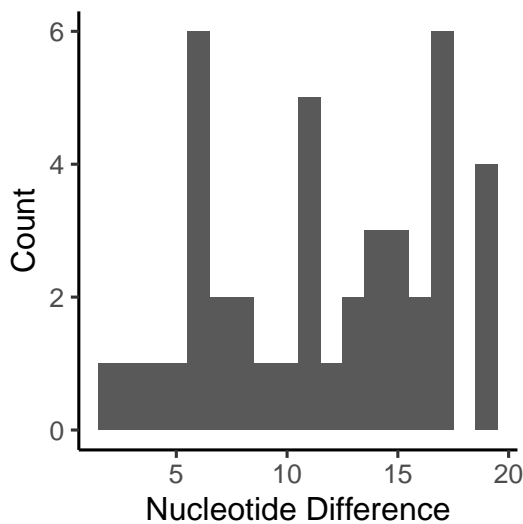
### IGHV4-28\*01\_07

11 sequences assigned  
1 (9.1%) exact matches, in which:  
1 unique CDR3  
1 unique J



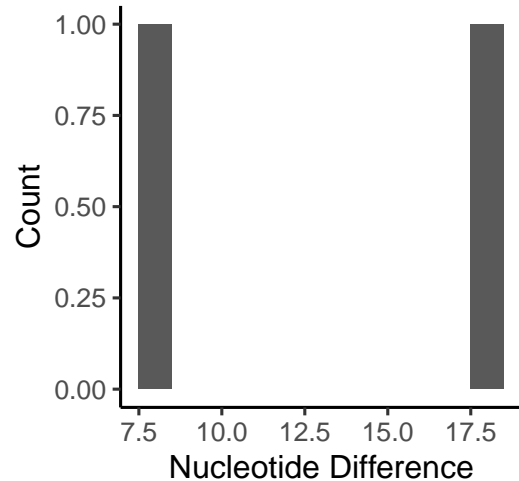
### IGHV4-30-2\*03

60 sequences assigned  
No exact matches.



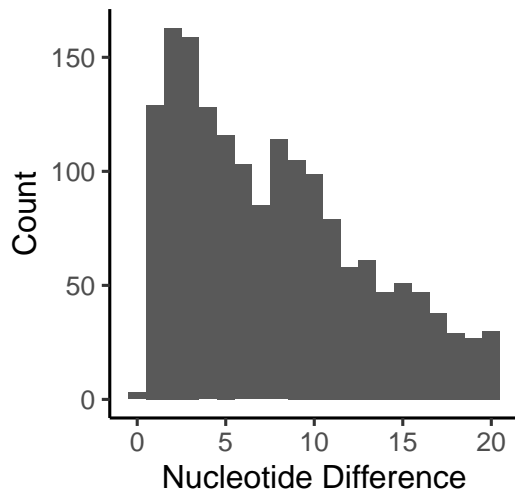
### IGHV4-38-2\*01

5 sequences assigned  
No exact matches.



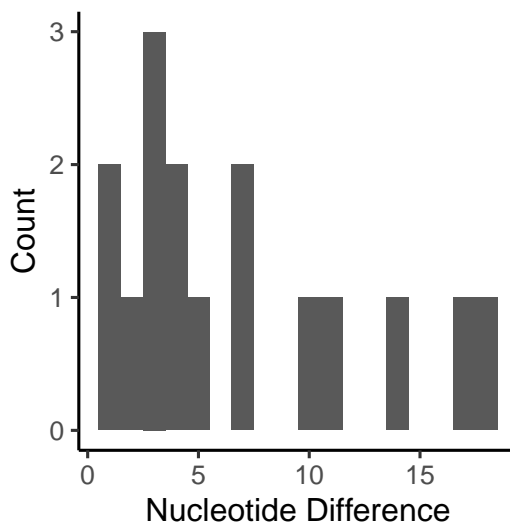
### IGHV4–39\*07

2069 sequences assigned  
3 (0.1%) exact matches, in which:  
3 unique CDR3  
2 unique J



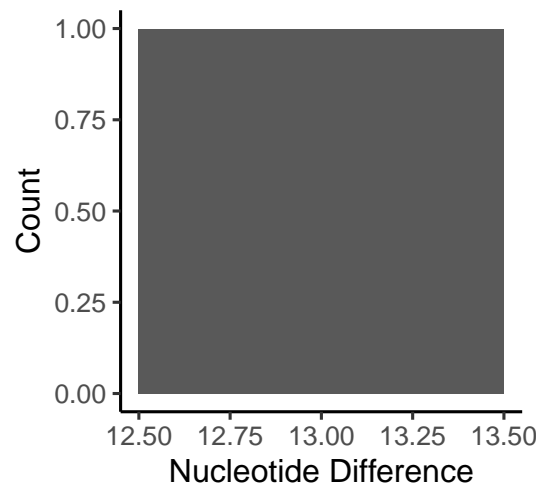
### IGHV4–61\*05

19 sequences assigned  
No exact matches.



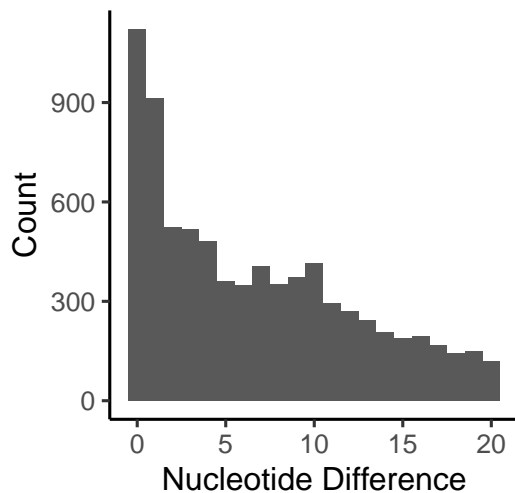
### IGHV1/OR15–2\*01

1 sequences assigned  
No exact matches.



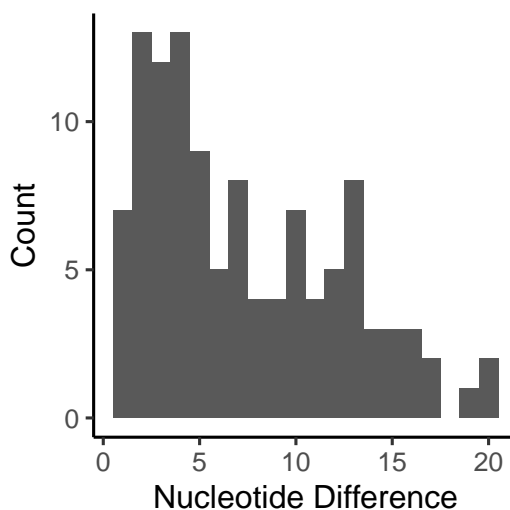
### IGHV4–59\*08

8849 sequences assigned  
1122 (12.7%) exact matches, in which:  
1042 unique CDR3  
6 unique J



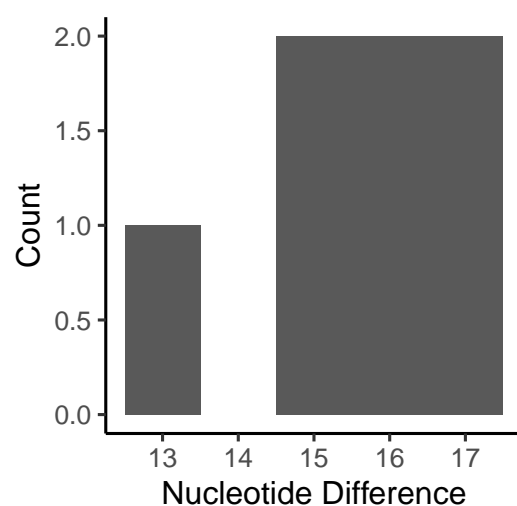
### IGHV4–61\*08

131 sequences assigned  
No exact matches.



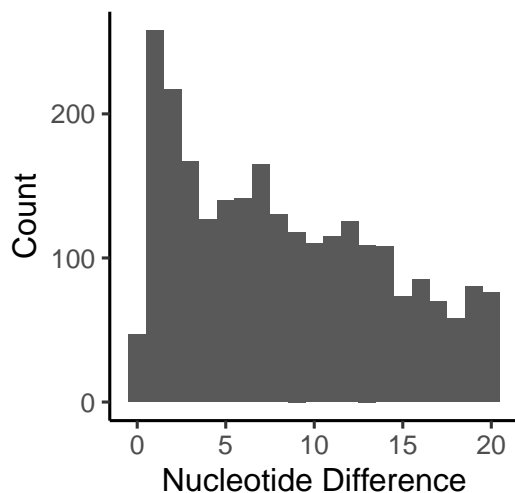
### IGHV1/OR15–2\*02\_03

17 sequences assigned  
No exact matches.



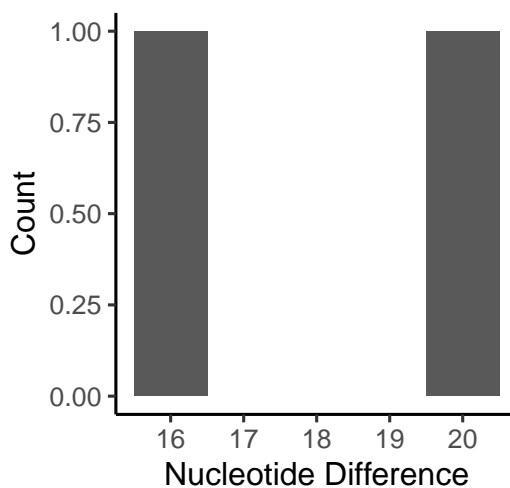
### IGHV4–59\*12

3133 sequences assigned  
47 (1.5%) exact matches, in which:  
47 unique CDR3  
6 unique J



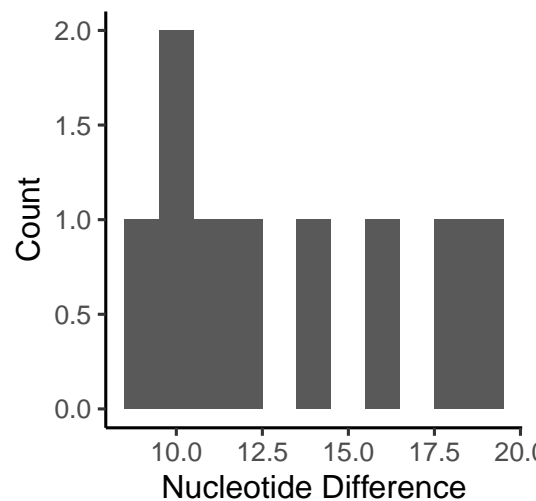
### IGHV1/OR15–1\*04

4 sequences assigned  
No exact matches.



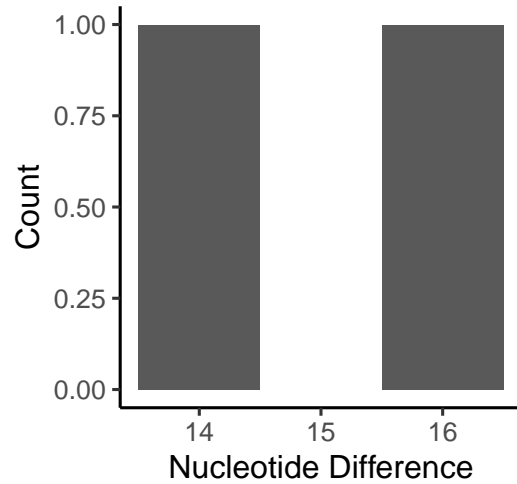
### IGHV1/OR15–3\*02

9 sequences assigned  
No exact matches.



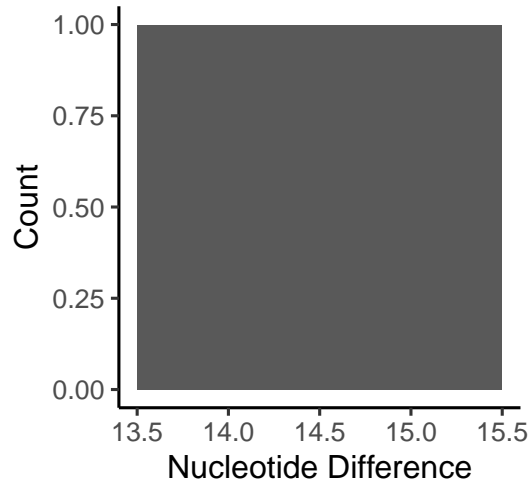
### IGHV1/OR15-4\*01

2 sequences assigned  
No exact matches.



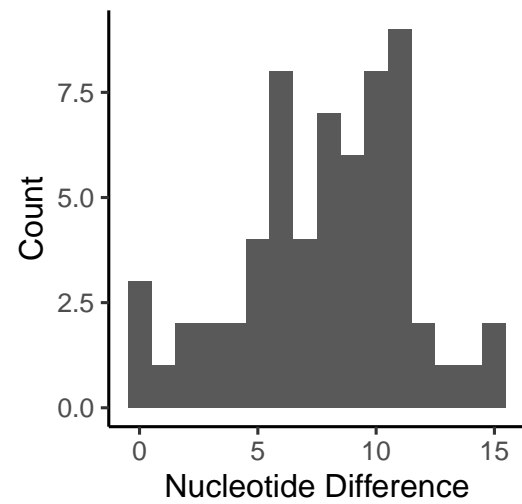
### IGHV4/OR15-8\*03

3 sequences assigned  
No exact matches.



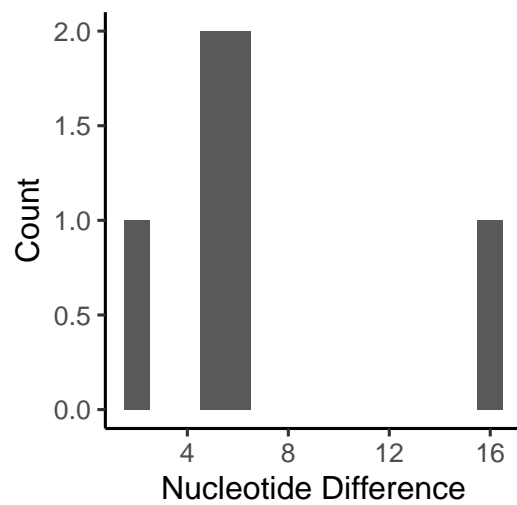
### IGHV5-51\*06

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



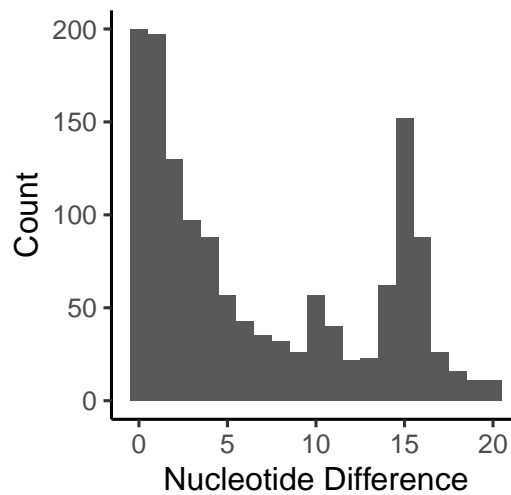
### IGHV4/OR15-8\*01

9 sequences assigned  
No exact matches.



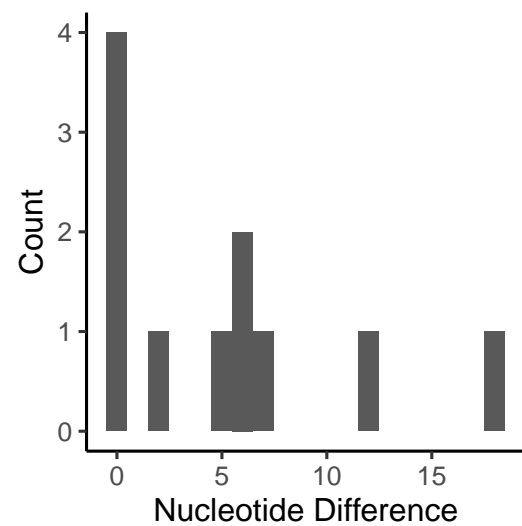
### IGHV5-10-1\*01\_03

1756 sequences assigned  
200 (11.4%) exact matches, in which:  
188 unique CDR3  
6 unique J



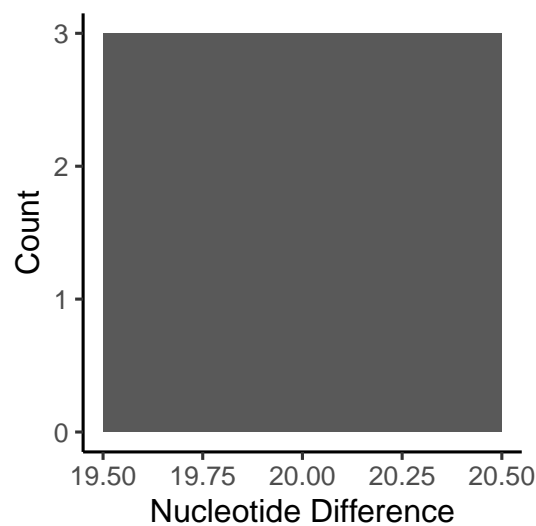
### IGHV5-51\*07

12 sequences assigned  
4 (33.3%) exact matches, in which:  
4 unique CDR3  
2 unique J



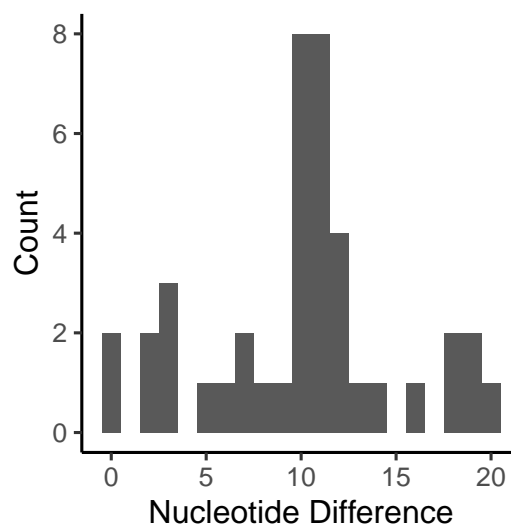
### IGHV4/OR15-8\*02

14 sequences assigned  
No exact matches.



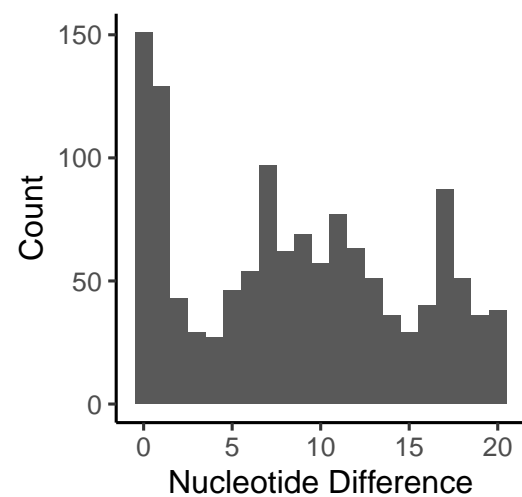
### IGHV5-51\*04

43 sequences assigned  
2 (4.7%) exact matches, in which:  
2 unique CDR3  
2 unique J



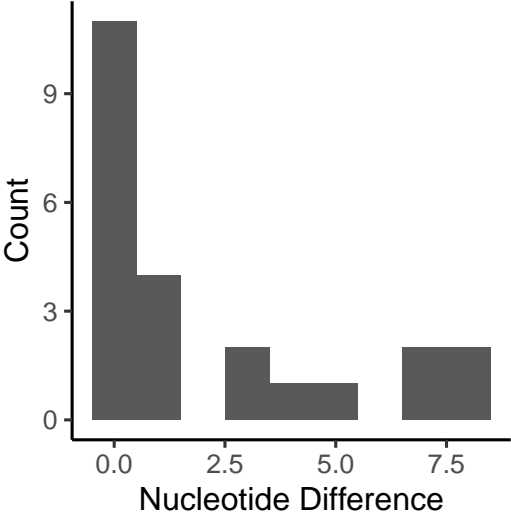
### IGHV6-1\*01\_02

1418 sequences assigned  
151 (10.6%) exact matches, in which:  
146 unique CDR3  
5 unique J

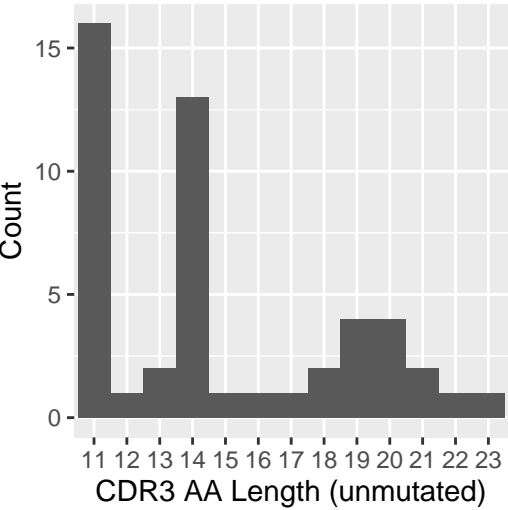


# IGHV7-4-1\*01\_T63C

23 sequences assigned  
11 (47.8%) exact matches, in which:  
11 unique CDR3  
4 unique J



IGHV3-72\*01\_T159A\_C162T\_C163T\_G164T\_T165C\_C167T\_A173G\_A181T\_C183T\_A184G\_T18



IGHV7-4-1\*01\_T63C

