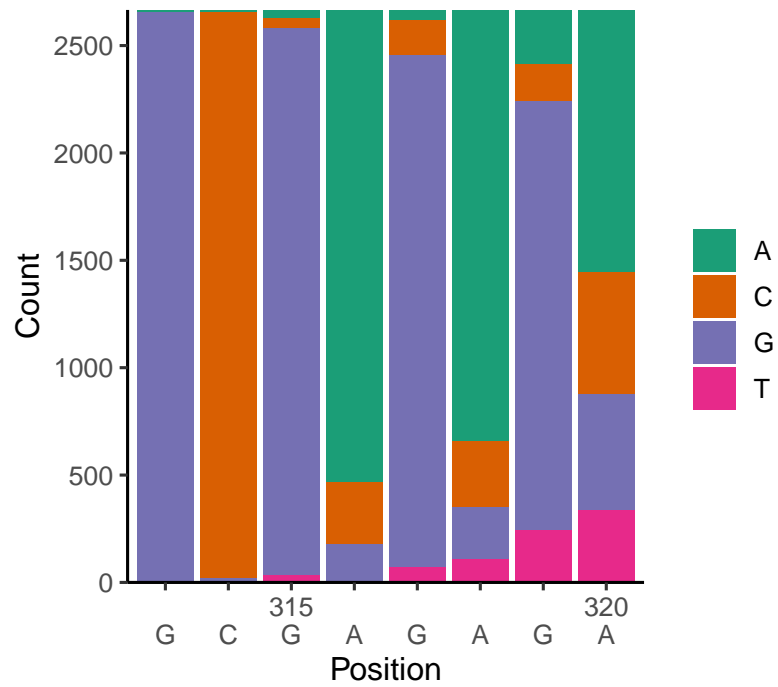
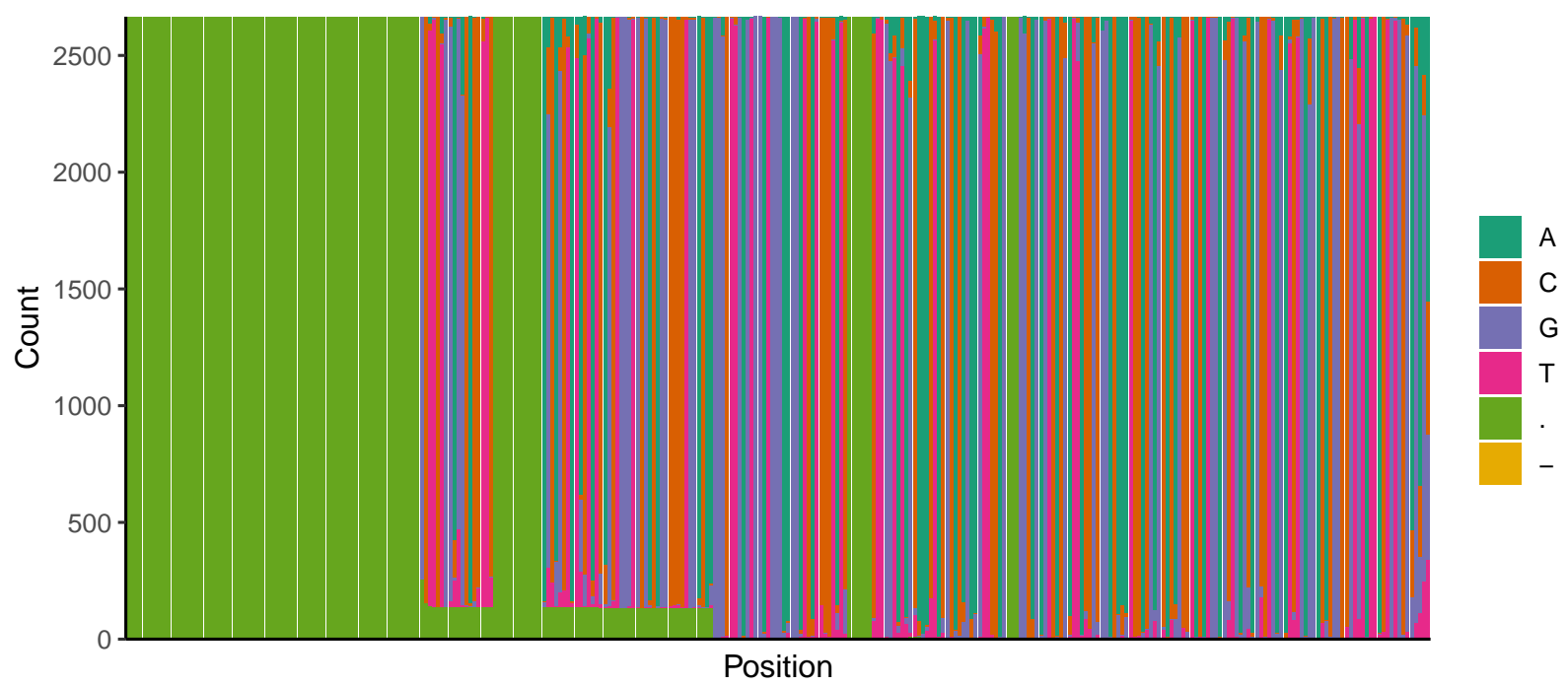


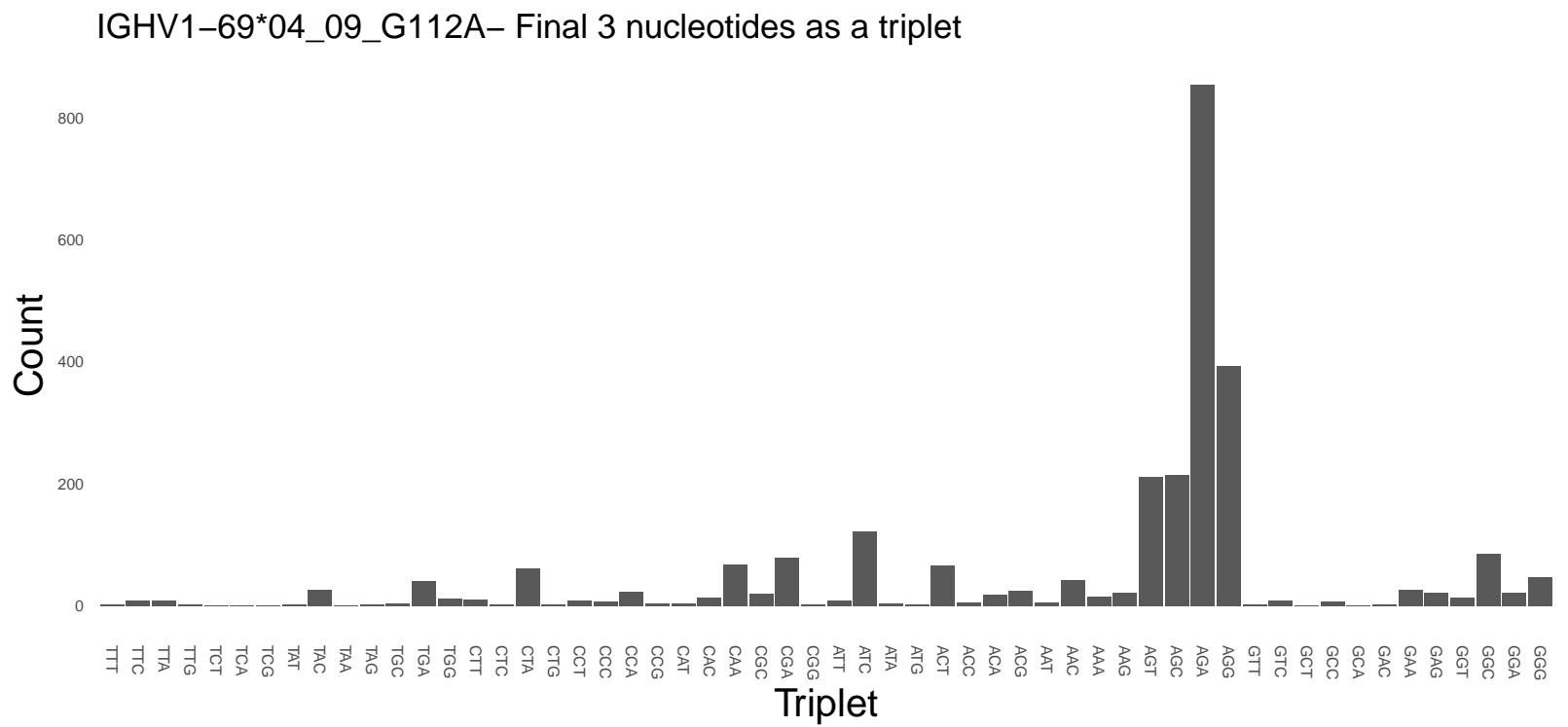
# Gene IGHV1-69\*04\_09\_G112A



# Gene IGHV1-69\*04\_09\_G112A

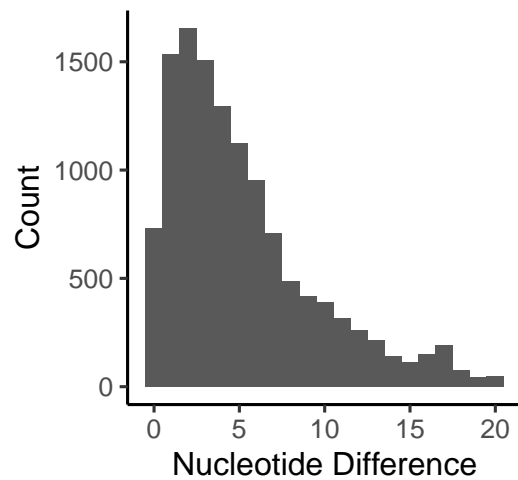


IGHV1-69\*04\_09\_G112A- Final 3 nucleotides as a triplet



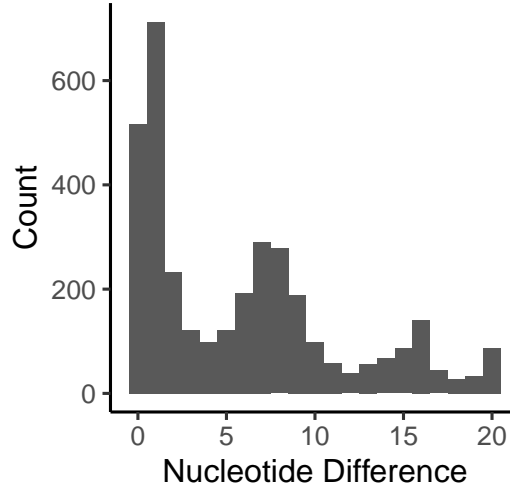
### IGHV1-2\*04

12566 sequences assigned  
730 (5.8%) exact matches, in which:  
597 unique CDR3  
6 unique J



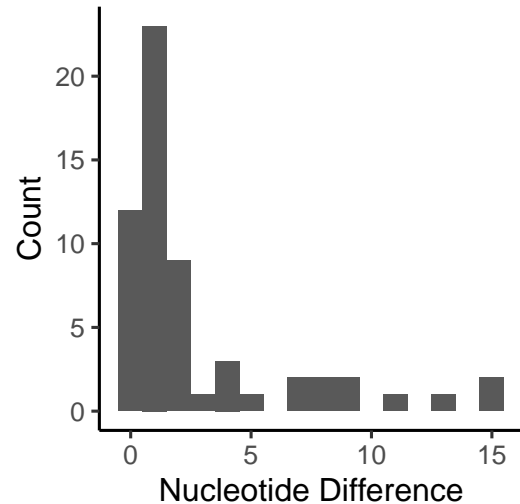
### IGHV1-8\*01

4009 sequences assigned  
517 (12.9%) exact matches, in which:  
416 unique CDR3  
6 unique J



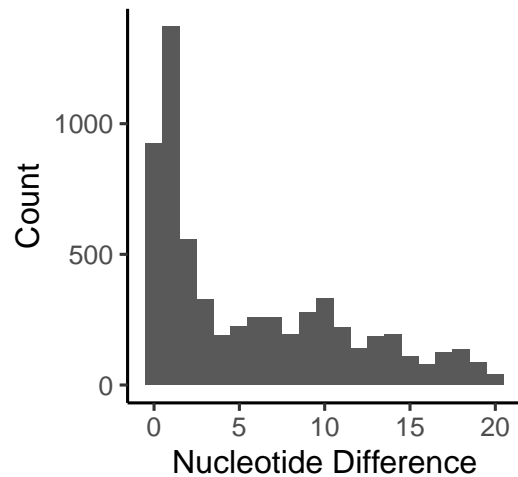
### IGHV1-45\*02

59 sequences assigned  
12 (20.3%) exact matches, in which:  
10 unique CDR3  
3 unique J



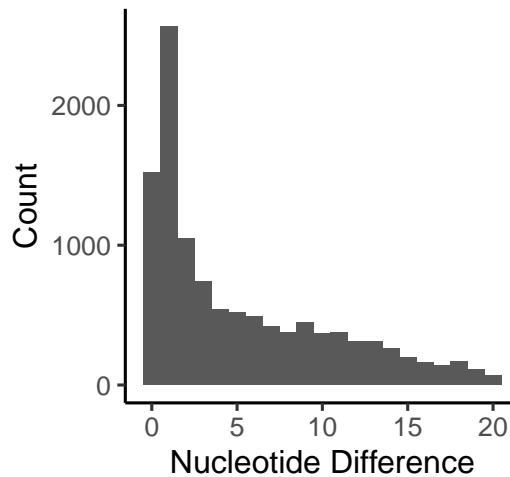
### IGHV1-2\*06

6534 sequences assigned  
924 (14.1%) exact matches, in which:  
690 unique CDR3  
6 unique J



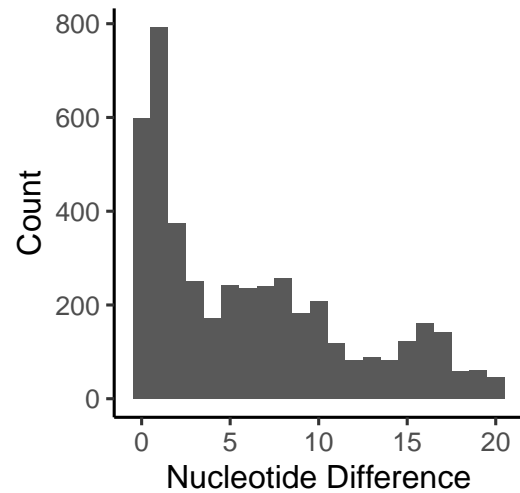
### IGHV1-18\*01

14359 sequences assigned  
1518 (10.6%) exact matches, in which:  
1140 unique CDR3  
6 unique J



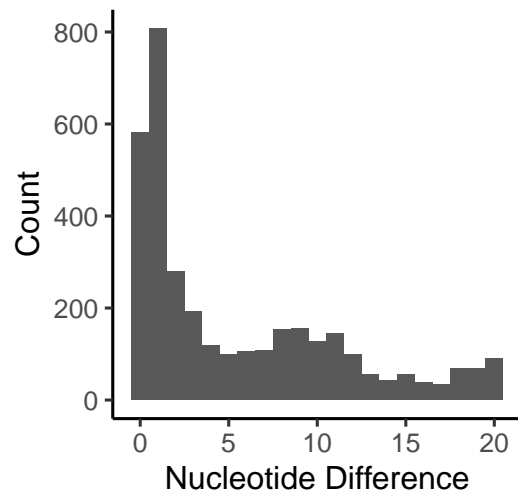
### IGHV1-46\*01

5031 sequences assigned  
599 (11.9%) exact matches, in which:  
495 unique CDR3  
6 unique J



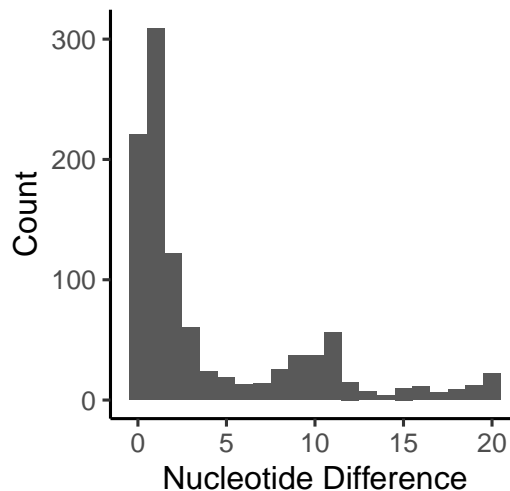
### IGHV1-3\*01\_05

3632 sequences assigned  
582 (16%) exact matches, in which:  
425 unique CDR3  
6 unique J



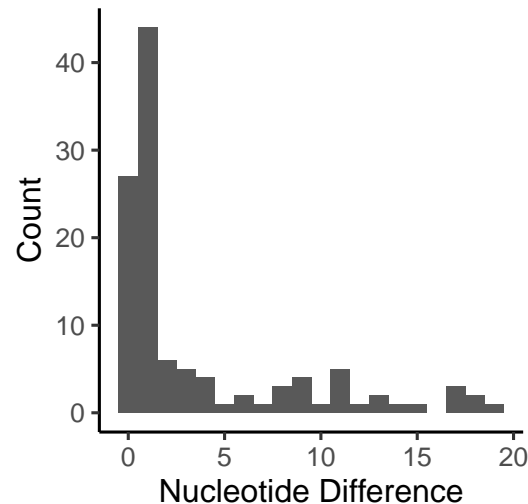
### IGHV1-24\*01

1083 sequences assigned  
221 (20.4%) exact matches, in which:  
161 unique CDR3  
6 unique J



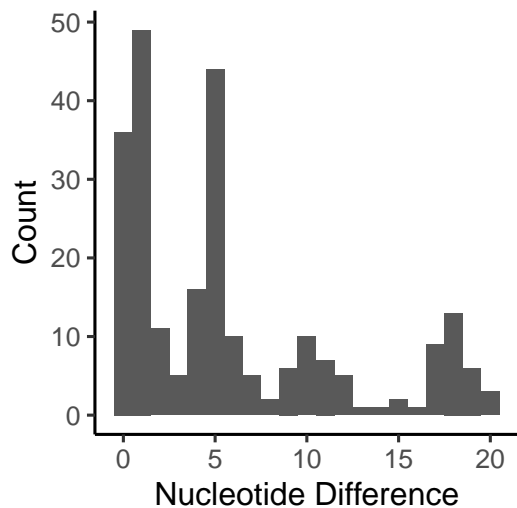
### IGHV1-58\*02

115 sequences assigned  
27 (23.5%) exact matches, in which:  
22 unique CDR3  
3 unique J



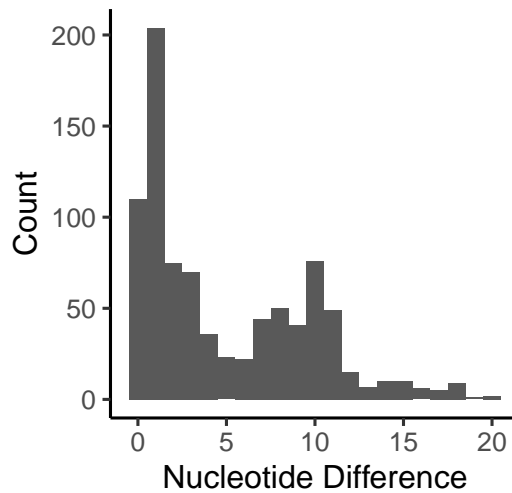
### IGHV1-58\*01\_03

249 sequences assigned  
36 (14.5%) exact matches, in which:  
27 unique CDR3  
5 unique J



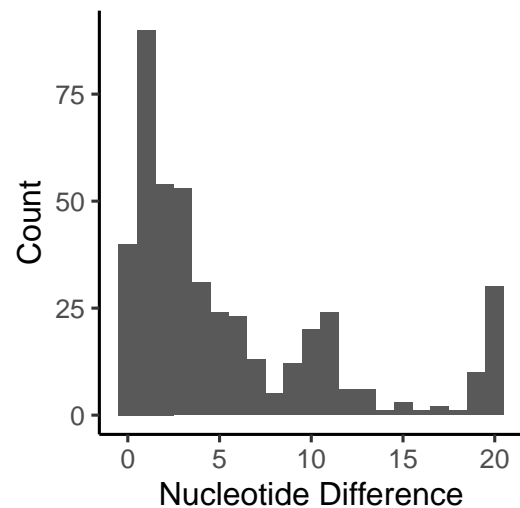
### IGHV2-5\*02

871 sequences assigned  
110 (12.6%) exact matches, in which:  
81 unique CDR3  
5 unique J



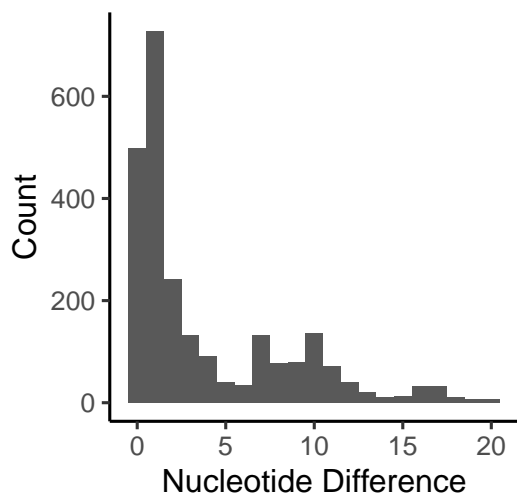
### IGHV2-70\*11\_15

541 sequences assigned  
40 (7.4%) exact matches, in which:  
33 unique CDR3  
4 unique J



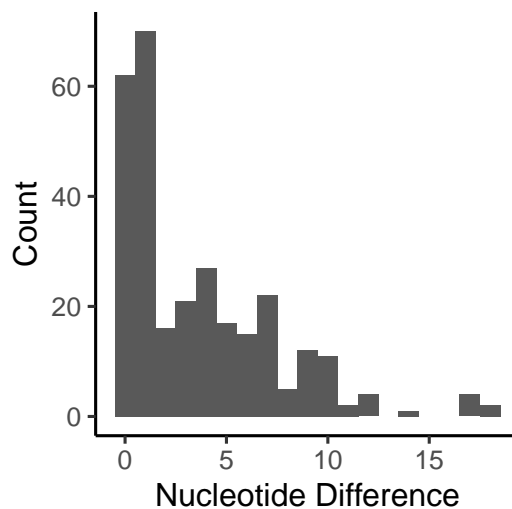
### IGHV1-69\*04\_09\_G112A

2666 sequences assigned  
498 (18.7%) exact matches, in which:  
399 unique CDR3  
6 unique J



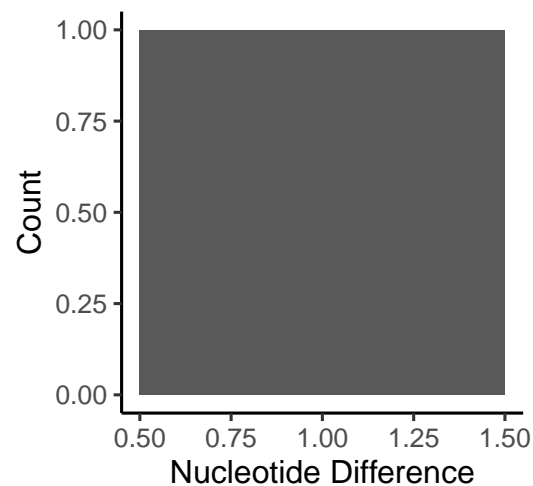
### IGHV2-26\*01

292 sequences assigned  
62 (21.2%) exact matches, in which:  
46 unique CDR3  
4 unique J



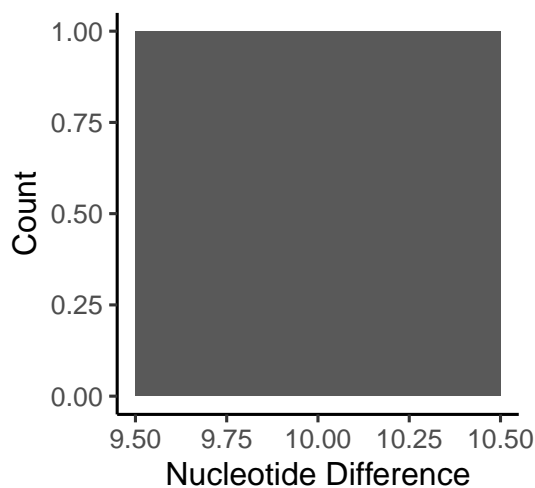
### IGHV2-70D\*04

1 sequences assigned  
No exact matches.



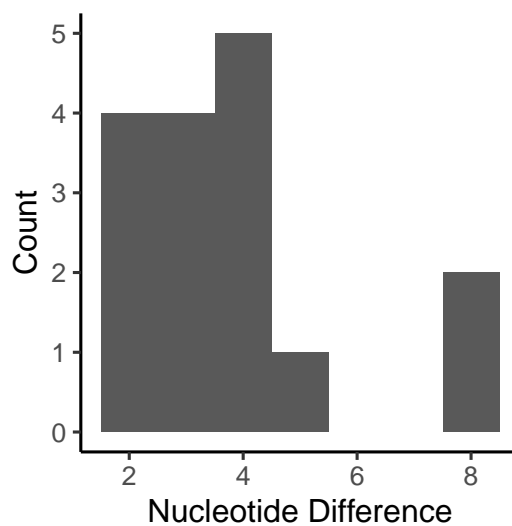
### IGHV1-NL1\*01

2 sequences assigned  
No exact matches.



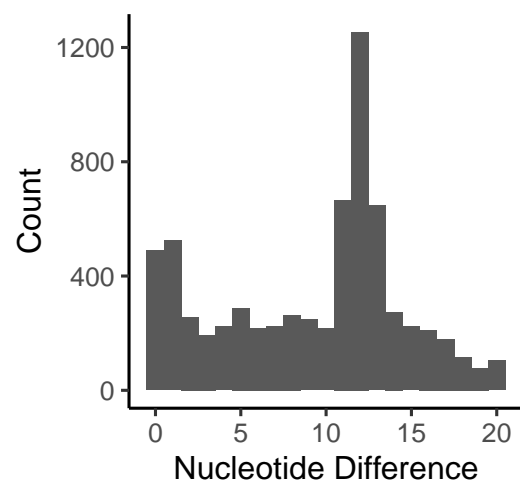
### IGHV2-70\*12

16 sequences assigned  
No exact matches.



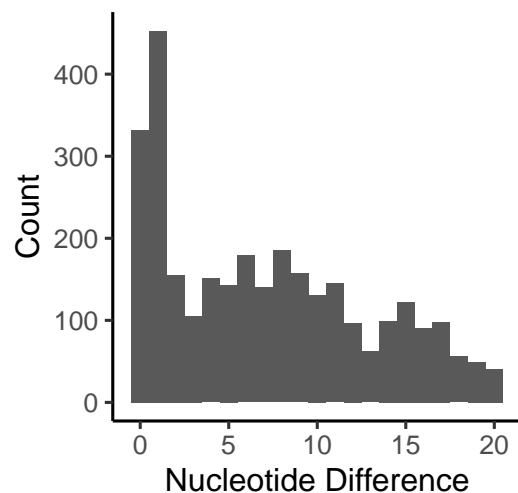
### IGHV3-7\*01

8999 sequences assigned  
489 (5.4%) exact matches, in which:  
357 unique CDR3  
6 unique J



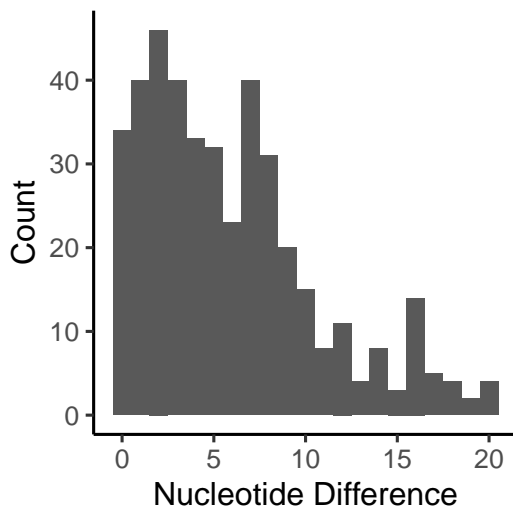
### IGHV3-7\*03

3439 sequences assigned  
332 (9.7%) exact matches, in which:  
218 unique CDR3  
6 unique J



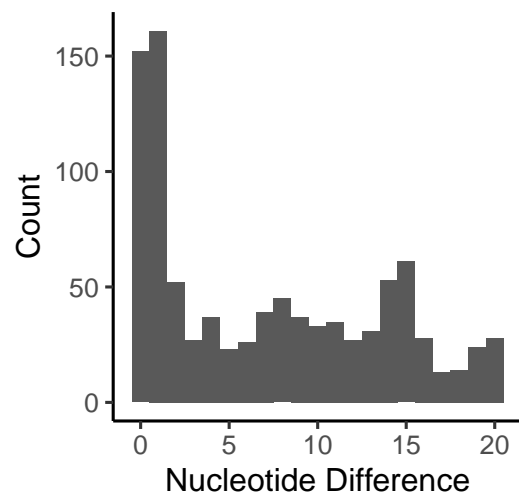
### IGHV3-11\*04

421 sequences assigned  
34 (8.1%) exact matches, in which:  
33 unique CDR3  
5 unique J



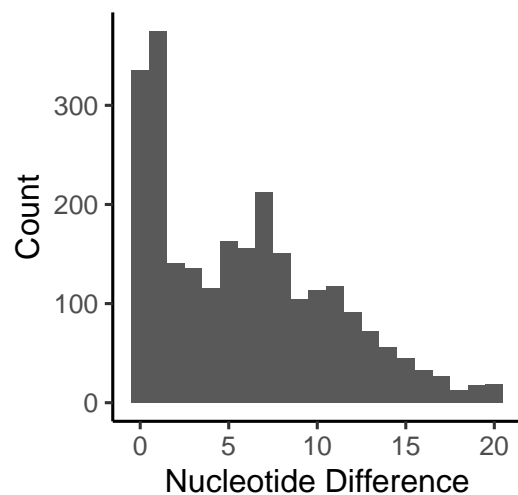
### IGHV3-15\*07

1093 sequences assigned  
152 (13.9%) exact matches, in which:  
91 unique CDR3  
6 unique J



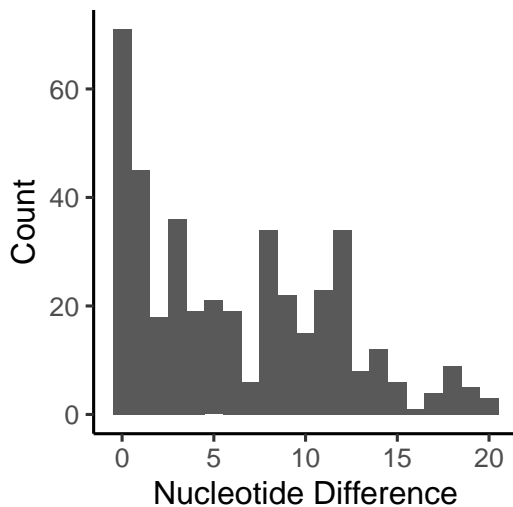
### IGHV3-9\*01

3093 sequences assigned  
335 (10.8%) exact matches, in which:  
198 unique CDR3  
6 unique J



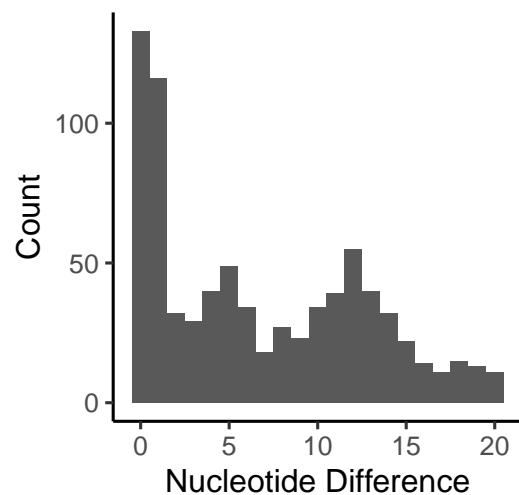
### IGHV3-11\*06

432 sequences assigned  
71 (16.4%) exact matches, in which:  
54 unique CDR3  
4 unique J



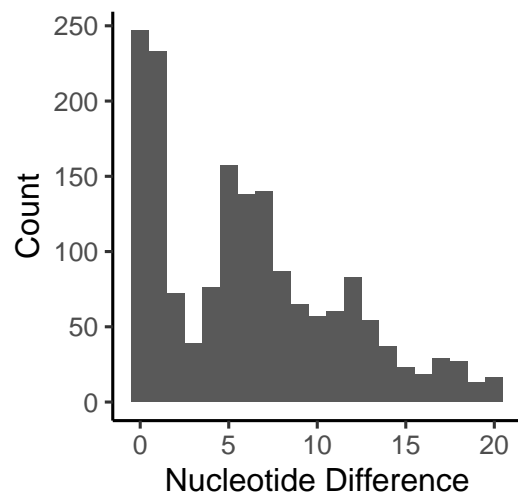
### IGHV3-15\*01\_02

959 sequences assigned  
133 (13.9%) exact matches, in which:  
83 unique CDR3  
5 unique J



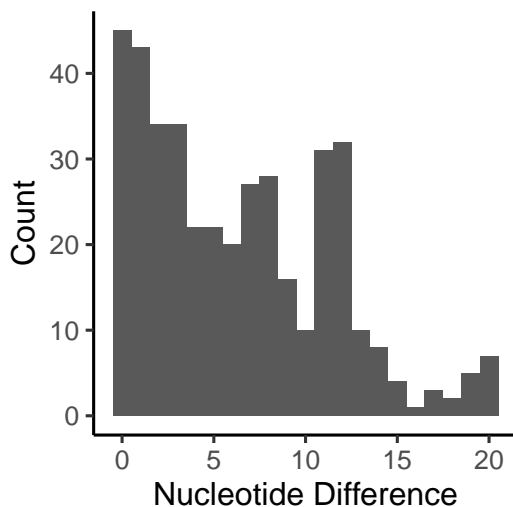
### IGHV3-11\*01

1847 sequences assigned  
247 (13.4%) exact matches, in which:  
167 unique CDR3  
6 unique J



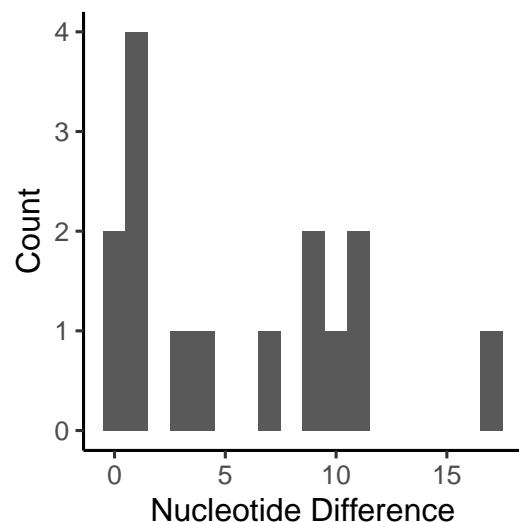
### IGHV3-13\*01

442 sequences assigned  
45 (10.2%) exact matches, in which:  
30 unique CDR3  
5 unique J



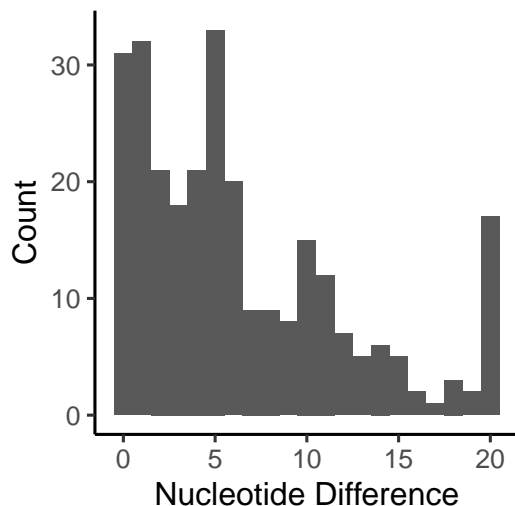
### IGHV3-19\*01

15 sequences assigned  
2 (13.3%) exact matches, in which:  
1 unique CDR3  
1 unique J



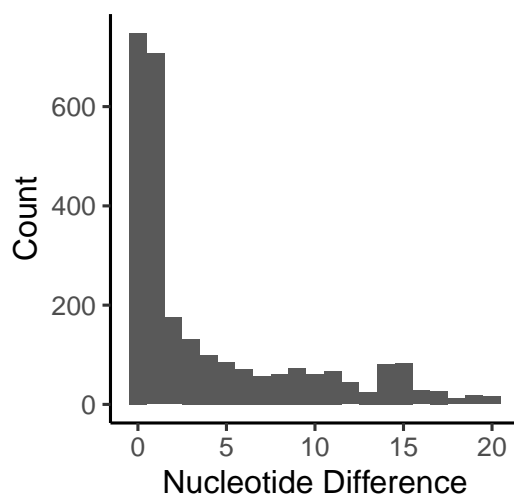
### IGHV3-20\*03\_04

321 sequences assigned  
31 (9.7%) exact matches, in which:  
19 unique CDR3  
3 unique J



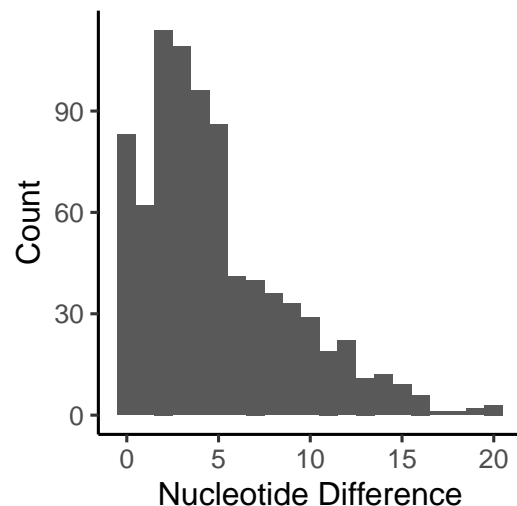
### IGHV3-30\*01

2731 sequences assigned  
749 (27.4%) exact matches, in which:  
491 unique CDR3  
6 unique J



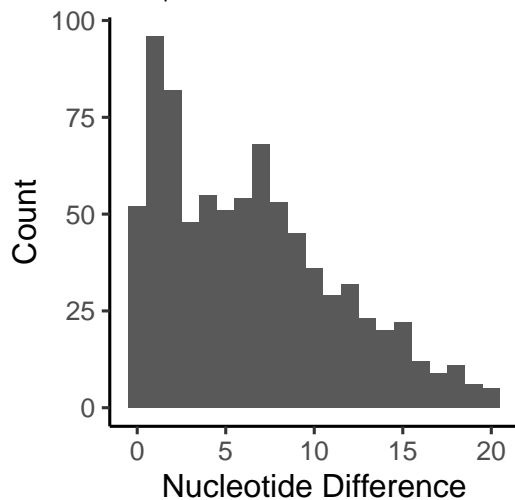
### IGHV3-30\*07

826 sequences assigned  
83 (10%) exact matches, in which:  
78 unique CDR3  
5 unique J



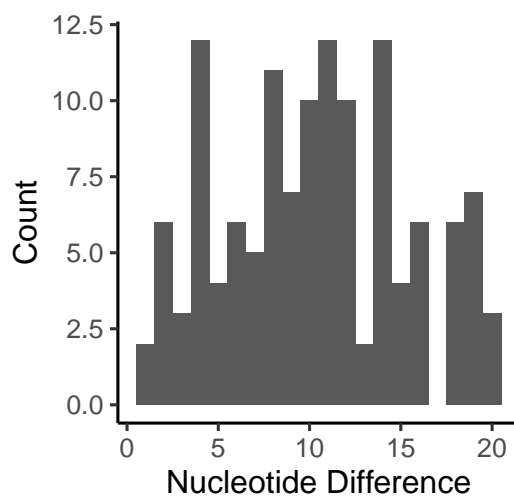
### IGHV3-21\*04

872 sequences assigned  
52 (6%) exact matches, in which:  
49 unique CDR3  
5 unique J



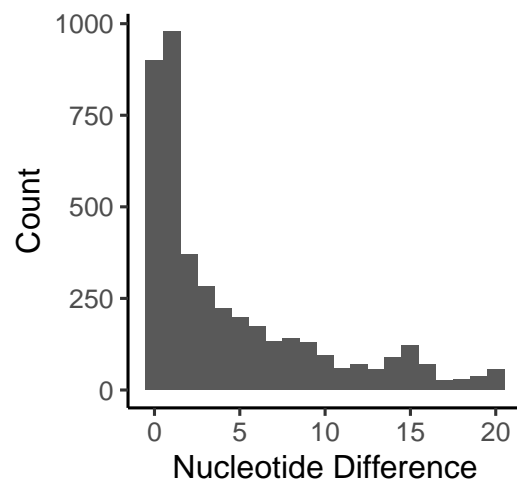
### IGHV3-30-5\*01

177 sequences assigned  
No exact matches.



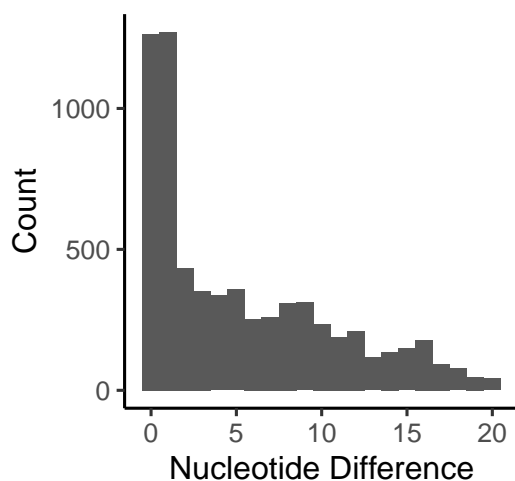
### IGHV3-33\*01

4469 sequences assigned  
899 (20.1%) exact matches, in which:  
570 unique CDR3  
6 unique J



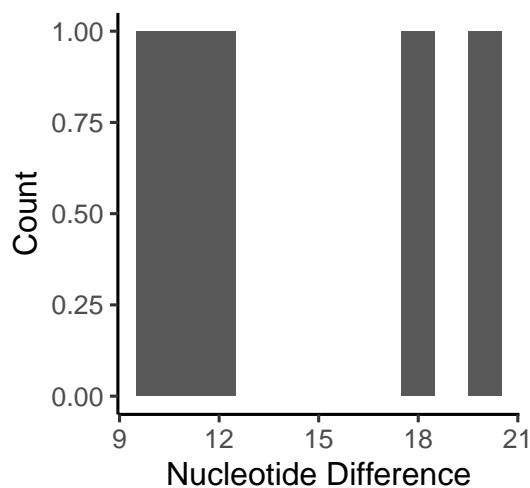
### IGHV3-21\*01\_02

6895 sequences assigned  
1264 (18.3%) exact matches, in which:  
797 unique CDR3  
6 unique J



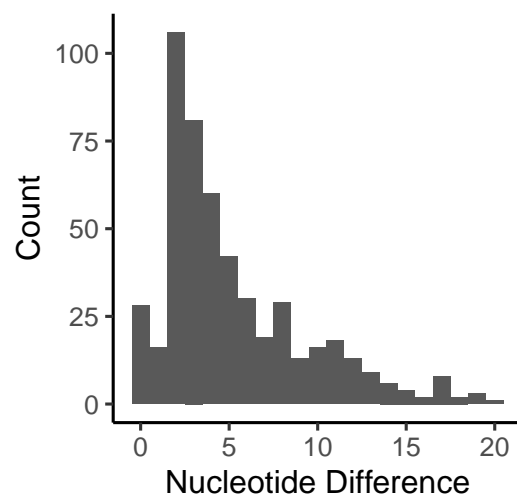
### IGHV3-30-5\*02

12 sequences assigned  
No exact matches.



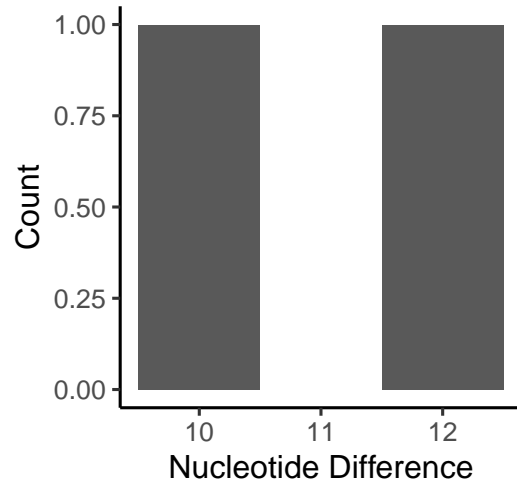
### IGHV3-33\*06

548 sequences assigned  
28 (5.1%) exact matches, in which:  
26 unique CDR3  
4 unique J



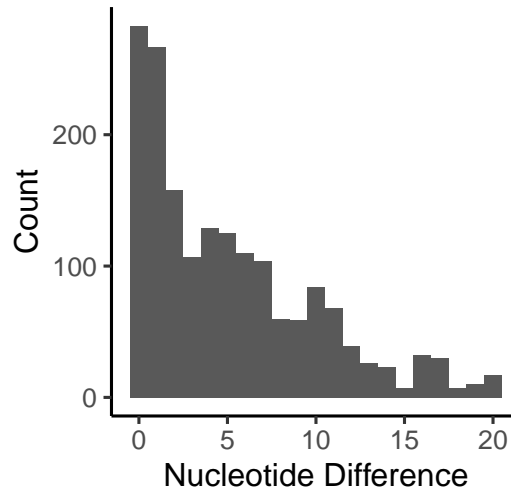
### IGHV3-35\*01

2 sequences assigned  
No exact matches.



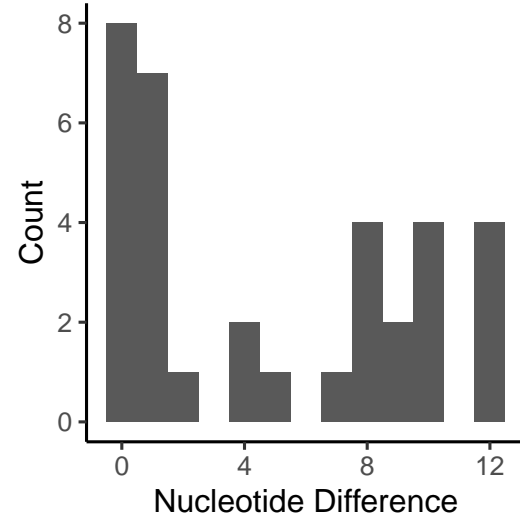
### IGHV3-48\*02

1886 sequences assigned  
283 (15%) exact matches, in which:  
175 unique CDR3  
5 unique J



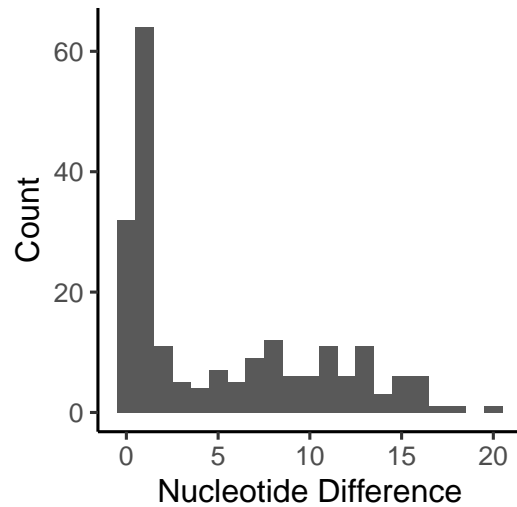
### IGHV3-52\*01\_03

34 sequences assigned  
8 (23.5%) exact matches, in which:  
6 unique CDR3  
3 unique J



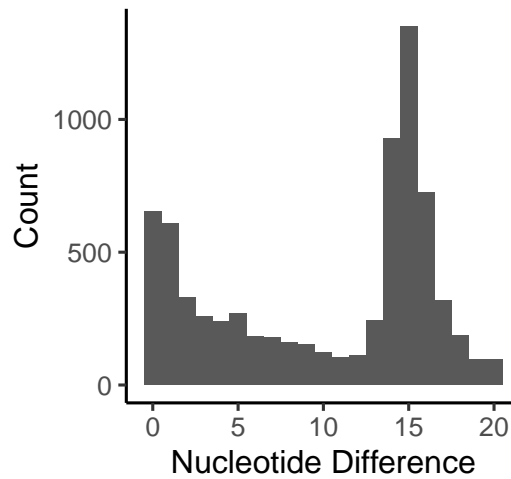
### IGHV3-43\*01

219 sequences assigned  
32 (14.6%) exact matches, in which:  
20 unique CDR3  
3 unique J



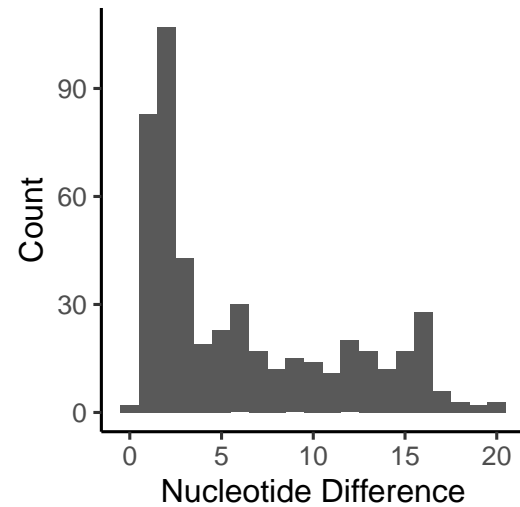
### IGHV3-48\*04

7656 sequences assigned  
655 (8.6%) exact matches, in which:  
433 unique CDR3  
5 unique J



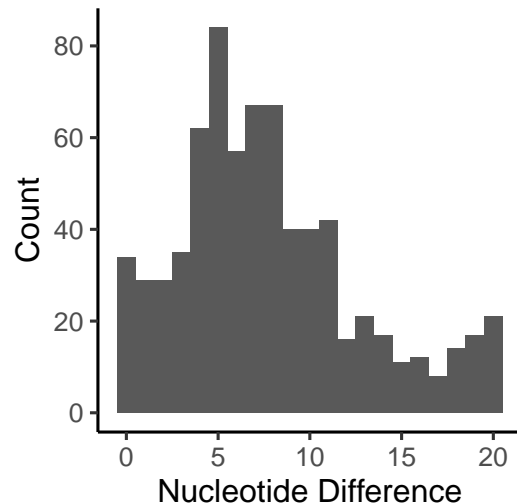
### IGHV3-53\*05

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



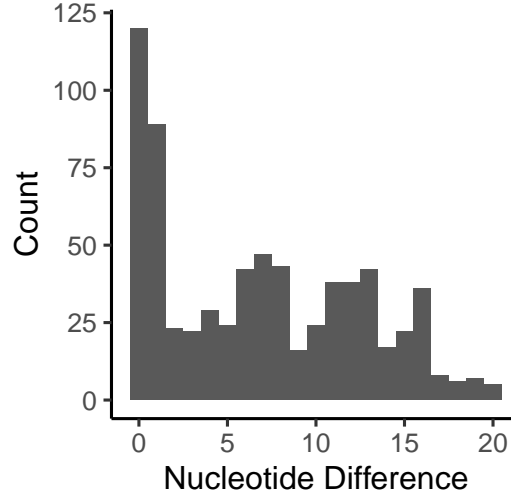
### IGHV3-48\*01

766 sequences assigned  
34 (4.4%) exact matches, in which:  
34 unique CDR3  
5 unique J



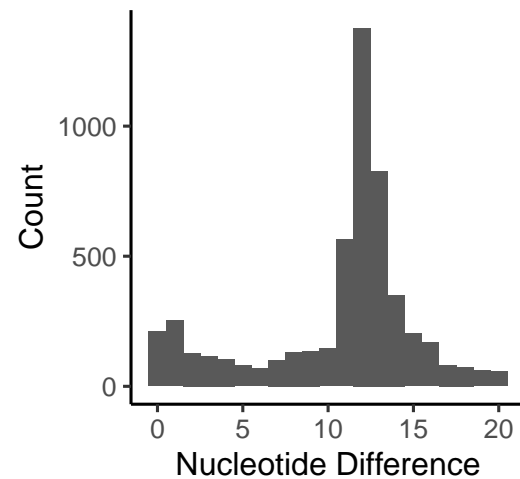
### IGHV3-49\*03\_05

722 sequences assigned  
120 (16.6%) exact matches, in which:  
67 unique CDR3  
4 unique J



### IGHV3-53\*01\_02

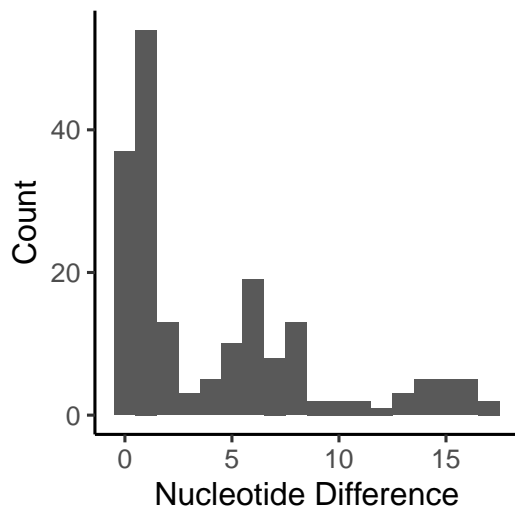
5621 sequences assigned  
210 (3.7%) exact matches, in which:  
137 unique CDR3  
4 unique J





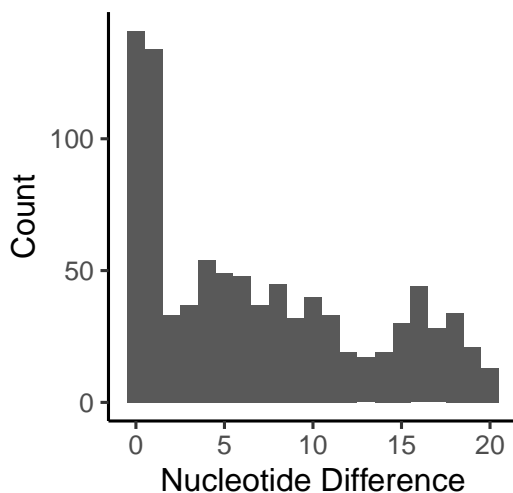
### IGHV3-64\*01

201 sequences assigned  
37 (18.4%) exact matches, in which:  
24 unique CDR3  
4 unique J



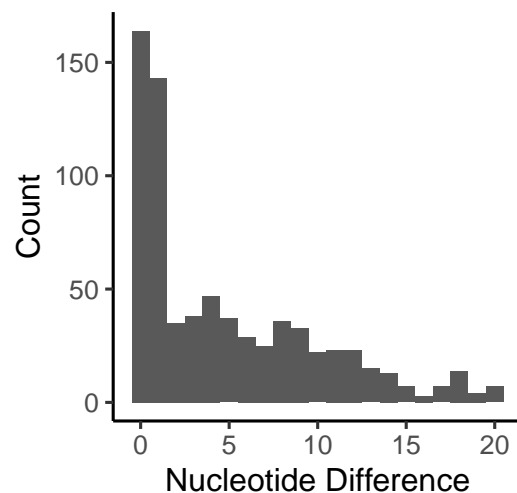
### IGHV3-66\*02

1071 sequences assigned  
141 (13.2%) exact matches, in which:  
100 unique CDR3  
6 unique J



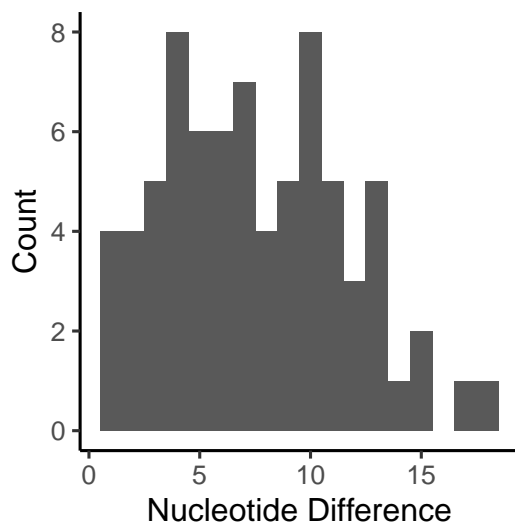
### IGHV3-73\*01\_02

841 sequences assigned  
164 (19.5%) exact matches, in which:  
101 unique CDR3  
6 unique J



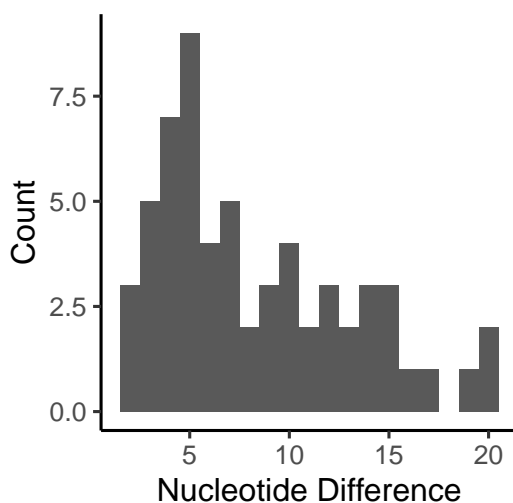
### IGHV3-64\*04

80 sequences assigned  
No exact matches.



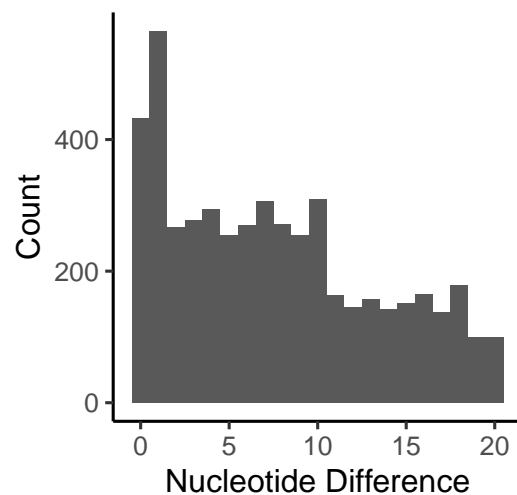
### IGHV3-69-1\*01

75 sequences assigned  
No exact matches.



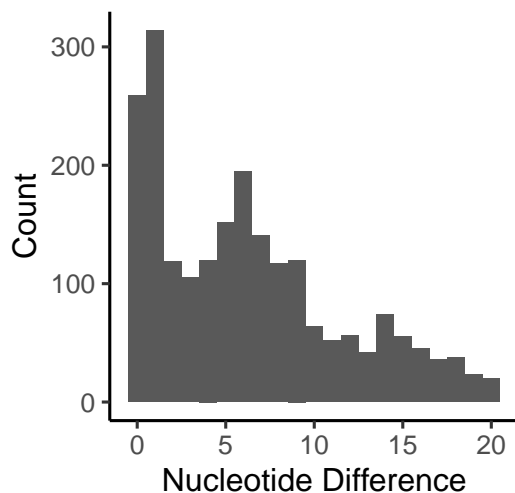
### IGHV3-74\*01\_02

5903 sequences assigned  
432 (7.3%) exact matches, in which:  
289 unique CDR3  
5 unique J



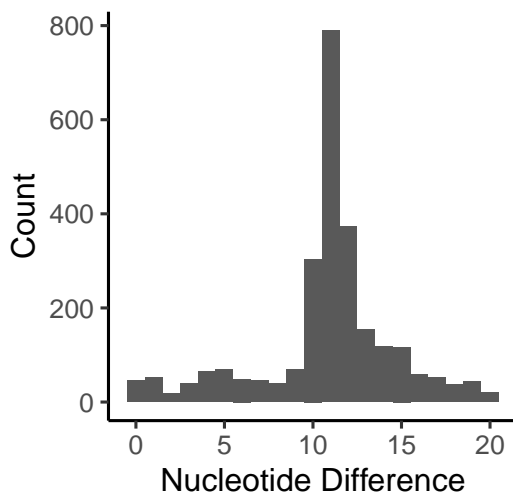
### IGHV3-66\*01

2272 sequences assigned  
259 (11.4%) exact matches, in which:  
161 unique CDR3  
6 unique J



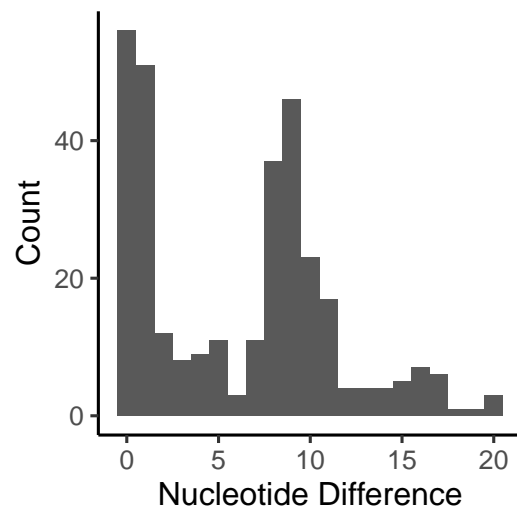
### IGHV3-72\*01

2681 sequences assigned  
45 (1.7%) exact matches, in which:  
30 unique CDR3  
5 unique J



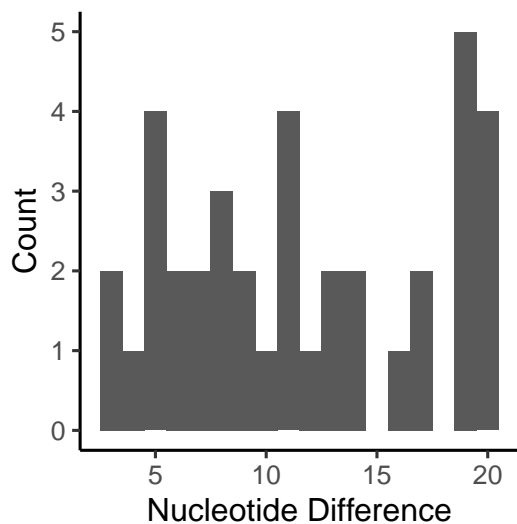
### IGHV3-64D\*06

347 sequences assigned  
56 (16.1%) exact matches, in which:  
35 unique CDR3  
4 unique J



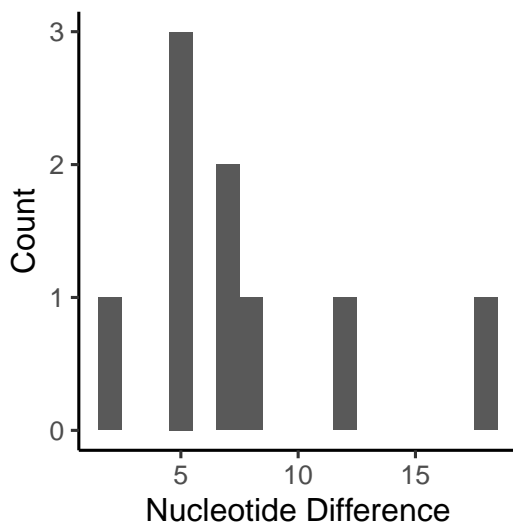
### IGHV3–NL1\*01

48 sequences assigned  
No exact matches.



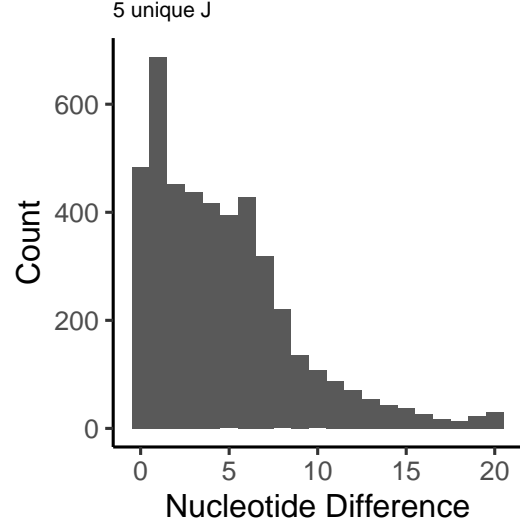
### IGHV4–30–2\*03

9 sequences assigned  
No exact matches.



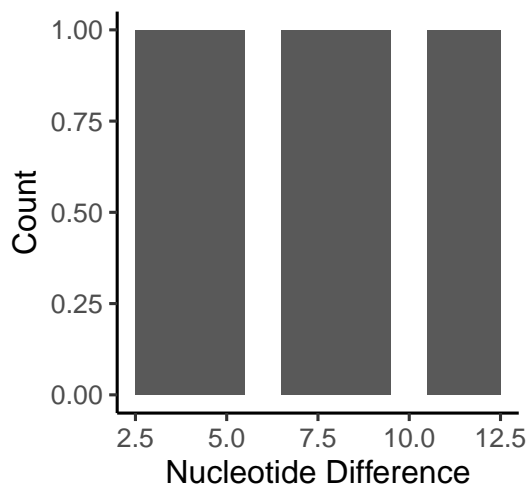
### IGHV4–31\*03\_04

4956 sequences assigned  
484 (9.8%) exact matches, in which:  
388 unique CDR3  
5 unique J



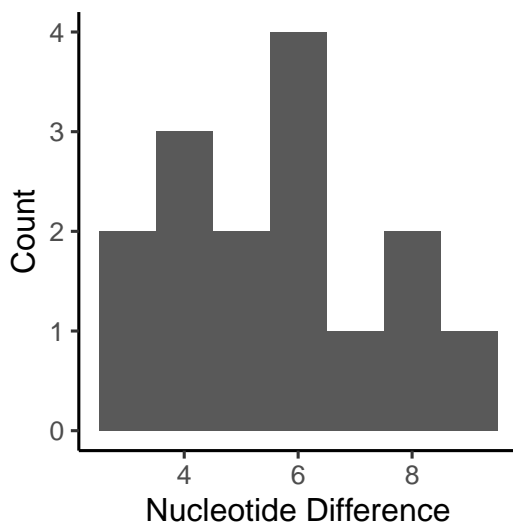
### IGHV4–28\*03

8 sequences assigned  
No exact matches.



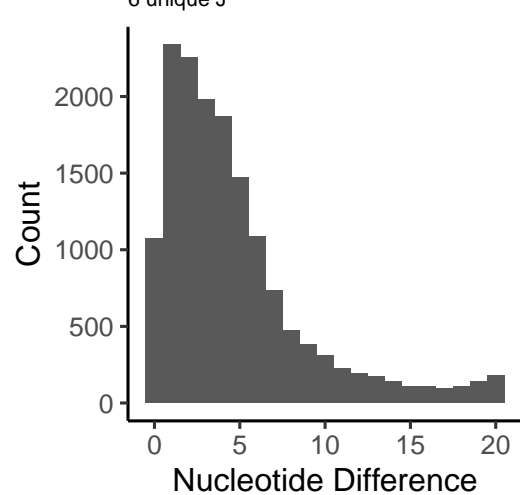
### IGHV4–30–2\*04

15 sequences assigned  
No exact matches.



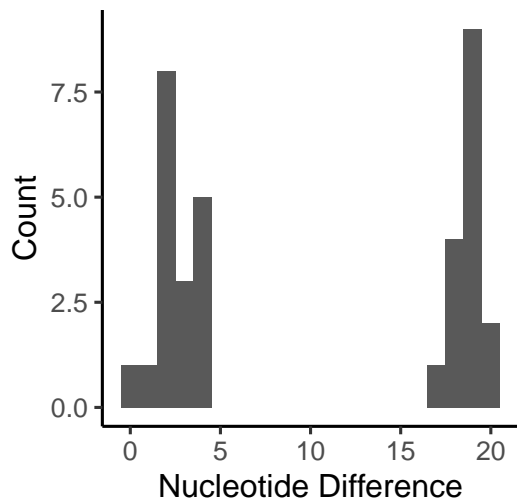
### IGHV4–34\*01\_02

16091 sequences assigned  
1074 (6.7%) exact matches, in which:  
785 unique CDR3  
6 unique J



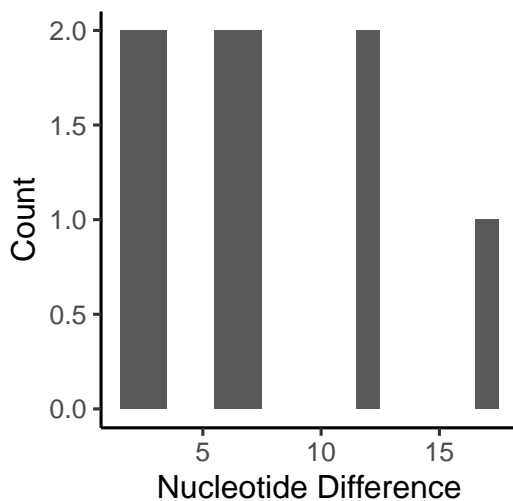
### IGHV4–28\*02\_05

35 sequences assigned  
1 (2.9%) exact matches, in which:  
1 unique CDR3  
1 unique J



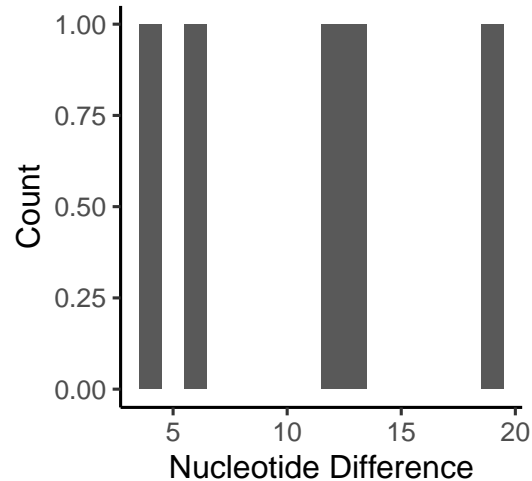
### IGHV4–30–4\*08

13 sequences assigned  
No exact matches.



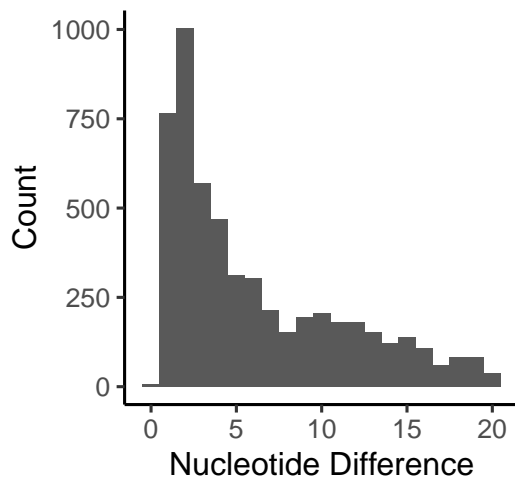
### IGHV4–38–2\*02

6 sequences assigned  
No exact matches.



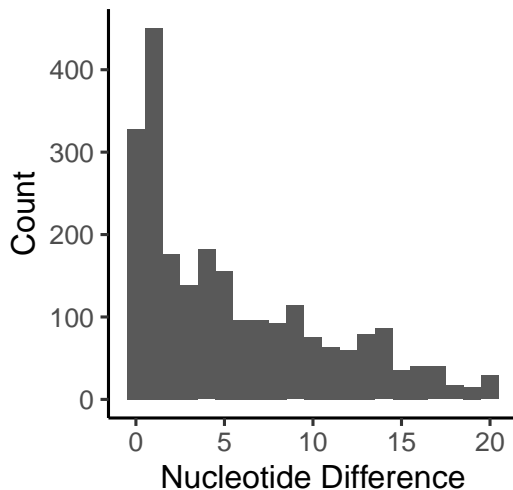
### IGHV4-39\*07

5759 sequences assigned  
6 (0.1%) exact matches, in which:  
6 unique CDR3  
4 unique J



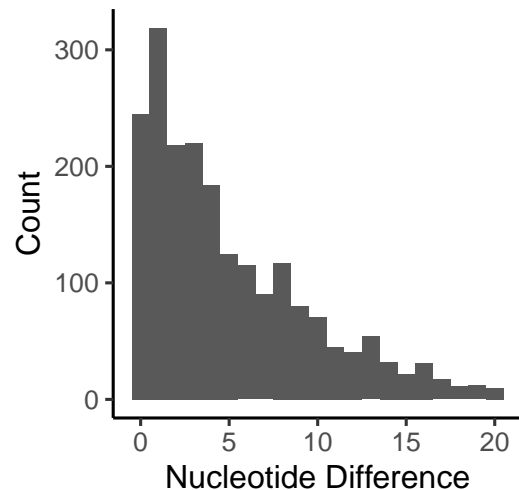
### IGHV4-59\*08

2514 sequences assigned  
328 (13%) exact matches, in which:  
247 unique CDR3  
5 unique J



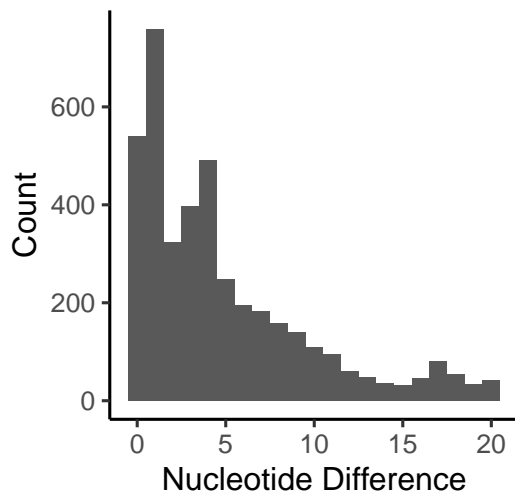
### IGHV4-61\*01

2113 sequences assigned  
245 (11.6%) exact matches, in which:  
193 unique CDR3  
6 unique J



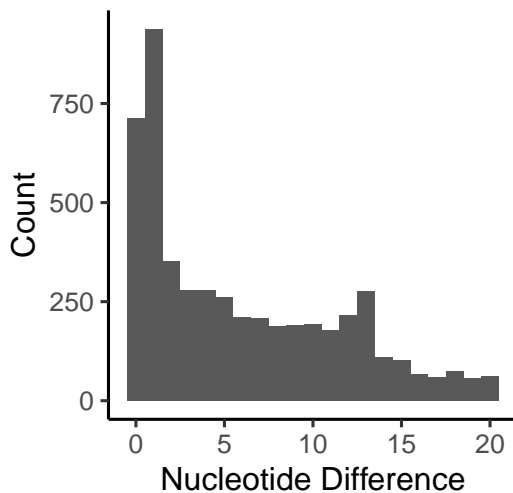
### IGHV4-39\*01\_05

4381 sequences assigned  
541 (12.3%) exact matches, in which:  
421 unique CDR3  
5 unique J



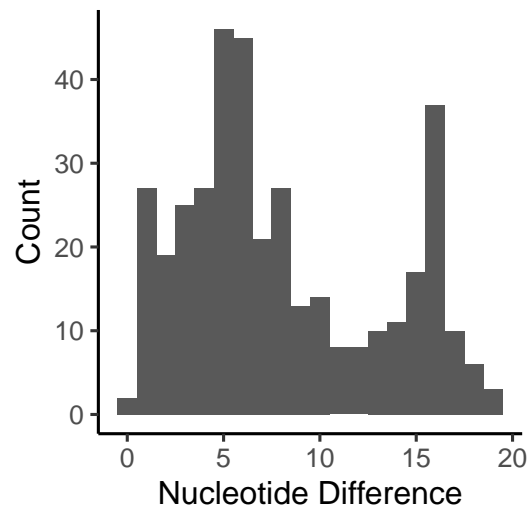
### IGHV4-59\*01\_07

6231 sequences assigned  
712 (11.4%) exact matches, in which:  
557 unique CDR3  
6 unique J



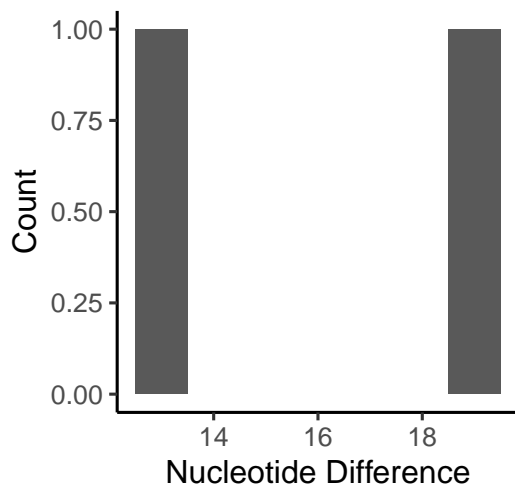
### IGHV4-61\*08

404 sequences assigned  
2 (0.5%) exact matches, in which:  
2 unique CDR3  
1 unique J



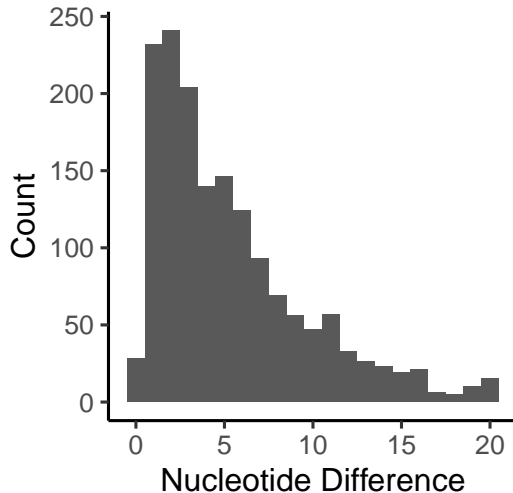
### IGHV4-55\*09

2 sequences assigned  
No exact matches.



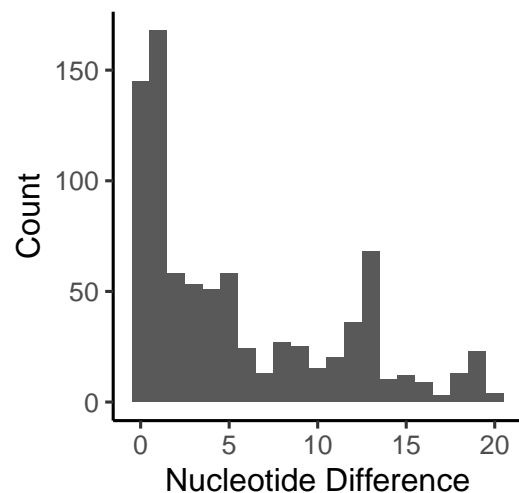
### IGHV4-59\*12

1613 sequences assigned  
28 (1.7%) exact matches, in which:  
28 unique CDR3  
3 unique J



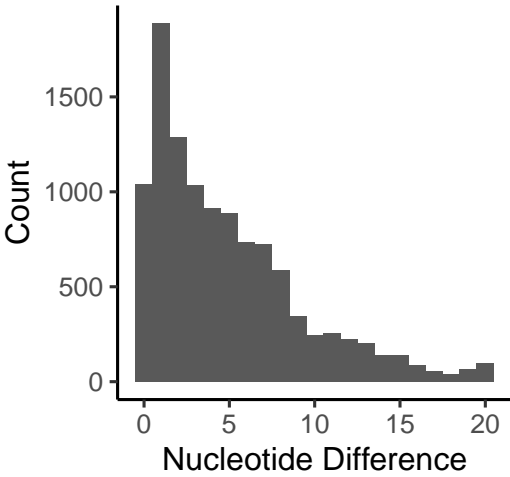
### IGHV5-10-1\*01\_03

862 sequences assigned  
145 (16.8%) exact matches, in which:  
89 unique CDR3  
5 unique J



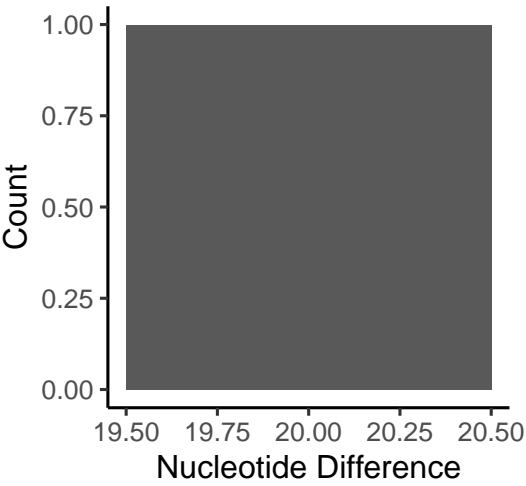
### IGHV5-51\*01\_03

11696 sequences assigned  
1038 (8.9%) exact matches, in which:  
571 unique CDR3  
6 unique J



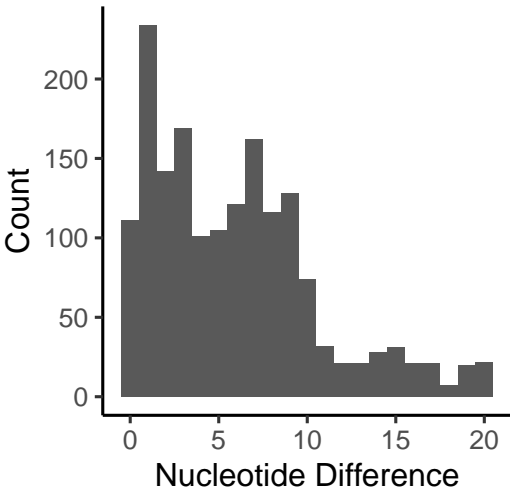
### IGHV7-81\*01

1 sequences assigned  
No exact matches.



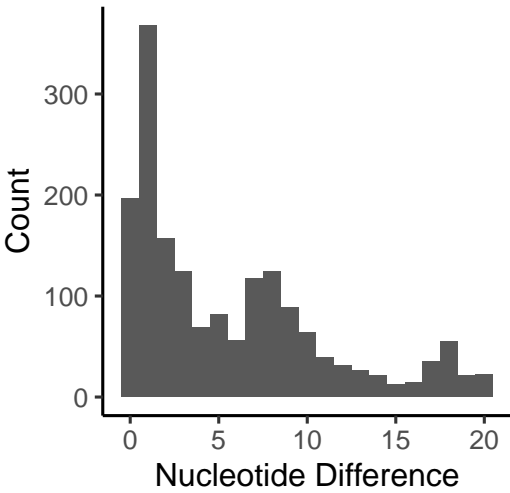
### IGHV6-1\*01\_02

1929 sequences assigned  
111 (5.8%) exact matches, in which:  
88 unique CDR3  
5 unique J



### IGHV7-4-1\*02

1799 sequences assigned  
197 (11%) exact matches, in which:  
151 unique CDR3  
6 unique J





Novel sequence(s) IGHV1-69\*01\_12\_13\_G238A IGHV3-48\*03\_T303G 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) IGHV5-51\*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.