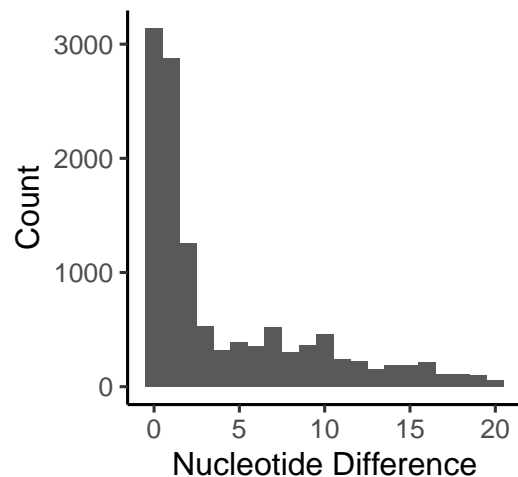


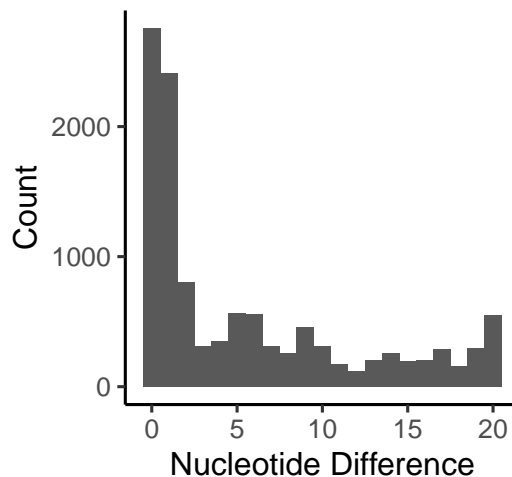
### IGHV1-2\*02

13791 sequences assigned  
3138 (22.8%) exact matches, in which:  
2712 unique CDR3  
6 unique J



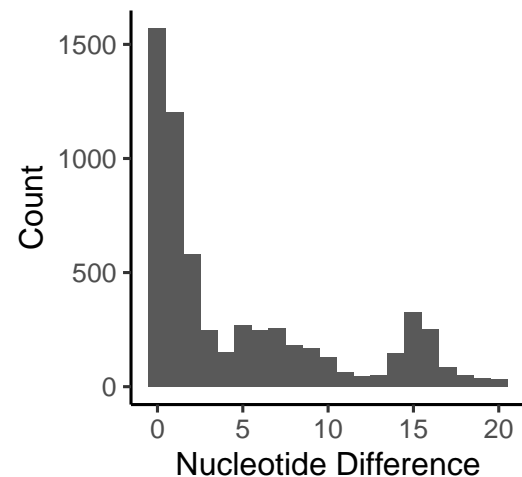
### IGHV1-18\*01

13226 sequences assigned  
2755 (20.8%) exact matches, in which:  
2381 unique CDR3  
6 unique J



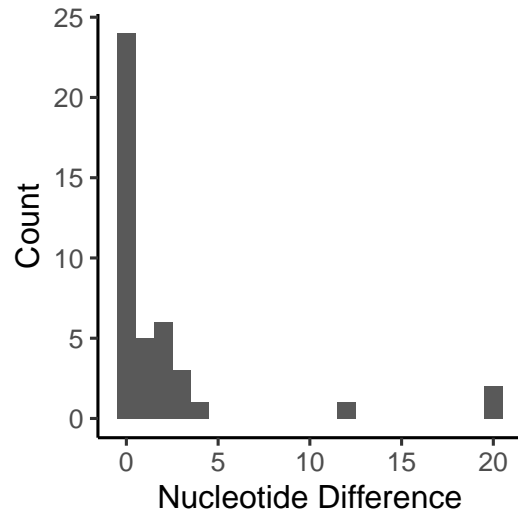
### IGHV1-46\*01

6287 sequences assigned  
1570 (25%) exact matches, in which:  
1408 unique CDR3  
6 unique J



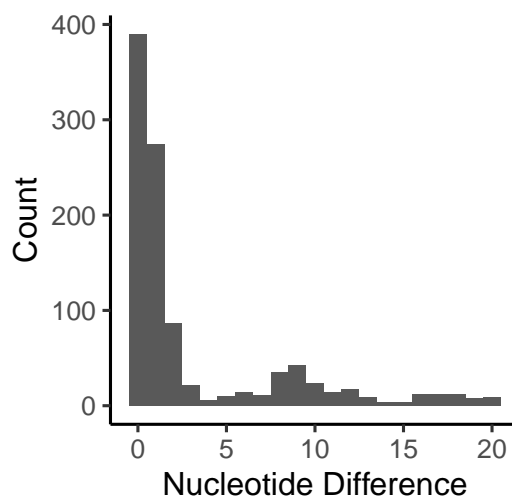
### IGHV1-3\*02

42 sequences assigned  
24 (57.1%) exact matches, in which:  
24 unique CDR3  
4 unique J



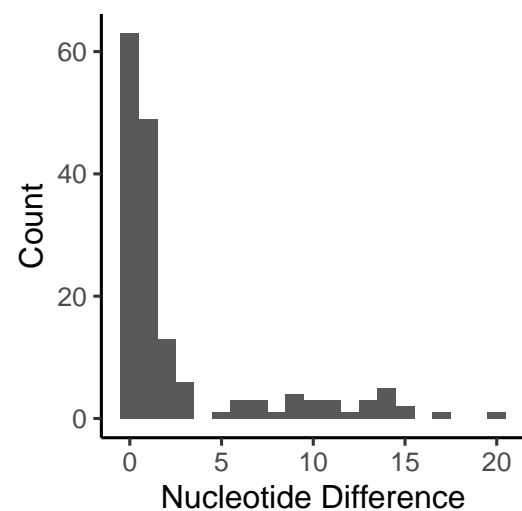
### IGHV1-24\*01

1066 sequences assigned  
390 (36.6%) exact matches, in which:  
352 unique CDR3  
6 unique J



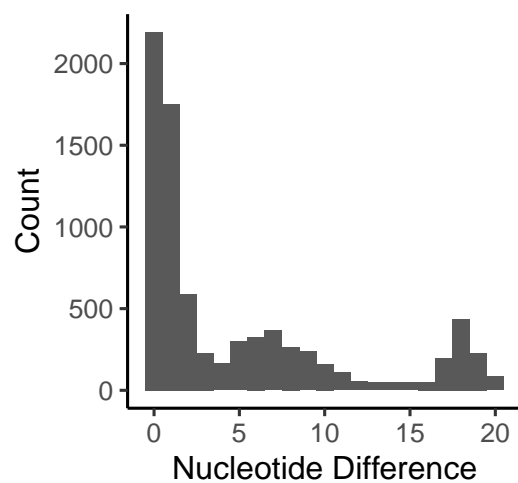
### IGHV1-58\*02

166 sequences assigned  
63 (38%) exact matches, in which:  
56 unique CDR3  
5 unique J



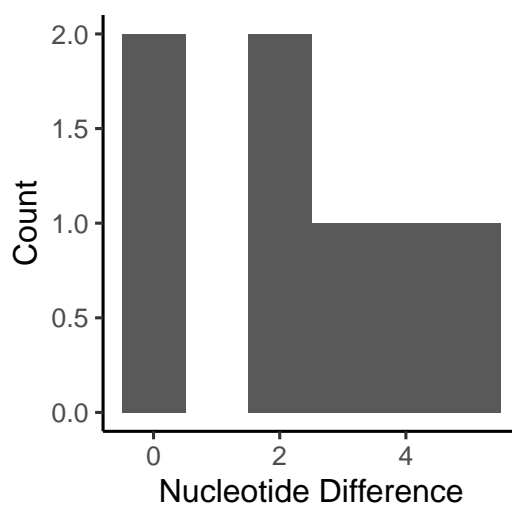
### IGHV1-8\*01

8414 sequences assigned  
2193 (26.1%) exact matches, in which:  
1943 unique CDR3  
6 unique J



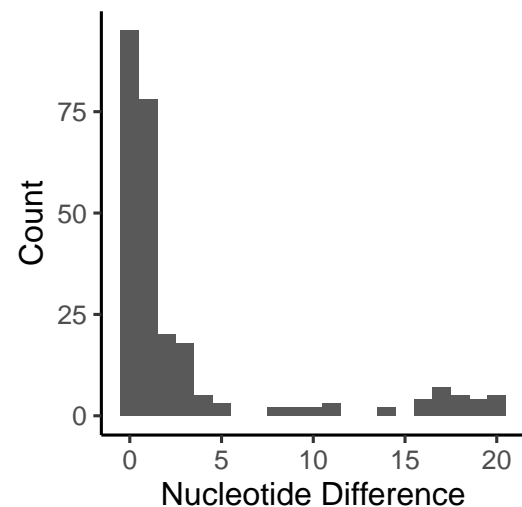
### IGHV1-45\*02

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



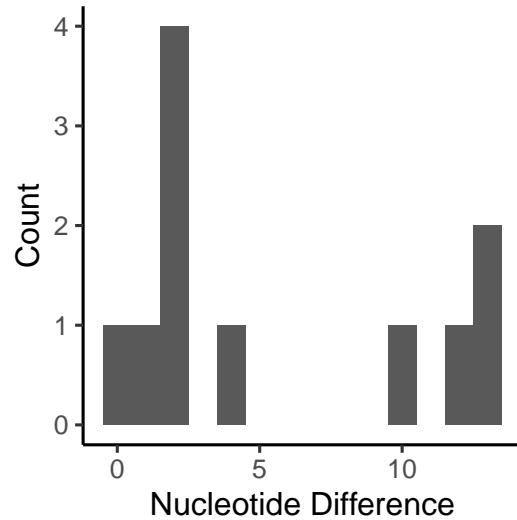
### IGHV1-58\*01\_03

259 sequences assigned  
95 (36.7%) exact matches, in which:  
85 unique CDR3  
5 unique J



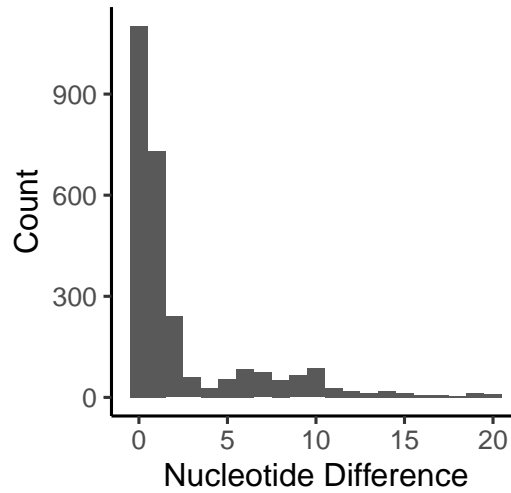
### IGHV1-68\*01

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



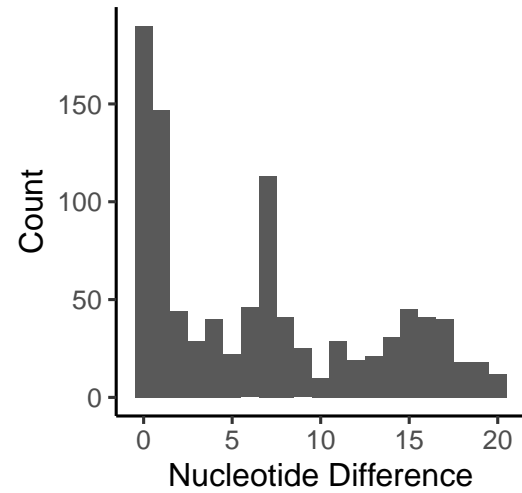
### IGHV1-69\*10

2776 sequences assigned  
1103 (39.7%) exact matches, in which:  
1014 unique CDR3  
6 unique J



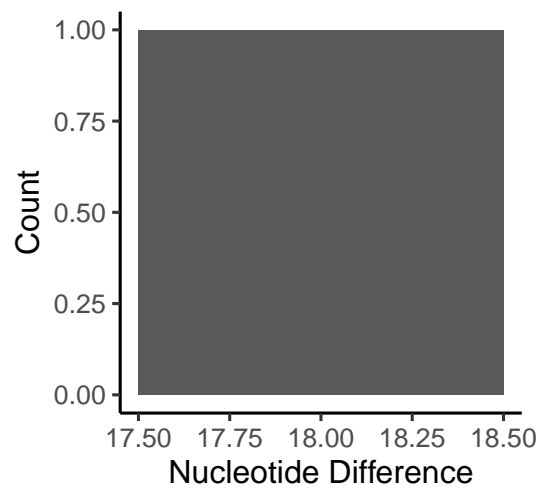
### IGHV2-5\*02

1084 sequences assigned  
190 (17.5%) exact matches, in which:  
167 unique CDR3  
6 unique J



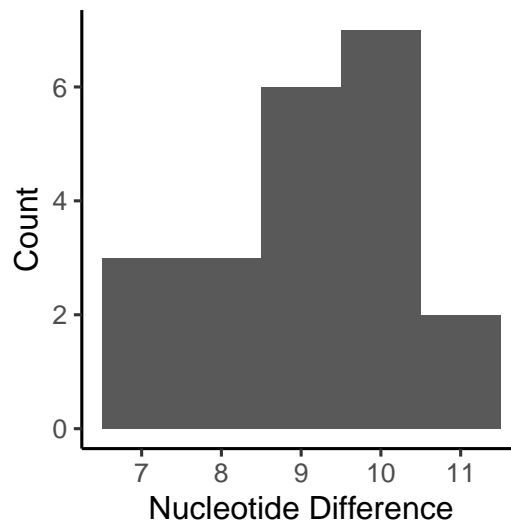
### IGHV1-69-2\*01

1 sequences assigned  
No exact matches.



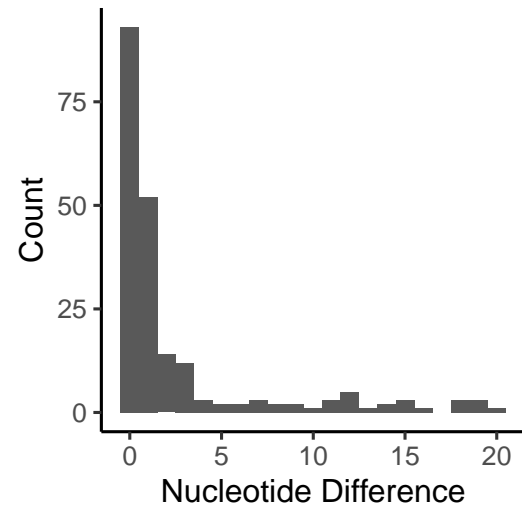
### IGHV1-NL1\*01

21 sequences assigned  
No exact matches.



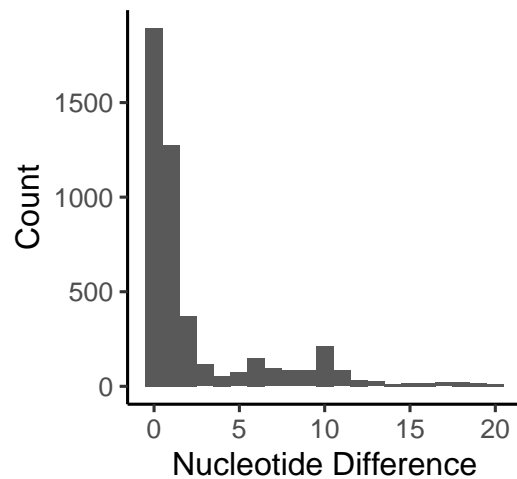
### IGHV2-26\*01

208 sequences assigned  
93 (44.7%) exact matches, in which:  
84 unique CDR3  
5 unique J



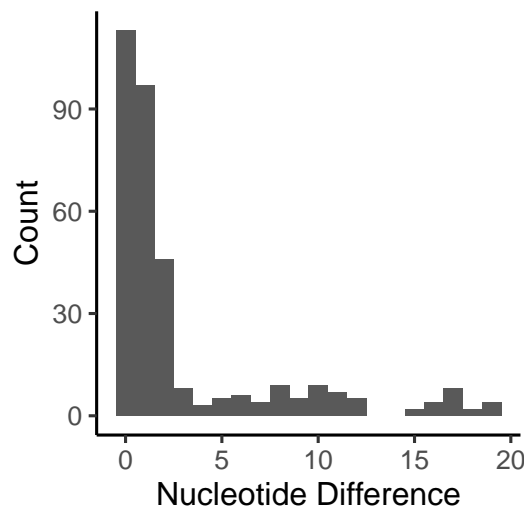
### IGHV1-69\*01\_12\_13

4884 sequences assigned  
1894 (38.8%) exact matches, in which:  
1744 unique CDR3  
6 unique J



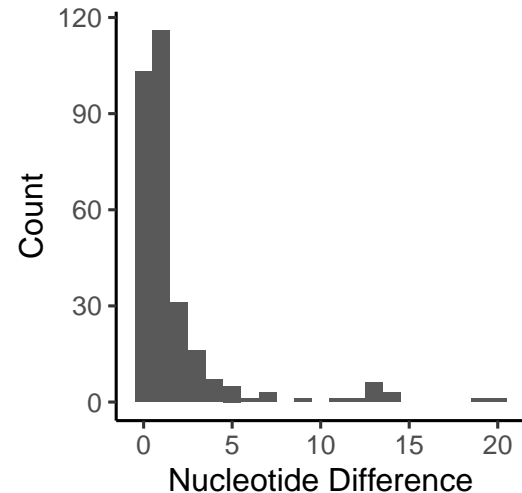
### IGHV2-5\*01

376 sequences assigned  
113 (30.1%) exact matches, in which:  
104 unique CDR3  
6 unique J



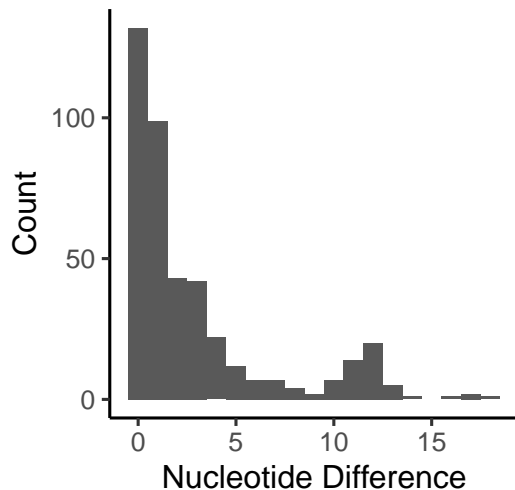
### IGHV2-70\*01

305 sequences assigned  
103 (33.8%) exact matches, in which:  
89 unique CDR3  
5 unique J



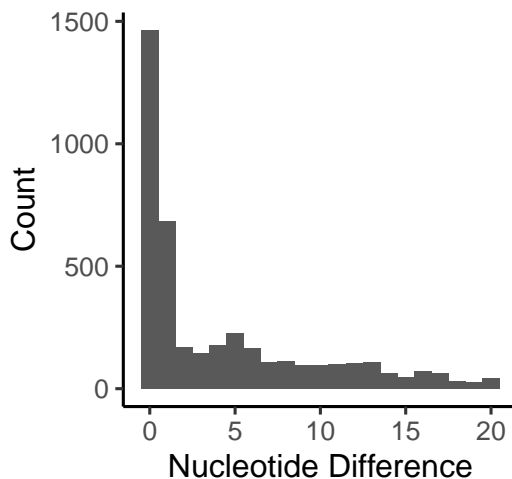
### IGHV2–70\*11\_15

425 sequences assigned  
132 (31.1%) exact matches, in which:  
115 unique CDR3  
5 unique J



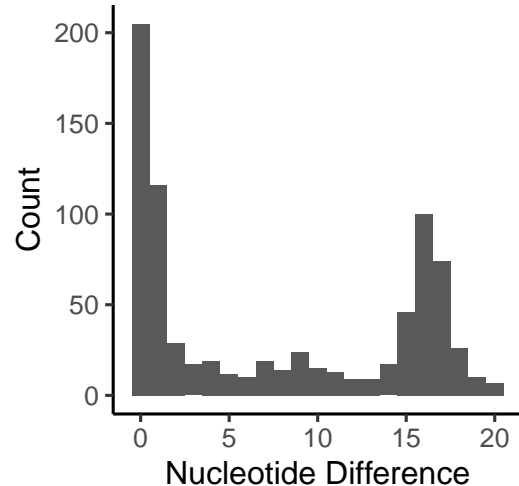
### IGHV3–9\*01

4555 sequences assigned  
1463 (32.1%) exact matches, in which:  
983 unique CDR3  
6 unique J



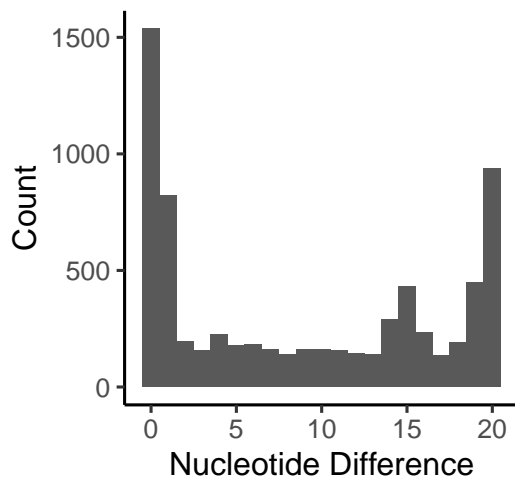
### IGHV3–13\*01

921 sequences assigned  
205 (22.3%) exact matches, in which:  
149 unique CDR3  
5 unique J



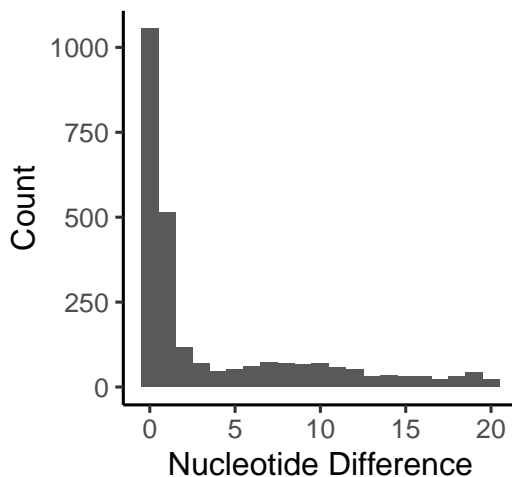
### IGHV3–7\*01

9279 sequences assigned  
1537 (16.6%) exact matches, in which:  
1067 unique CDR3  
6 unique J



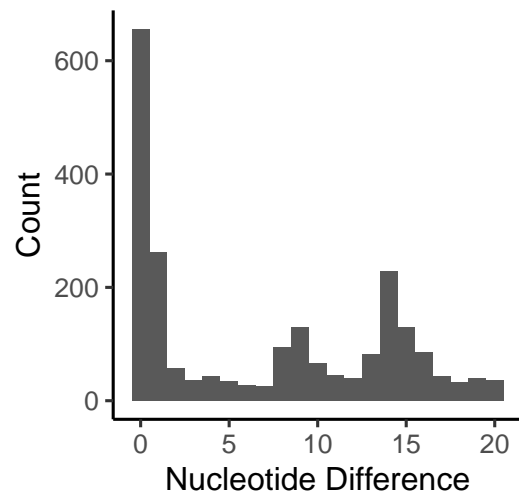
### IGHV3–11\*01

2655 sequences assigned  
1055 (39.7%) exact matches, in which:  
742 unique CDR3  
6 unique J



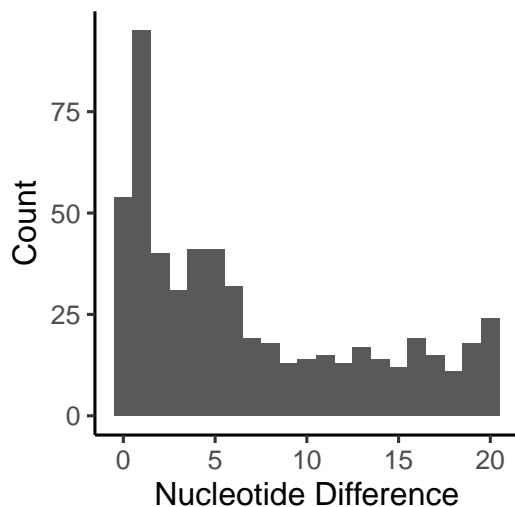
### IGHV3–15\*01\_02

2560 sequences assigned  
656 (25.6%) exact matches, in which:  
454 unique CDR3  
6 unique J



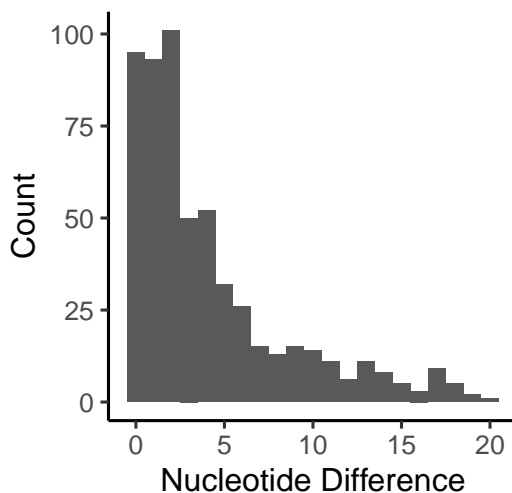
### IGHV3–7\*03

635 sequences assigned  
54 (8.5%) exact matches, in which:  
50 unique CDR3  
4 unique J



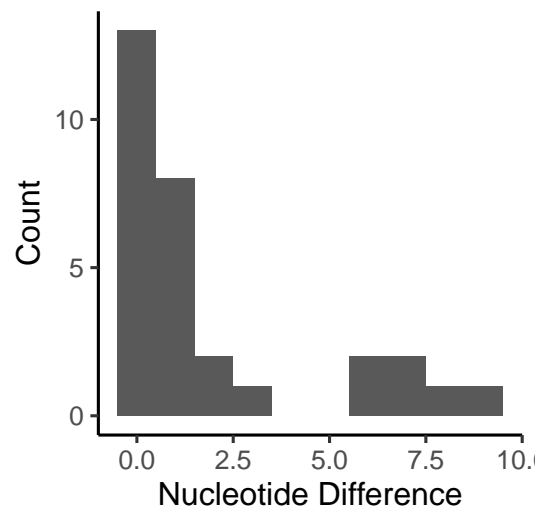
### IGHV3–11\*04

581 sequences assigned  
95 (16.4%) exact matches, in which:  
91 unique CDR3  
5 unique J



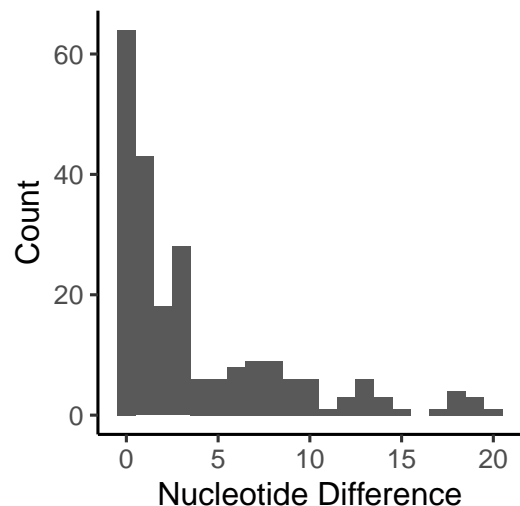
### IGHV3–19\*01

30 sequences assigned  
13 (43.3%) exact matches, in which:  
10 unique CDR3  
2 unique J



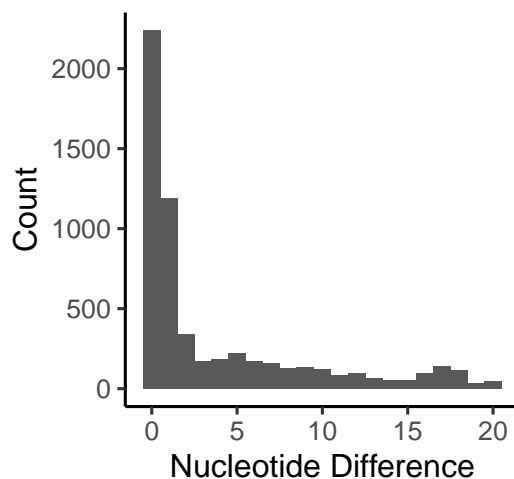
### IGHV3-20\*01\_02

226 sequences assigned  
64 (28.3%) exact matches, in which:  
41 unique CDR3  
4 unique J



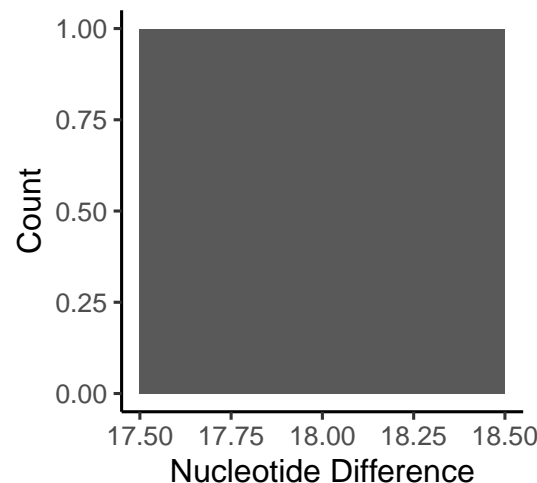
### IGHV3-21\*01\_02

6282 sequences assigned  
2239 (35.6%) exact matches, in which:  
1487 unique CDR3  
6 unique J



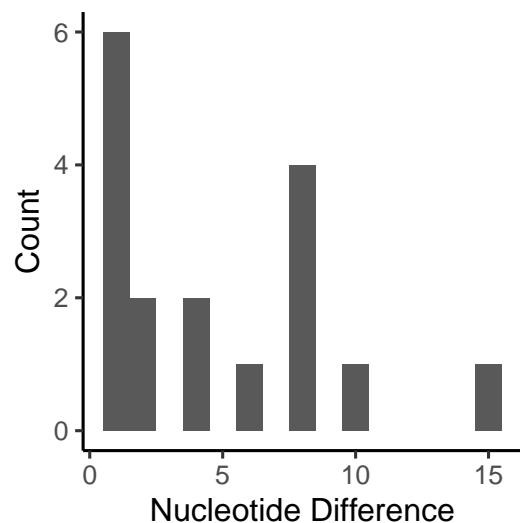
### IGHV3-30-3\*02

1 sequences assigned  
No exact matches.



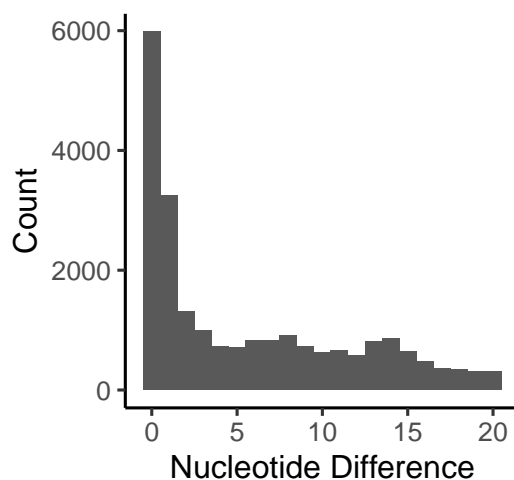
### IGHV3-20\*03\_04

33 sequences assigned  
No exact matches.



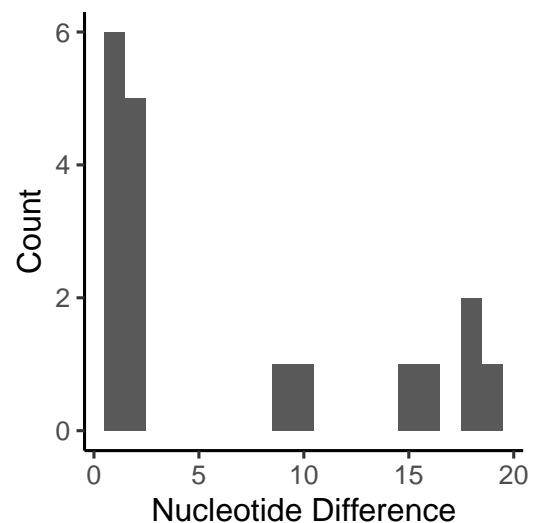
### IGHV3-23\*01\_04

27862 sequences assigned  
5982 (21.5%) exact matches, in which:  
3733 unique CDR3  
6 unique J



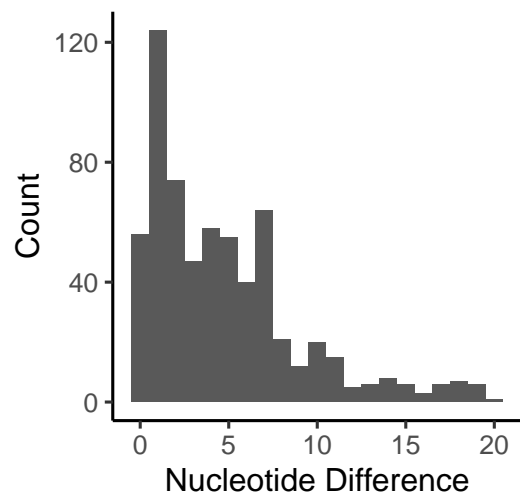
### IGHV3-30-3\*03

29 sequences assigned  
No exact matches.



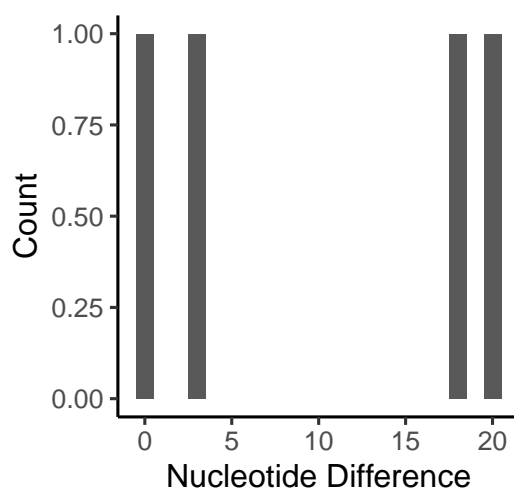
### IGHV3-21\*04

656 sequences assigned  
56 (8.5%) exact matches, in which:  
55 unique CDR3  
5 unique J



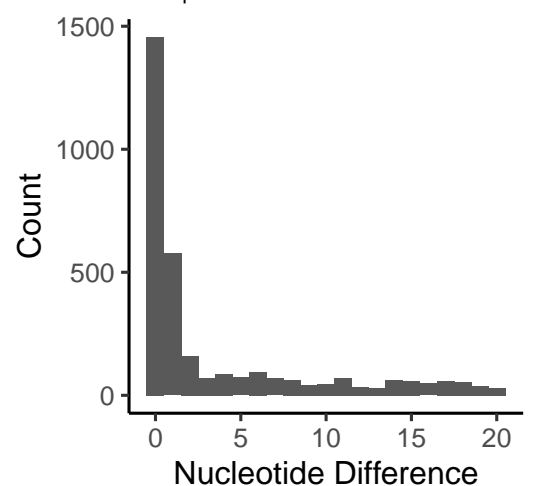
### IGHV3-30-3\*01

6 sequences assigned  
1 (16.7%) exact matches, in which:  
1 unique CDR3  
1 unique J



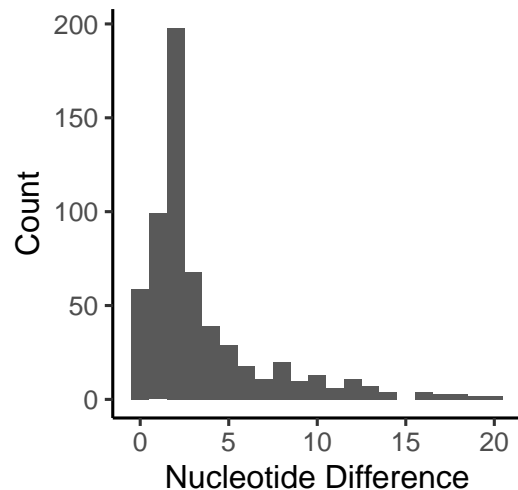
### IGHV3-33\*01

3413 sequences assigned  
1456 (42.7%) exact matches, in which:  
1040 unique CDR3  
6 unique J



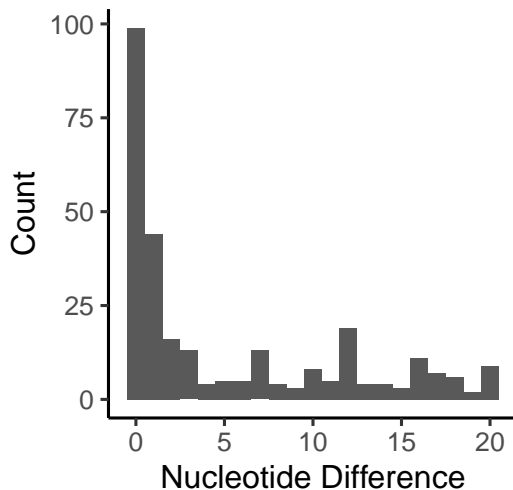
### IGHV3–33\*06

634 sequences assigned  
59 (9.3%) exact matches, in which:  
55 unique CDR3  
5 unique J



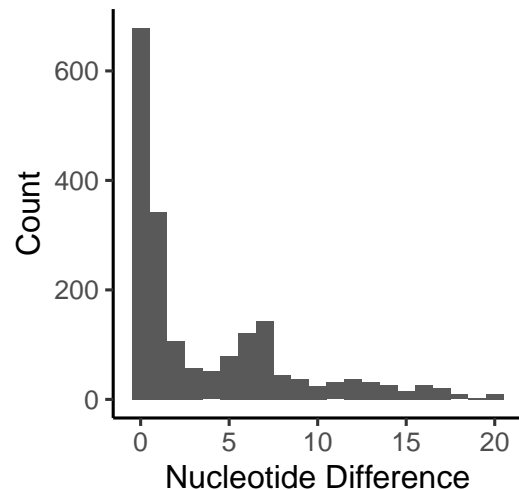
### IGHV3–43\*01

319 sequences assigned  
99 (31%) exact matches, in which:  
69 unique CDR3  
4 unique J



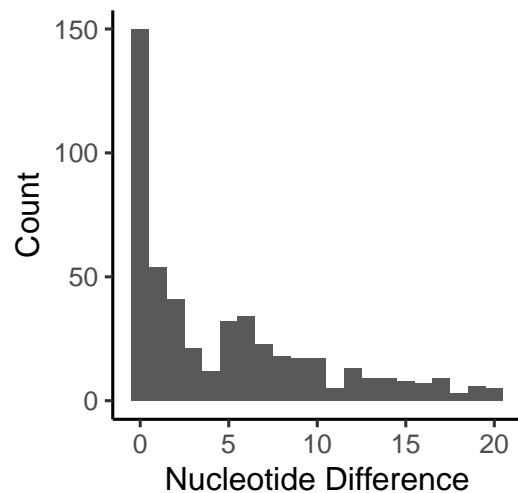
### IGHV3–48\*02

2757 sequences assigned  
679 (24.6%) exact matches, in which:  
461 unique CDR3  
6 unique J



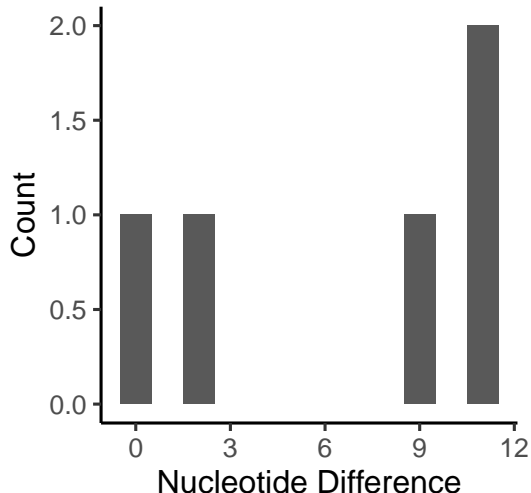
### IGHV3–33\*08

611 sequences assigned  
150 (24.5%) exact matches, in which:  
138 unique CDR3  
5 unique J



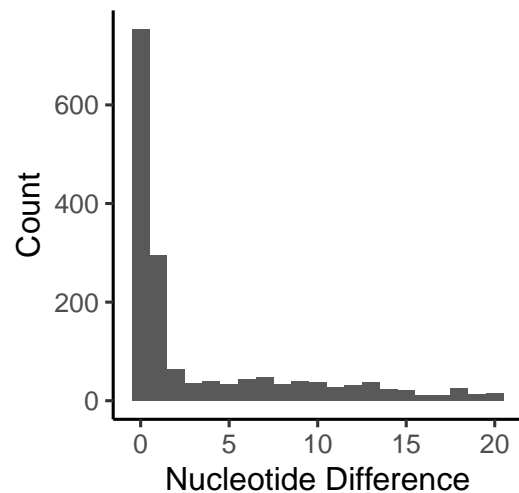
### IGHV3–47\*02

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



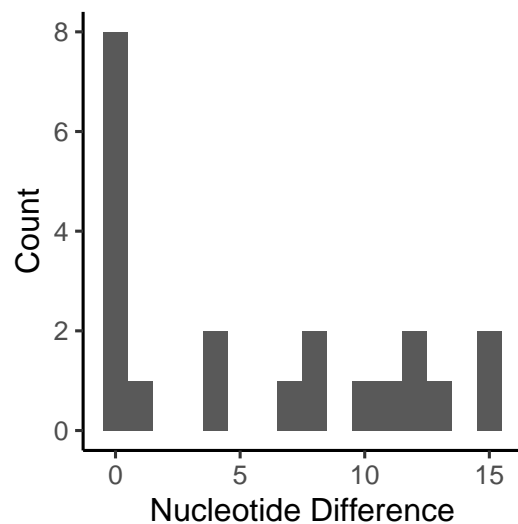
### IGHV3–48\*03

1824 sequences assigned  
754 (41.3%) exact matches, in which:  
507 unique CDR3  
5 unique J



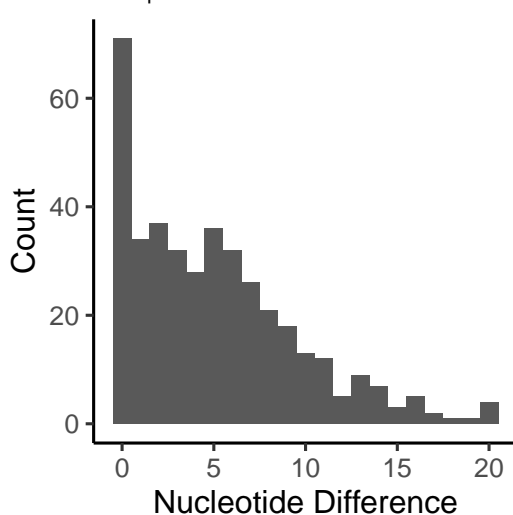
### IGHV3–35\*01

21 sequences assigned  
8 (38.1%) exact matches, in which:  
7 unique CDR3  
2 unique J



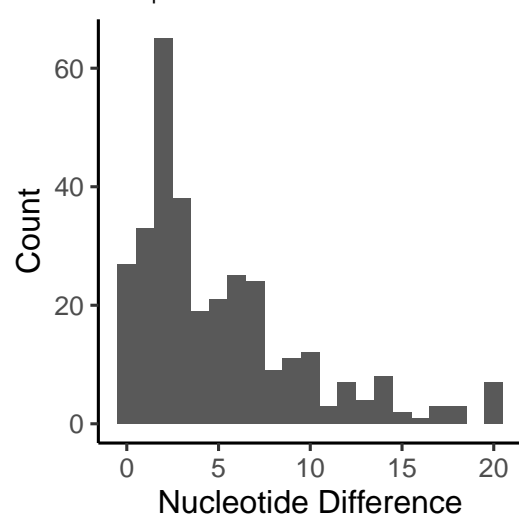
### IGHV3–48\*01

424 sequences assigned  
71 (16.7%) exact matches, in which:  
69 unique CDR3  
5 unique J



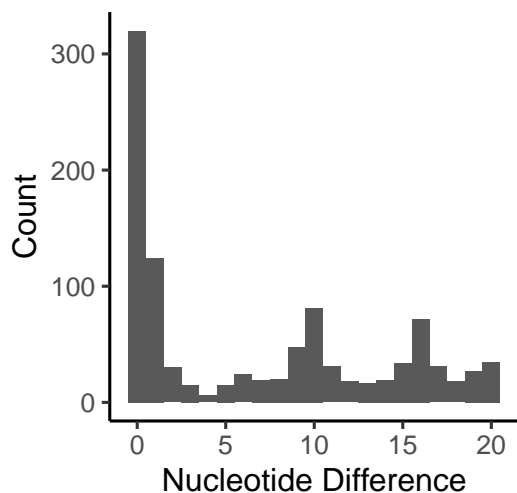
### IGHV3–48\*04

351 sequences assigned  
27 (7.7%) exact matches, in which:  
27 unique CDR3  
4 unique J



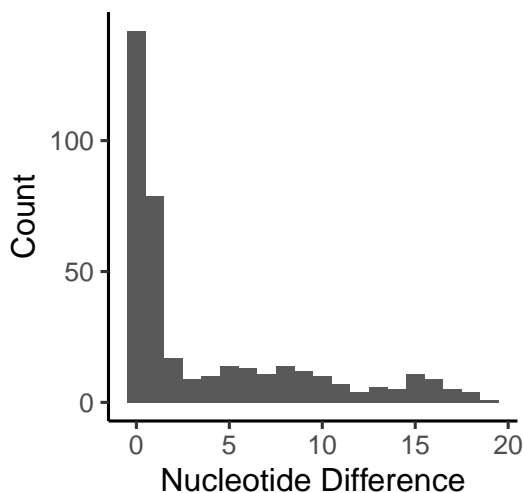
### IGHV3-49\*03\_05

1169 sequences assigned  
320 (27.4%) exact matches, in which:  
212 unique CDR3  
6 unique J



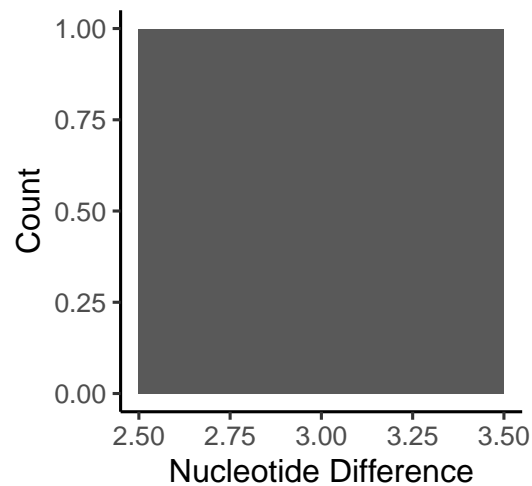
### IGHV3-64\*01

431 sequences assigned  
142 (32.9%) exact matches, in which:  
99 unique CDR3  
6 unique J



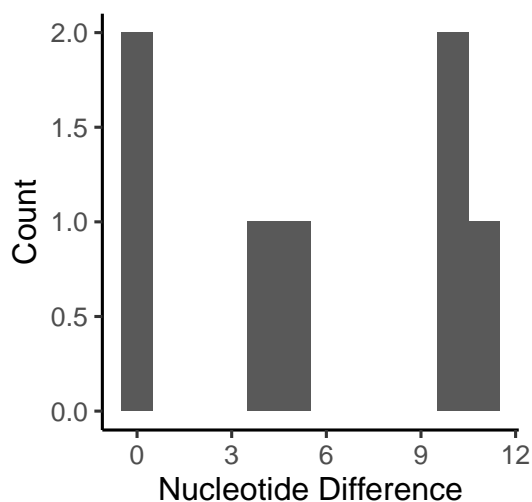
### IGHV3-69-1\*02

35 sequences assigned  
No exact matches.



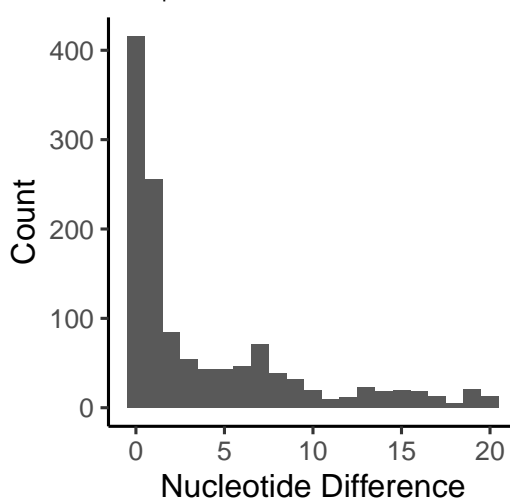
### IGHV3-52\*01\_03

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



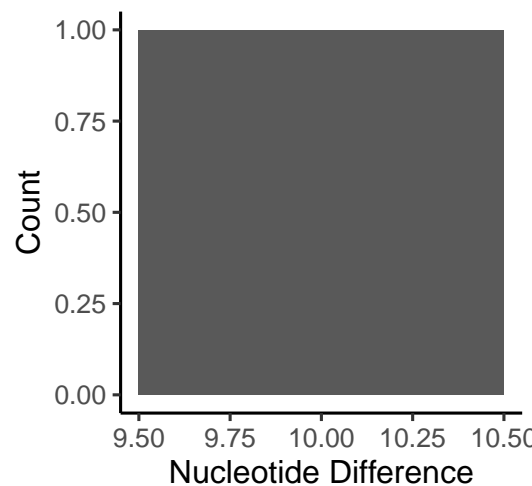
### IGHV3-66\*01

1426 sequences assigned  
416 (29.2%) exact matches, in which:  
295 unique CDR3  
6 unique J



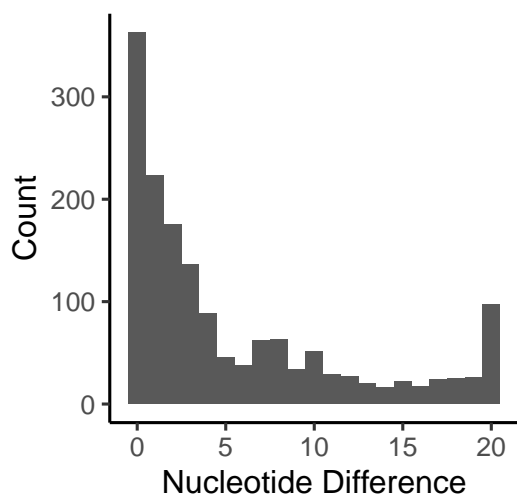
### IGHV3-71\*01\_04

1 sequences assigned  
No exact matches.



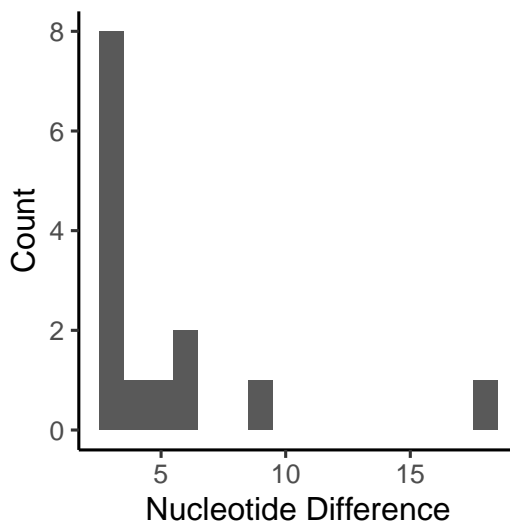
### IGHV3-53\*01\_02

2129 sequences assigned  
363 (17.1%) exact matches, in which:  
251 unique CDR3  
6 unique J



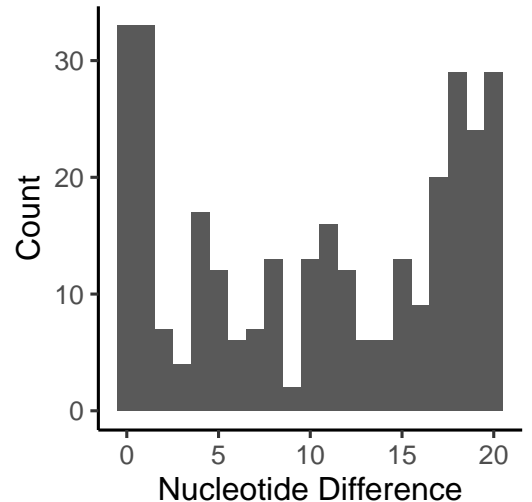
### IGHV3-69-1\*01

18 sequences assigned  
No exact matches.



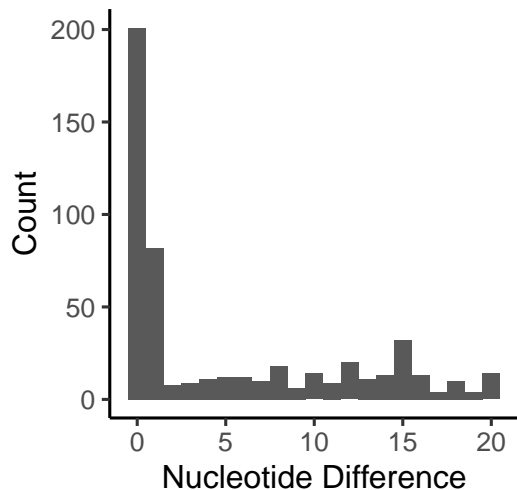
### IGHV3-72\*01

421 sequences assigned  
33 (7.8%) exact matches, in which:  
23 unique CDR3  
4 unique J



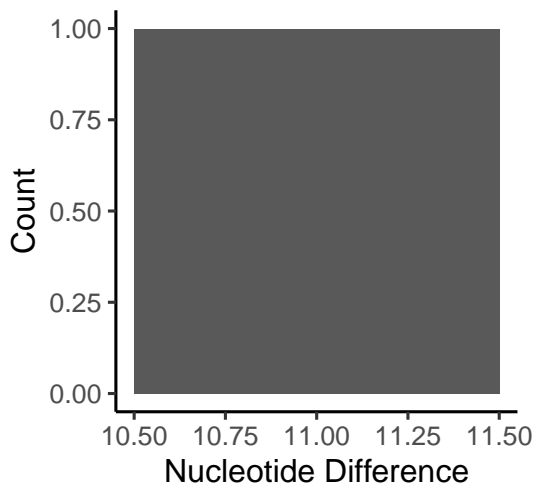
### IGHV3–73\*01\_02

732 sequences assigned  
201 (27.5%) exact matches, in which:  
142 unique CDR3  
5 unique J



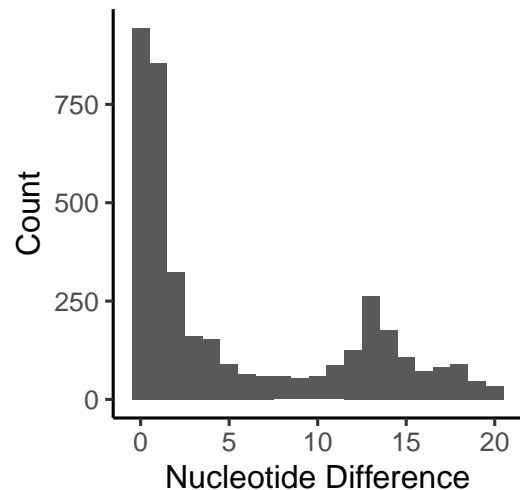
### IGHV3–64D\*06

12 sequences assigned  
No exact matches.



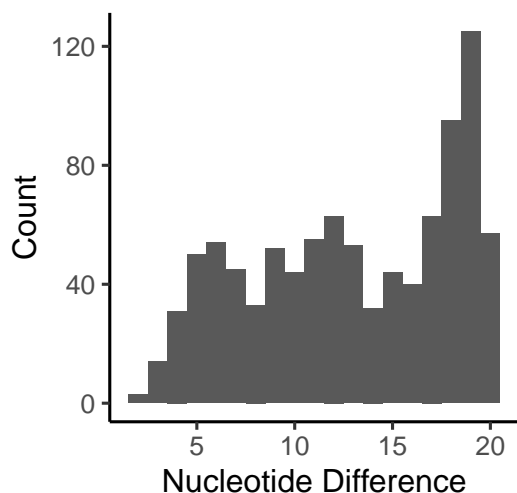
### IGHV4–4\*07

4436 sequences assigned  
945 (21.3%) exact matches, in which:  
863 unique CDR3  
6 unique J



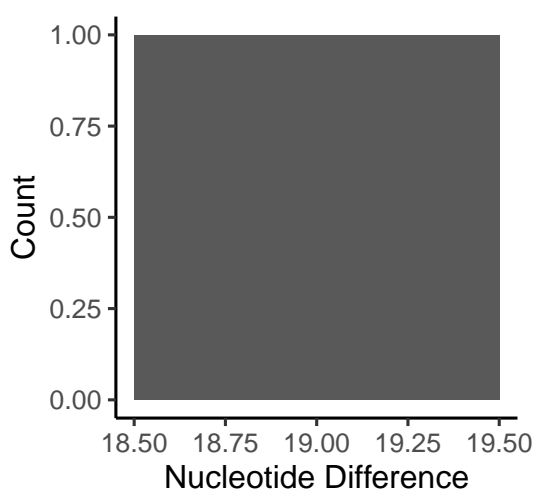
### IGHV3–74\*03

11913 sequences assigned  
No exact matches.



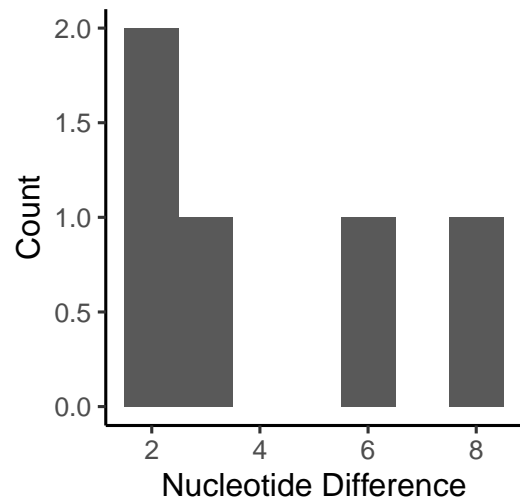
### IGHV3–64D\*09

1 sequences assigned  
No exact matches.



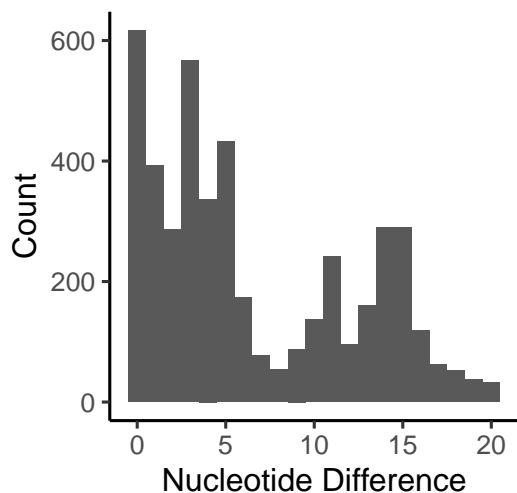
### IGHV4–28\*03

6 sequences assigned  
No exact matches.



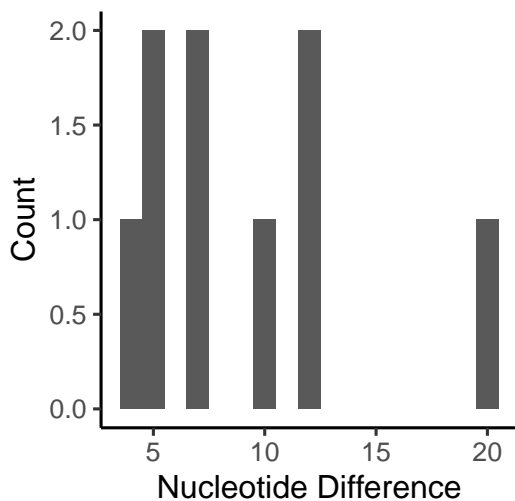
### IGHV3–74\*01\_02

6033 sequences assigned  
617 (10.2%) exact matches, in which:  
417 unique CDR3  
6 unique J



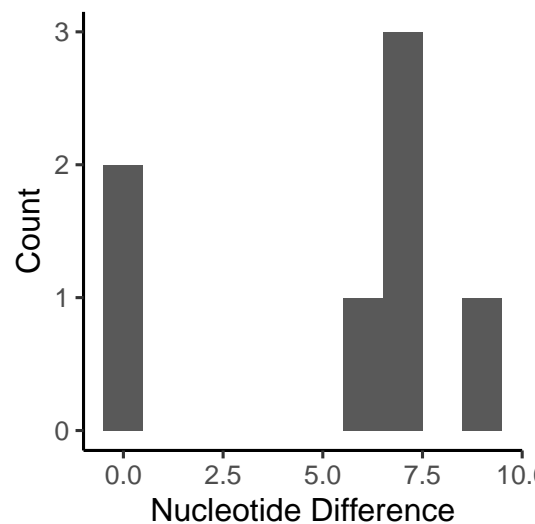
### IGHV3–NL1\*01

12 sequences assigned  
No exact matches.



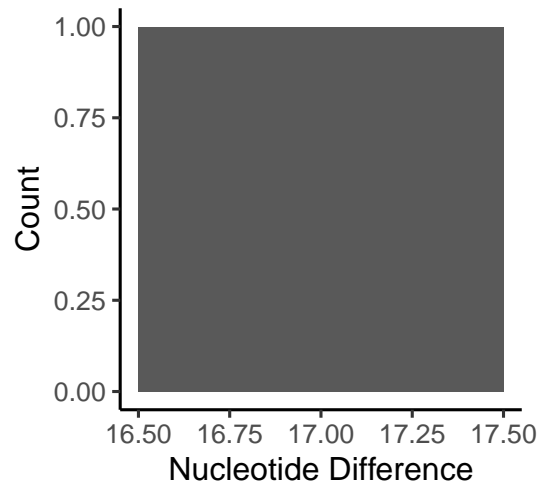
### IGHV4–28\*01\_07

13 sequences assigned  
2 (15.4%) exact matches, in which:  
2 unique CDR3  
1 unique J



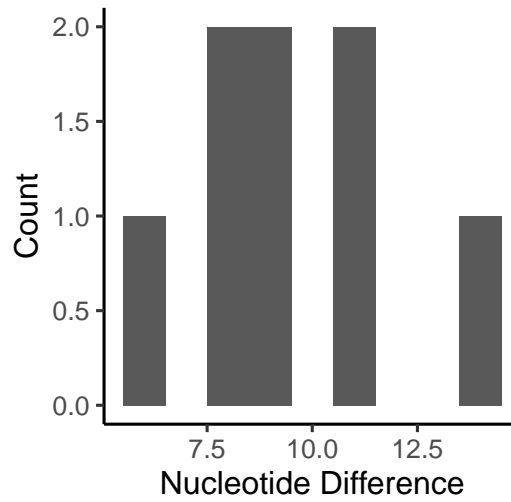
### IGHV4-30-4\*01

4 sequences assigned  
No exact matches.



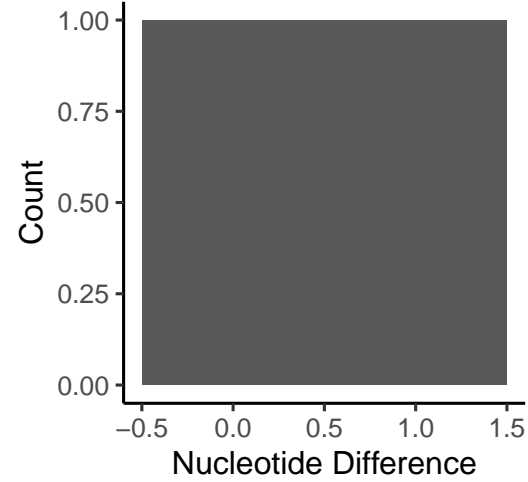
### IGHV4-30-4\*08

20 sequences assigned  
No exact matches.



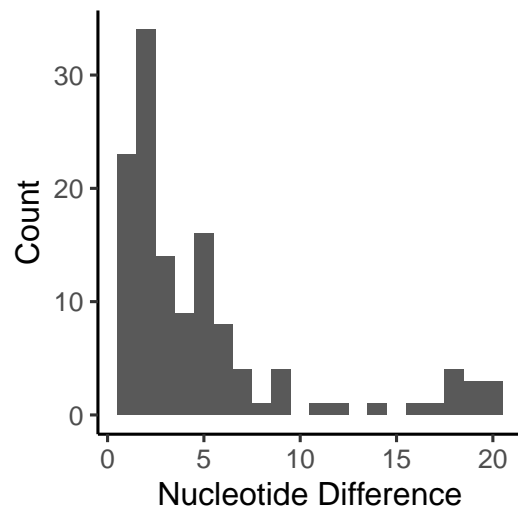
### IGHV4-38-2\*01

4 sequences assigned  
1 (25%) exact matches, in which:  
1 unique CDR3  
1 unique J



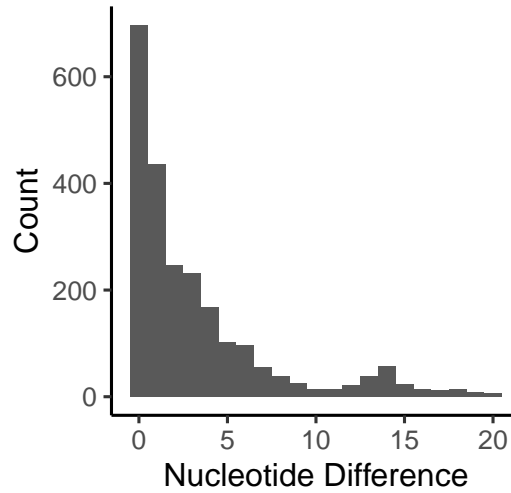
### IGHV4-30-2\*03

131 sequences assigned  
No exact matches.



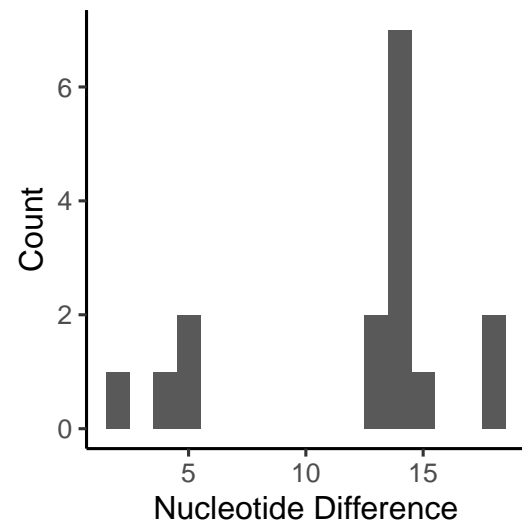
### IGHV4-31\*02

2933 sequences assigned  
697 (23.8%) exact matches, in which:  
643 unique CDR3  
5 unique J



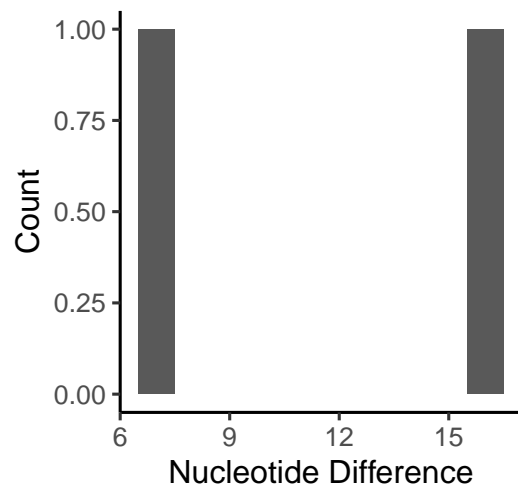
### IGHV4-38-2\*02

27 sequences assigned  
No exact matches.



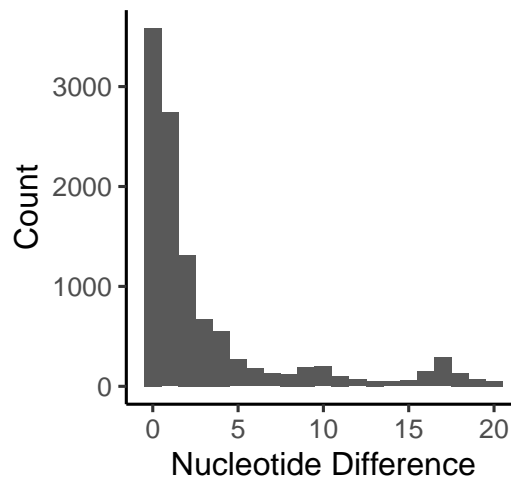
### IGHV4-30-2\*04

2 sequences assigned  
No exact matches.



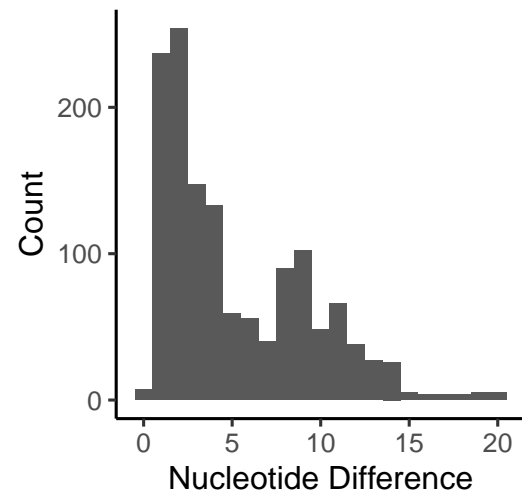
### IGHV4-34\*01\_02

11865 sequences assigned  
3586 (30.2%) exact matches, in which:  
2810 unique CDR3  
6 unique J



### IGHV4-39\*07

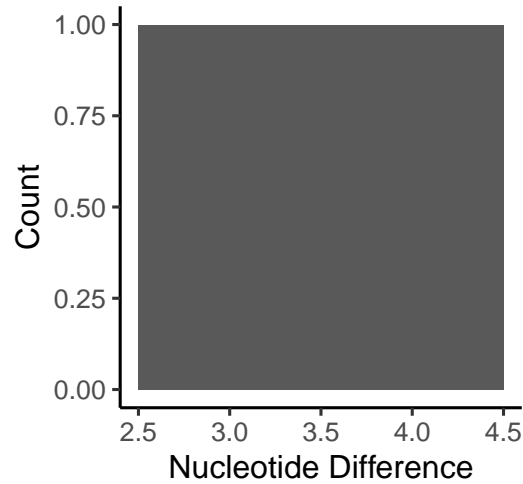
1405 sequences assigned  
7 (0.5%) exact matches, in which:  
7 unique CDR3  
3 unique J





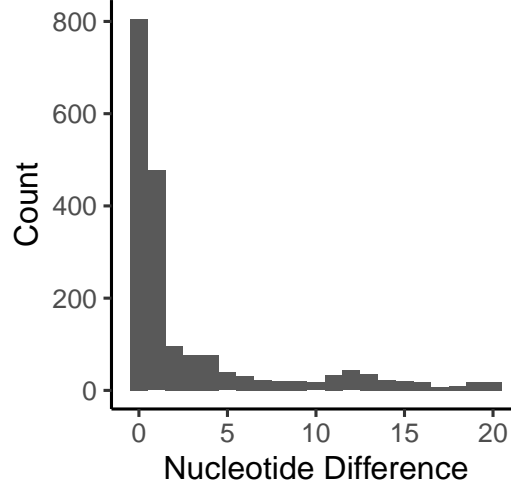
### IGHV4-55\*09

2 sequences assigned  
No exact matches.



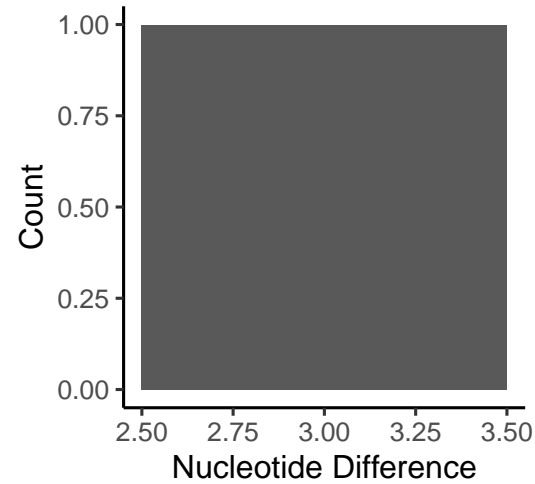
### IGHV4-59\*13

2550 sequences assigned  
806 (31.6%) exact matches, in which:  
745 unique CDR3  
6 unique J



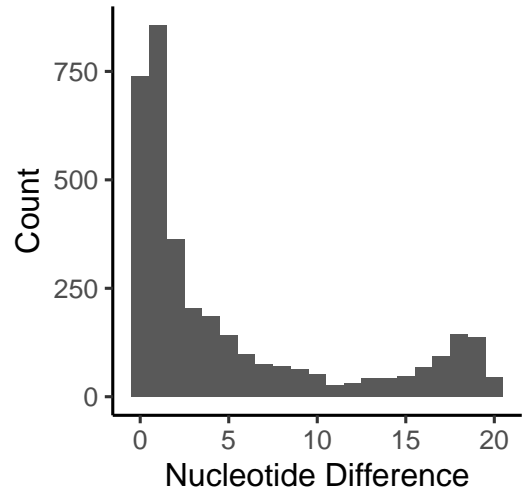
### IGHV4/OR15-8\*01

1 sequences assigned  
No exact matches.



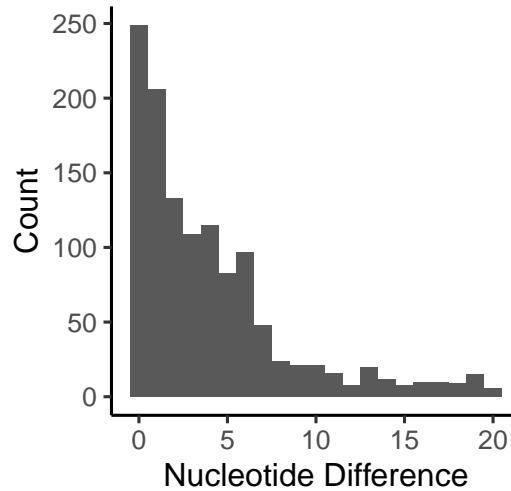
### IGHV4-59\*08

3720 sequences assigned  
738 (19.8%) exact matches, in which:  
632 unique CDR3  
6 unique J



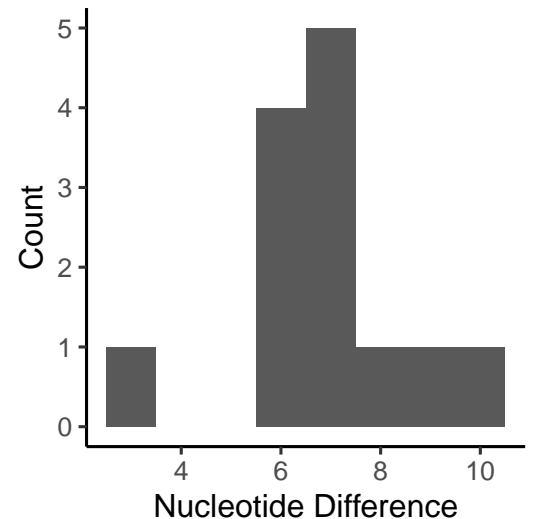
### IGHV4-61\*01

1375 sequences assigned  
249 (18.1%) exact matches, in which:  
233 unique CDR3  
5 unique J



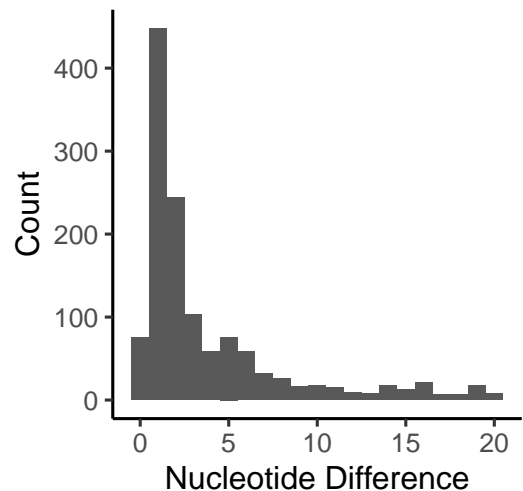
### IGHV5-10-1\*01\_03

13 sequences assigned  
No exact matches.



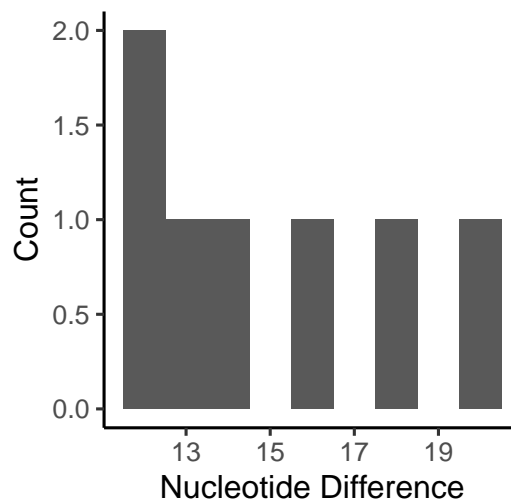
### IGHV4-59\*12

2054 sequences assigned  
75 (3.7%) exact matches, in which:  
75 unique CDR3  
4 unique J



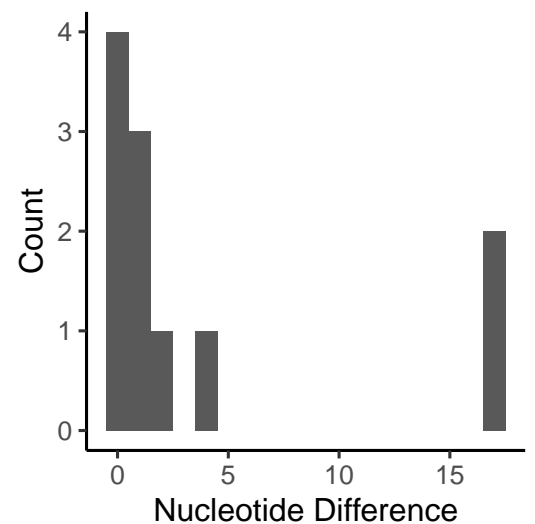
### IGHV1/OR15-2\*02\_03

8 sequences assigned  
No exact matches.



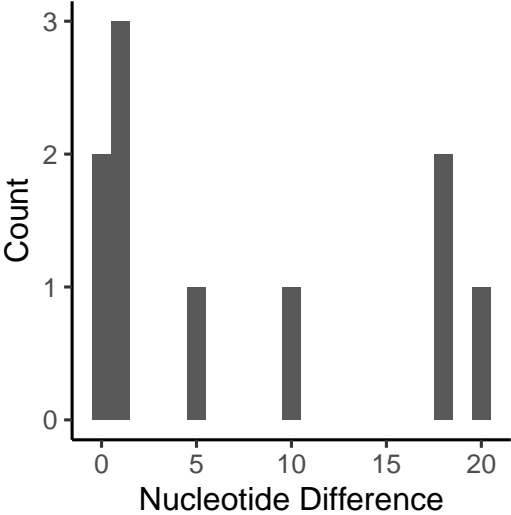
### IGHV5-51\*04

13 sequences assigned  
4 (30.8%) exact matches, in which:  
4 unique CDR3  
2 unique J



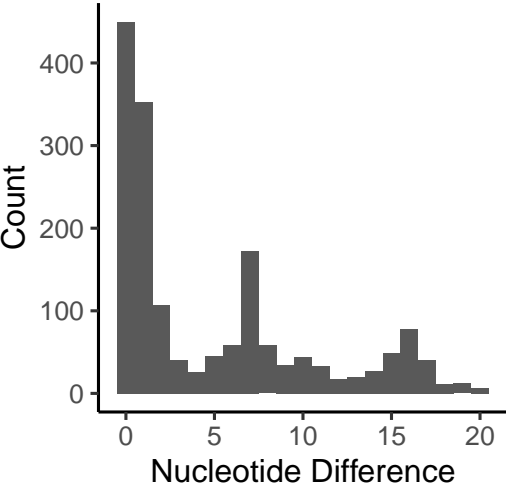
IGHV5-51\*06

13 sequences assigned  
2 (15.4%) exact matches, in which:  
2 unique CDR3  
2 unique J



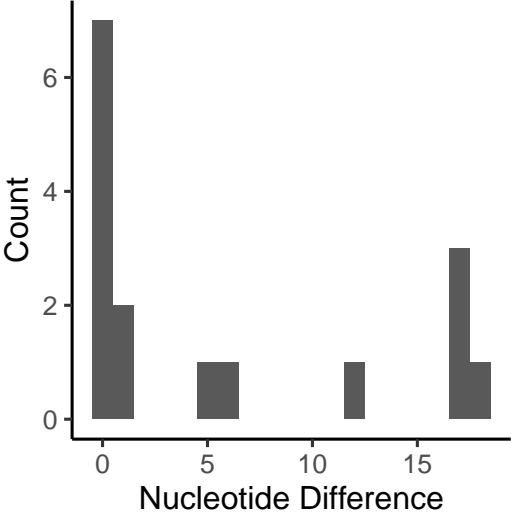
IGHV7-4-1\*02

1741 sequences assigned  
450 (25.8%) exact matches, in which:  
397 unique CDR3  
6 unique J



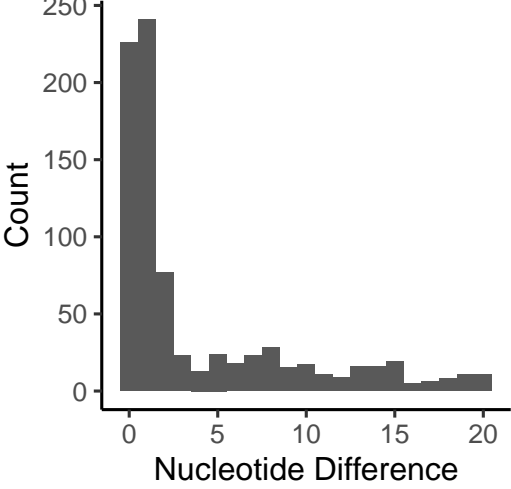
IGHV5-51\*07

17 sequences assigned  
7 (41.2%) exact matches, in which:  
7 unique CDR3  
4 unique J



IGHV6-1\*01\_02

947 sequences assigned  
226 (23.9%) exact matches, in which:  
202 unique CDR3  
6 unique J





[illegible]