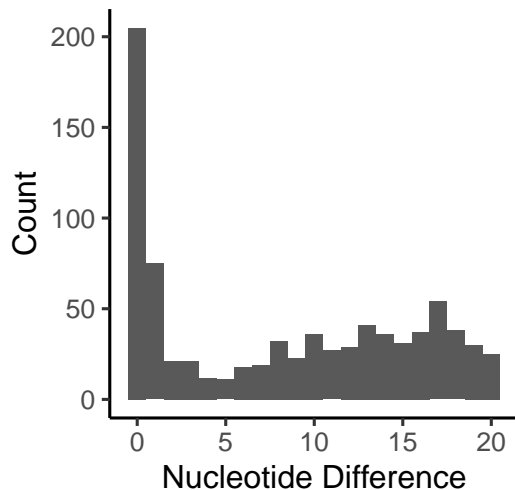


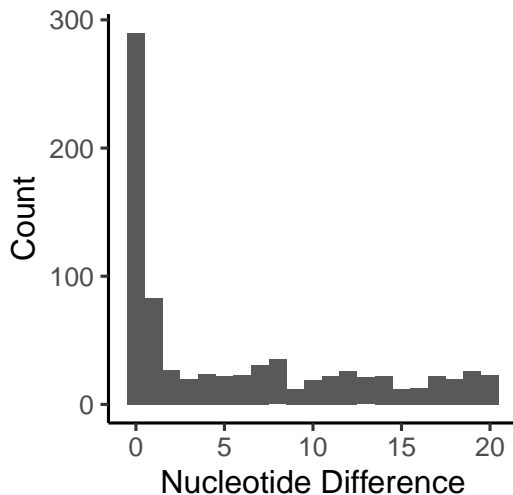
### IGHV1-2\*02

1414 sequences assigned  
205 (14.5%) exact matches, in which:  
201 unique CDR3  
6 unique J



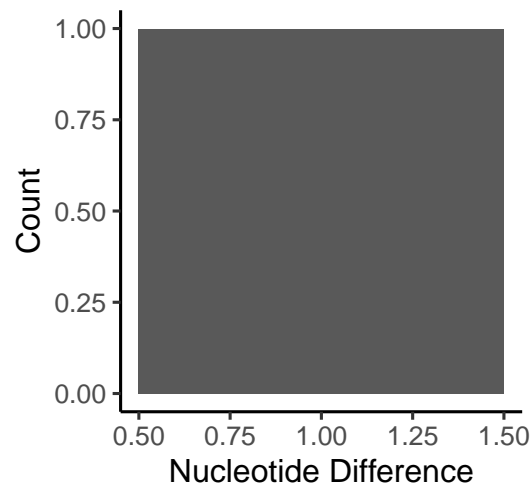
### IGHV1-8\*01

991 sequences assigned  
290 (29.3%) exact matches, in which:  
285 unique CDR3  
5 unique J



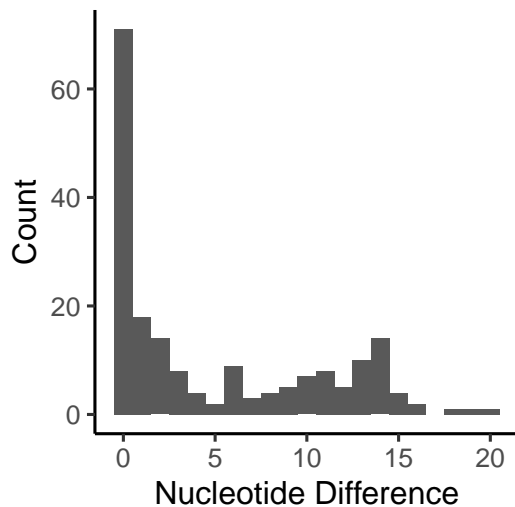
### IGHV1-45\*01

9 sequences assigned  
No exact matches.



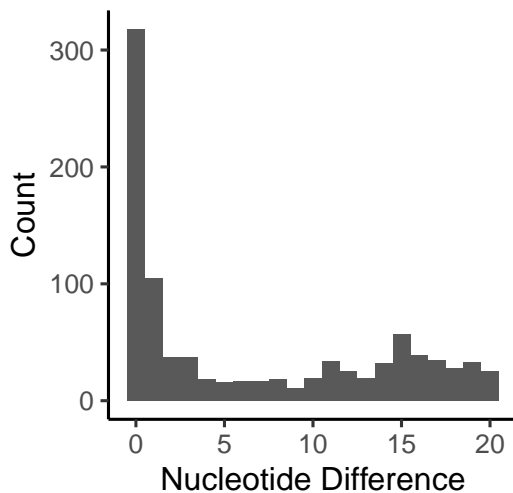
### IGHV1-2\*04

269 sequences assigned  
71 (26.4%) exact matches, in which:  
69 unique CDR3  
5 unique J



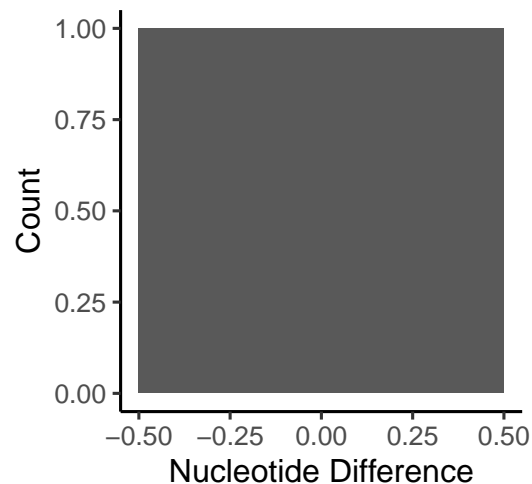
### IGHV1-18\*01

1530 sequences assigned  
318 (20.8%) exact matches, in which:  
305 unique CDR3  
6 unique J



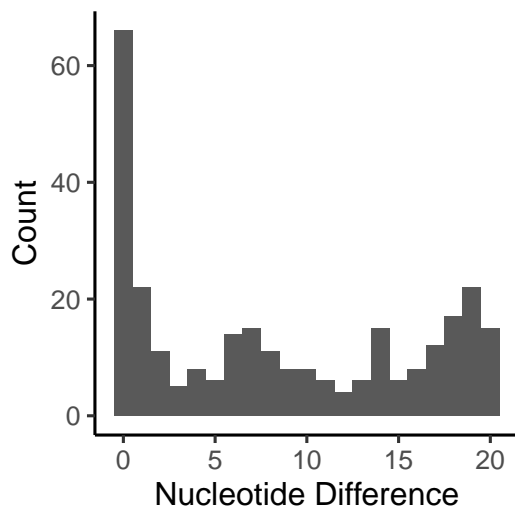
### IGHV1-45\*02

8 sequences assigned  
1 (12.5%) exact matches, in which:  
1 unique CDR3  
1 unique J



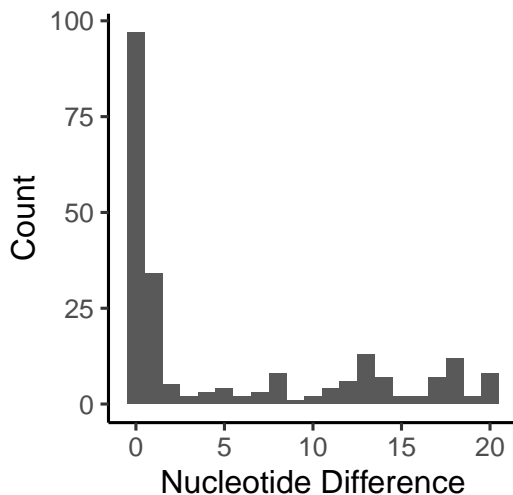
### IGHV1-3\*01

454 sequences assigned  
66 (14.5%) exact matches, in which:  
64 unique CDR3  
5 unique J



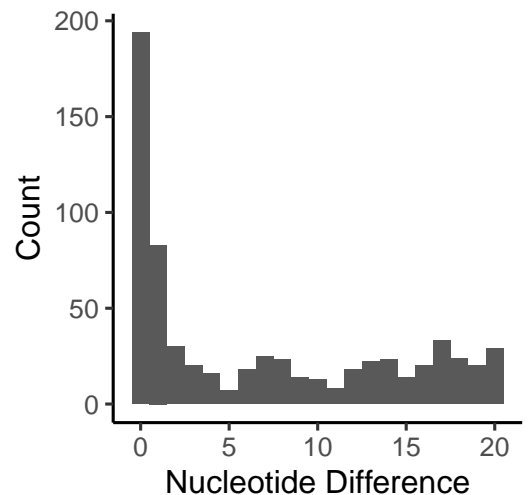
### IGHV1-24\*01

306 sequences assigned  
97 (31.7%) exact matches, in which:  
92 unique CDR3  
6 unique J



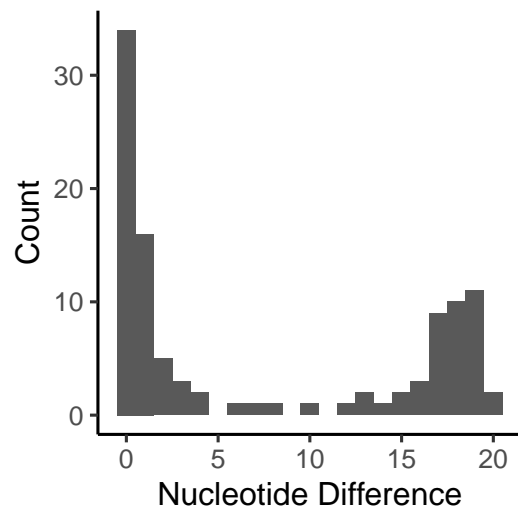
### IGHV1-46\*01

1123 sequences assigned  
194 (17.3%) exact matches, in which:  
187 unique CDR3  
6 unique J



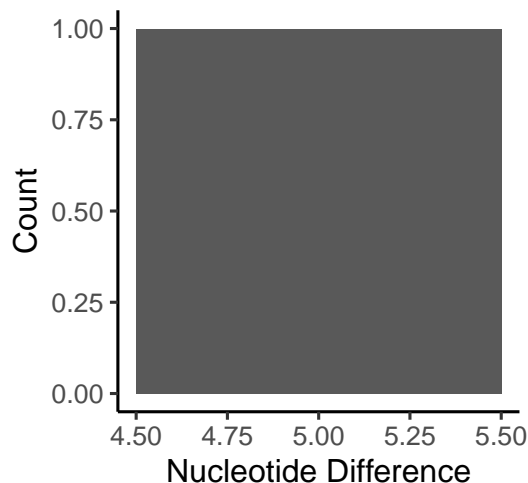
### IGHV1-58\*01

150 sequences assigned  
34 (22.7%) exact matches, in which:  
34 unique CDR3  
6 unique J



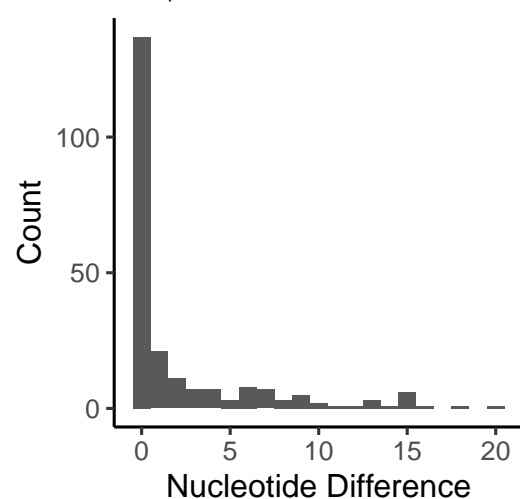
### IGHV1-NL1\*01

1 sequences assigned  
No exact matches.



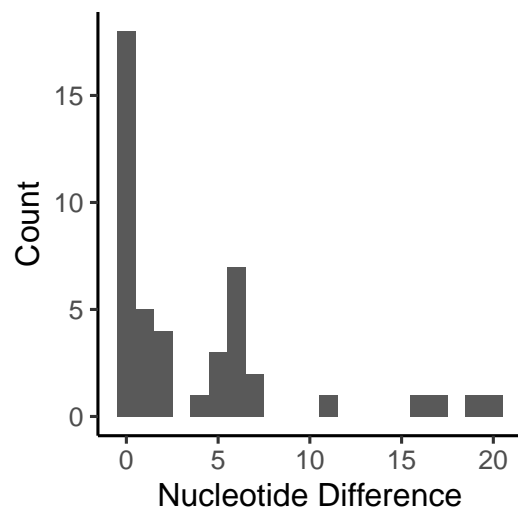
### IGHV2-26\*01

239 sequences assigned  
137 (57.3%) exact matches, in which:  
135 unique CDR3  
5 unique J



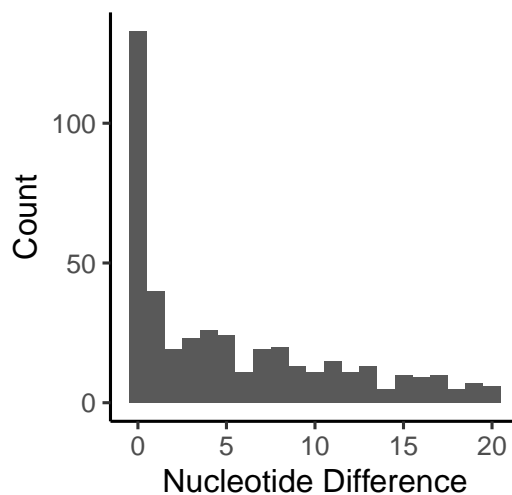
### IGHV1-69-2\*01

99 sequences assigned  
18 (18.2%) exact matches, in which:  
17 unique CDR3  
4 unique J



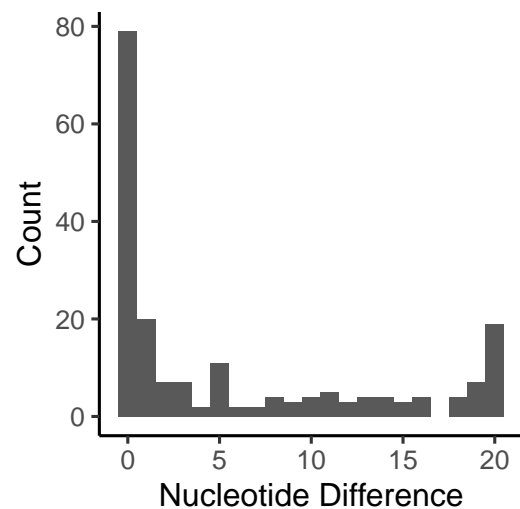
### IGHV2-5\*01

494 sequences assigned  
133 (26.9%) exact matches, in which:  
127 unique CDR3  
6 unique J



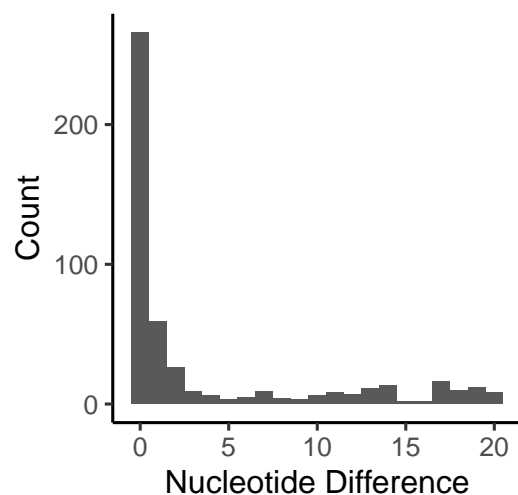
### IGHV2-70\*01

259 sequences assigned  
79 (30.5%) exact matches, in which:  
77 unique CDR3  
4 unique J



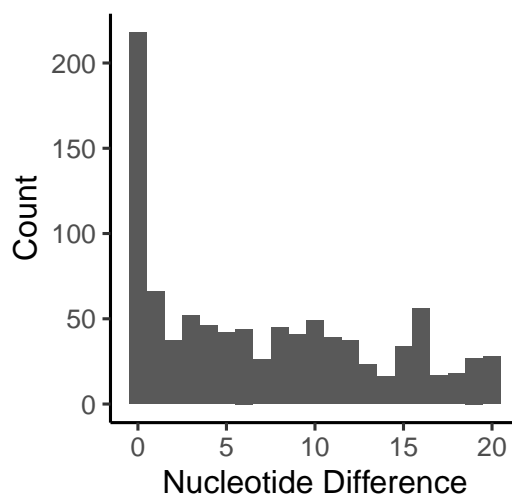
### IGHV1-69\*06

828 sequences assigned  
266 (32.1%) exact matches, in which:  
255 unique CDR3  
6 unique J



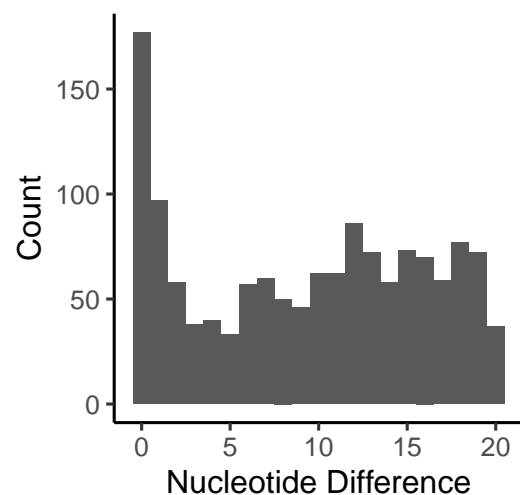
### IGHV2-5\*02

1235 sequences assigned  
218 (17.7%) exact matches, in which:  
208 unique CDR3  
6 unique J



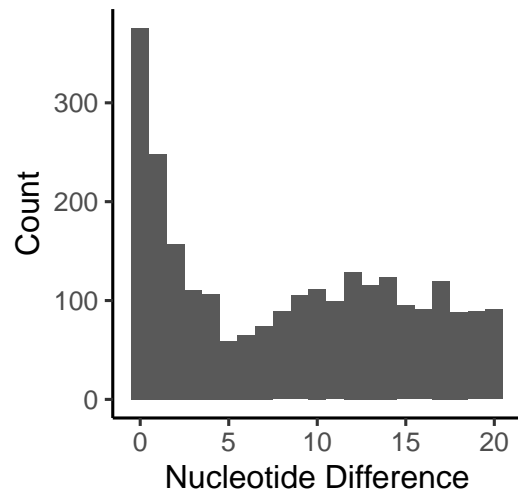
### IGHV3-7\*01

1944 sequences assigned  
177 (9.1%) exact matches, in which:  
173 unique CDR3  
6 unique J



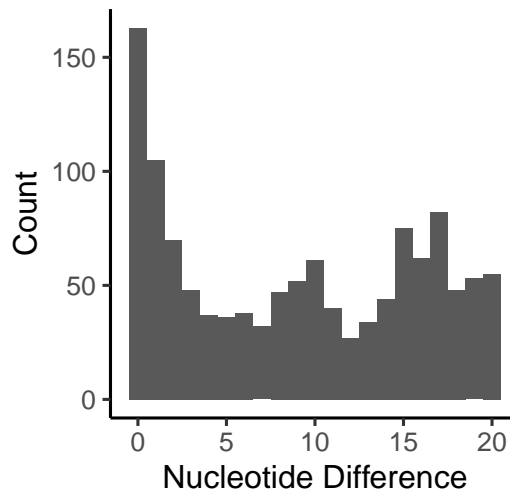
### IGHV3-9\*01

3423 sequences assigned  
376 (11%) exact matches, in which:  
365 unique CDR3  
6 unique J



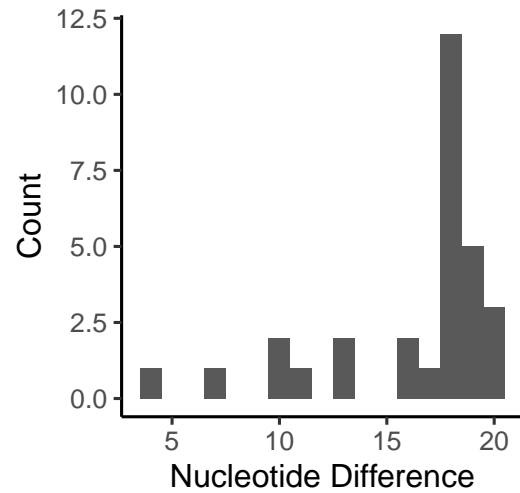
### IGHV3-15\*01

1792 sequences assigned  
163 (9.1%) exact matches, in which:  
146 unique CDR3  
5 unique J



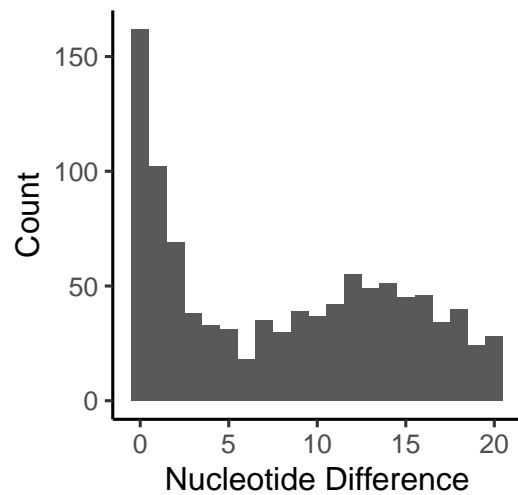
### IGHV3-20\*04

84 sequences assigned  
No exact matches.



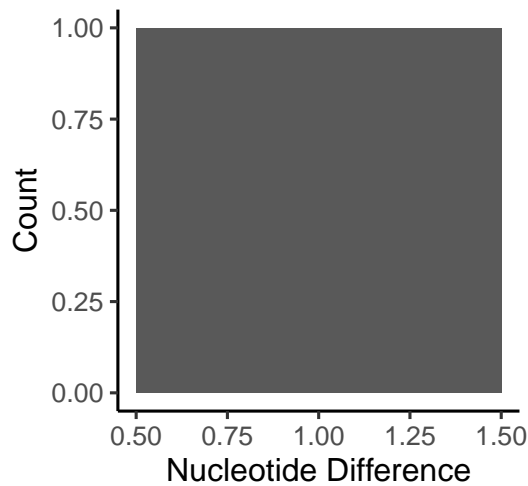
### IGHV3-11\*01

1551 sequences assigned  
162 (10.4%) exact matches, in which:  
158 unique CDR3  
6 unique J



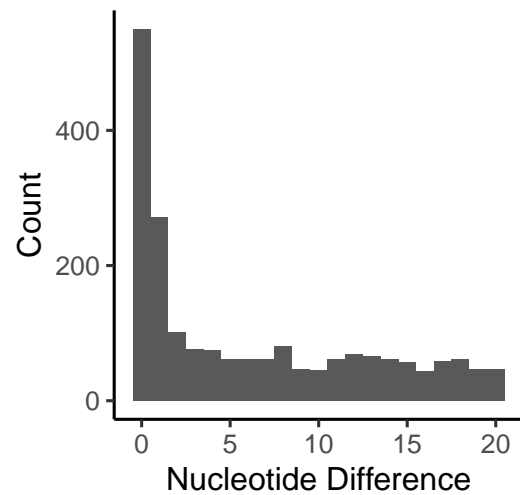
### IGHV3-19\*01

1 sequences assigned  
No exact matches.



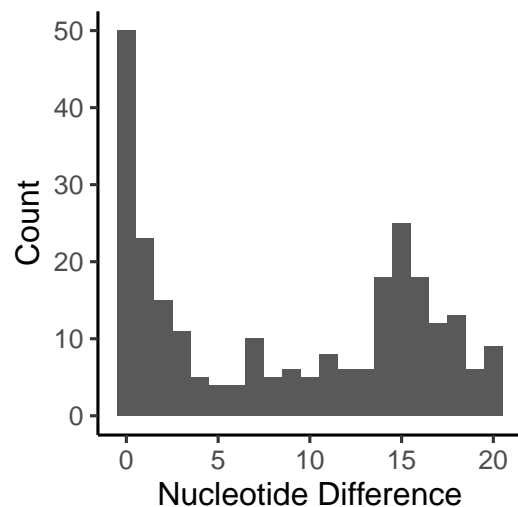
### IGHV3-21\*01

2804 sequences assigned  
550 (19.6%) exact matches, in which:  
521 unique CDR3  
6 unique J



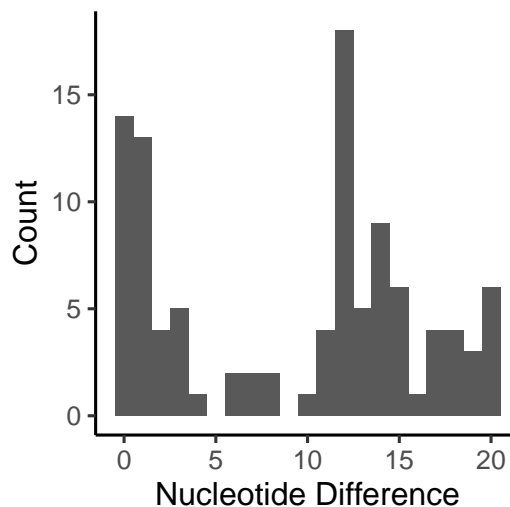
### IGHV3-13\*01

342 sequences assigned  
50 (14.6%) exact matches, in which:  
49 unique CDR3  
5 unique J



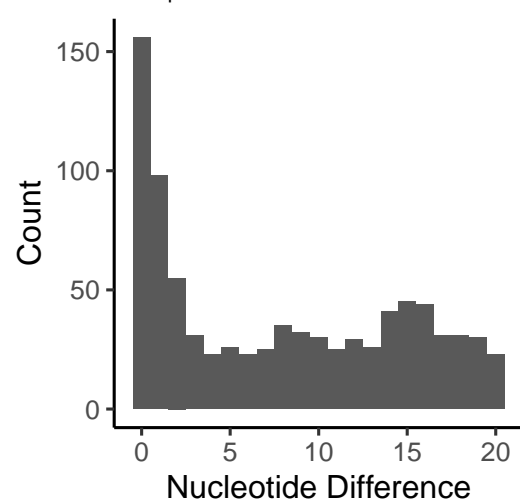
### IGHV3-20\*01

152 sequences assigned  
14 (9.2%) exact matches, in which:  
14 unique CDR3  
5 unique J



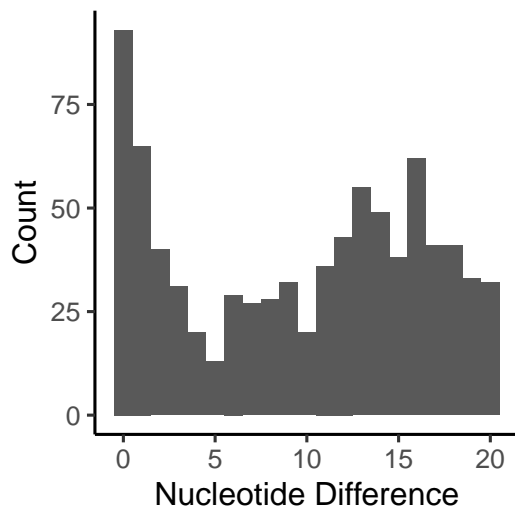
### IGHV3-30-3\*01

1268 sequences assigned  
156 (12.3%) exact matches, in which:  
150 unique CDR3  
6 unique J



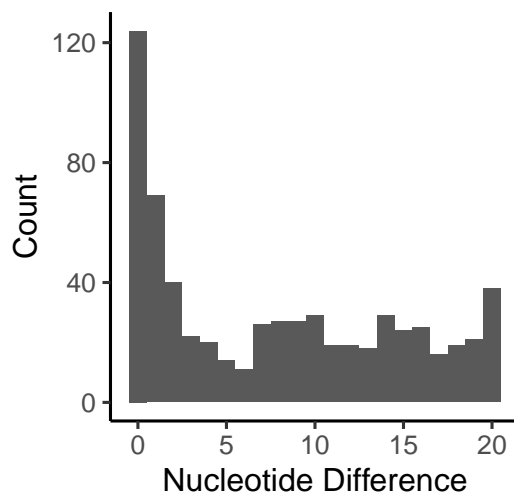
### IGHV3-33\*01

1235 sequences assigned  
93 (7.5%) exact matches, in which:  
89 unique CDR3  
6 unique J



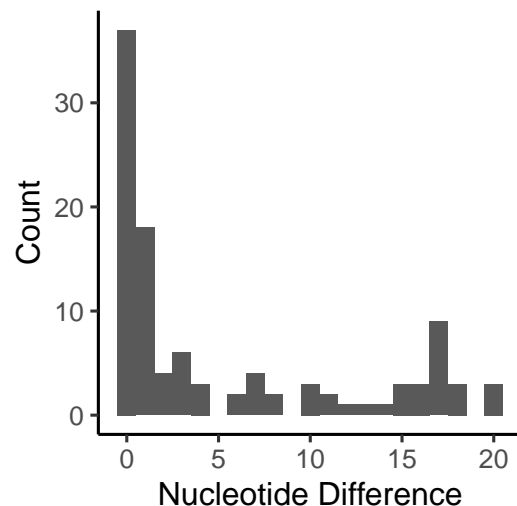
### IGHV3-48\*02

1111 sequences assigned  
124 (11.2%) exact matches, in which:  
122 unique CDR3  
5 unique J



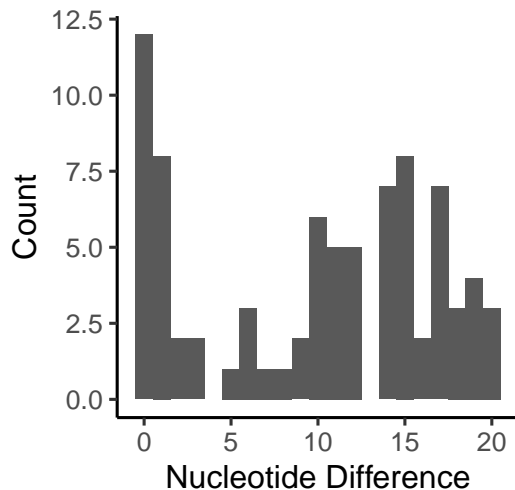
### IGHV3-49\*05

146 sequences assigned  
37 (25.3%) exact matches, in which:  
34 unique CDR3  
6 unique J



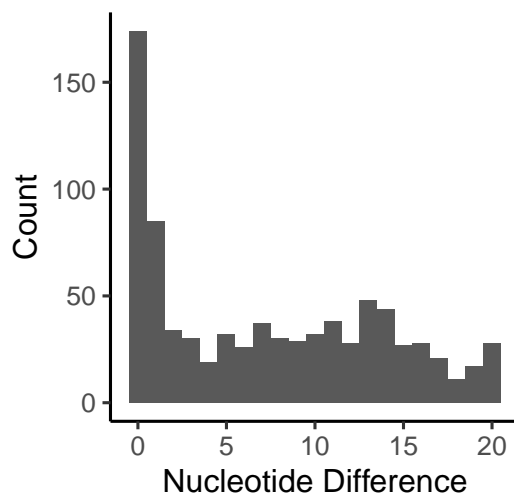
### IGHV3-43\*01

95 sequences assigned  
12 (12.6%) exact matches, in which:  
12 unique CDR3  
4 unique J



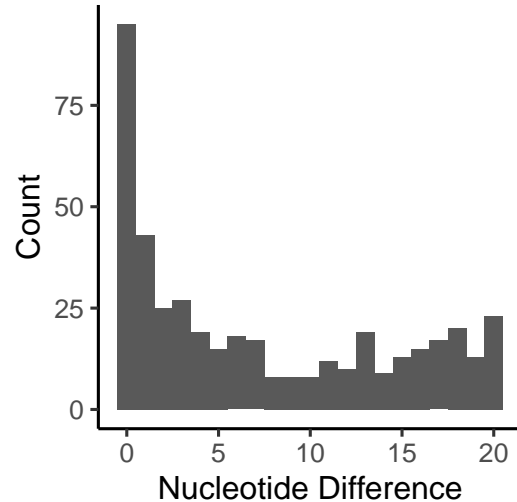
### IGHV3-48\*03

1163 sequences assigned  
174 (15%) exact matches, in which:  
166 unique CDR3  
5 unique J



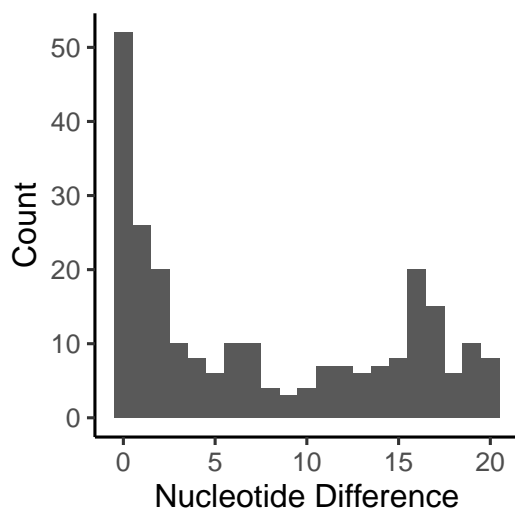
### IGHV3-53\*01

711 sequences assigned  
95 (13.4%) exact matches, in which:  
95 unique CDR3  
5 unique J



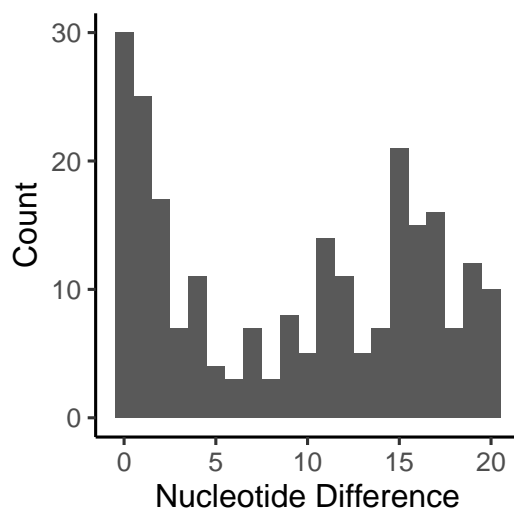
### IGHV3-43\*02

471 sequences assigned  
52 (11%) exact matches, in which:  
51 unique CDR3  
5 unique J



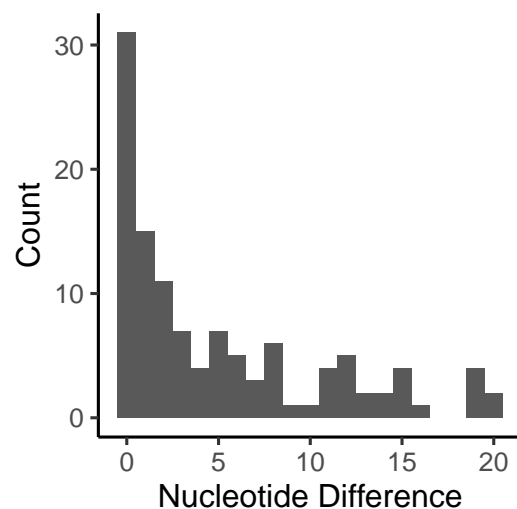
### IGHV3-49\*04

348 sequences assigned  
30 (8.6%) exact matches, in which:  
30 unique CDR3  
5 unique J



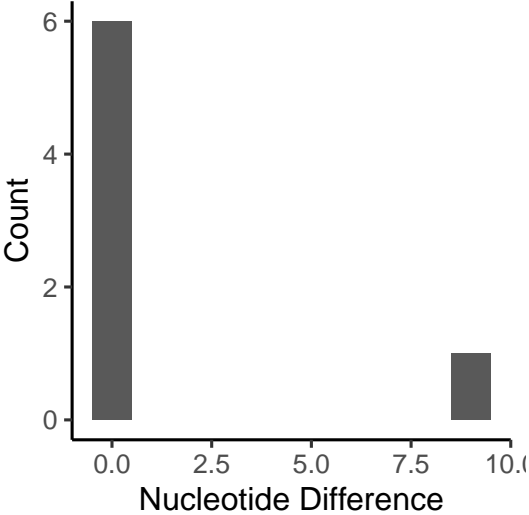
### IGHV3-53\*04

143 sequences assigned  
31 (21.7%) exact matches, in which:  
30 unique CDR3  
5 unique J



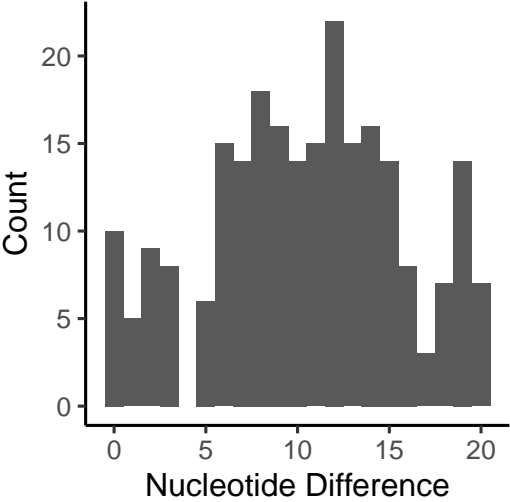
IGHV3-64\*02

28 sequences assigned  
6 (21.4%) exact matches, in which:  
6 unique CDR3  
3 unique J



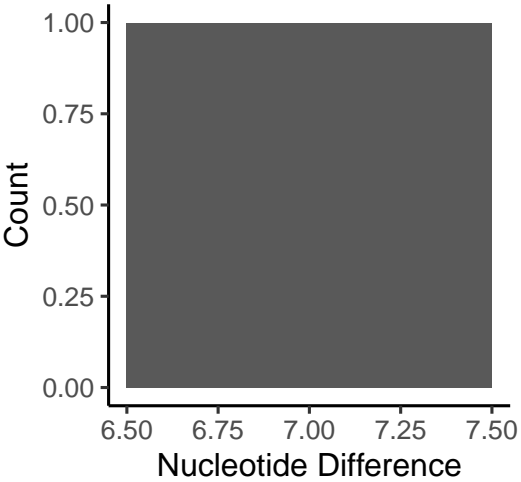
IGHV3-72\*01

315 sequences assigned  
10 (3.2%) exact matches, in which:  
9 unique CDR3  
4 unique J



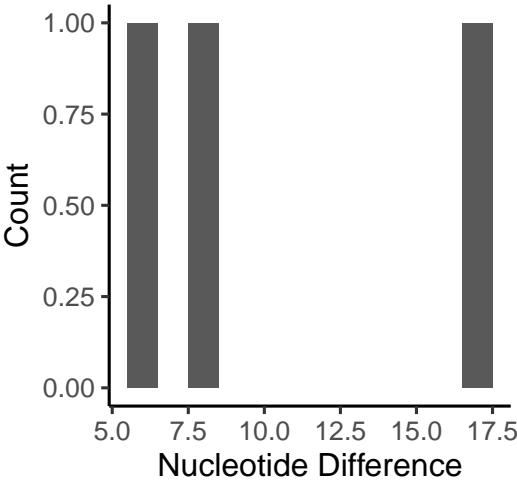
IGHV3-43D\*04

1 sequences assigned  
No exact matches.



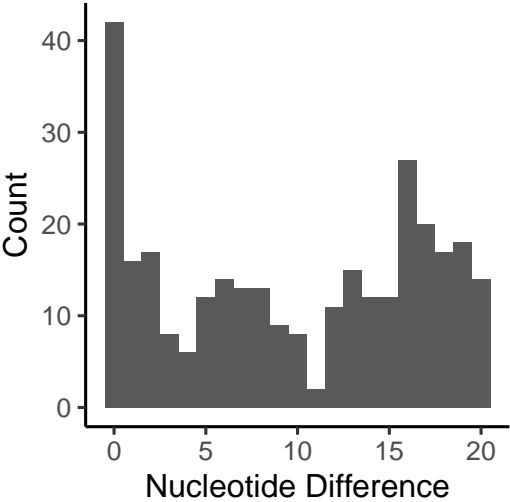
IGHV3-66\*03

3 sequences assigned  
No exact matches.



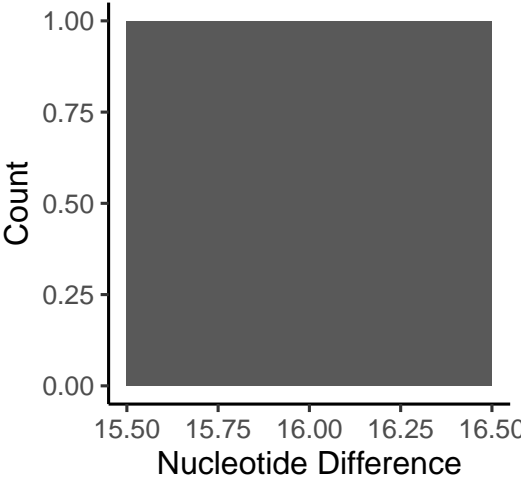
IGHV3-73\*02

427 sequences assigned  
42 (9.8%) exact matches, in which:  
39 unique CDR3  
4 unique J



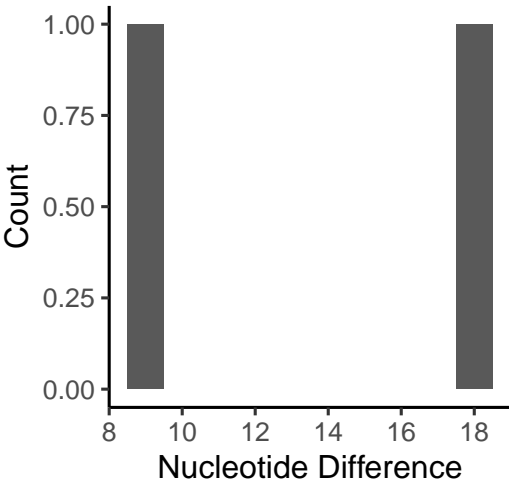
IGHV3-64D\*09

1 sequences assigned  
No exact matches.



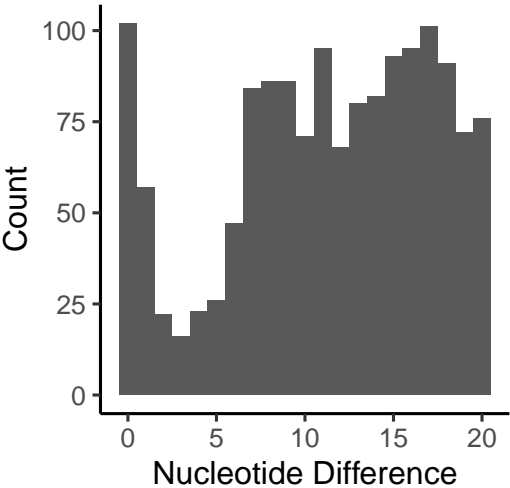
IGHV3-69-1\*02

15 sequences assigned  
No exact matches.



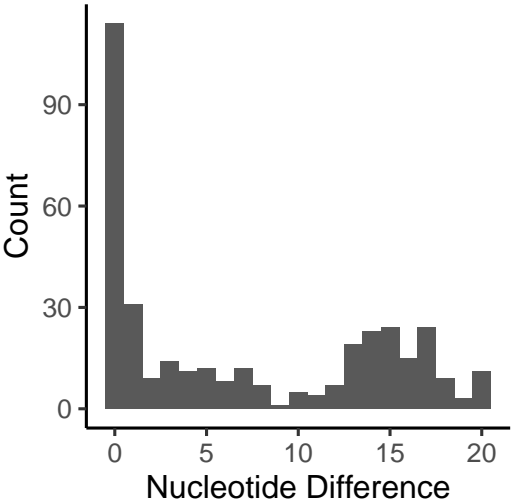
IGHV3-74\*01

2150 sequences assigned  
102 (4.7%) exact matches, in which:  
101 unique CDR3  
6 unique J



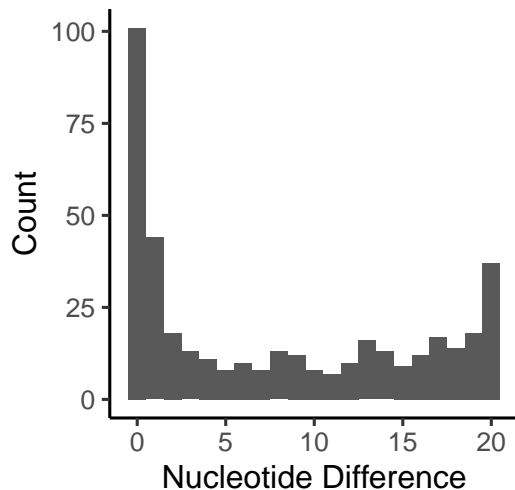
IGHV4-4\*02

596 sequences assigned  
114 (19.1%) exact matches, in which:  
107 unique CDR3  
5 unique J



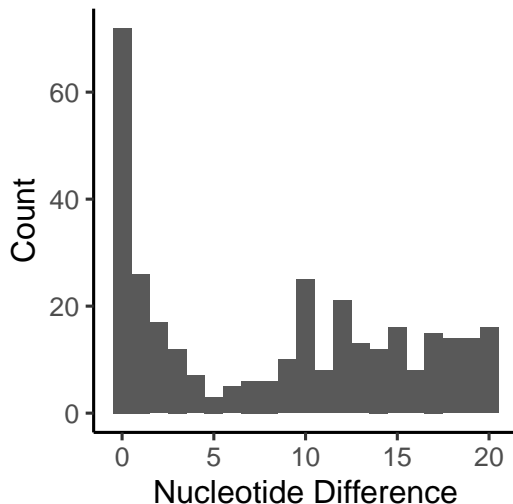
### IGHV4-4\*07

655 sequences assigned  
101 (15.4%) exact matches, in which:  
101 unique CDR3  
5 unique J



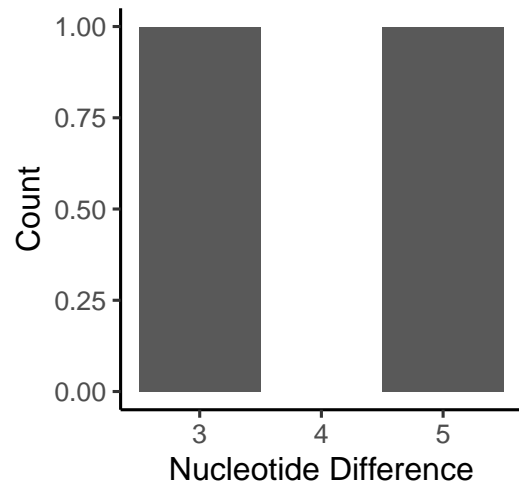
### IGHV4-30-4\*01

517 sequences assigned  
72 (13.9%) exact matches, in which:  
71 unique CDR3  
5 unique J



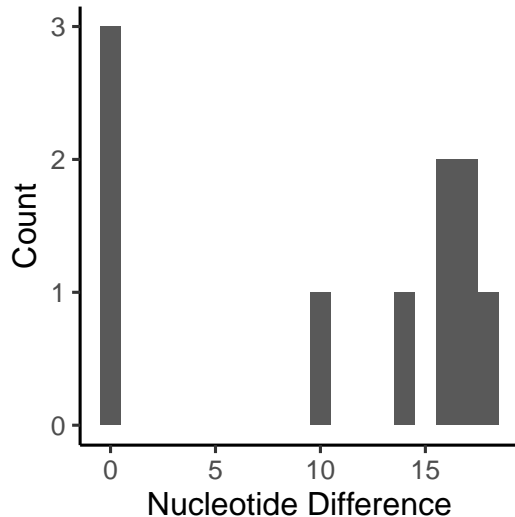
### IGHV4-38-2\*02

3 sequences assigned  
No exact matches.



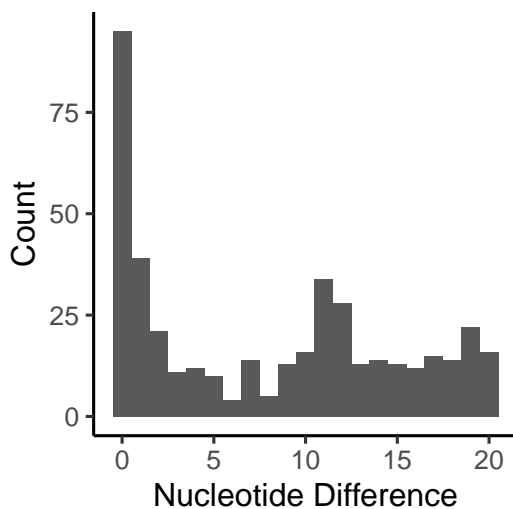
### IGHV4-28\*01

11 sequences assigned  
3 (27.3%) exact matches, in which:  
3 unique CDR3  
3 unique J



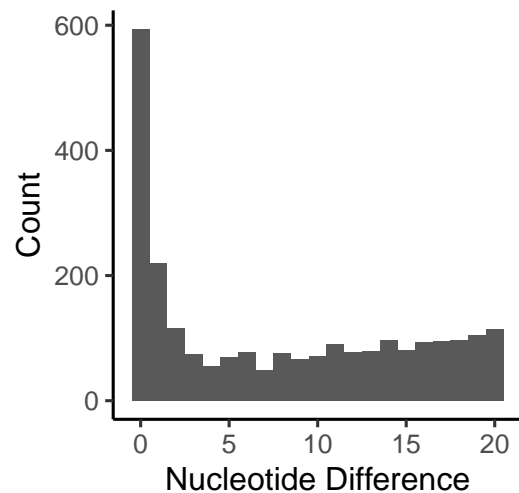
### IGHV4-31\*03

606 sequences assigned  
95 (15.7%) exact matches, in which:  
91 unique CDR3  
6 unique J



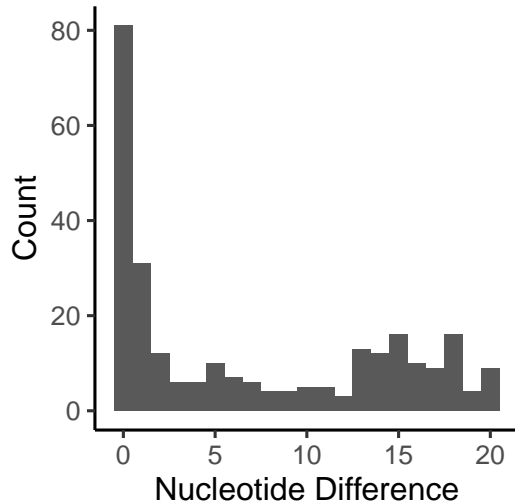
### IGHV4-39\*01

4134 sequences assigned  
594 (14.4%) exact matches, in which:  
566 unique CDR3  
6 unique J



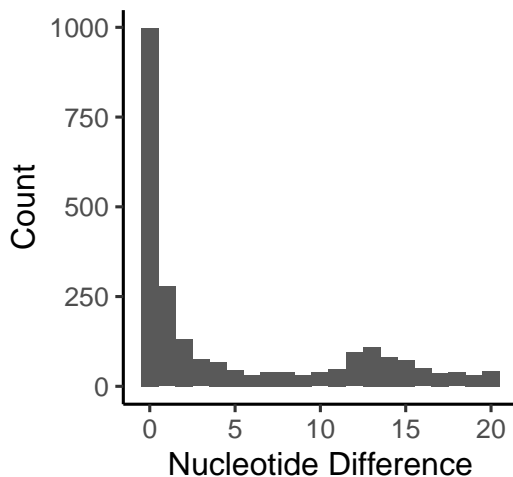
### IGHV4-30-2\*01

403 sequences assigned  
81 (20.1%) exact matches, in which:  
79 unique CDR3  
6 unique J



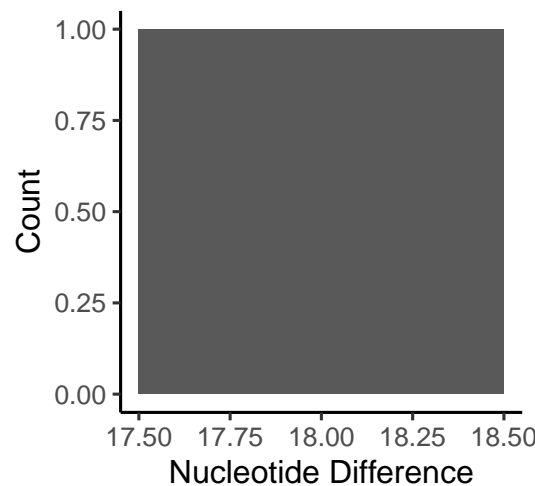
### IGHV4-34\*01

3109 sequences assigned  
998 (32.1%) exact matches, in which:  
944 unique CDR3  
6 unique J



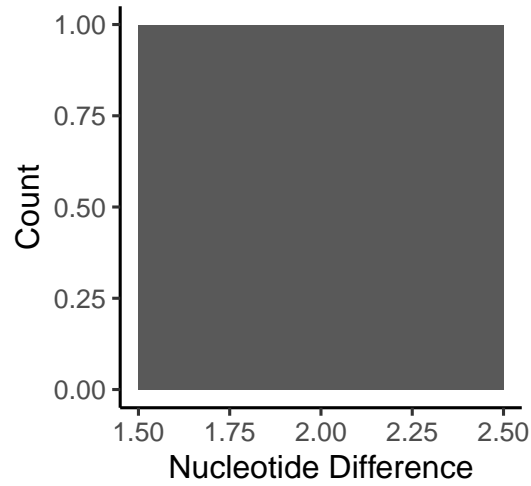
### IGHV4-55\*01

1 sequences assigned  
No exact matches.



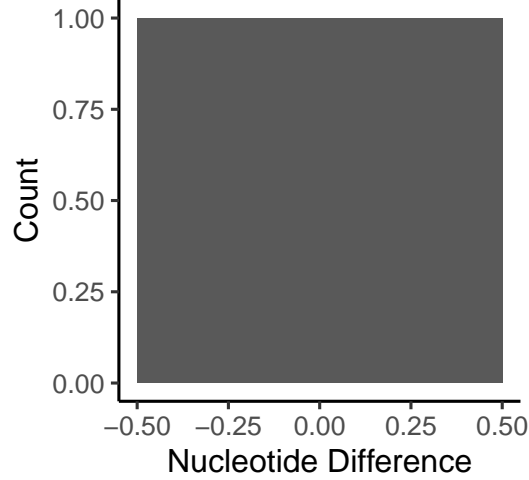
### IGHV4-55\*08

1 sequences assigned  
No exact matches.



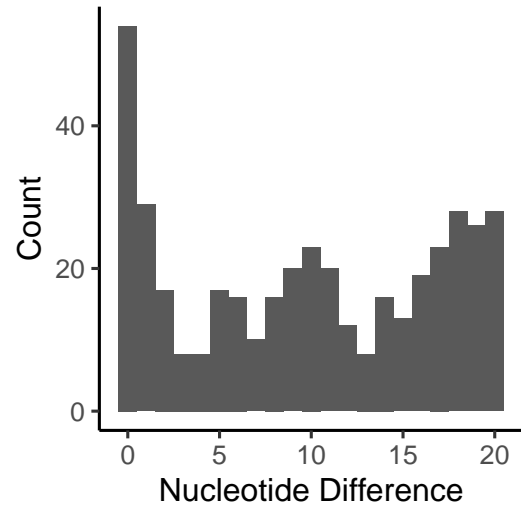
### IGHV4/OR15-8\*01

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



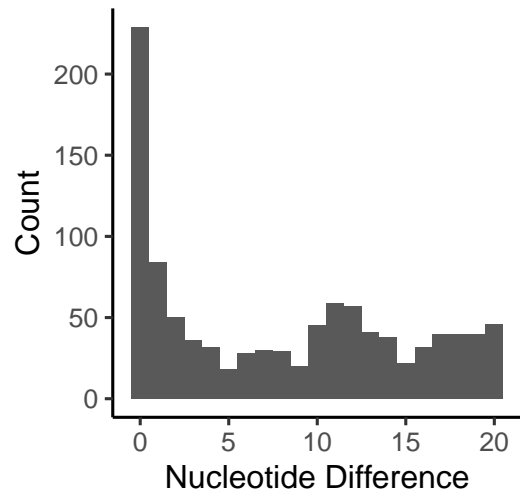
### IGHV6-1\*01

520 sequences assigned  
54 (10.4%) exact matches, in which:  
51 unique CDR3  
5 unique J



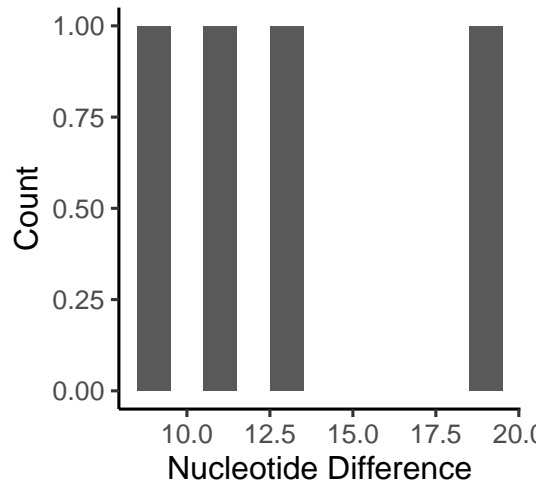
### IGHV4-59\*01

1476 sequences assigned  
229 (15.5%) exact matches, in which:  
221 unique CDR3  
6 unique J



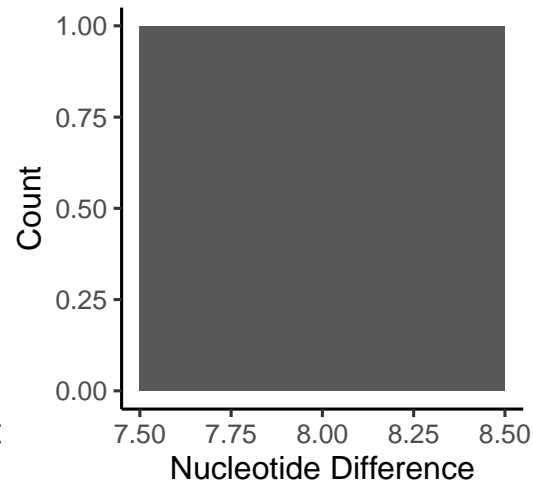
### IGHV4/OR15-8\*02

12 sequences assigned  
No exact matches.



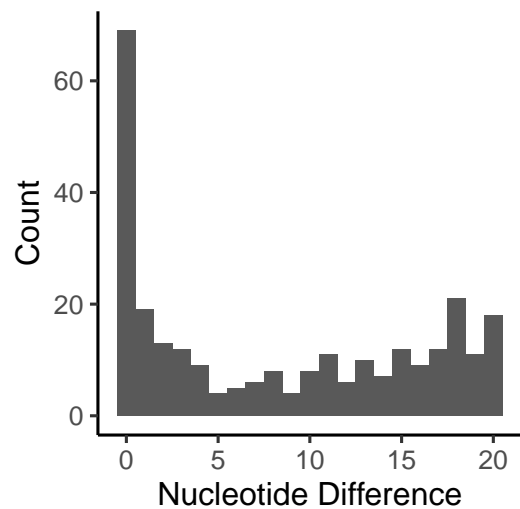
### IGHV3/OR16-6\*02

1 sequences assigned  
No exact matches.



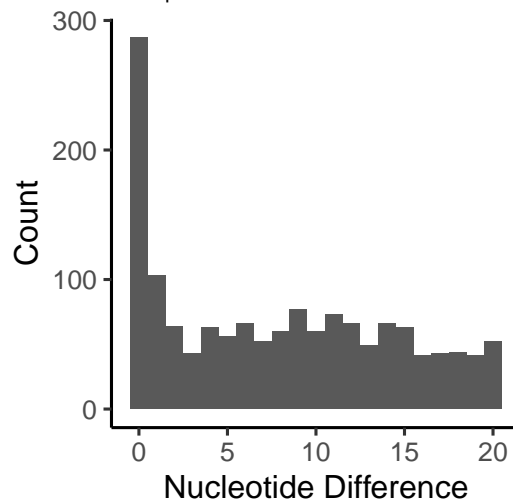
### IGHV4-61\*01

539 sequences assigned  
69 (12.8%) exact matches, in which:  
69 unique CDR3  
6 unique J



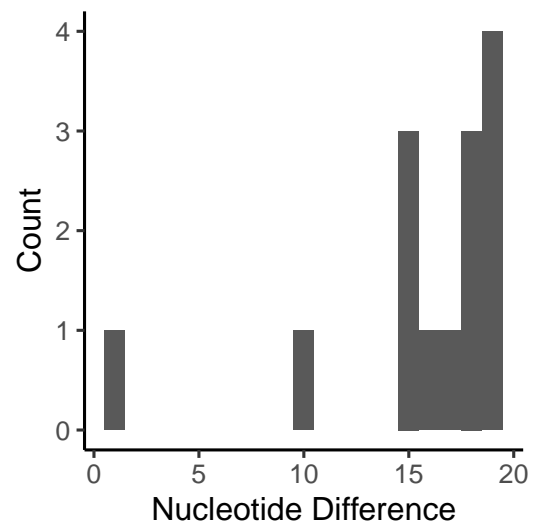
### IGHV5-51\*01

1906 sequences assigned  
287 (15.1%) exact matches, in which:  
279 unique CDR3  
6 unique J



### IGHV7-4-1\*01

15 sequences assigned  
No exact matches.







[illegible]