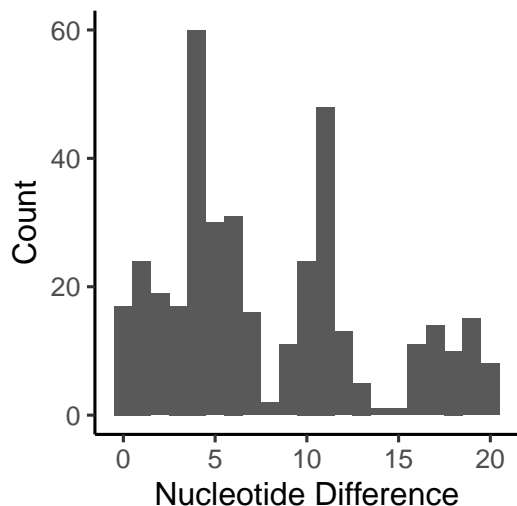


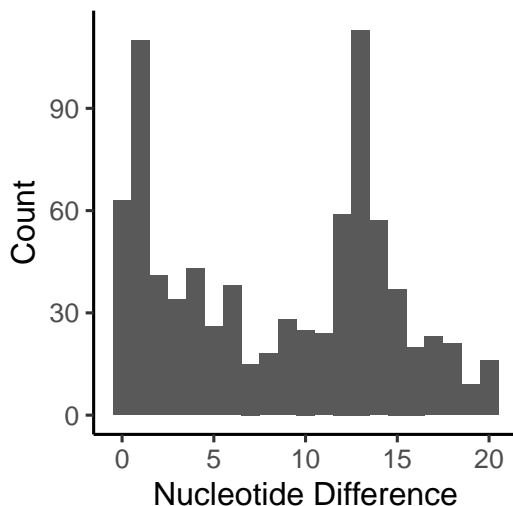
### IGHV1-2\*04

416 sequences assigned  
17 (4.1%) exact matches, in which:  
11 unique CDR3  
4 unique J



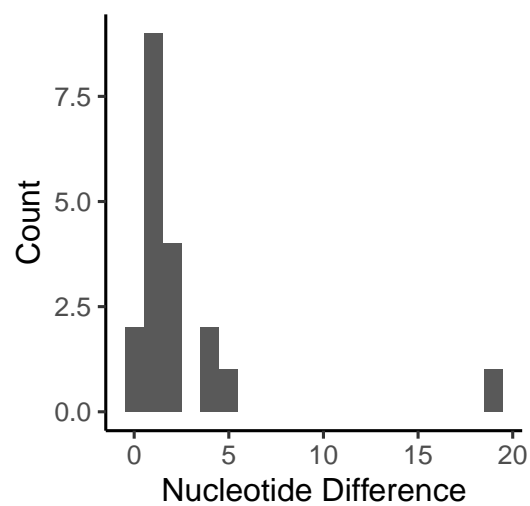
### IGHV1-8\*01

934 sequences assigned  
63 (6.7%) exact matches, in which:  
48 unique CDR3  
5 unique J



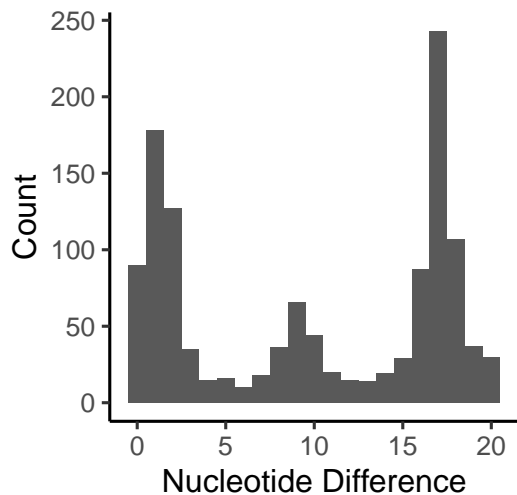
### IGHV1-45\*02

19 sequences assigned  
2 (10.5%) exact matches, in which:  
1 unique CDR3  
1 unique J



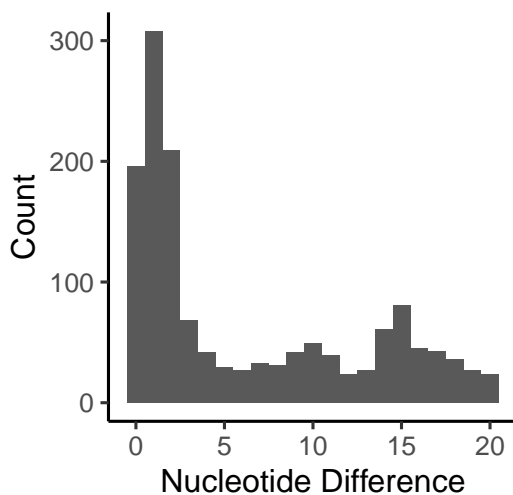
### IGHV1-3\*01

1551 sequences assigned  
90 (5.8%) exact matches, in which:  
62 unique CDR3  
5 unique J



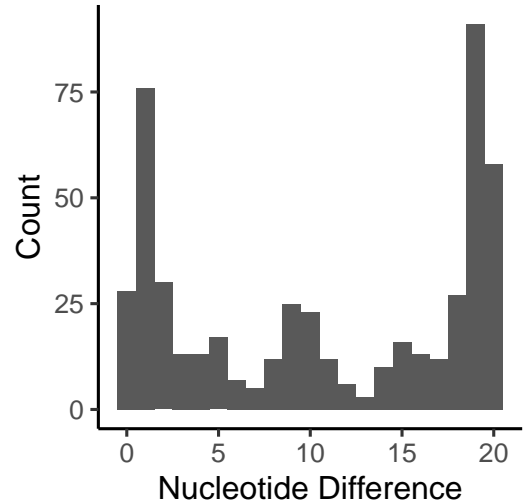
### IGHV1-18\*01

1991 sequences assigned  
196 (9.8%) exact matches, in which:  
111 unique CDR3  
6 unique J



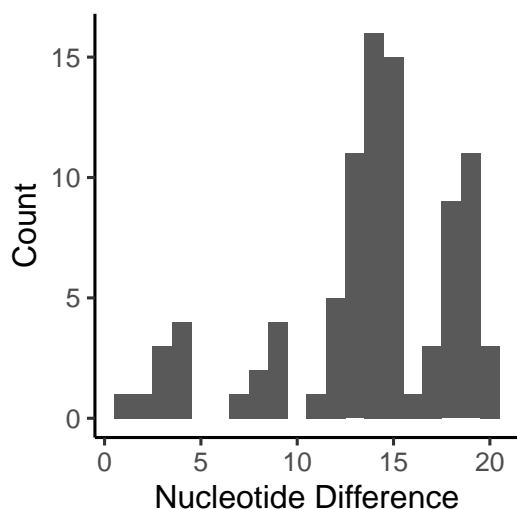
### IGHV1-46\*01

779 sequences assigned  
28 (3.6%) exact matches, in which:  
19 unique CDR3  
5 unique J



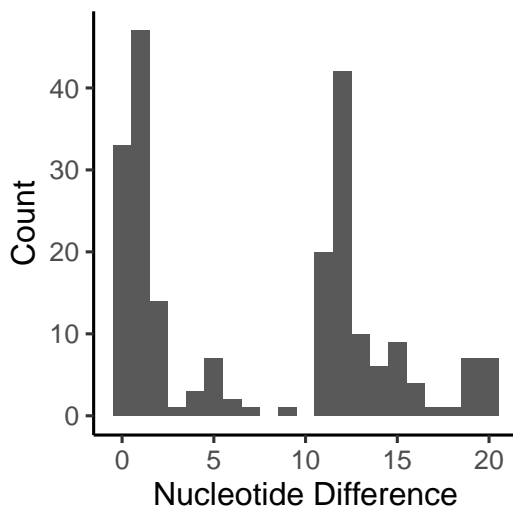
### IGHV1-3\*04

149 sequences assigned  
No exact matches.



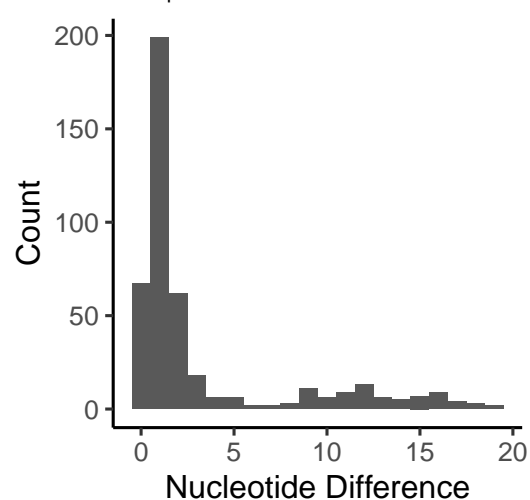
### IGHV1-24\*01

222 sequences assigned  
33 (14.9%) exact matches, in which:  
24 unique CDR3  
4 unique J



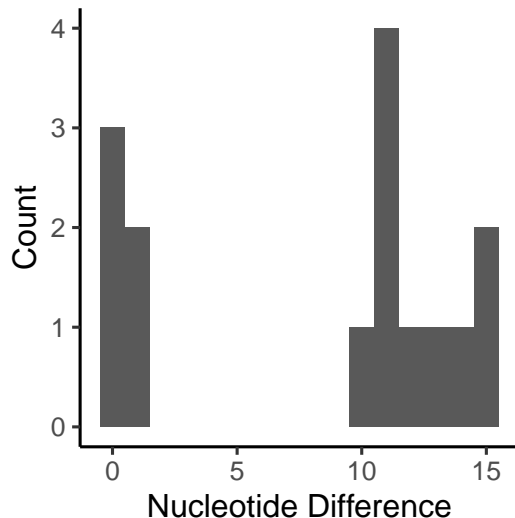
### IGHV1-46\*03

513 sequences assigned  
67 (13.1%) exact matches, in which:  
41 unique CDR3  
4 unique J



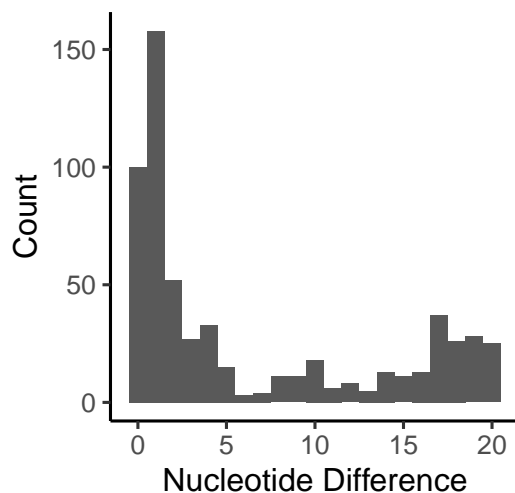
### IGHV1-58\*01

16 sequences assigned  
3 (18.8%) exact matches, in which:  
2 unique CDR3  
1 unique J



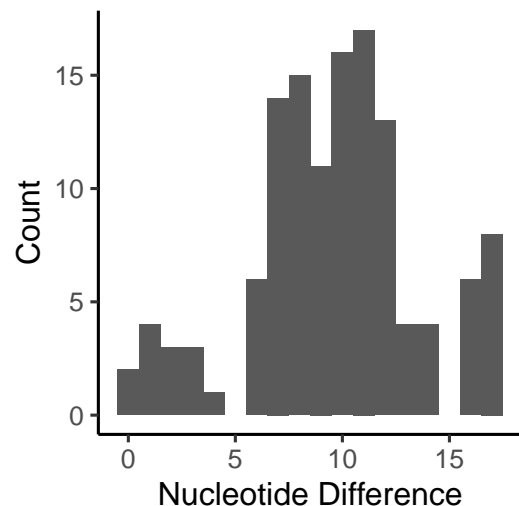
### IGHV1-69\*06

935 sequences assigned  
100 (10.7%) exact matches, in which:  
69 unique CDR3  
5 unique J



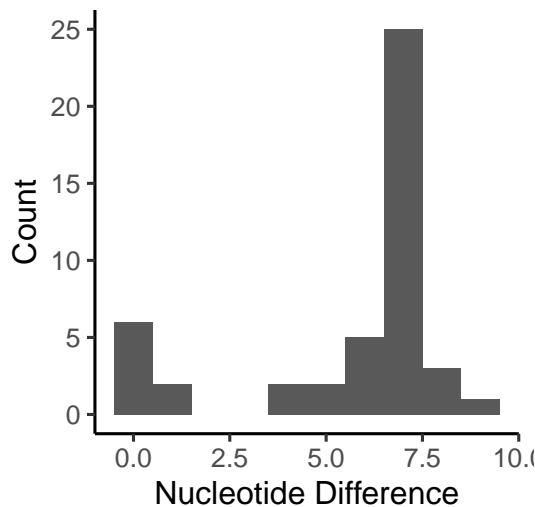
### IGHV2-70\*01

127 sequences assigned  
2 (1.6%) exact matches, in which:  
2 unique CDR3  
1 unique J



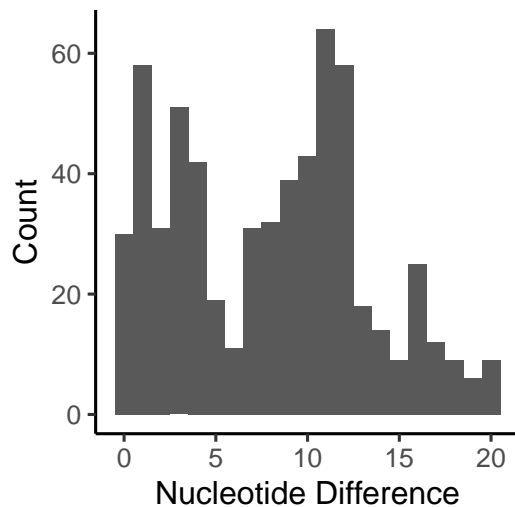
### IGHV1-58\*02

54 sequences assigned  
6 (11.1%) exact matches, in which:  
4 unique CDR3  
1 unique J



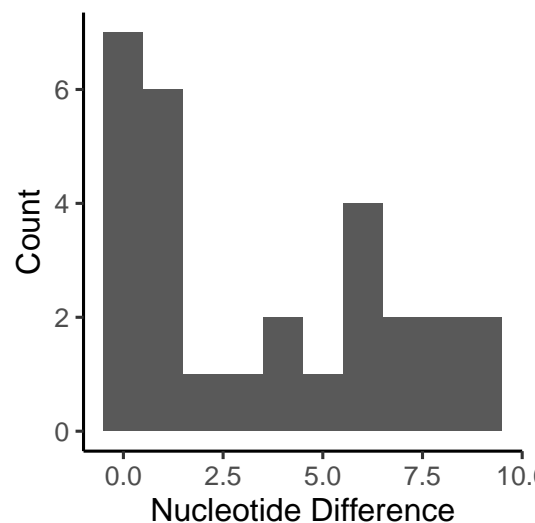
### IGHV2-5\*02

679 sequences assigned  
30 (4.4%) exact matches, in which:  
22 unique CDR3  
5 unique J



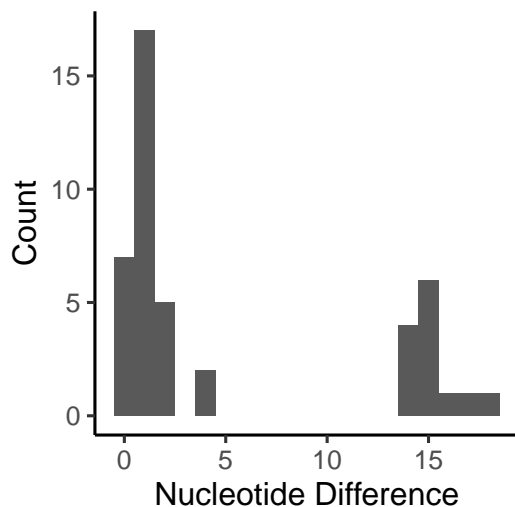
### IGHV2-70\*15

28 sequences assigned  
7 (25%) exact matches, in which:  
7 unique CDR3  
2 unique J



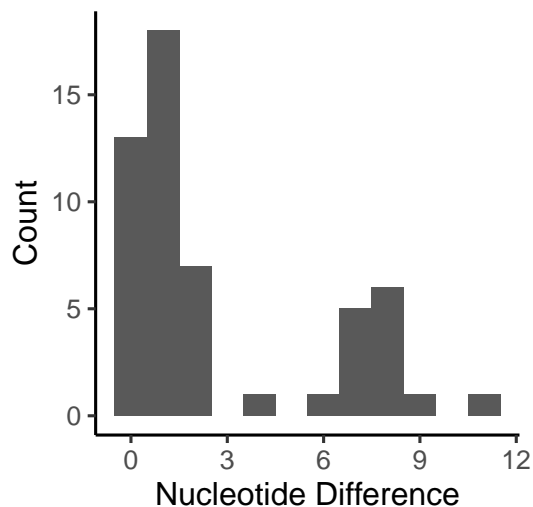
### IGHV1-69-2\*01

54 sequences assigned  
7 (13%) exact matches, in which:  
5 unique CDR3  
2 unique J



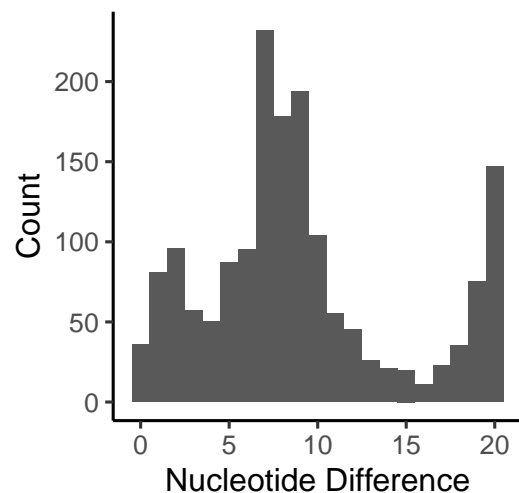
### IGHV2-26\*01

54 sequences assigned  
13 (24.1%) exact matches, in which:  
5 unique CDR3  
3 unique J



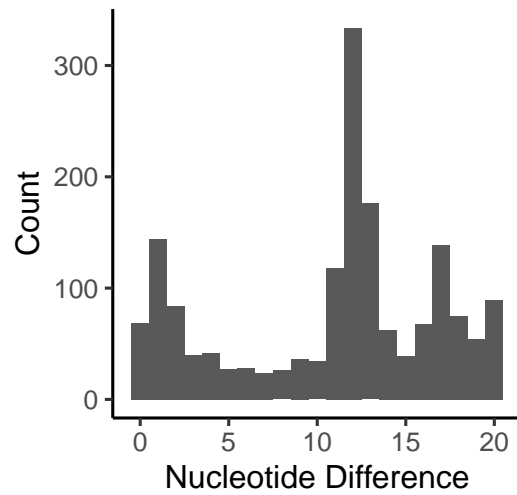
### IGHV3-7\*01

2126 sequences assigned  
36 (1.7%) exact matches, in which:  
32 unique CDR3  
4 unique J



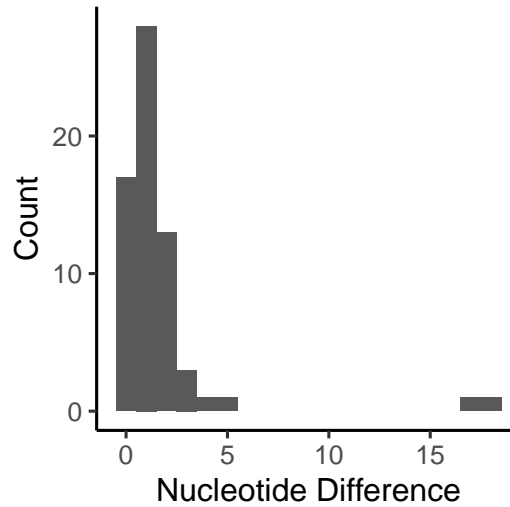
### IGHV3-7\*03

1908 sequences assigned  
69 (3.6%) exact matches, in which:  
47 unique CDR3  
5 unique J



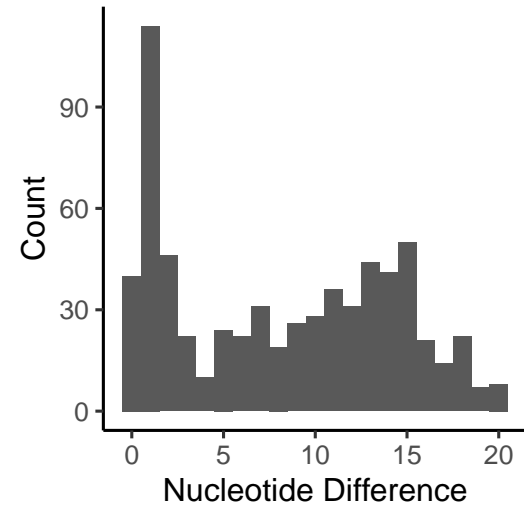
### IGHV3-11\*06

68 sequences assigned  
17 (25%) exact matches, in which:  
12 unique CDR3  
3 unique J



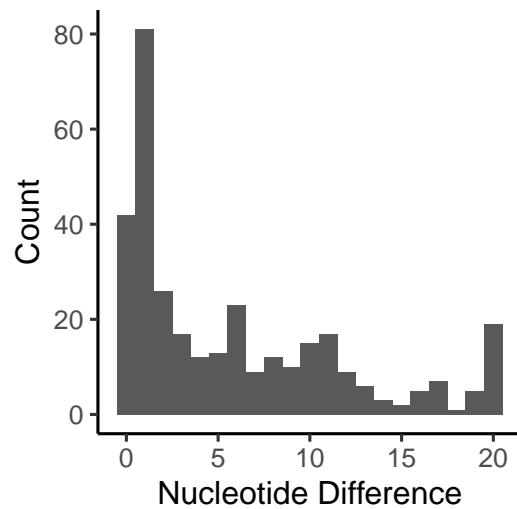
### IGHV3-15\*07

754 sequences assigned  
40 (5.3%) exact matches, in which:  
32 unique CDR3  
6 unique J



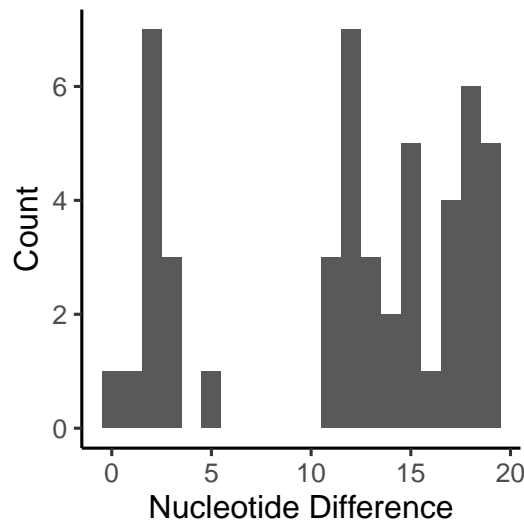
### IGHV3-9\*01

448 sequences assigned  
42 (9.4%) exact matches, in which:  
35 unique CDR3  
6 unique J



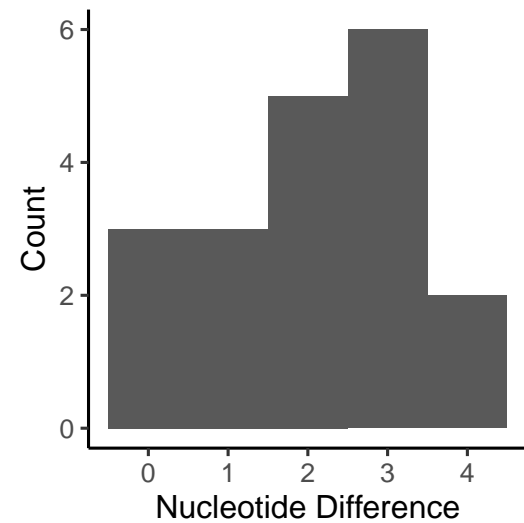
### IGHV3-13\*01

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



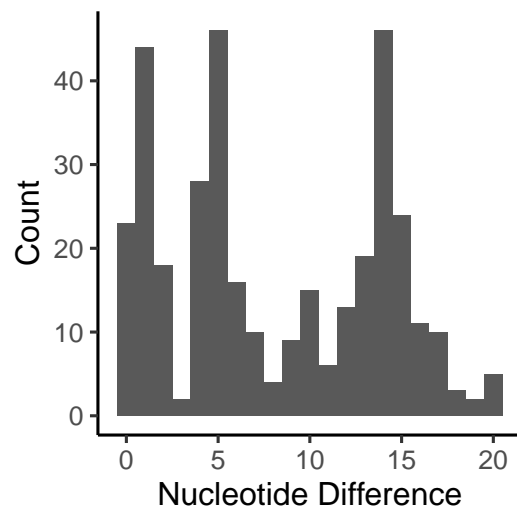
### IGHV3-20\*01

19 sequences assigned  
3 (15.8%) exact matches, in which:  
2 unique CDR3  
2 unique J



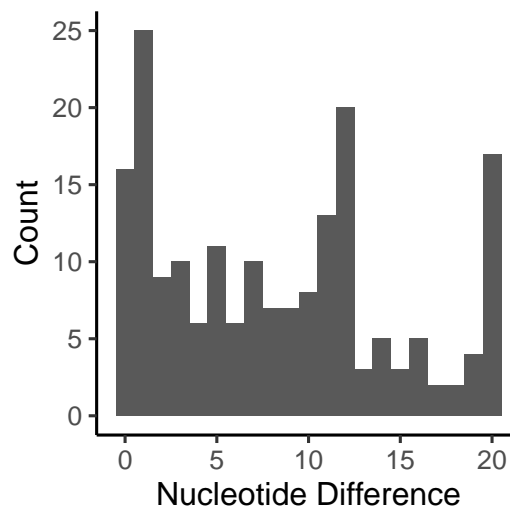
### IGHV3-11\*01

418 sequences assigned  
23 (5.5%) exact matches, in which:  
19 unique CDR3  
3 unique J



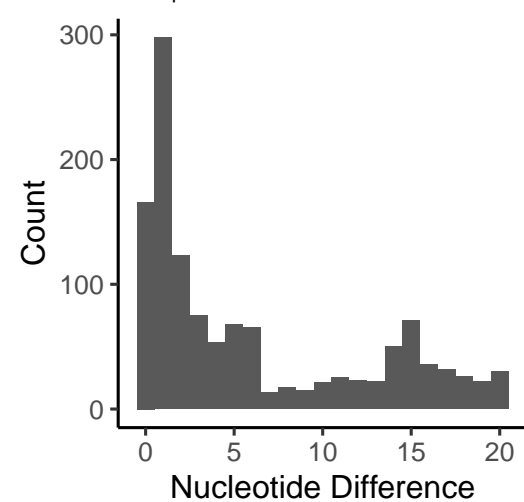
### IGHV3-15\*01

304 sequences assigned  
16 (5.3%) exact matches, in which:  
14 unique CDR3  
3 unique J



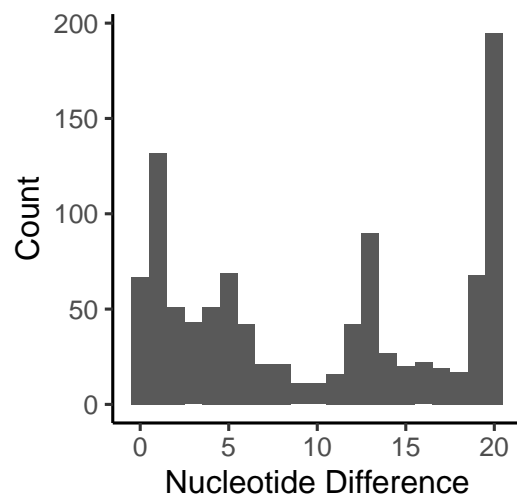
### IGHV3-21\*01

1306 sequences assigned  
166 (12.7%) exact matches, in which:  
97 unique CDR3  
5 unique J



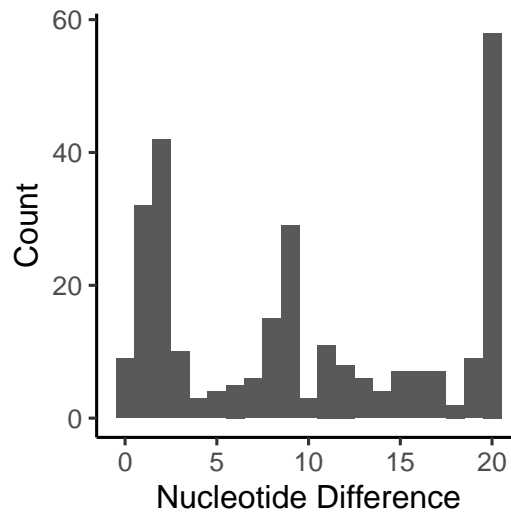
### IGHV3–33\*01

1221 sequences assigned  
67 (5.5%) exact matches, in which:  
49 unique CDR3  
5 unique J



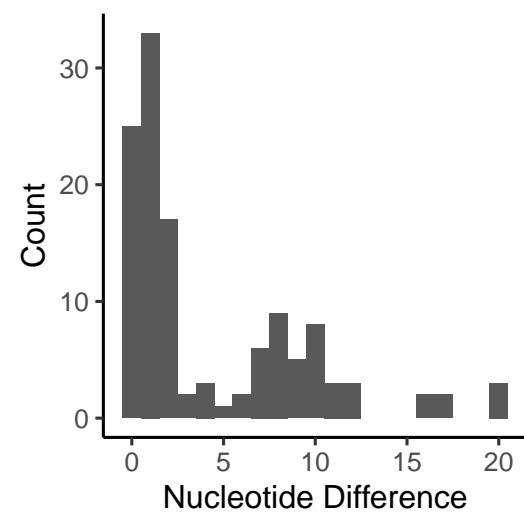
### IGHV3–49\*04

560 sequences assigned  
9 (1.6%) exact matches, in which:  
4 unique CDR3  
3 unique J



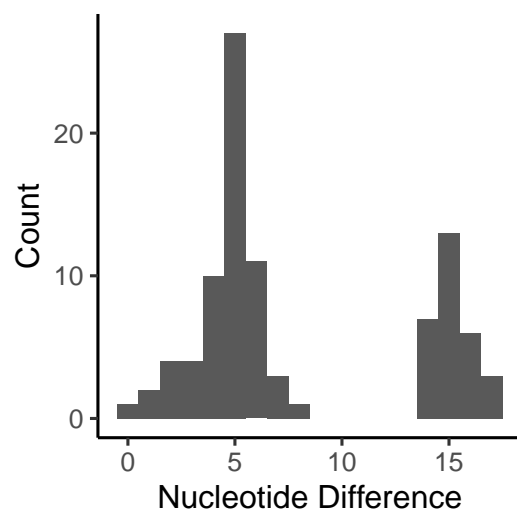
### IGHV3–53\*04

136 sequences assigned  
25 (18.4%) exact matches, in which:  
21 unique CDR3  
4 unique J



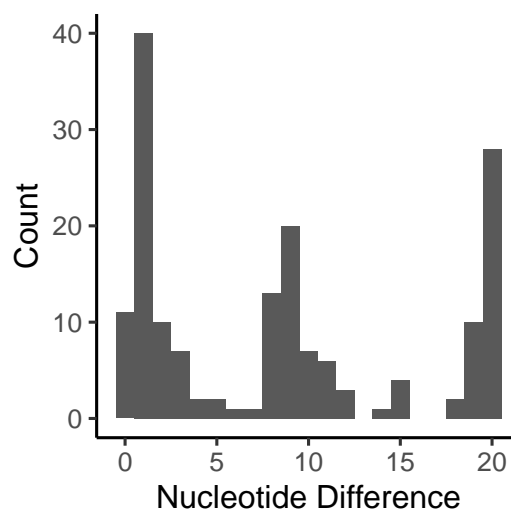
### IGHV3–43\*01

152 sequences assigned  
1 (0.7%) exact matches, in which:  
1 unique CDR3  
1 unique J



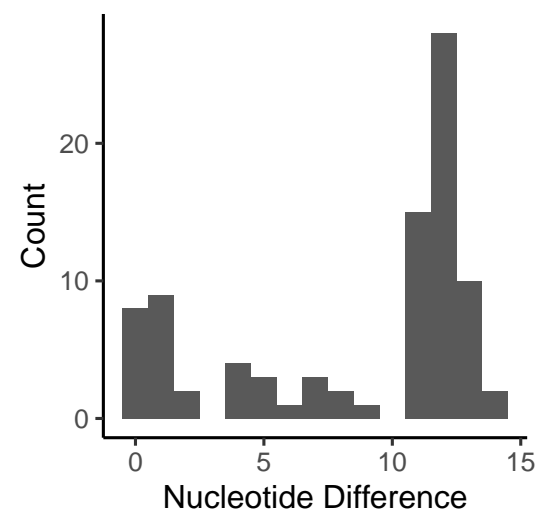
### IGHV3–49\*05

237 sequences assigned  
11 (4.6%) exact matches, in which:  
8 unique CDR3  
2 unique J



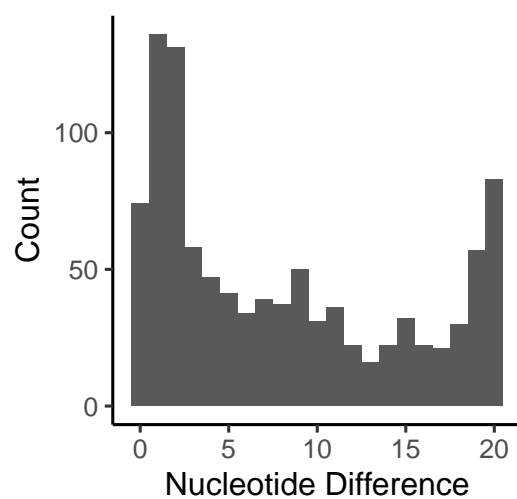
### IGHV3–64\*01

138 sequences assigned  
8 (5.8%) exact matches, in which:  
5 unique CDR3  
3 unique J



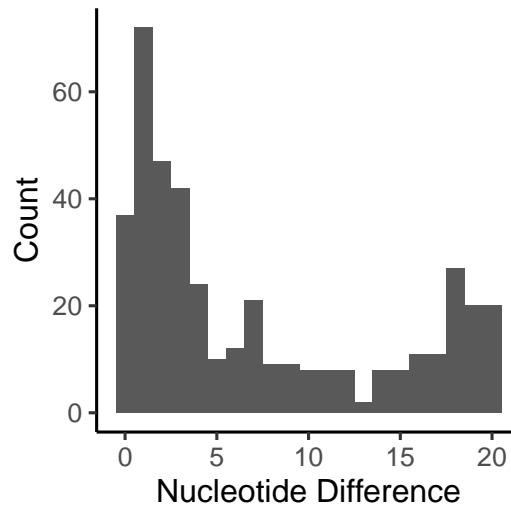
### IGHV3–48\*02

1170 sequences assigned  
74 (6.3%) exact matches, in which:  
58 unique CDR3  
6 unique J



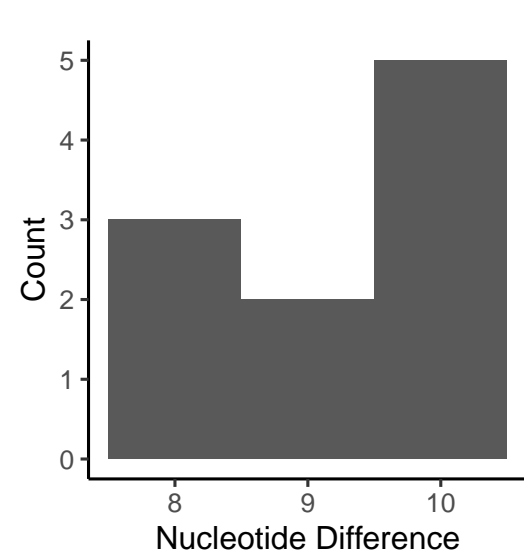
### IGHV3–53\*01

496 sequences assigned  
37 (7.5%) exact matches, in which:  
30 unique CDR3  
4 unique J



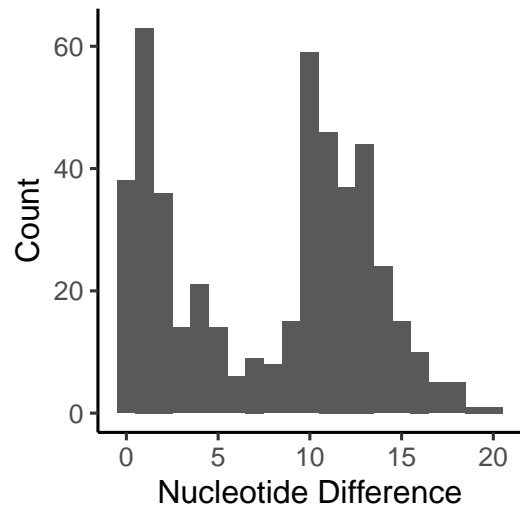
### IGHV3–64\*07

11 sequences assigned  
No exact matches.



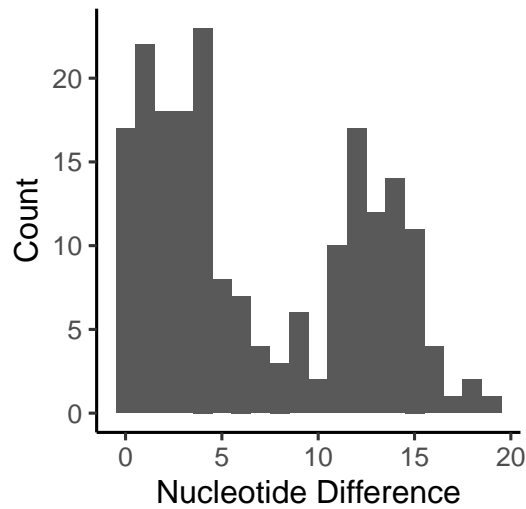
### IGHV3-66\*01

503 sequences assigned  
38 (7.6%) exact matches, in which:  
30 unique CDR3  
5 unique J



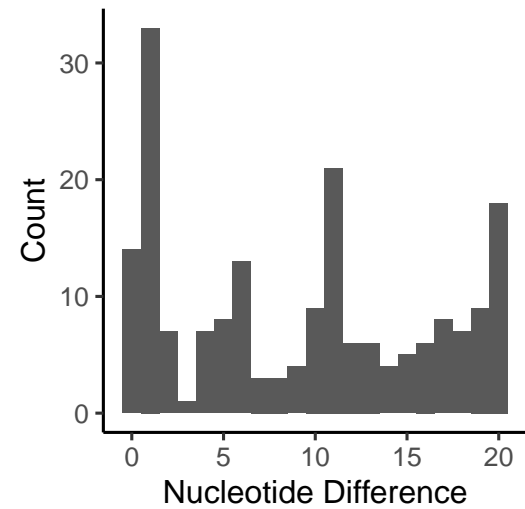
### IGHV3-73\*02

208 sequences assigned  
17 (8.2%) exact matches, in which:  
15 unique CDR3  
4 unique J



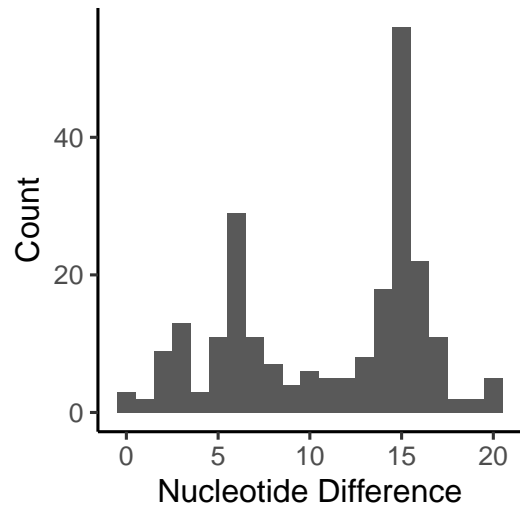
### IGHV3-64D\*06

279 sequences assigned  
14 (5%) exact matches, in which:  
12 unique CDR3  
4 unique J



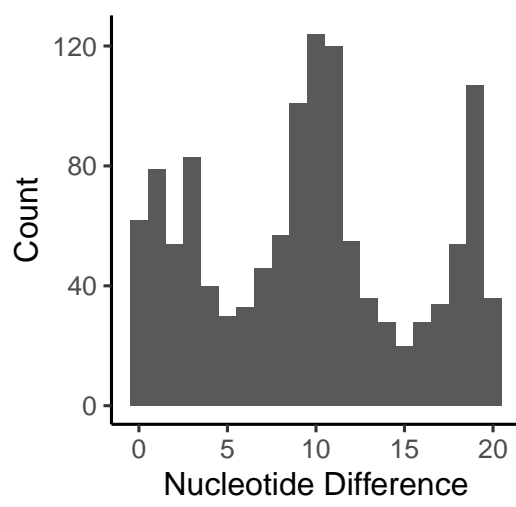
### IGHV3-72\*01

316 sequences assigned  
3 (0.9%) exact matches, in which:  
3 unique CDR3  
2 unique J



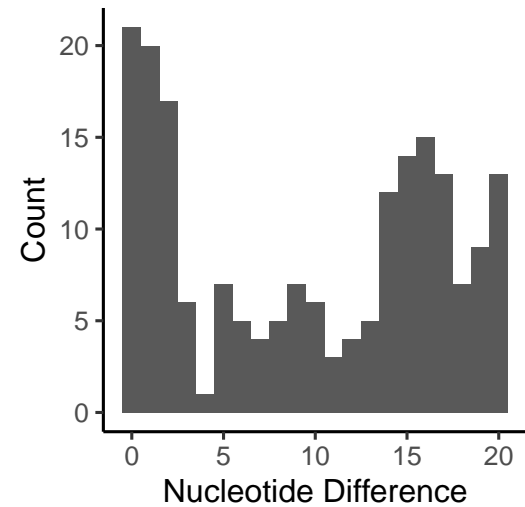
### IGHV3-74\*01

1353 sequences assigned  
62 (4.6%) exact matches, in which:  
55 unique CDR3  
5 unique J



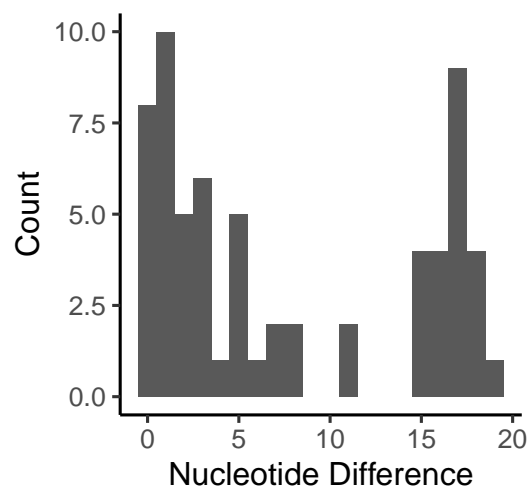
### IGHV4-4\*02

280 sequences assigned  
21 (7.5%) exact matches, in which:  
19 unique CDR3  
5 unique J



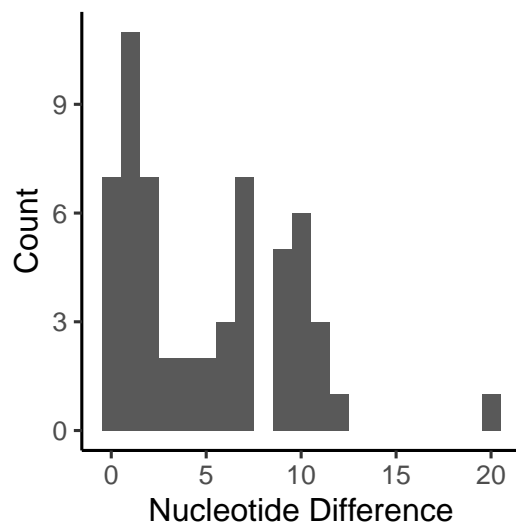
### IGHV3-73\*01

111 sequences assigned  
8 (7.2%) exact matches, in which:  
7 unique CDR3  
3 unique J



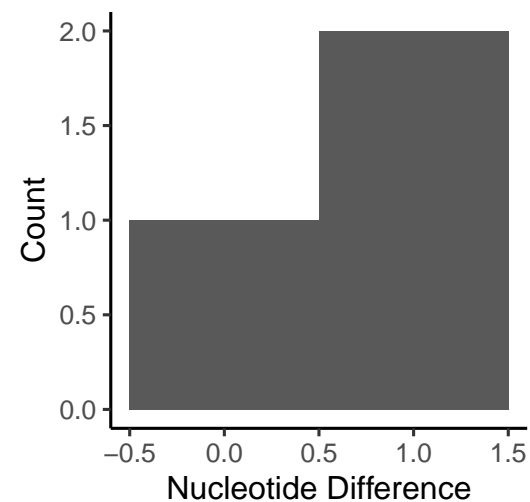
### IGHV3-43D\*03

72 sequences assigned  
7 (9.7%) exact matches, in which:  
5 unique CDR3  
2 unique J



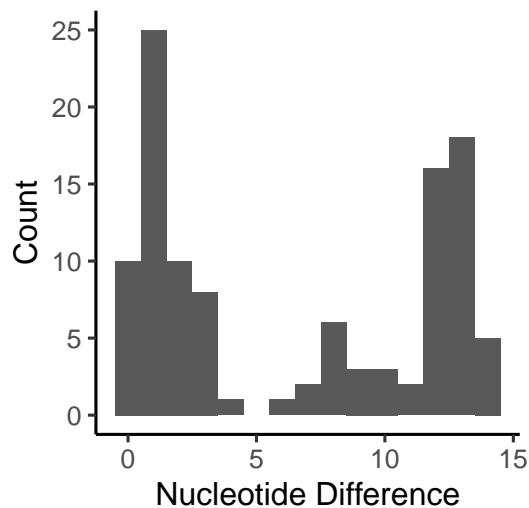
### IGHV4-28\*07

3 sequences assigned  
1 (33.3%) exact matches, in which:  
1 unique CDR3  
1 unique J



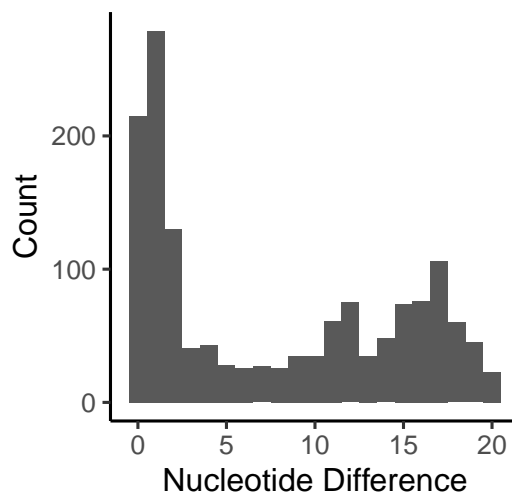
### IGHV4-30-2\*01

135 sequences assigned  
10 (7.4%) exact matches, in which:  
9 unique CDR3  
4 unique J



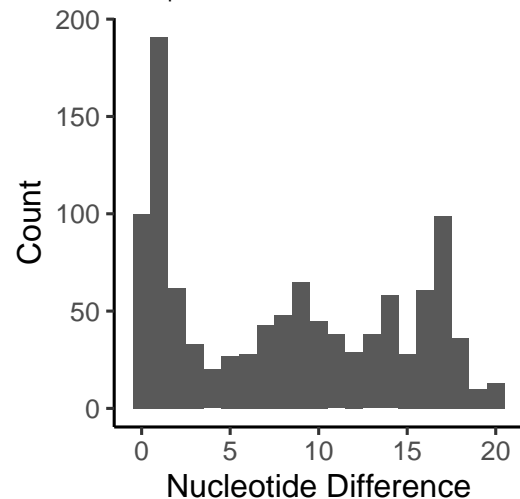
### IGHV4-34\*01

2009 sequences assigned  
215 (10.7%) exact matches, in which:  
160 unique CDR3  
5 unique J



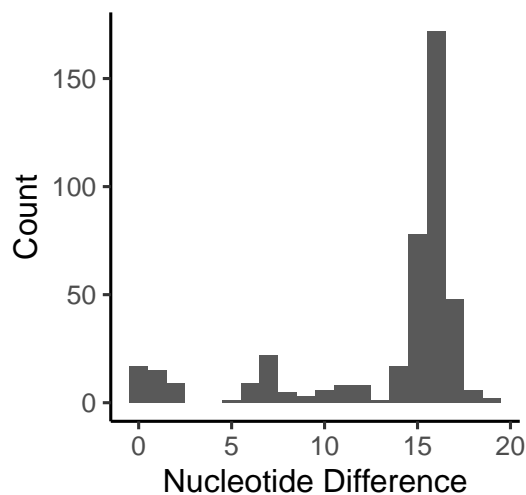
### IGHV4-59\*01

1272 sequences assigned  
100 (7.9%) exact matches, in which:  
73 unique CDR3  
6 unique J



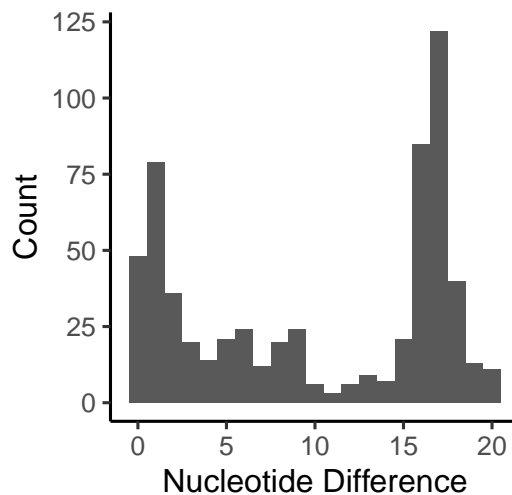
### IGHV4-30-4\*07

463 sequences assigned  
17 (3.7%) exact matches, in which:  
11 unique CDR3  
4 unique J



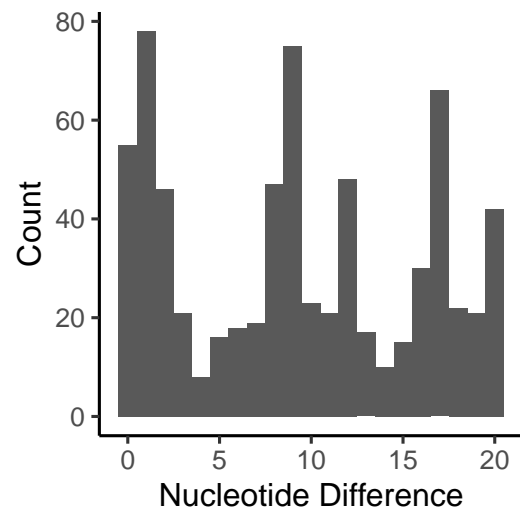
### IGHV4-38-2\*02

665 sequences assigned  
48 (7.2%) exact matches, in which:  
28 unique CDR3  
5 unique J



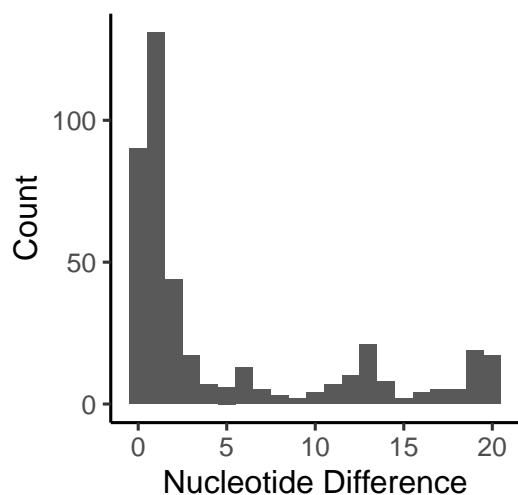
### IGHV4-59\*08

829 sequences assigned  
55 (6.6%) exact matches, in which:  
43 unique CDR3  
6 unique J



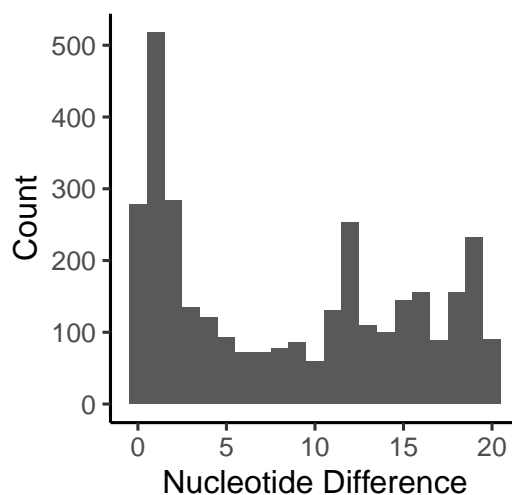
### IGHV4-31\*03

520 sequences assigned  
90 (17.3%) exact matches, in which:  
48 unique CDR3  
4 unique J



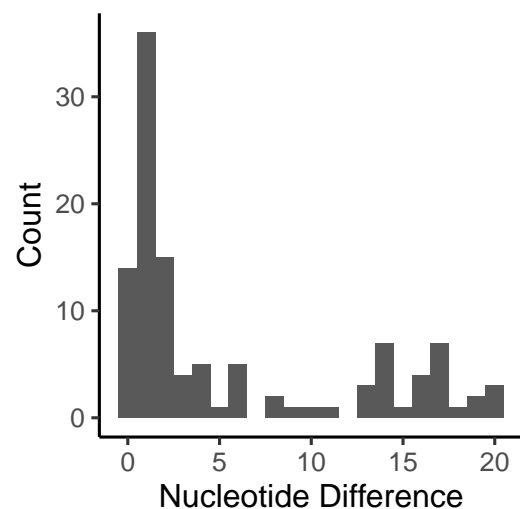
### IGHV4-39\*01

3891 sequences assigned  
278 (7.1%) exact matches, in which:  
207 unique CDR3  
5 unique J



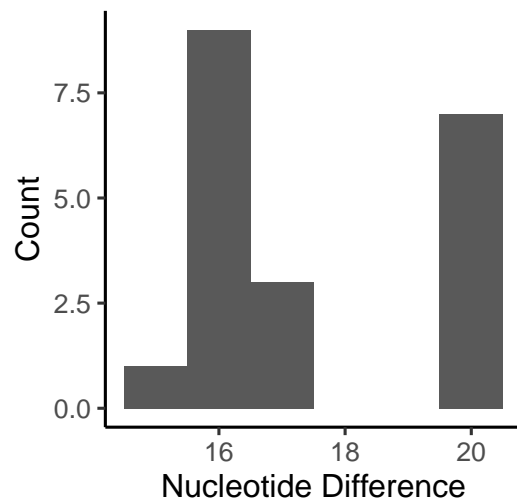
### IGHV4-61\*01

191 sequences assigned  
14 (7.3%) exact matches, in which:  
11 unique CDR3  
3 unique J



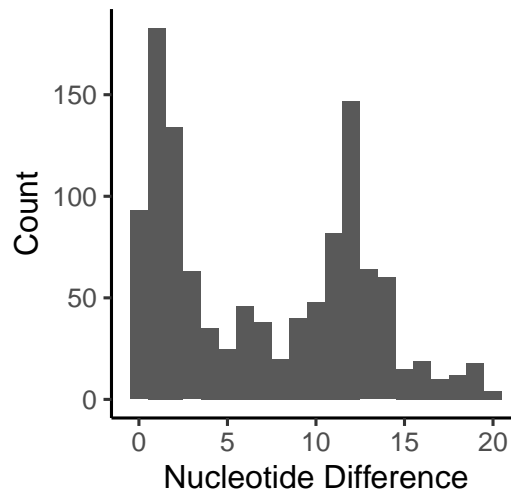
### IGHV4-61\*08

217 sequences assigned  
No exact matches.



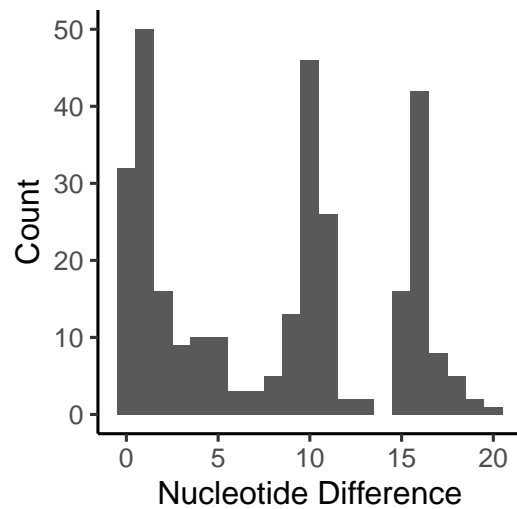
### IGHV6-1\*01

1548 sequences assigned  
93 (6%) exact matches, in which:  
56 unique CDR3  
4 unique J



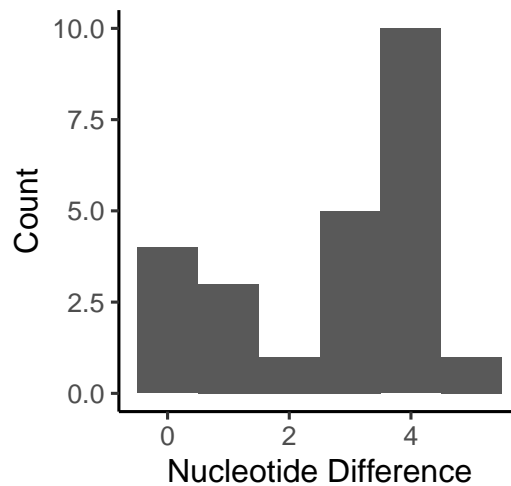
### IGHV5-10-1\*03

312 sequences assigned  
32 (10.3%) exact matches, in which:  
20 unique CDR3  
4 unique J



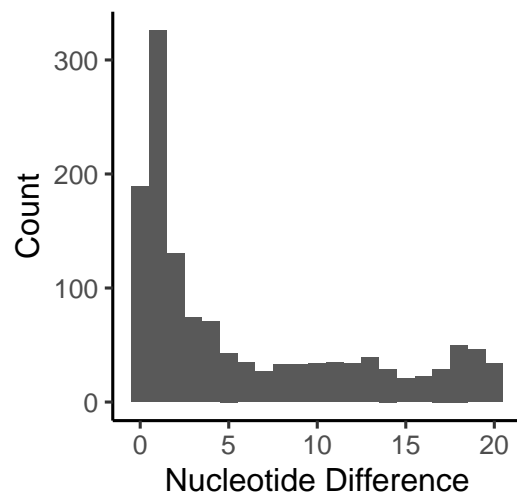
### IGHV7-4-1\*01

24 sequences assigned  
4 (16.7%) exact matches, in which:  
2 unique CDR3  
1 unique J



### IGHV5-51\*01

1543 sequences assigned  
189 (12.2%) exact matches, in which:  
132 unique CDR3  
6 unique J







Warning – no inferred sequences found.