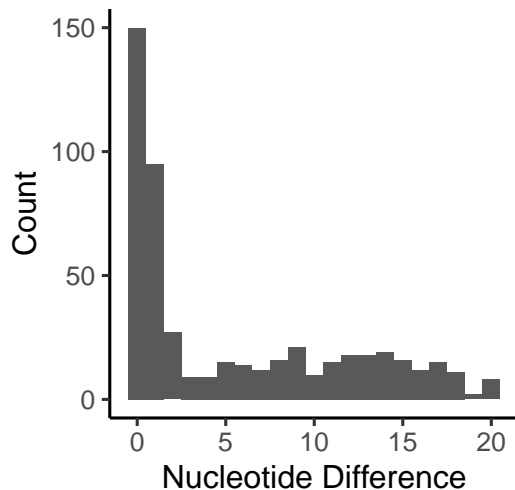


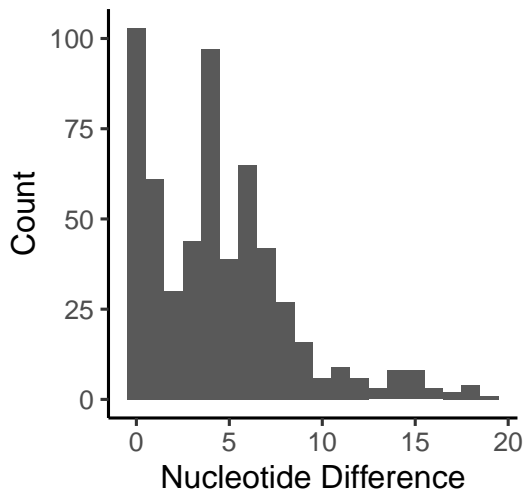
### IGHV1-2\*02

574 sequences assigned  
150 (26.1%) exact matches, in which:  
143 unique CDR3  
6 unique J



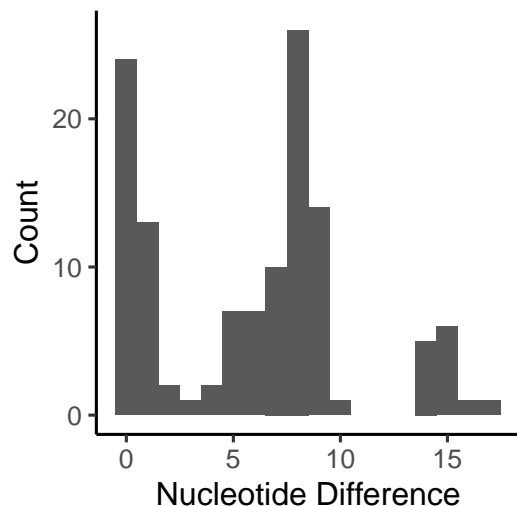
### IGHV1-8\*01

576 sequences assigned  
103 (17.9%) exact matches, in which:  
100 unique CDR3  
5 unique J



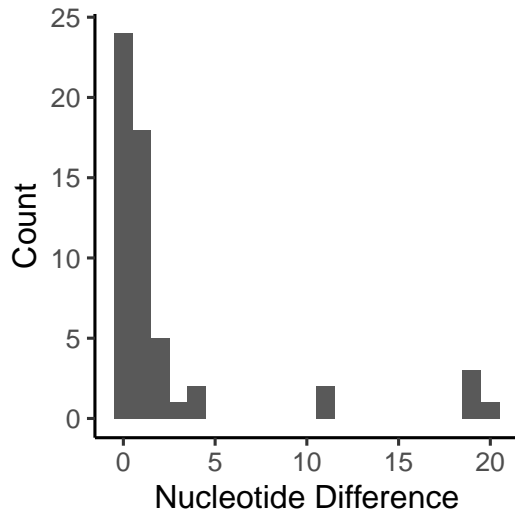
### IGHV1-24\*01

120 sequences assigned  
24 (20%) exact matches, in which:  
22 unique CDR3  
4 unique J



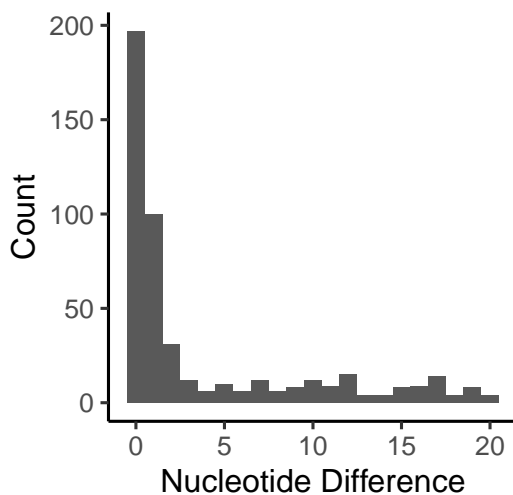
### IGHV1-2\*04

59 sequences assigned  
24 (40.7%) exact matches, in which:  
24 unique CDR3  
5 unique J



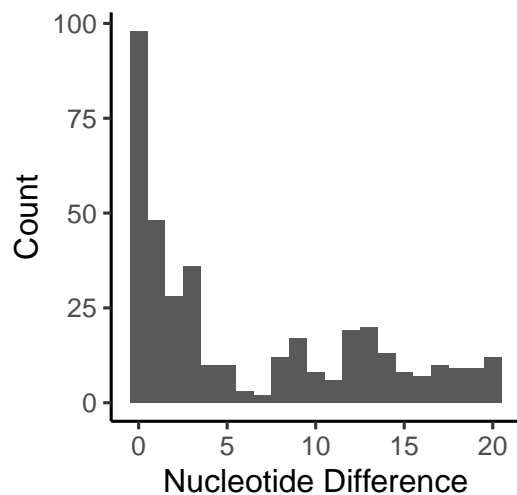
### IGHV1-18\*01

493 sequences assigned  
197 (40%) exact matches, in which:  
180 unique CDR3  
5 unique J



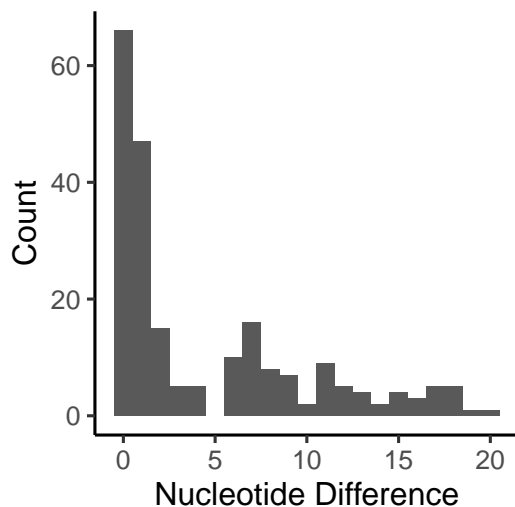
### IGHV1-46\*01

428 sequences assigned  
98 (22.9%) exact matches, in which:  
90 unique CDR3  
6 unique J



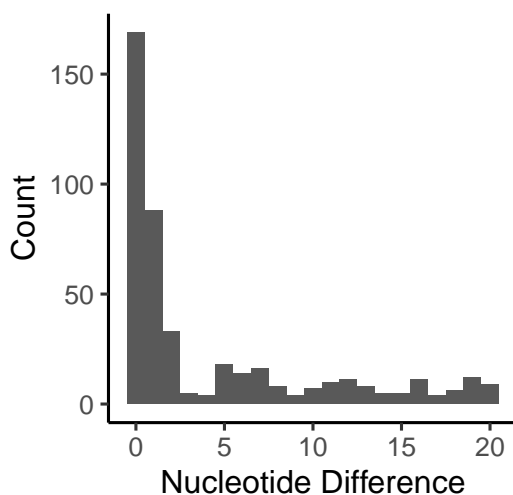
### IGHV1-3\*01

260 sequences assigned  
66 (25.4%) exact matches, in which:  
64 unique CDR3  
4 unique J



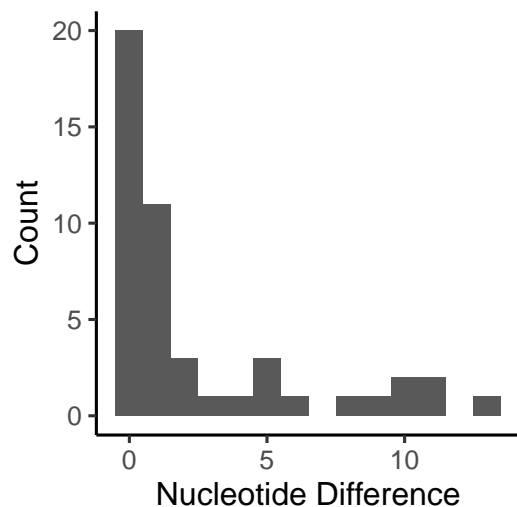
### IGHV1-18\*04

457 sequences assigned  
169 (37%) exact matches, in which:  
159 unique CDR3  
5 unique J



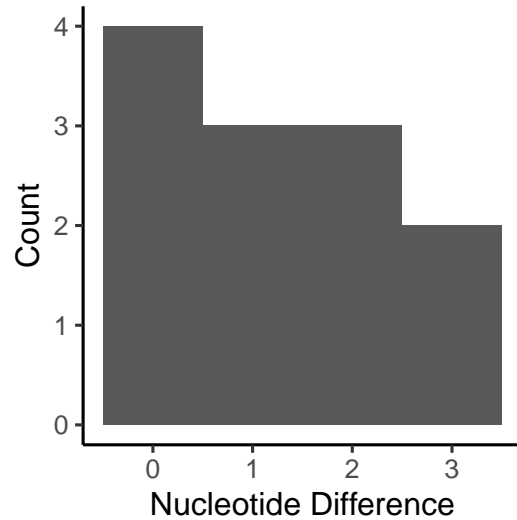
### IGHV1-58\*01

66 sequences assigned  
20 (30.3%) exact matches, in which:  
19 unique CDR3  
6 unique J



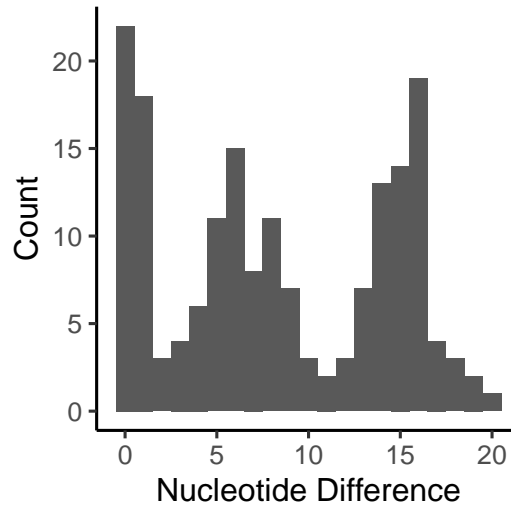
### IGHV1-69-2\*01

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



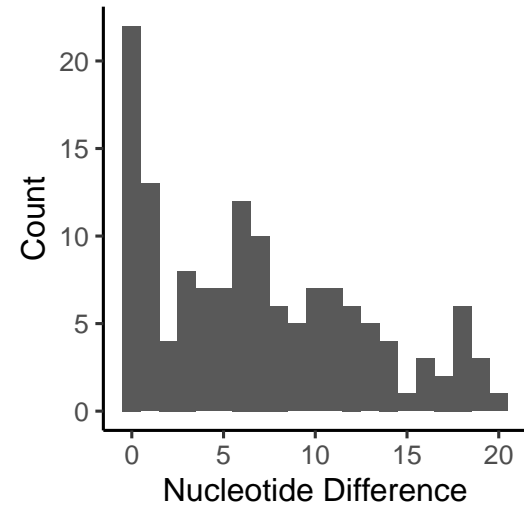
### IGHV2-5\*02

337 sequences assigned  
22 (6.5%) exact matches, in which:  
20 unique CDR3  
5 unique J



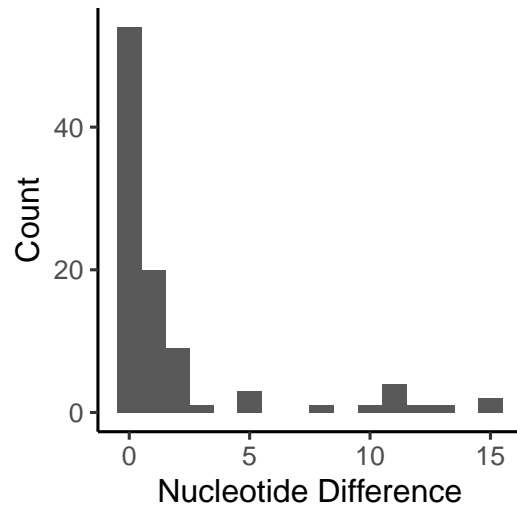
### IGHV3-7\*01

158 sequences assigned  
22 (13.9%) exact matches, in which:  
20 unique CDR3  
5 unique J



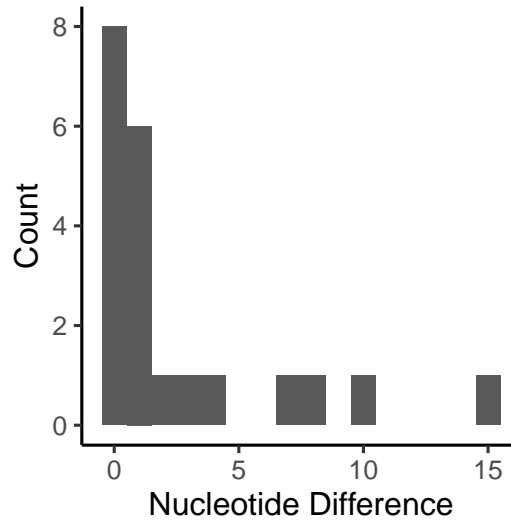
### IGHV1-69\*06

101 sequences assigned  
54 (53.5%) exact matches, in which:  
54 unique CDR3  
5 unique J



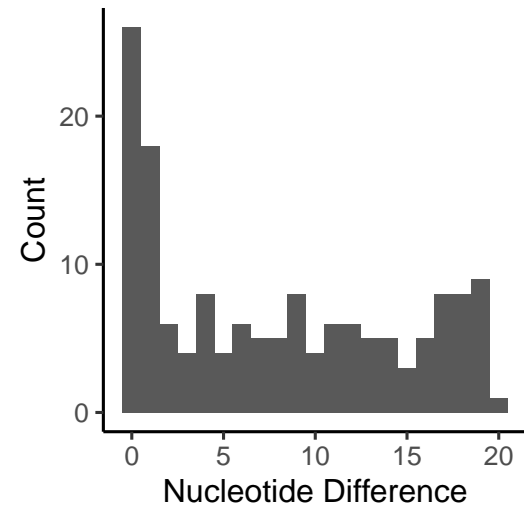
### IGHV2-26\*01

22 sequences assigned  
8 (36.4%) exact matches, in which:  
8 unique CDR3  
3 unique J



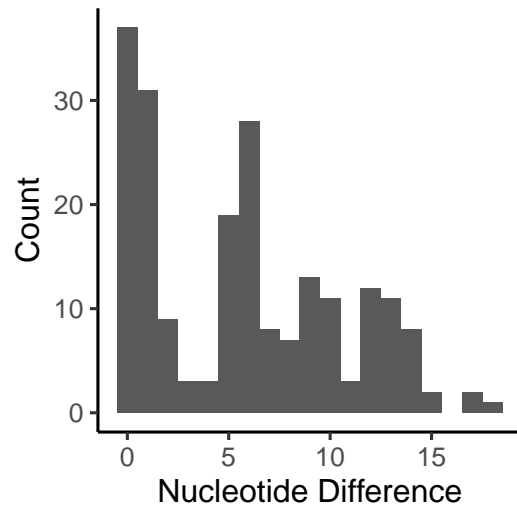
### IGHV3-7\*03

198 sequences assigned  
26 (13.1%) exact matches, in which:  
25 unique CDR3  
5 unique J



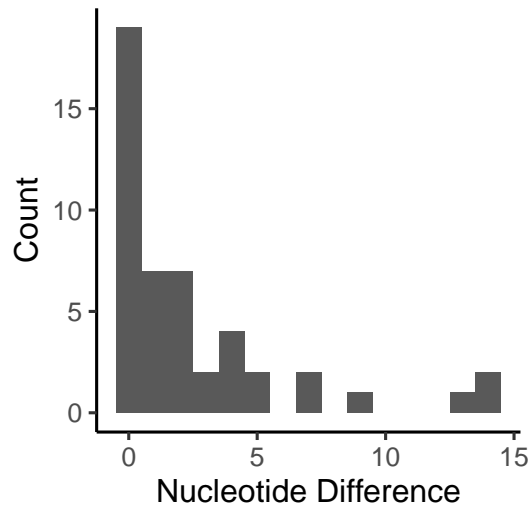
### IGHV2-5\*01

234 sequences assigned  
37 (15.8%) exact matches, in which:  
36 unique CDR3  
5 unique J



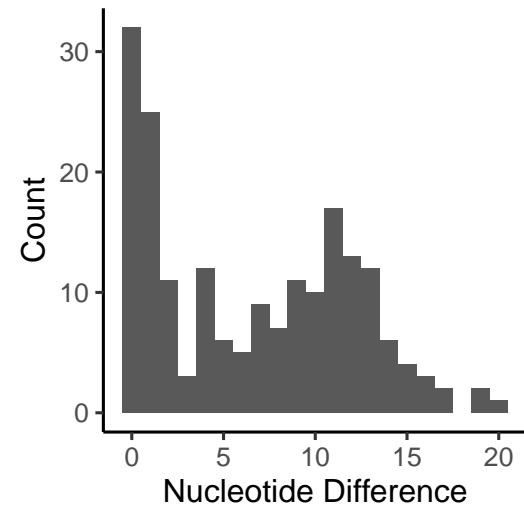
### IGHV2-70\*01

47 sequences assigned  
19 (40.4%) exact matches, in which:  
18 unique CDR3  
5 unique J



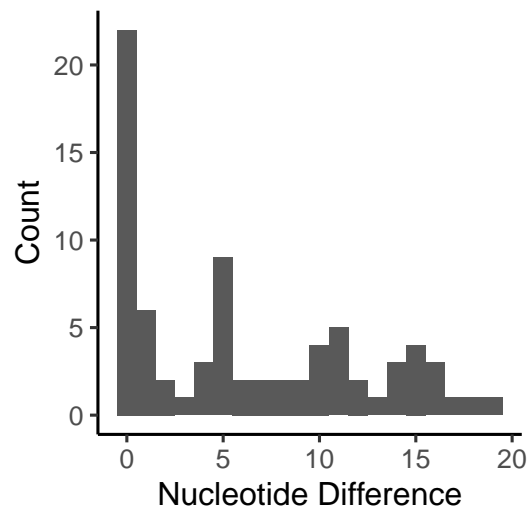
### IGHV3-9\*01

243 sequences assigned  
32 (13.2%) exact matches, in which:  
31 unique CDR3  
3 unique J



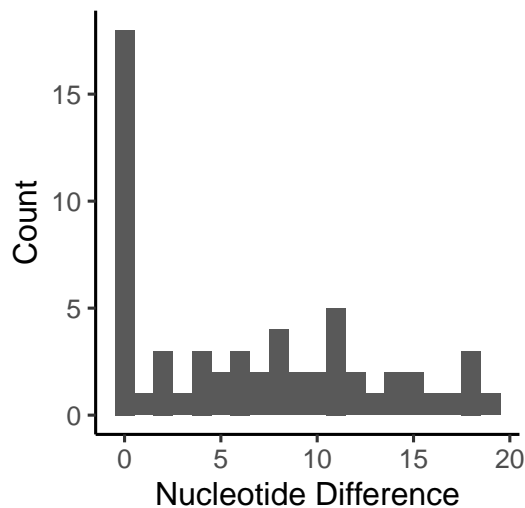
### IGHV3-11\*01

83 sequences assigned  
22 (26.5%) exact matches, in which:  
21 unique CDR3  
5 unique J



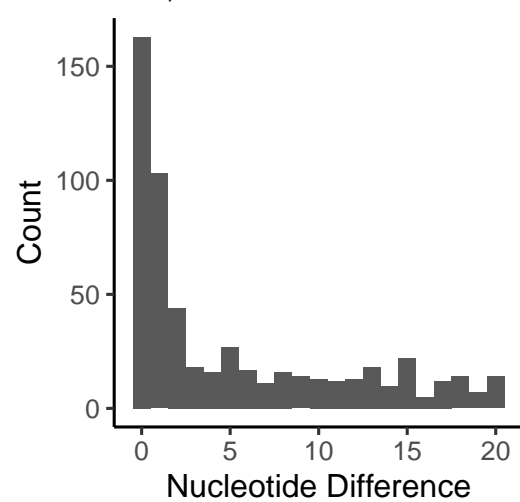
### IGHV3-15\*01

68 sequences assigned  
18 (26.5%) exact matches, in which:  
18 unique CDR3  
3 unique J



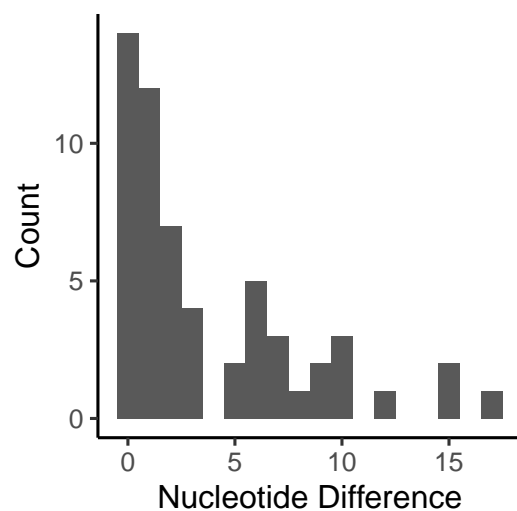
### IGHV3-30-3\*01

637 sequences assigned  
163 (25.6%) exact matches, in which:  
155 unique CDR3  
6 unique J



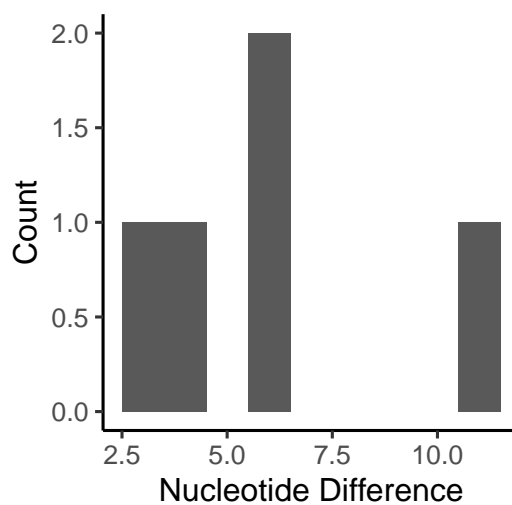
### IGHV3-11\*06

61 sequences assigned  
14 (23%) exact matches, in which:  
14 unique CDR3  
3 unique J



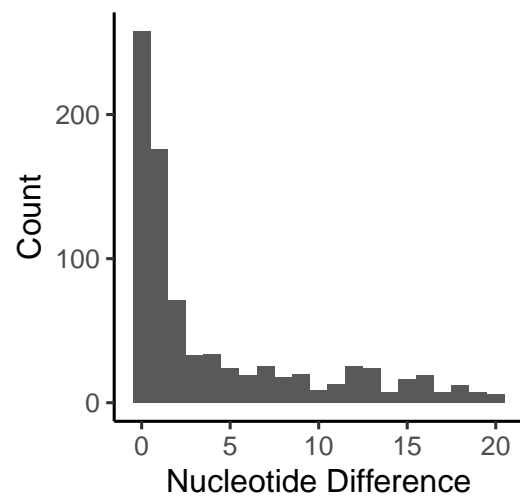
### IGHV3-20\*01

5 sequences assigned  
No exact matches.



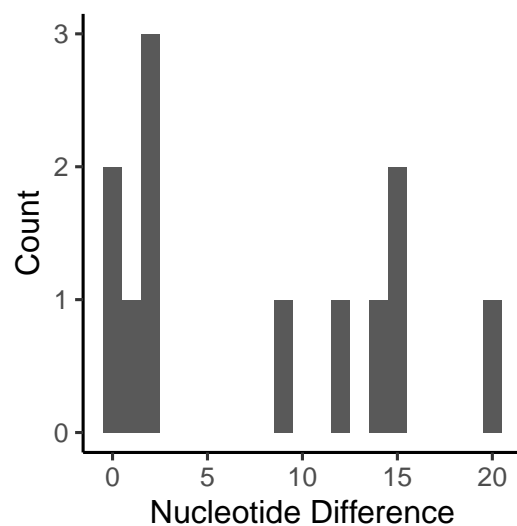
### IGHV3-33\*01

866 sequences assigned  
258 (29.8%) exact matches, in which:  
233 unique CDR3  
6 unique J



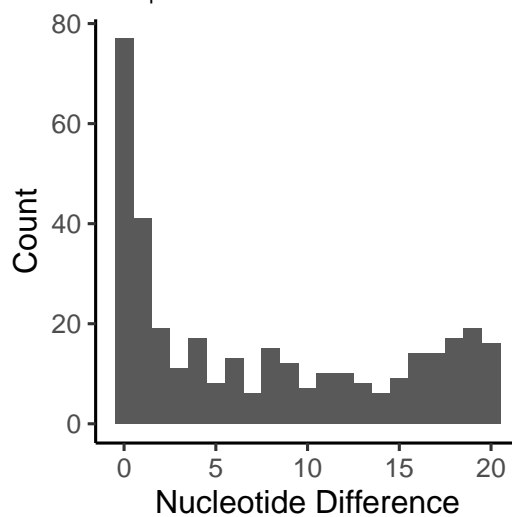
### IGHV3-13\*01

20 sequences assigned  
2 (10%) exact matches, in which:  
1 unique CDR3  
1 unique J



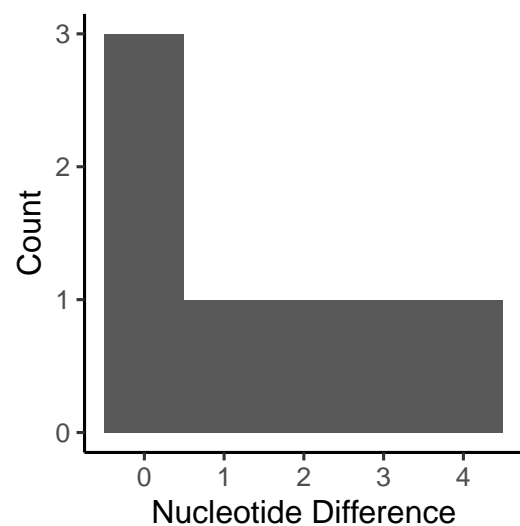
### IGHV3-21\*01

448 sequences assigned  
77 (17.2%) exact matches, in which:  
76 unique CDR3  
6 unique J



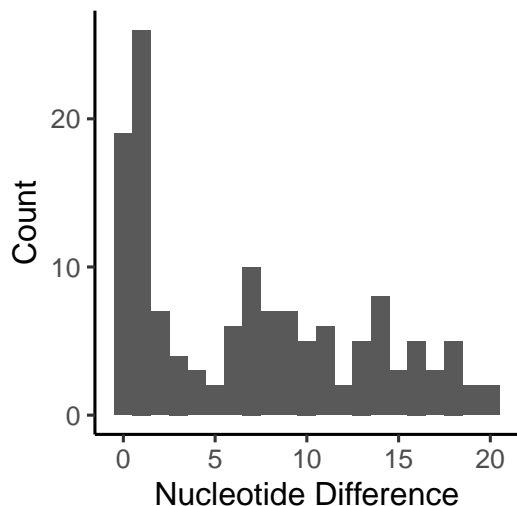
### IGHV3-43\*01

8 sequences assigned  
3 (37.5%) exact matches, in which:  
2 unique CDR3  
2 unique J



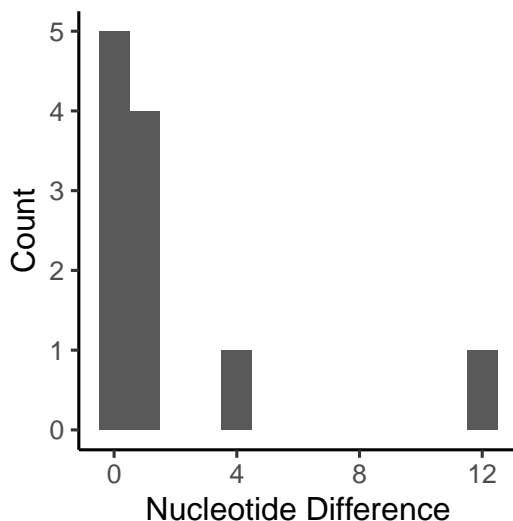
### IGHV3-48\*02

162 sequences assigned  
19 (11.7%) exact matches, in which:  
16 unique CDR3  
4 unique J



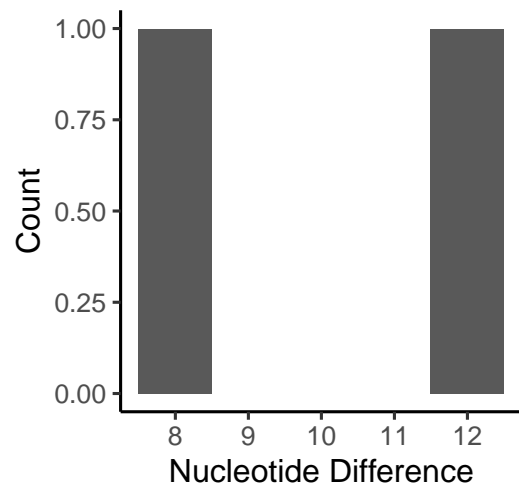
### IGHV3-49\*05

11 sequences assigned  
5 (45.5%) exact matches, in which:  
5 unique CDR3  
2 unique J



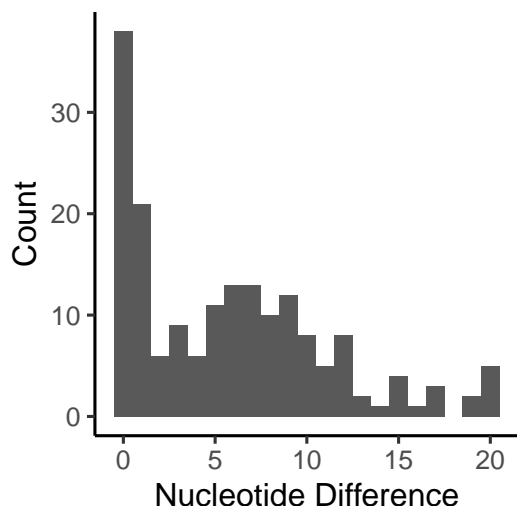
### IGHV3-64\*02

3 sequences assigned  
No exact matches.



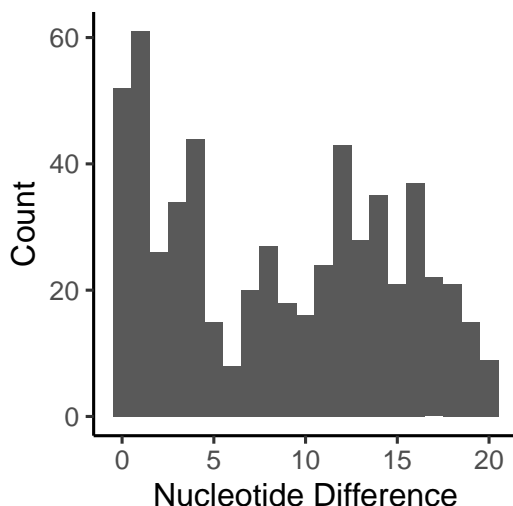
### IGHV3-48\*03

193 sequences assigned  
38 (19.7%) exact matches, in which:  
38 unique CDR3  
5 unique J



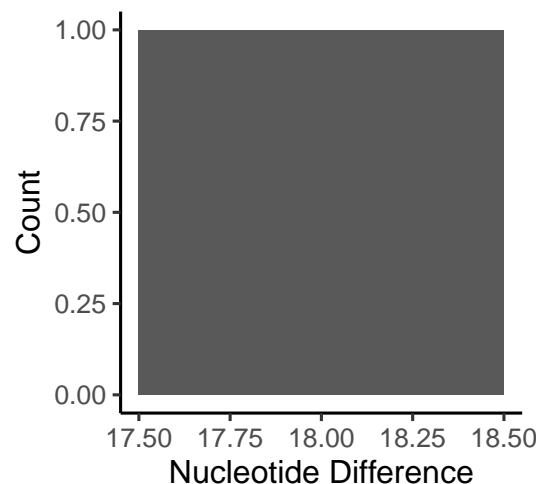
### IGHV3-53\*01

601 sequences assigned  
52 (8.7%) exact matches, in which:  
48 unique CDR3  
5 unique J



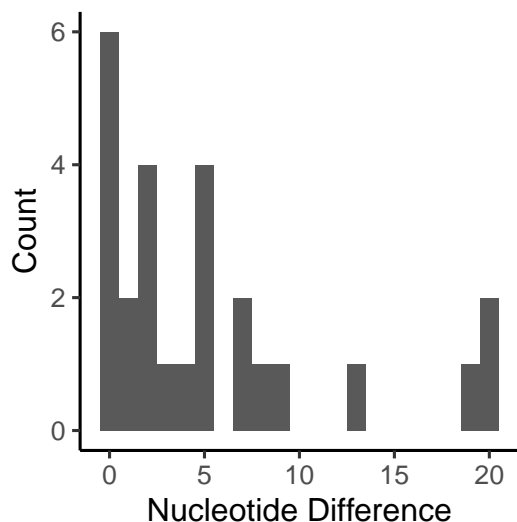
### IGHV3-66\*01

1 sequences assigned  
No exact matches.



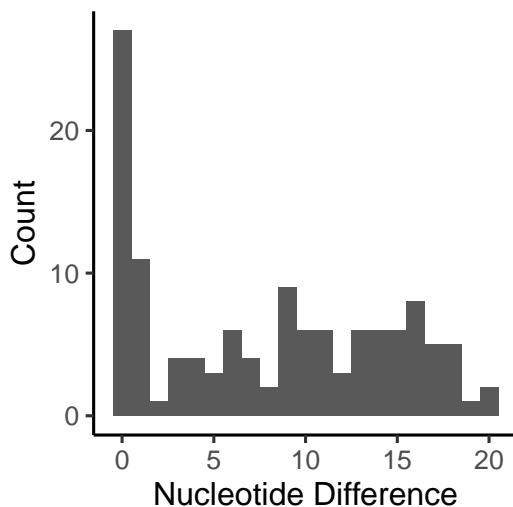
### IGHV3-49\*04

30 sequences assigned  
6 (20%) exact matches, in which:  
6 unique CDR3  
3 unique J



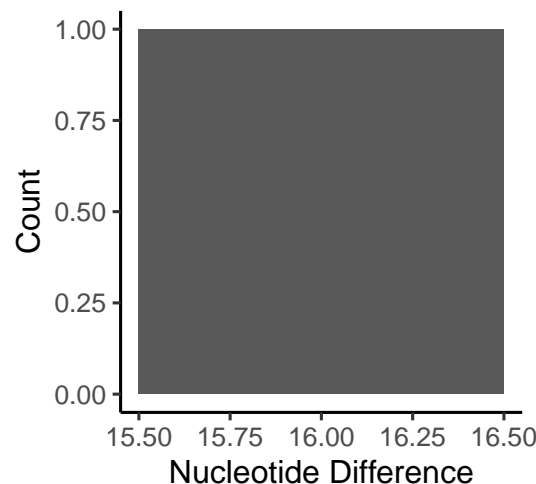
### IGHV3-53\*02

138 sequences assigned  
27 (19.6%) exact matches, in which:  
26 unique CDR3  
5 unique J



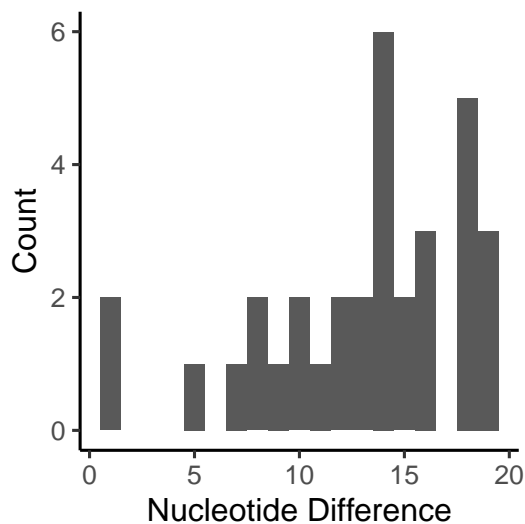
### IGHV3-66\*04

1 sequences assigned  
No exact matches.



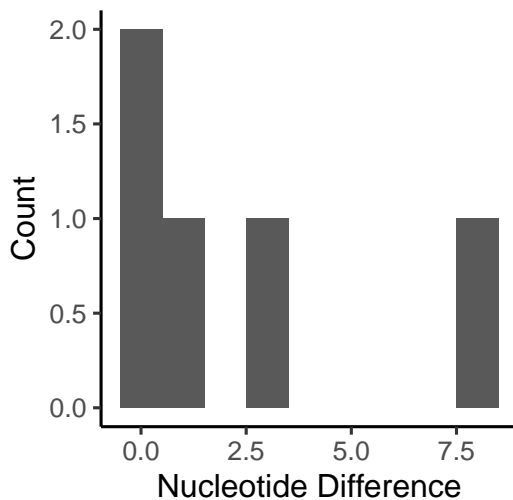
### IGHV3-72\*01

52 sequences assigned  
No exact matches.



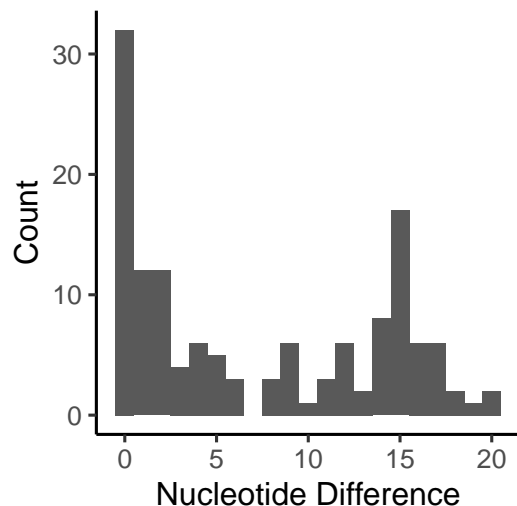
### IGHV3-43D\*04

5 sequences assigned  
2 (40%) exact matches, in which:  
2 unique CDR3  
2 unique J



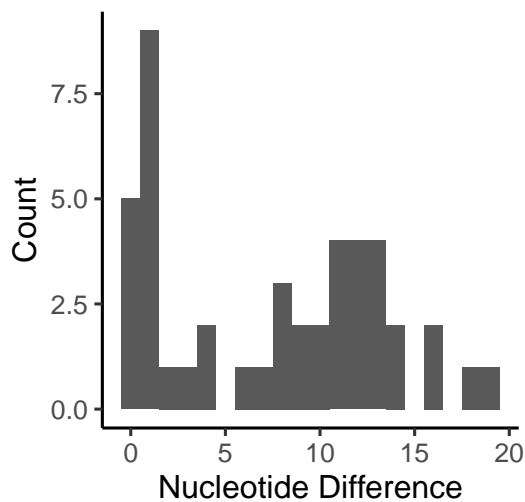
### IGHV4-4\*07

177 sequences assigned  
32 (18.1%) exact matches, in which:  
31 unique CDR3  
5 unique J



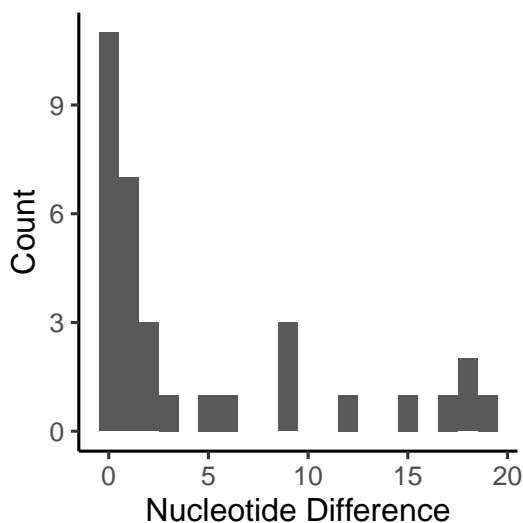
### IGHV3-73\*02

49 sequences assigned  
5 (10.2%) exact matches, in which:  
5 unique CDR3  
4 unique J



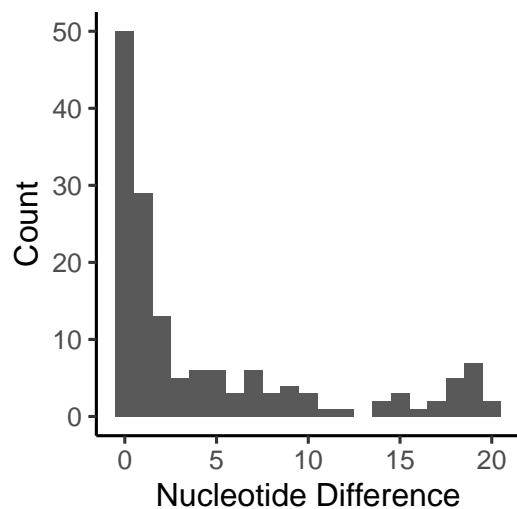
### IGHV3-64D\*06

38 sequences assigned  
11 (28.9%) exact matches, in which:  
11 unique CDR3  
4 unique J



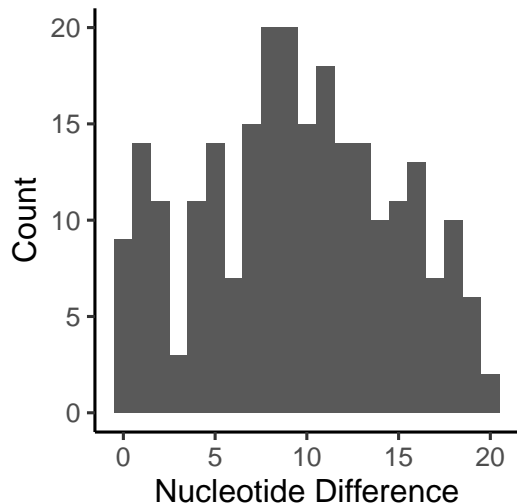
### IGHV4-30-4\*01

154 sequences assigned  
50 (32.5%) exact matches, in which:  
39 unique CDR3  
4 unique J



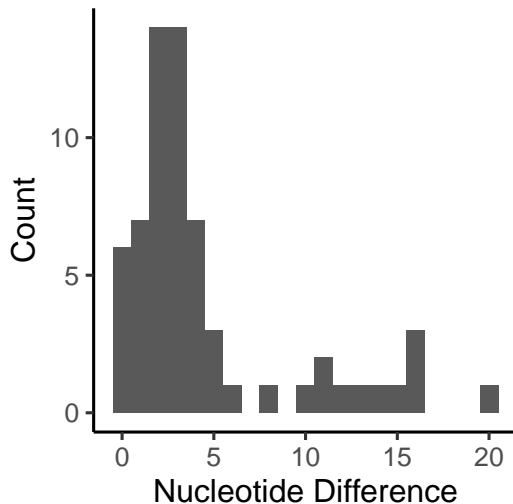
### IGHV3-74\*01

302 sequences assigned  
9 (3%) exact matches, in which:  
8 unique CDR3  
3 unique J



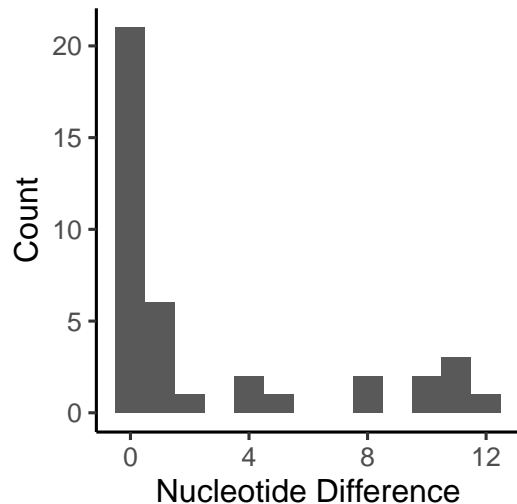
### IGHV4-4\*02

67 sequences assigned  
6 (9%) exact matches, in which:  
6 unique CDR3  
3 unique J



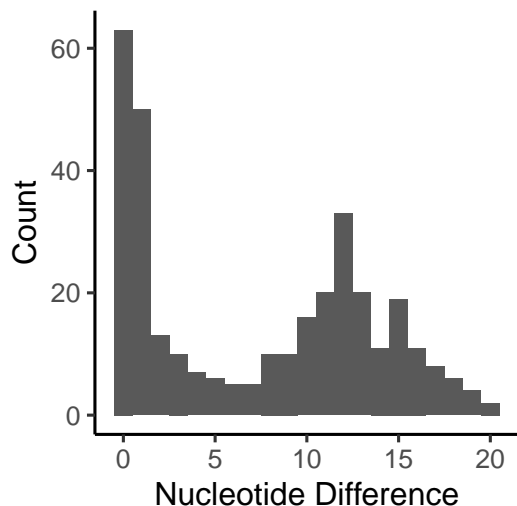
### IGHV4-30-2\*01

40 sequences assigned  
21 (52.5%) exact matches, in which:  
21 unique CDR3  
4 unique J



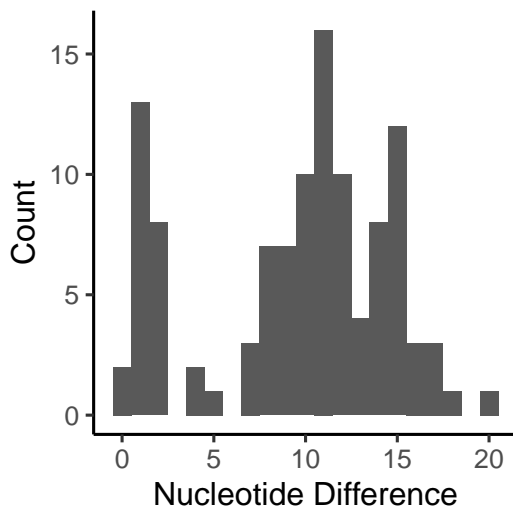
### IGHV4-31\*03

345 sequences assigned  
63 (18.3%) exact matches, in which:  
54 unique CDR3  
6 unique J



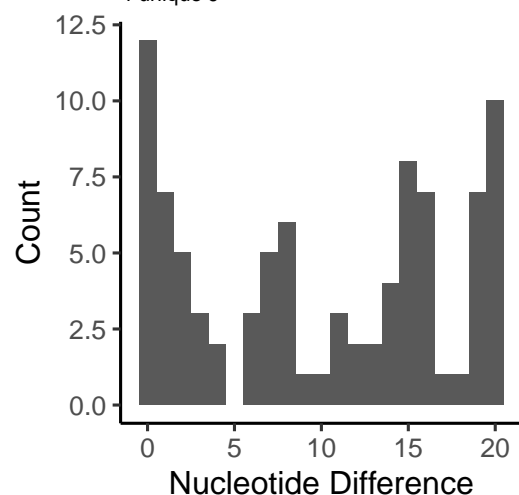
### IGHV4-38-2\*02

112 sequences assigned  
2 (1.8%) exact matches, in which:  
2 unique CDR3  
2 unique J



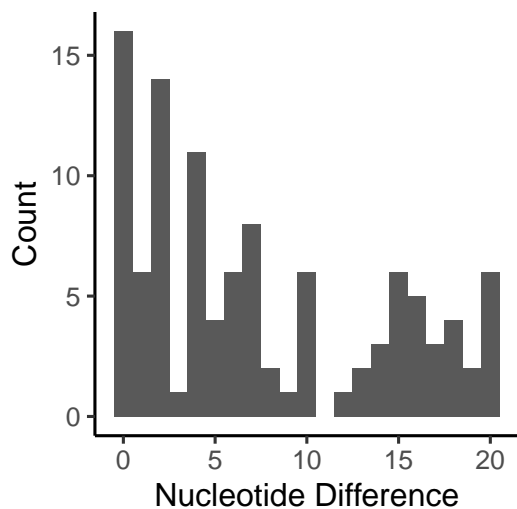
### IGHV4-61\*01

136 sequences assigned  
12 (8.8%) exact matches, in which:  
12 unique CDR3  
4 unique J



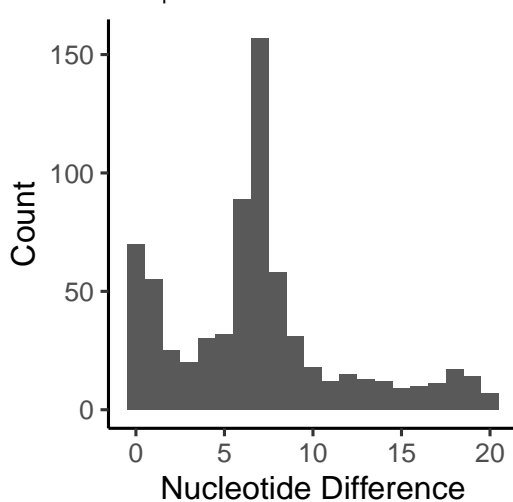
### IGHV4-34\*01

126 sequences assigned  
16 (12.7%) exact matches, in which:  
16 unique CDR3  
4 unique J



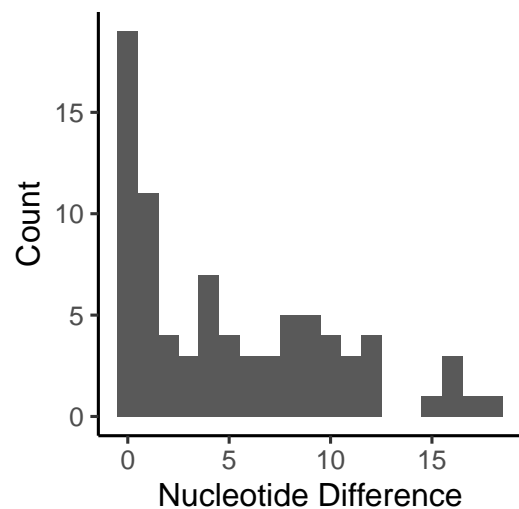
### IGHV4-39\*01

804 sequences assigned  
70 (8.7%) exact matches, in which:  
69 unique CDR3  
6 unique J



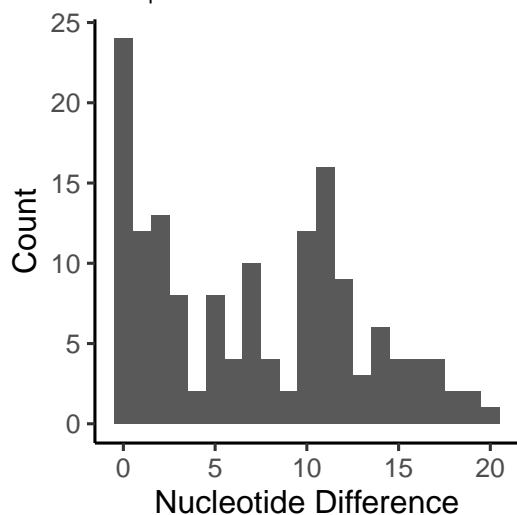
### IGHV5-10-1\*03

82 sequences assigned  
19 (23.2%) exact matches, in which:  
19 unique CDR3  
4 unique J



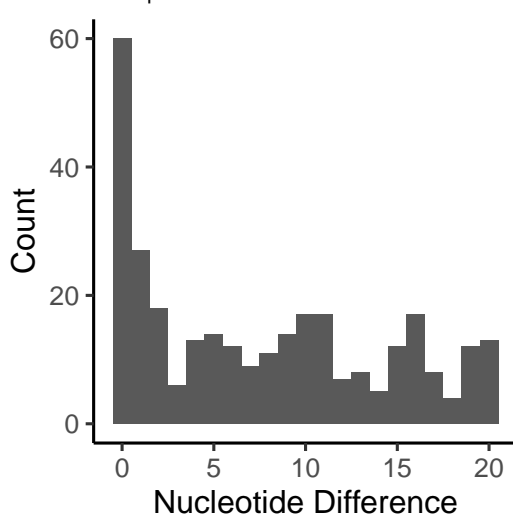
### IGHV4-38-2\*01

157 sequences assigned  
24 (15.3%) exact matches, in which:  
23 unique CDR3  
5 unique J



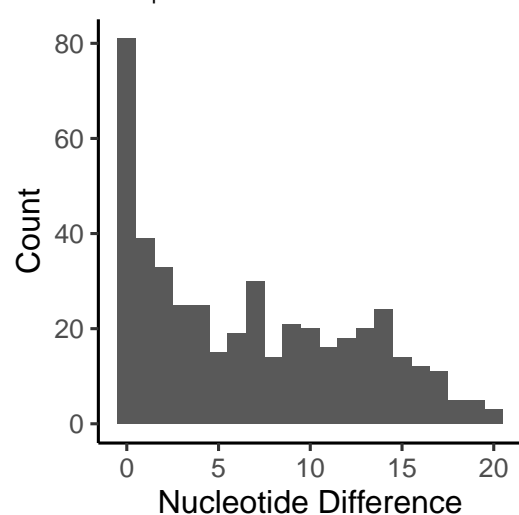
### IGHV4-59\*01

350 sequences assigned  
60 (17.1%) exact matches, in which:  
57 unique CDR3  
5 unique J



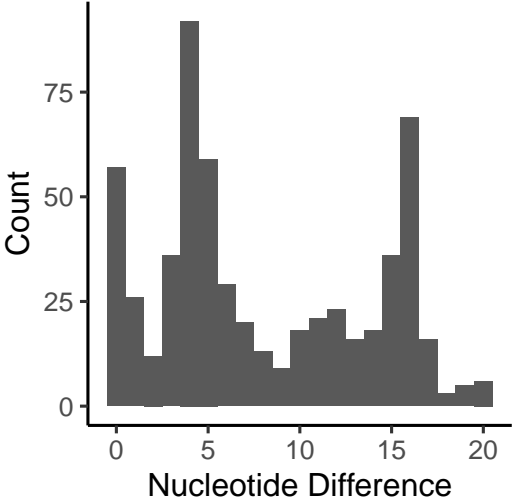
### IGHV5-51\*01

471 sequences assigned  
81 (17.2%) exact matches, in which:  
78 unique CDR3  
4 unique J



# IGHV6-1\*01

592 sequences assigned  
57 (9.6%) exact matches, in which:  
56 unique CDR3  
6 unique J







[illegible]