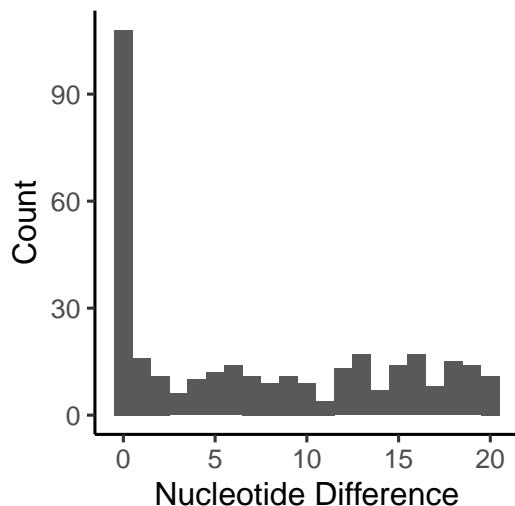


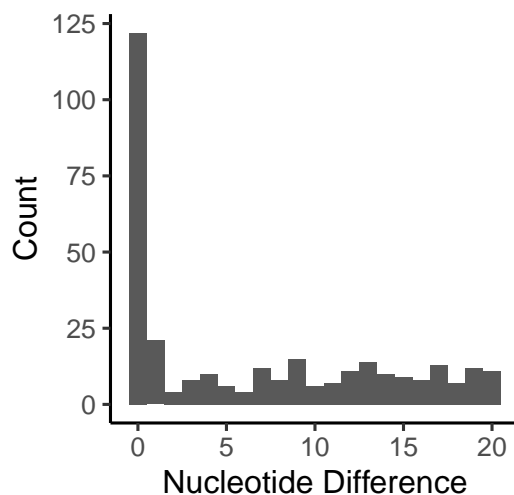
## IGHV1-2\*02

451 sequences assigned  
108 (23.9%) exact matches, in which:  
107 unique CDR3  
6 unique J



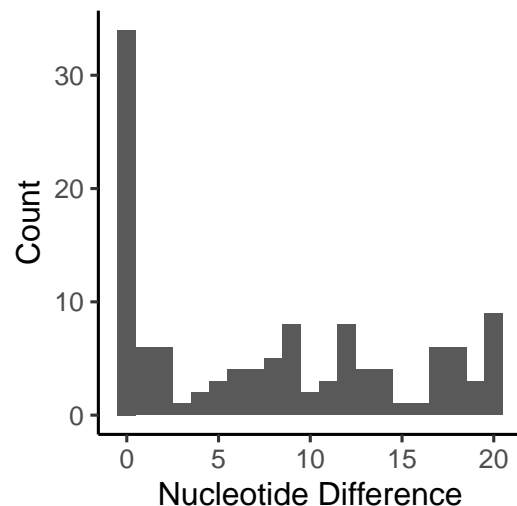
## IGHV1-18\*01

443 sequences assigned  
122 (27.5%) exact matches, in which:  
122 unique CDR3  
6 unique J



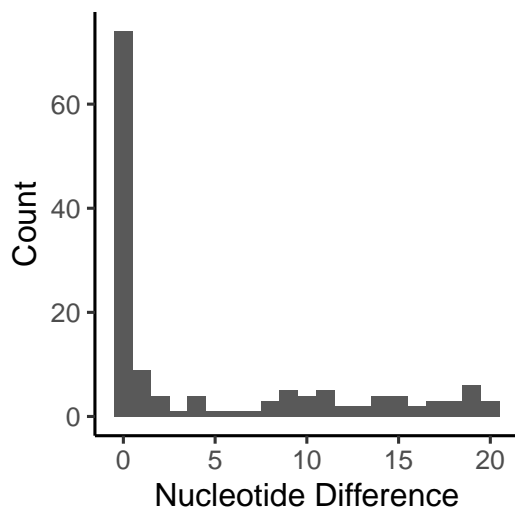
## IGHV1-46\*01

187 sequences assigned  
34 (18.2%) exact matches, in which:  
34 unique CDR3  
5 unique J



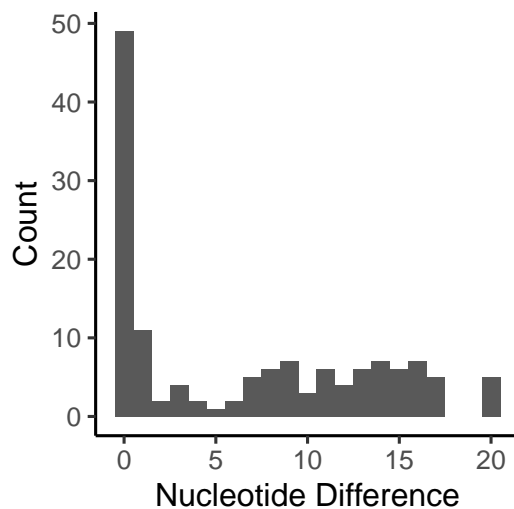
## IGHV1-3\*01

177 sequences assigned  
74 (41.8%) exact matches, in which:  
74 unique CDR3  
5 unique J



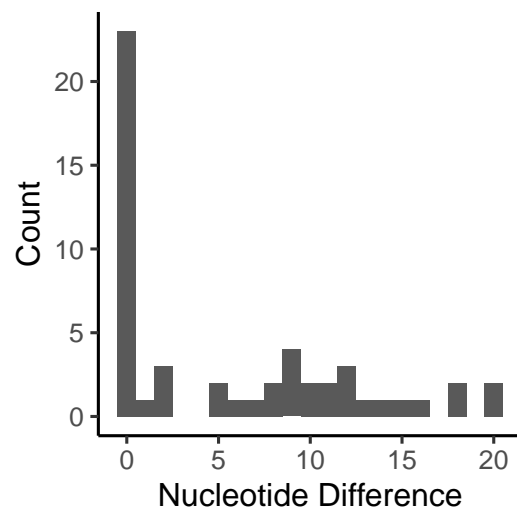
## IGHV1-24\*01

169 sequences assigned  
49 (29%) exact matches, in which:  
49 unique CDR3  
5 unique J



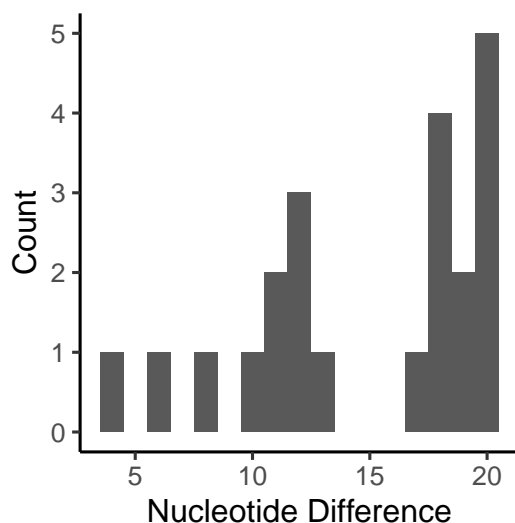
## IGHV1-46\*03

81 sequences assigned  
23 (28.4%) exact matches, in which:  
23 unique CDR3  
4 unique J



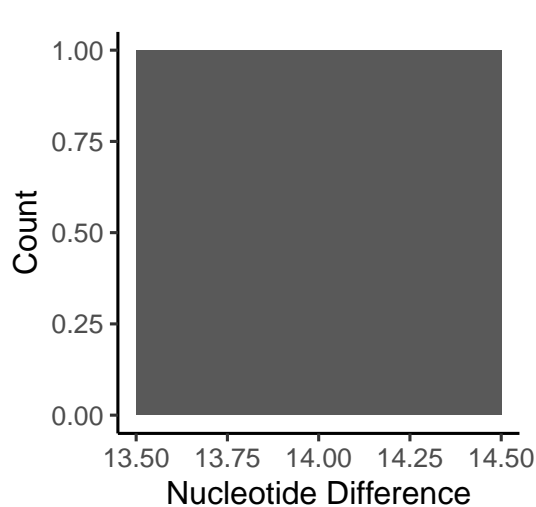
## IGHV1-3\*04

32 sequences assigned  
No exact matches.



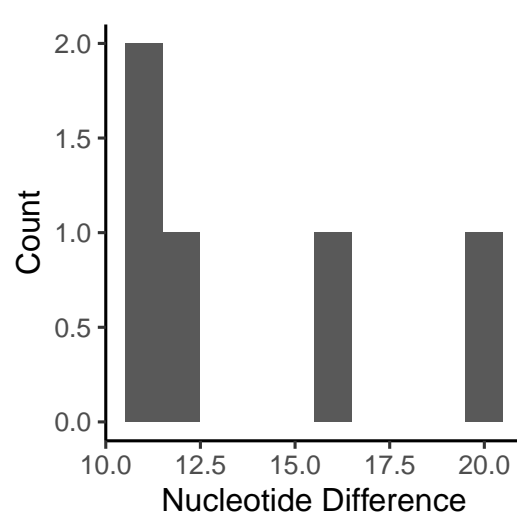
## IGHV1-45\*02

1 sequences assigned  
No exact matches.



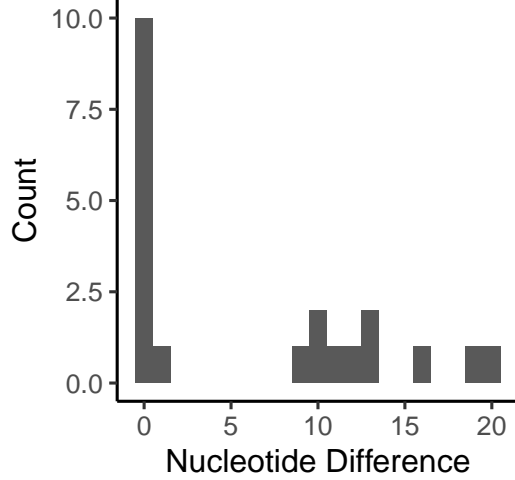
## IGHV1-58\*01

10 sequences assigned  
No exact matches.



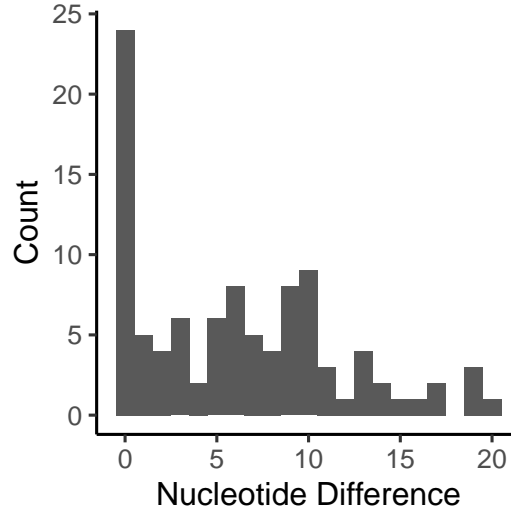
### IGHV1-58\*02

25 sequences assigned  
10 (40%) exact matches, in which:  
10 unique CDR3  
3 unique J



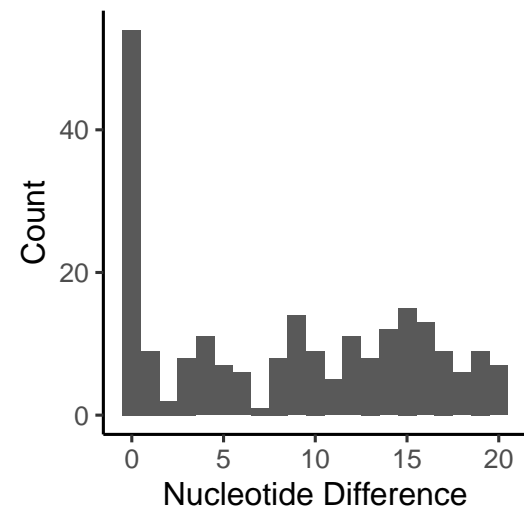
### IGHV2-26\*01

109 sequences assigned  
24 (22%) exact matches, in which:  
24 unique CDR3  
5 unique J



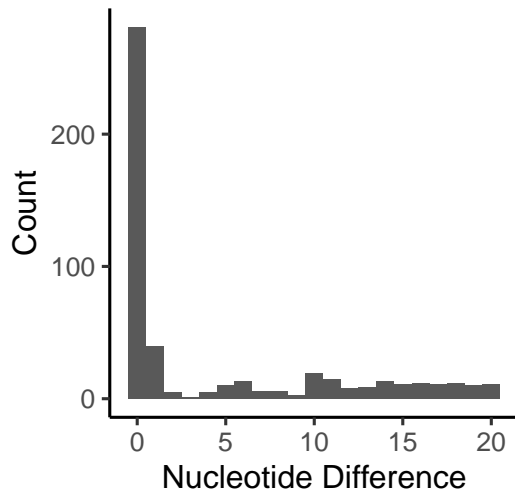
### IGHV3-7\*03

301 sequences assigned  
54 (17.9%) exact matches, in which:  
54 unique CDR3  
6 unique J



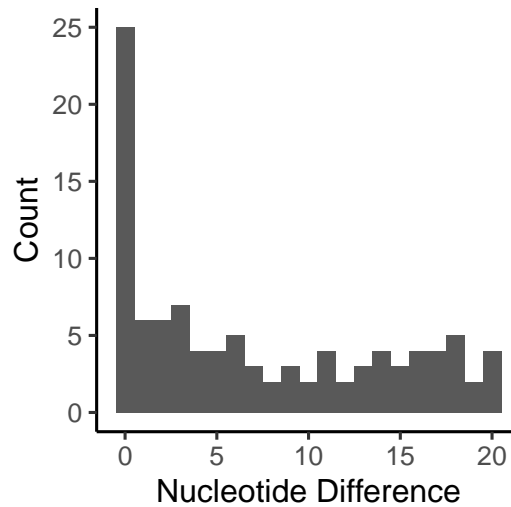
### IGHV1-69\*04

684 sequences assigned  
281 (41.1%) exact matches, in which:  
281 unique CDR3  
6 unique J



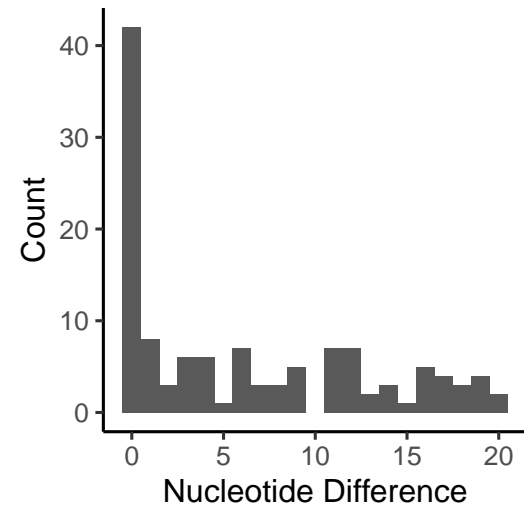
### IGHV2-70\*15

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



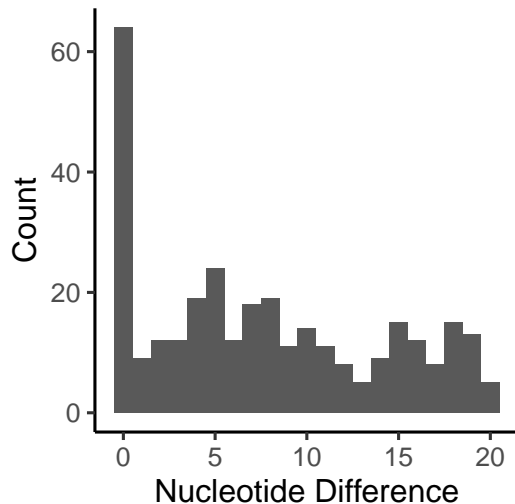
### IGHV3-11\*06

174 sequences assigned  
42 (24.1%) exact matches, in which:  
42 unique CDR3  
5 unique J



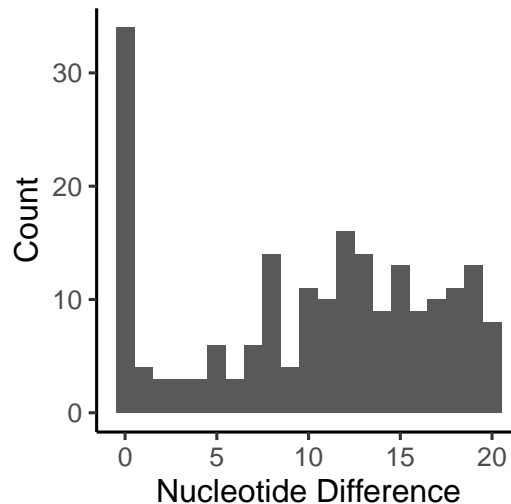
### IGHV2-5\*02

379 sequences assigned  
64 (16.9%) exact matches, in which:  
64 unique CDR3  
5 unique J



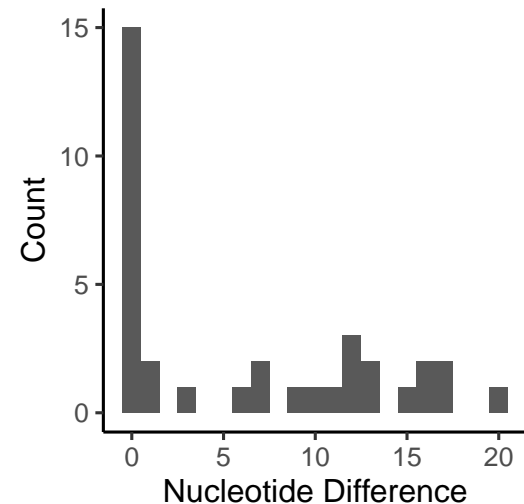
### IGHV3-7\*01

266 sequences assigned  
34 (12.8%) exact matches, in which:  
34 unique CDR3  
5 unique J



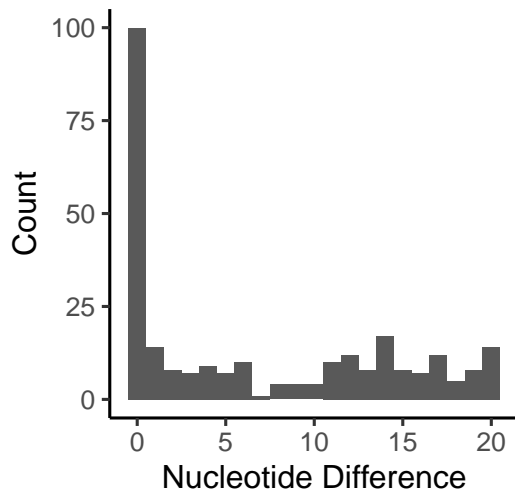
### IGHV3-13\*05

42 sequences assigned  
15 (35.7%) exact matches, in which:  
15 unique CDR3  
4 unique J



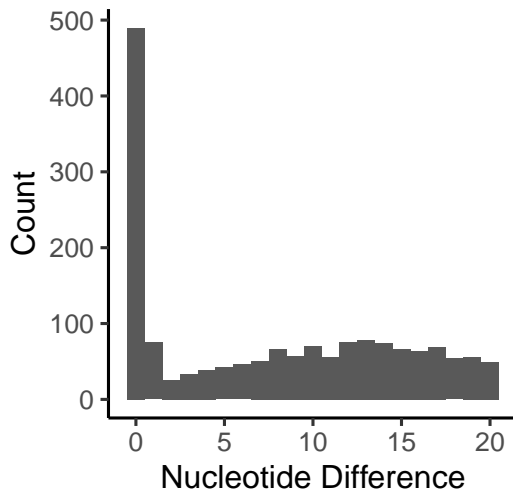
### IGHV3-15\*01

366 sequences assigned  
100 (27.3%) exact matches, in which:  
100 unique CDR3  
5 unique J



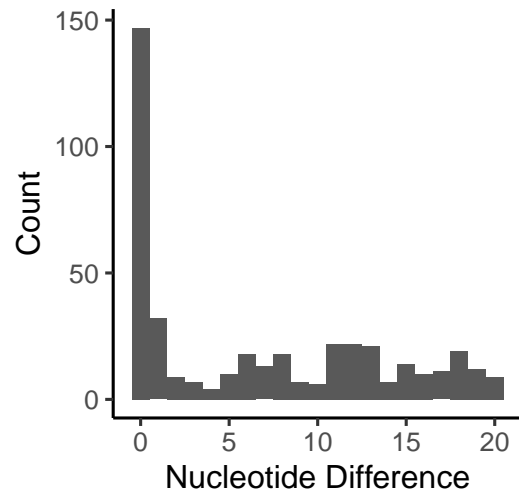
### IGHV3-23\*01

2303 sequences assigned  
490 (21.3%) exact matches, in which:  
489 unique CDR3  
6 unique J



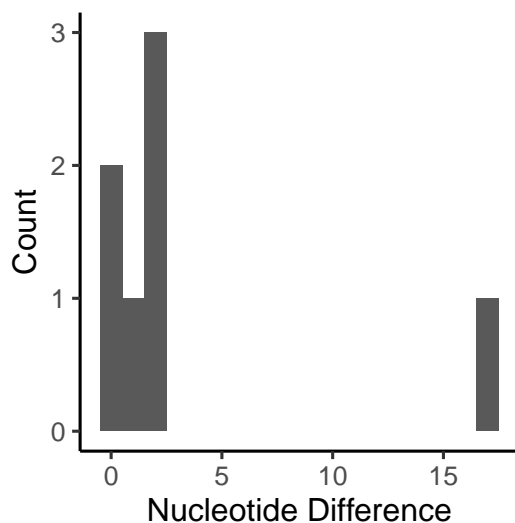
### IGHV3-33\*01

560 sequences assigned  
147 (26.2%) exact matches, in which:  
142 unique CDR3  
6 unique J



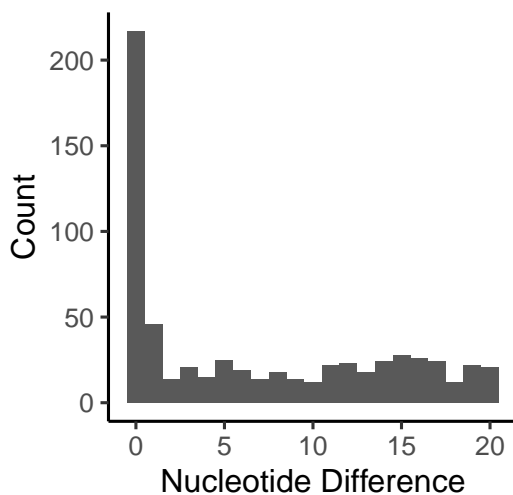
### IGHV3-20\*01

11 sequences assigned  
2 (18.2%) exact matches, in which:  
2 unique CDR3  
1 unique J



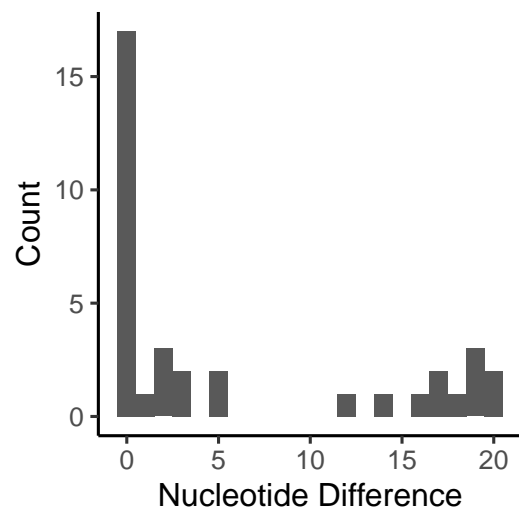
### IGHV3-30-3\*01

888 sequences assigned  
217 (24.4%) exact matches, in which:  
216 unique CDR3  
6 unique J



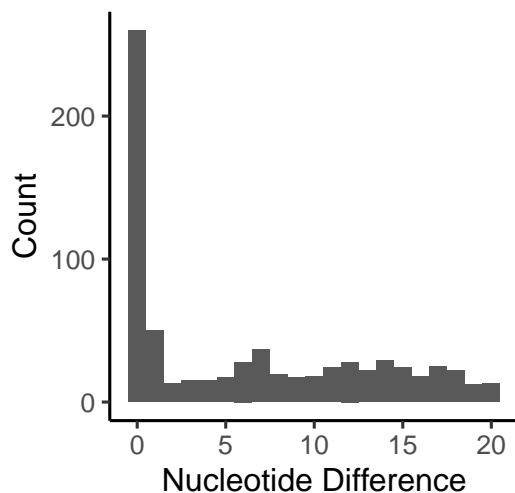
### IGHV3-43\*01

60 sequences assigned  
17 (28.3%) exact matches, in which:  
17 unique CDR3  
3 unique J



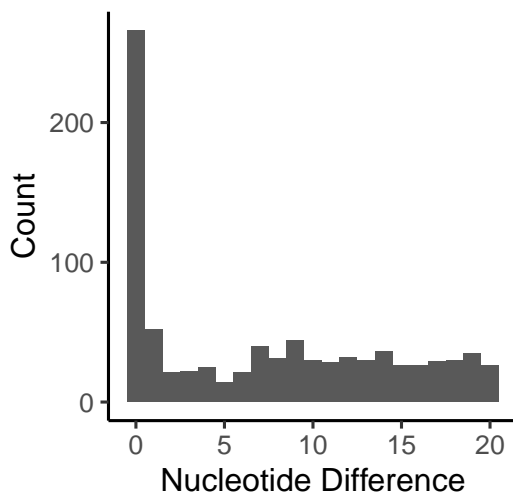
### IGHV3-21\*01

826 sequences assigned  
260 (31.5%) exact matches, in which:  
258 unique CDR3  
6 unique J



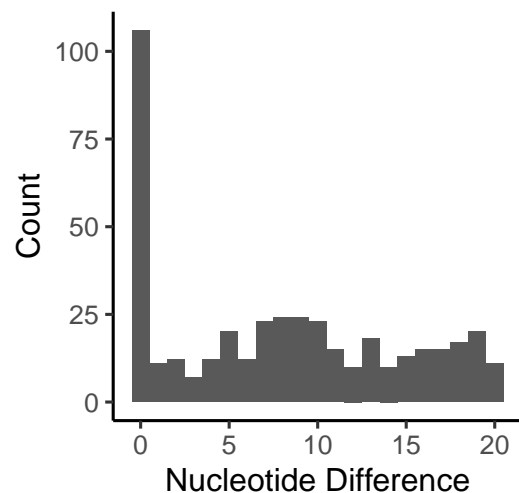
### IGHV3-30\*18

1154 sequences assigned  
266 (23.1%) exact matches, in which:  
265 unique CDR3  
6 unique J



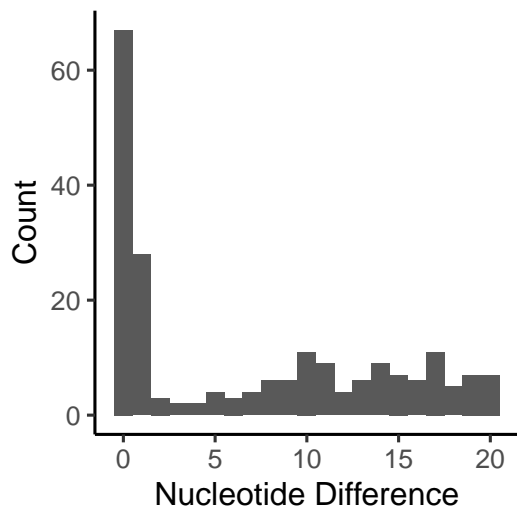
### IGHV3-48\*01

536 sequences assigned  
106 (19.8%) exact matches, in which:  
106 unique CDR3  
6 unique J



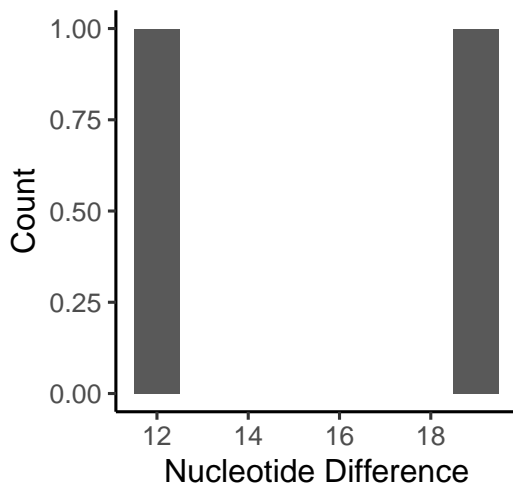
### IGHV3-49\*03

265 sequences assigned  
67 (25.3%) exact matches, in which:  
66 unique CDR3  
4 unique J



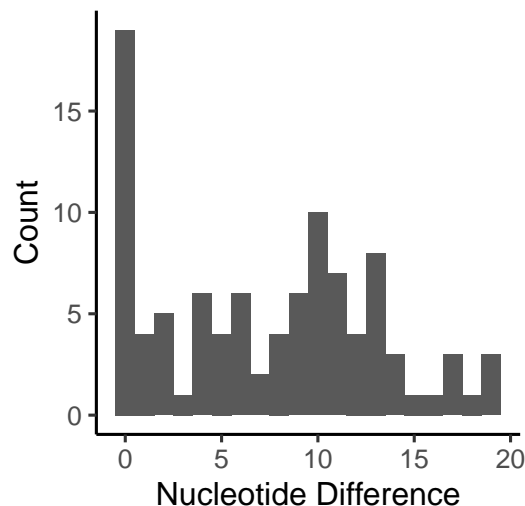
### IGHV3-64\*07

8 sequences assigned  
No exact matches.



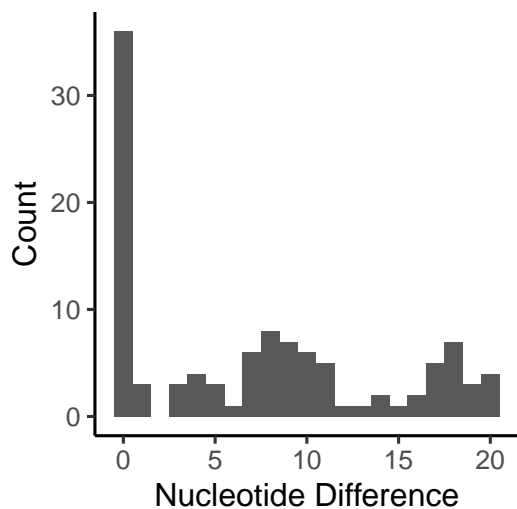
### IGHV3-73\*01

109 sequences assigned  
19 (17.4%) exact matches, in which:  
18 unique CDR3  
5 unique J



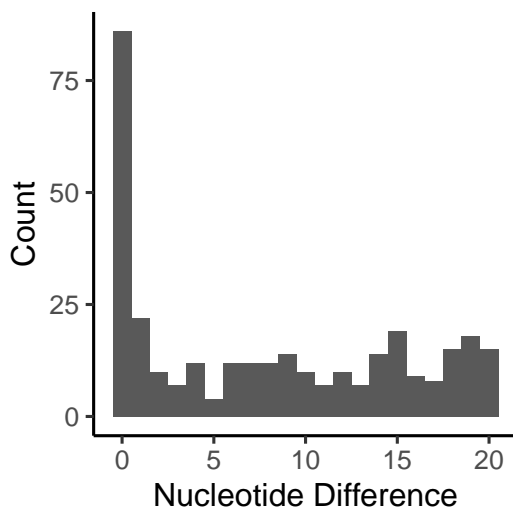
### IGHV3-53\*02

134 sequences assigned  
36 (26.9%) exact matches, in which:  
36 unique CDR3  
5 unique J



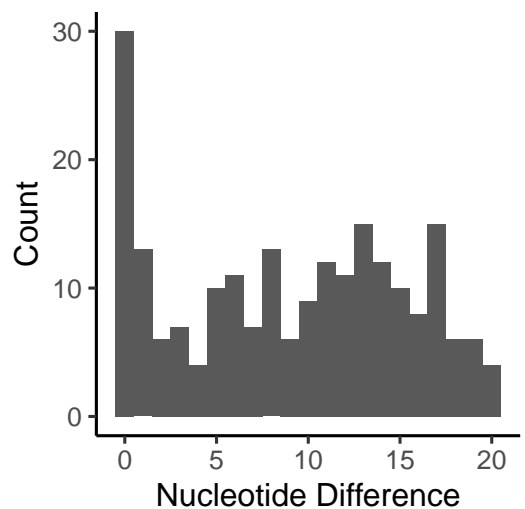
### IGHV3-66\*01

411 sequences assigned  
86 (20.9%) exact matches, in which:  
86 unique CDR3  
5 unique J



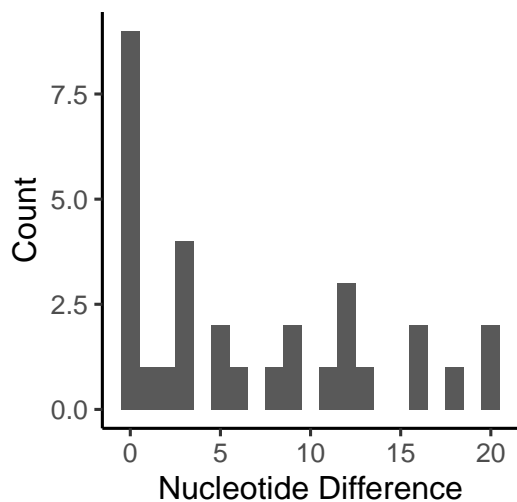
### IGHV3-74\*01

282 sequences assigned  
30 (10.6%) exact matches, in which:  
30 unique CDR3  
5 unique J



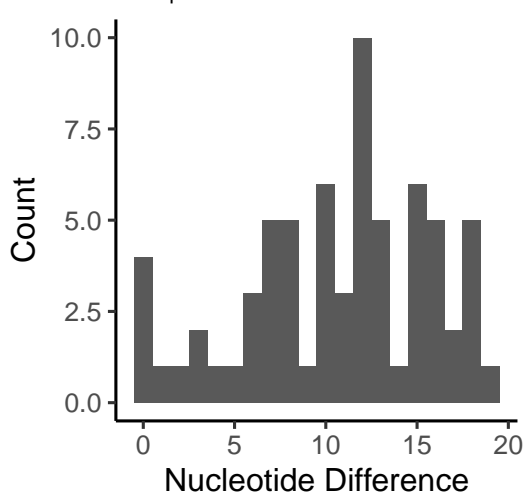
### IGHV3-64\*01

47 sequences assigned  
9 (19.1%) exact matches, in which:  
9 unique CDR3  
5 unique J



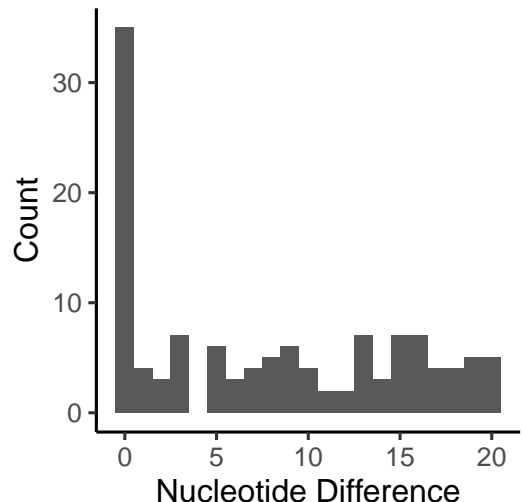
### IGHV3-72\*01

81 sequences assigned  
4 (4.9%) exact matches, in which:  
4 unique CDR3  
2 unique J



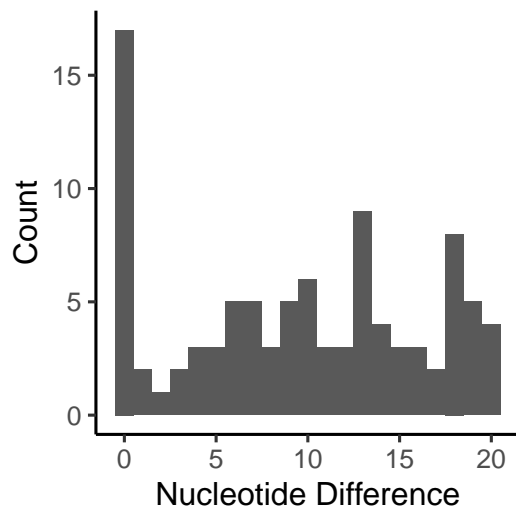
### IGHV3-64D\*06

166 sequences assigned  
35 (21.1%) exact matches, in which:  
35 unique CDR3  
4 unique J



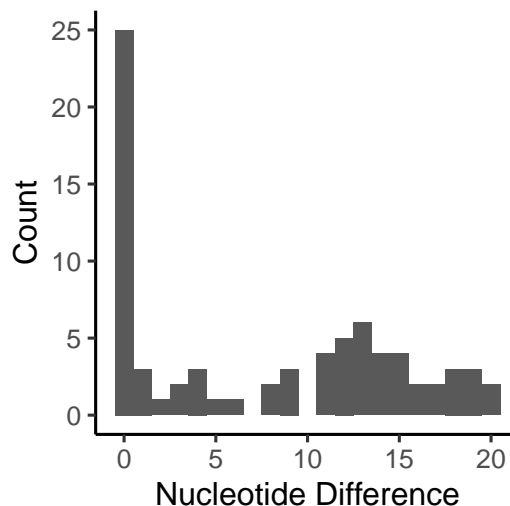
### IGHV4-4\*02

143 sequences assigned  
17 (11.9%) exact matches, in which:  
17 unique CDR3  
5 unique J



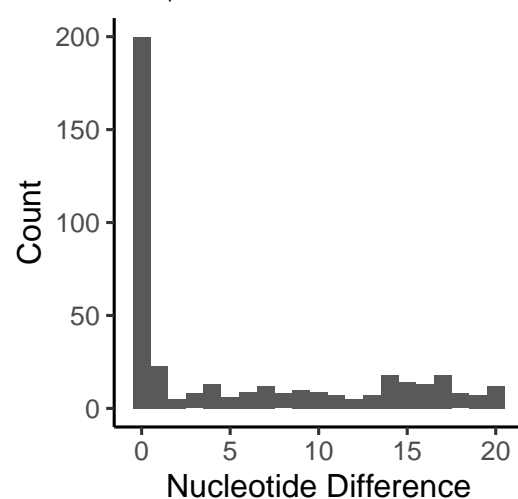
### IGHV4-30-2\*01

108 sequences assigned  
25 (23.1%) exact matches, in which:  
25 unique CDR3  
4 unique J



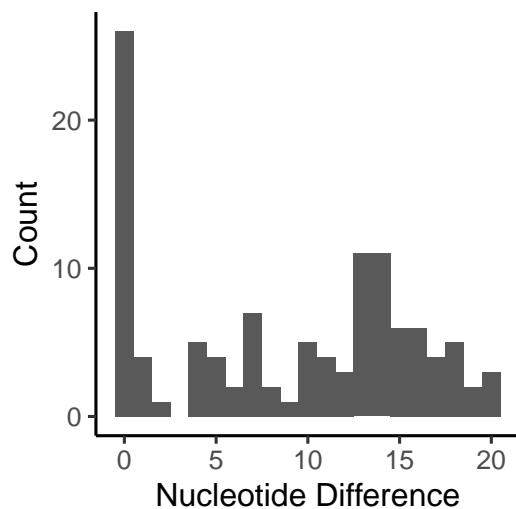
### IGHV4-34\*01

564 sequences assigned  
200 (35.5%) exact matches, in which:  
199 unique CDR3  
6 unique J



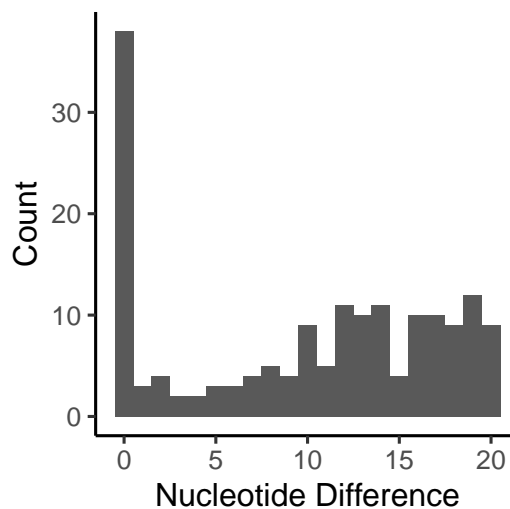
### IGHV4-4\*07

172 sequences assigned  
26 (15.1%) exact matches, in which:  
26 unique CDR3  
4 unique J



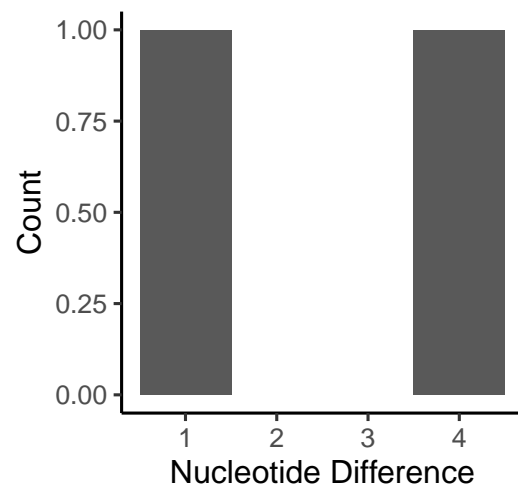
### IGHV4-30-4\*01

236 sequences assigned  
38 (16.1%) exact matches, in which:  
38 unique CDR3  
5 unique J



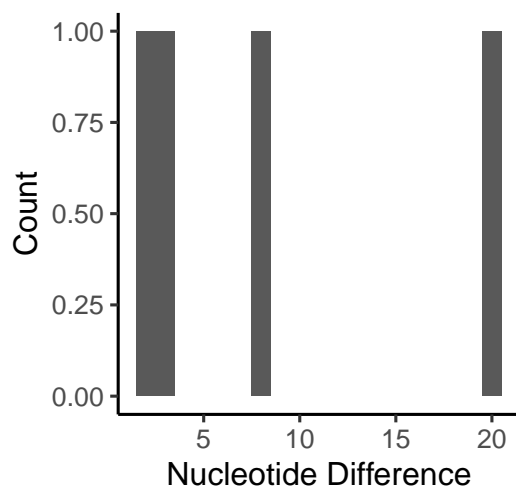
### IGHV4-38-2\*02

2 sequences assigned  
No exact matches.



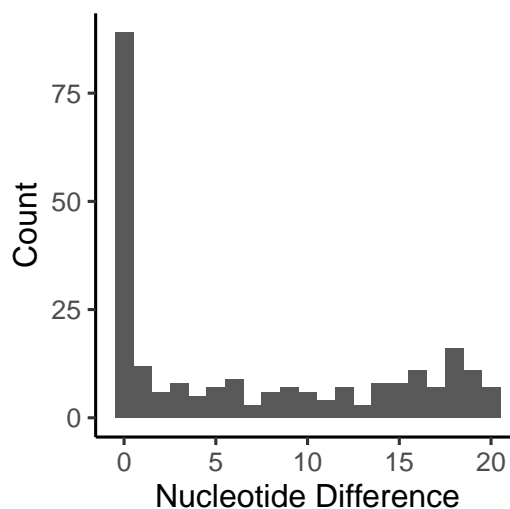
### IGHV4-28\*01

6 sequences assigned  
No exact matches.



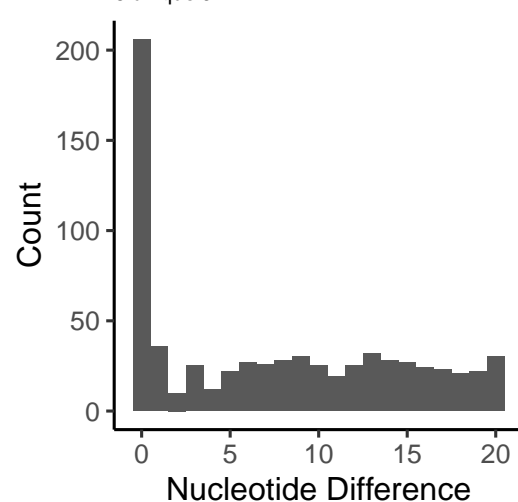
### IGHV4-31\*03

387 sequences assigned  
89 (23%) exact matches, in which:  
87 unique CDR3  
5 unique J



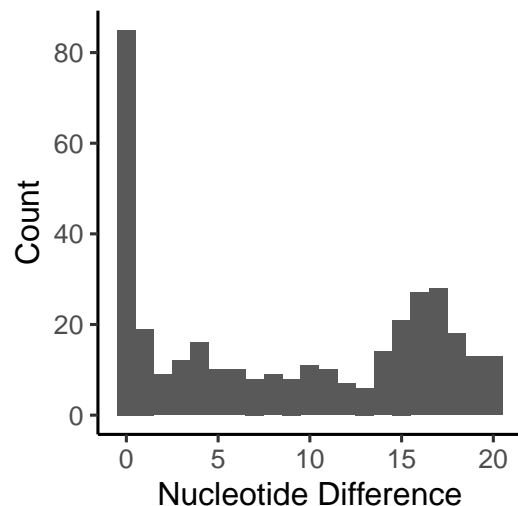
### IGHV4-39\*01

1043 sequences assigned  
206 (19.8%) exact matches, in which:  
202 unique CDR3  
6 unique J



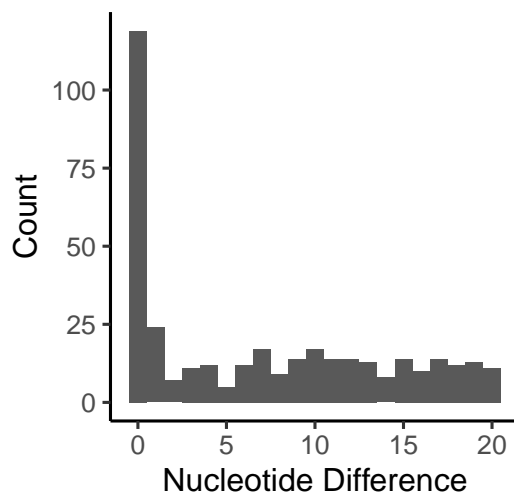
### IGHV4-59\*01

475 sequences assigned  
85 (17.9%) exact matches, in which:  
84 unique CDR3  
5 unique J



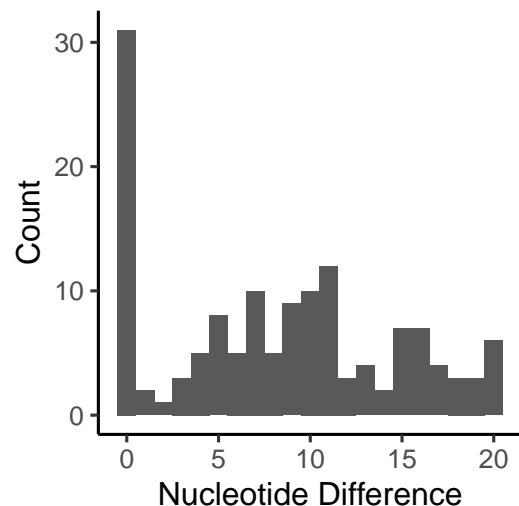
### IGHV5-10-1\*03

537 sequences assigned  
119 (22.2%) exact matches, in which:  
118 unique CDR3  
5 unique J



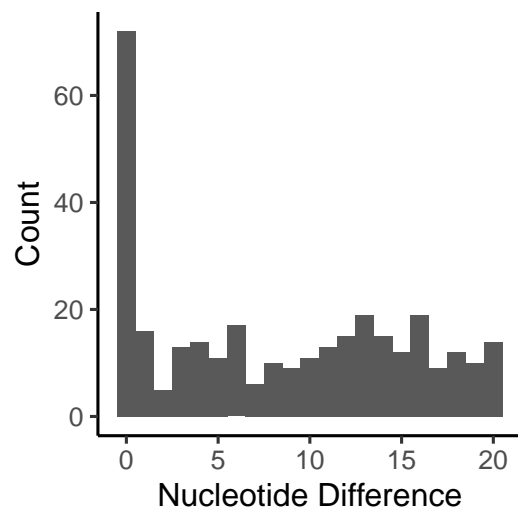
### IGHV6-1\*01

178 sequences assigned  
31 (17.4%) exact matches, in which:  
31 unique CDR3  
5 unique J



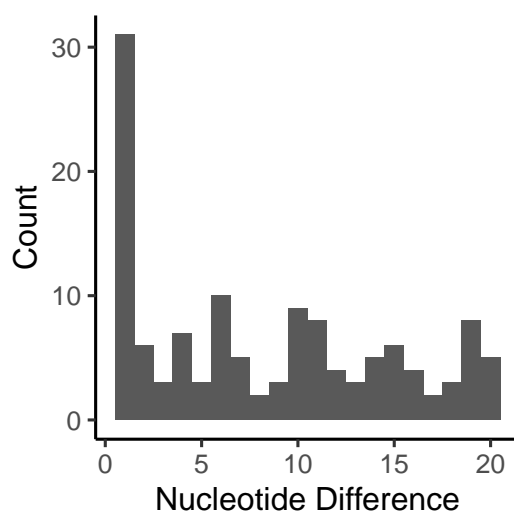
### IGHV4-59\*08

455 sequences assigned  
72 (15.8%) exact matches, in which:  
72 unique CDR3  
5 unique J



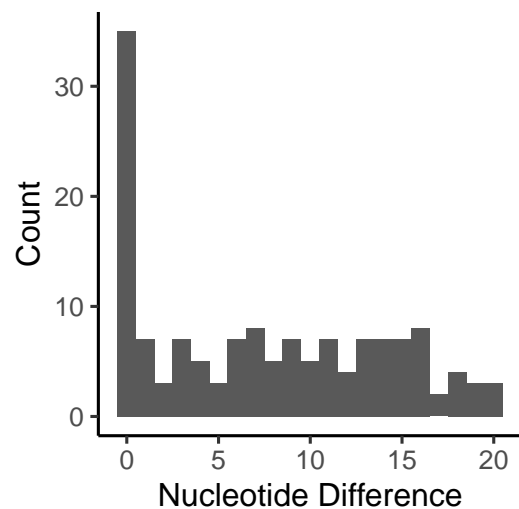
### IGHV5-51\*01

175 sequences assigned  
No exact matches.



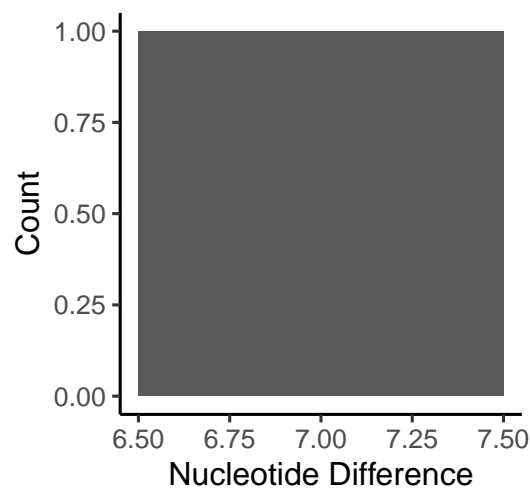
### IGHV7-4-1\*02

174 sequences assigned  
35 (20.1%) exact matches, in which:  
34 unique CDR3  
5 unique J



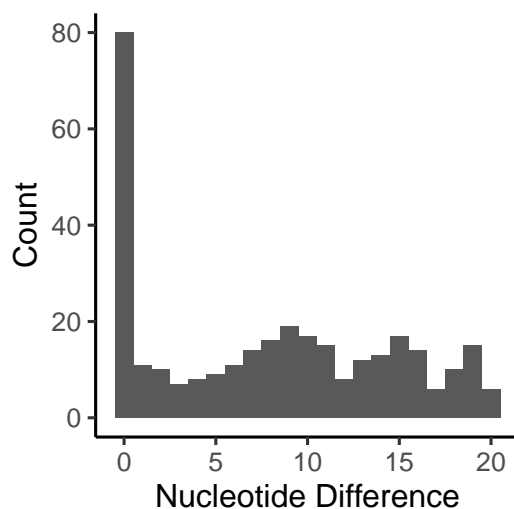
### IGHV4-61\*03

1 sequences assigned  
No exact matches.



### IGHV5-51\*03

414 sequences assigned  
80 (19.3%) exact matches, in which:  
79 unique CDR3  
5 unique J





Warning – no inferred sequences found.