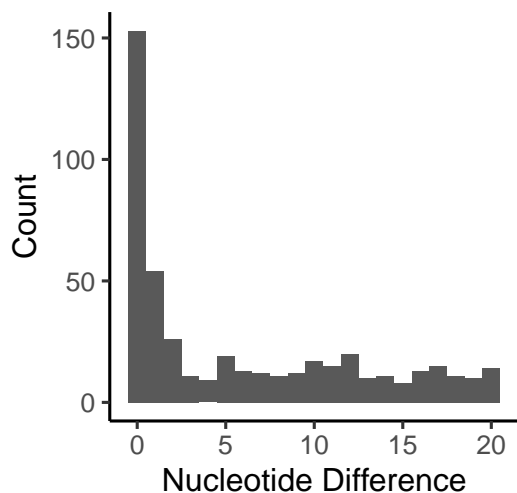


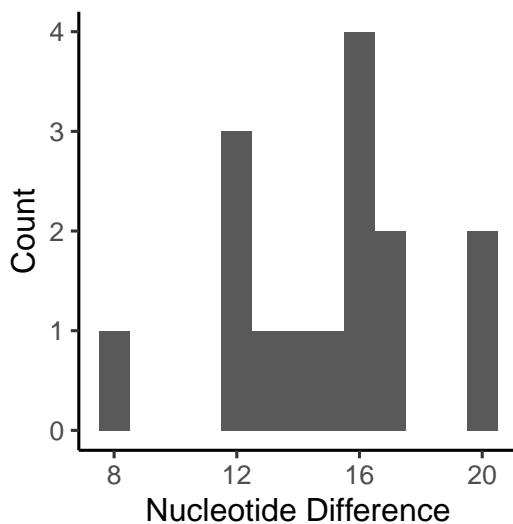
### IGHV1-2\*02

622 sequences assigned  
153 (24.6%) exact matches, in which:  
151 unique CDR3  
6 unique J



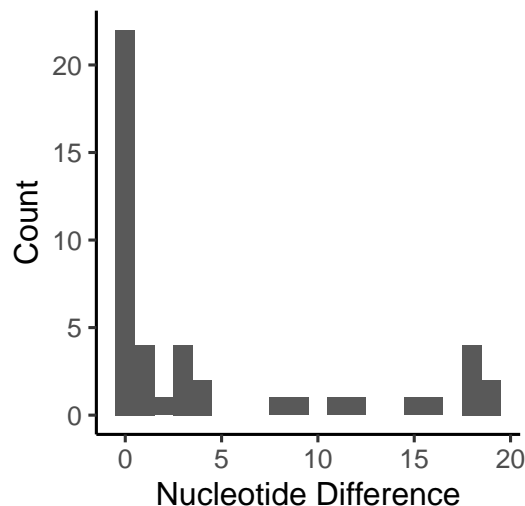
### IGHV1-3\*04

25 sequences assigned  
No exact matches.



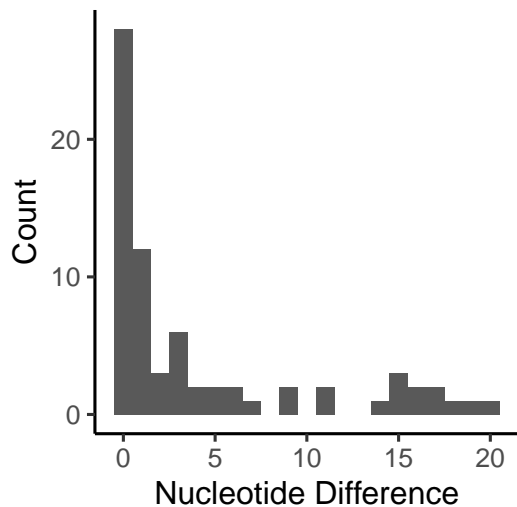
### IGHV1-24\*01

52 sequences assigned  
22 (42.3%) exact matches, in which:  
22 unique CDR3  
5 unique J



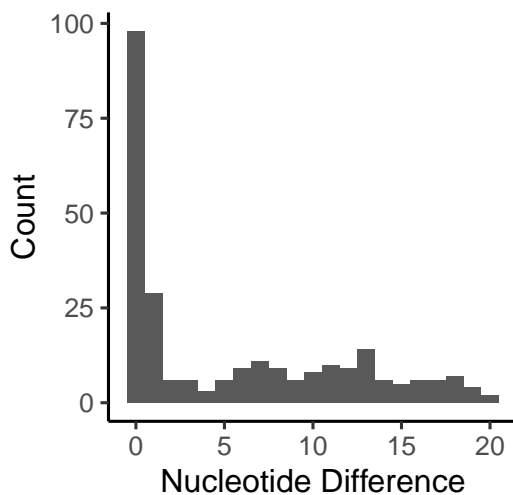
### IGHV1-2\*04

82 sequences assigned  
28 (34.1%) exact matches, in which:  
28 unique CDR3  
4 unique J



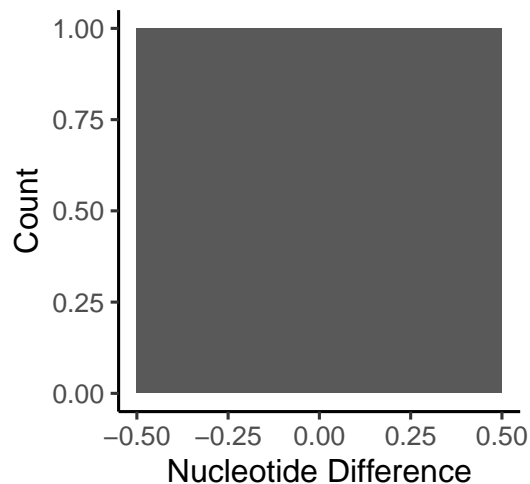
### IGHV1-18\*01

349 sequences assigned  
98 (28.1%) exact matches, in which:  
98 unique CDR3  
5 unique J



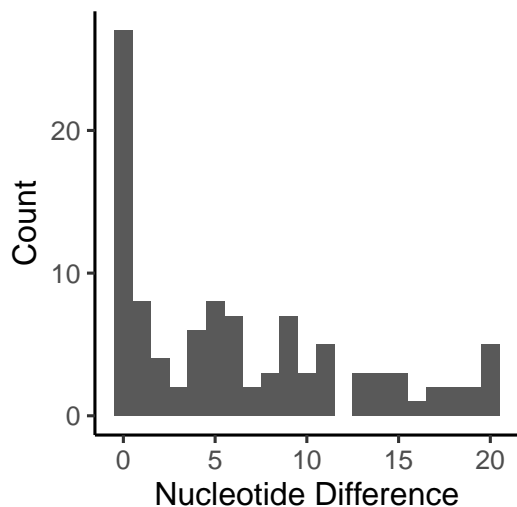
### IGHV1-45\*02

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



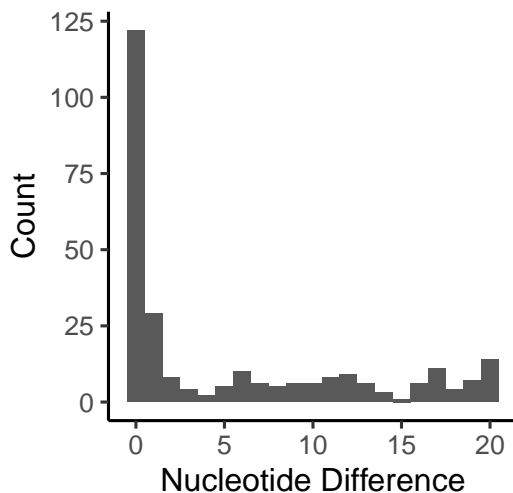
### IGHV1-3\*01

156 sequences assigned  
27 (17.3%) exact matches, in which:  
27 unique CDR3  
3 unique J



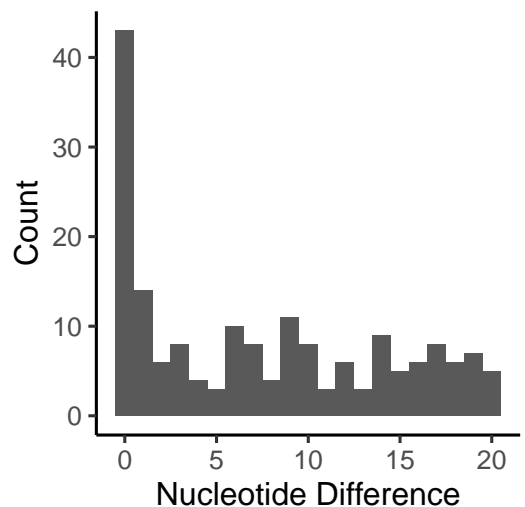
### IGHV1-18\*04

334 sequences assigned  
122 (36.5%) exact matches, in which:  
121 unique CDR3  
4 unique J



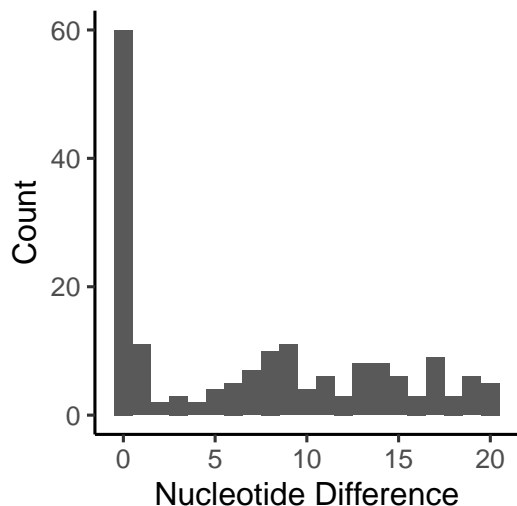
### IGHV1-46\*01

224 sequences assigned  
43 (19.2%) exact matches, in which:  
43 unique CDR3  
5 unique J



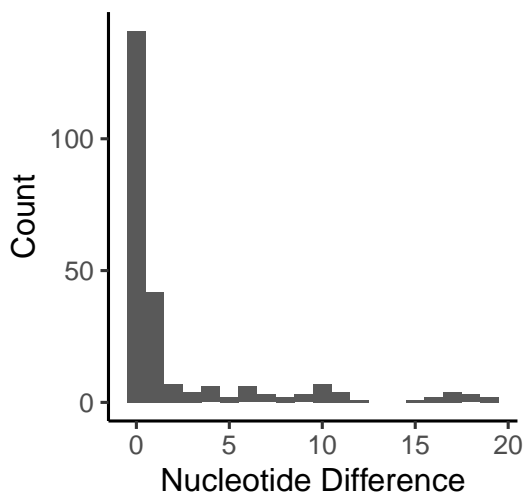
### IGHV1-46\*03

239 sequences assigned  
60 (25.1%) exact matches, in which:  
60 unique CDR3  
5 unique J



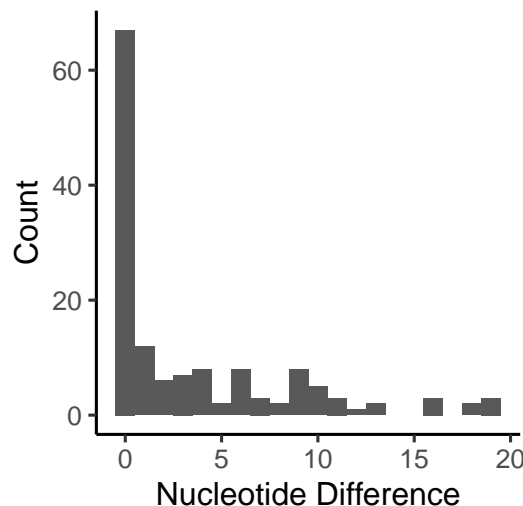
### IGHV1-69\*06

333 sequences assigned  
141 (42.3%) exact matches, in which:  
140 unique CDR3  
6 unique J



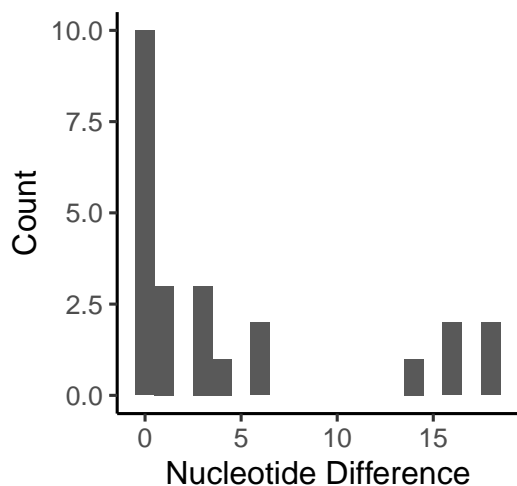
### IGHV2-26\*01

156 sequences assigned  
67 (42.9%) exact matches, in which:  
66 unique CDR3  
5 unique J



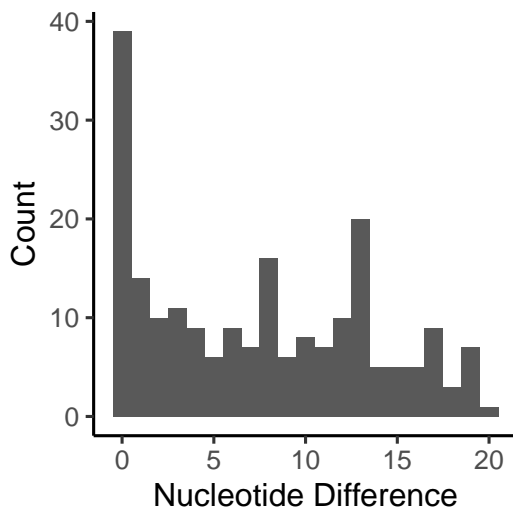
### IGHV1-58\*01

26 sequences assigned  
10 (38.5%) exact matches, in which:  
10 unique CDR3  
3 unique J



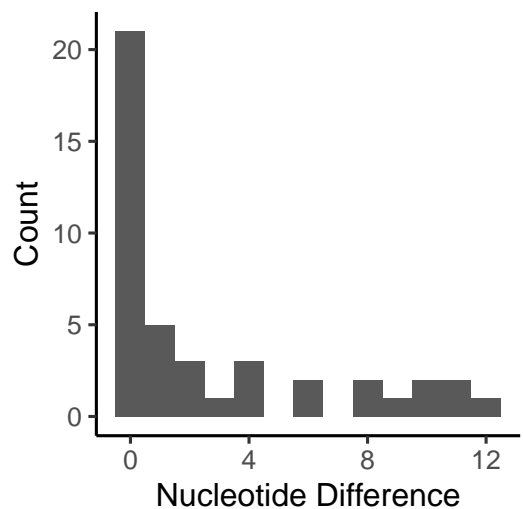
### IGHV2-5\*01

226 sequences assigned  
39 (17.3%) exact matches, in which:  
38 unique CDR3  
5 unique J



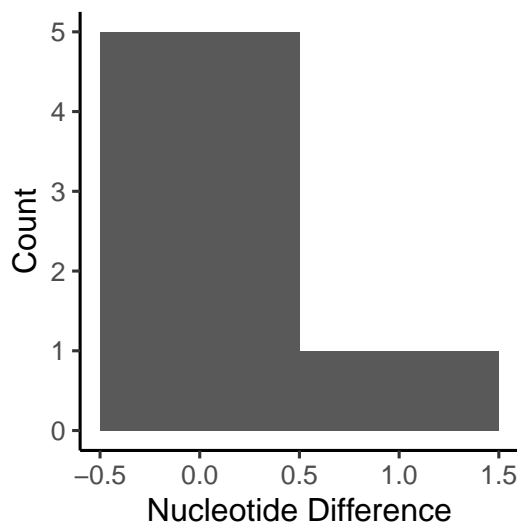
### IGHV2-70\*01

43 sequences assigned  
21 (48.8%) exact matches, in which:  
21 unique CDR3  
4 unique J



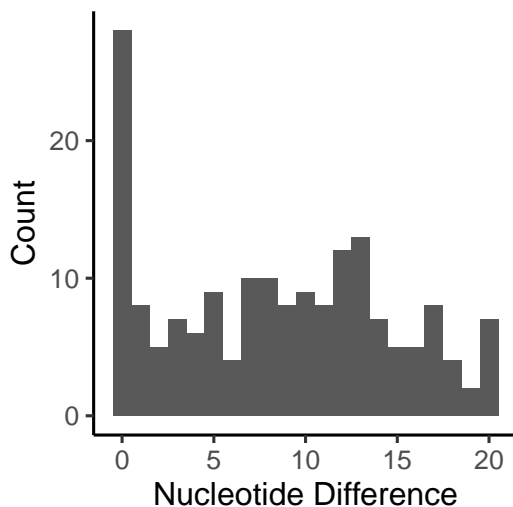
### IGHV1-69-2\*01

15 sequences assigned  
5 (33.3%) exact matches, in which:  
5 unique CDR3  
3 unique J



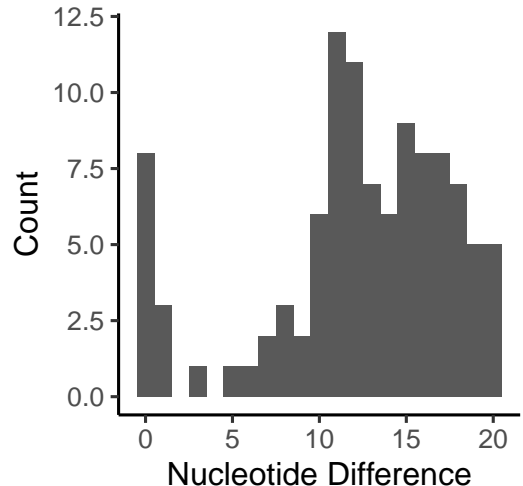
### IGHV2-5\*02

218 sequences assigned  
28 (12.8%) exact matches, in which:  
28 unique CDR3  
4 unique J



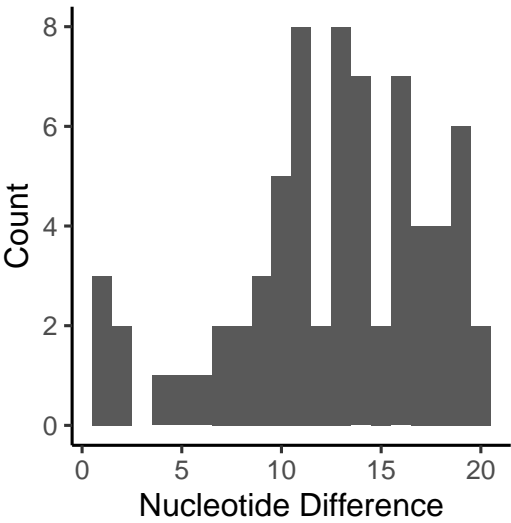
### IGHV3-7\*01

149 sequences assigned  
8 (5.4%) exact matches, in which:  
8 unique CDR3  
6 unique J



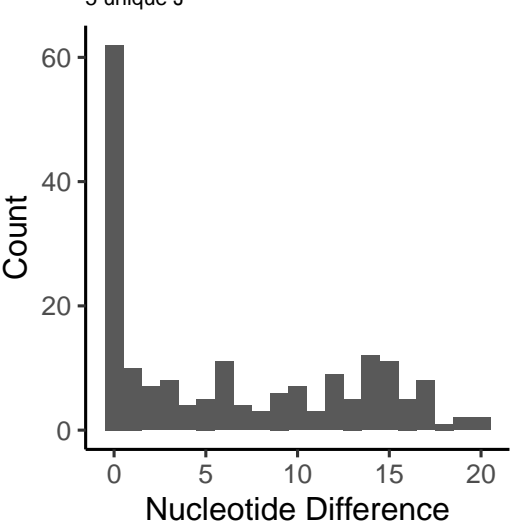
IGHV3-7\*04

101 sequences assigned  
No exact matches.



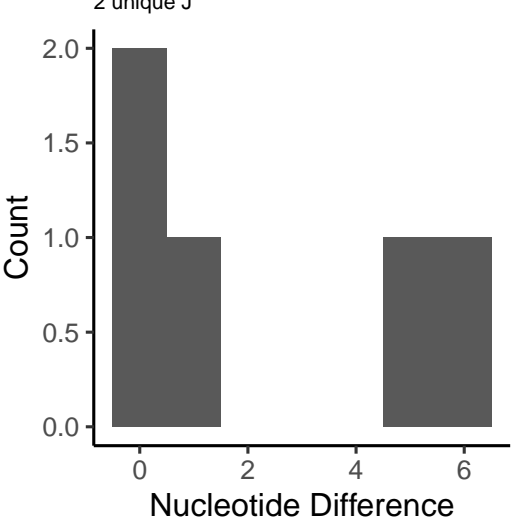
IGHV3-11\*05

249 sequences assigned  
62 (24.9%) exact matches, in which:  
62 unique CDR3  
5 unique J



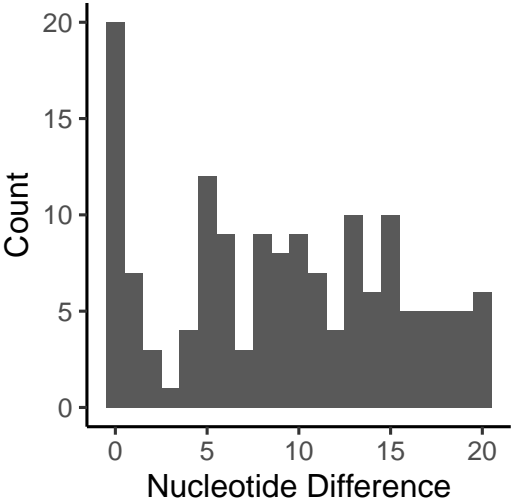
IGHV3-13\*05

6 sequences assigned  
2 (33.3%) exact matches, in which:  
2 unique CDR3  
2 unique J



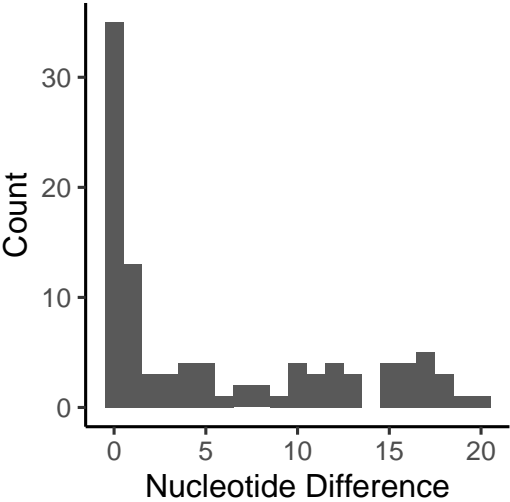
IGHV3-7\*05

190 sequences assigned  
20 (10.5%) exact matches, in which:  
20 unique CDR3  
3 unique J



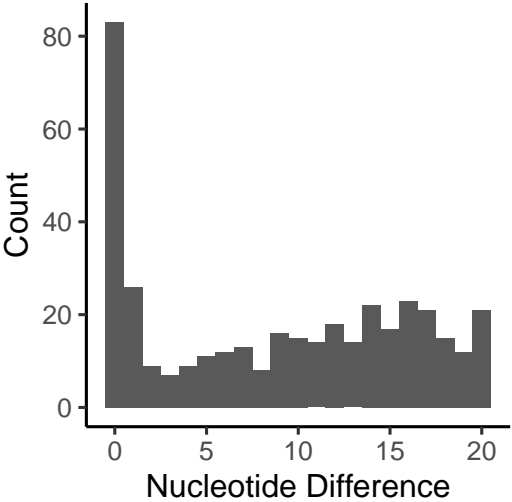
IGHV3-11\*06

147 sequences assigned  
35 (23.8%) exact matches, in which:  
35 unique CDR3  
5 unique J



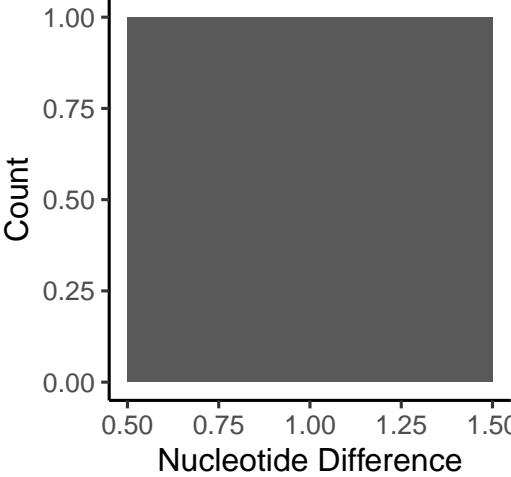
IGHV3-15\*01

523 sequences assigned  
83 (15.9%) exact matches, in which:  
83 unique CDR3  
5 unique J



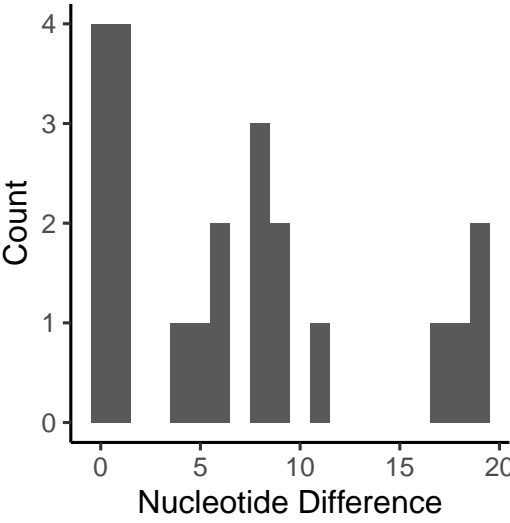
IGHV3-9\*01

1 sequences assigned  
No exact matches.



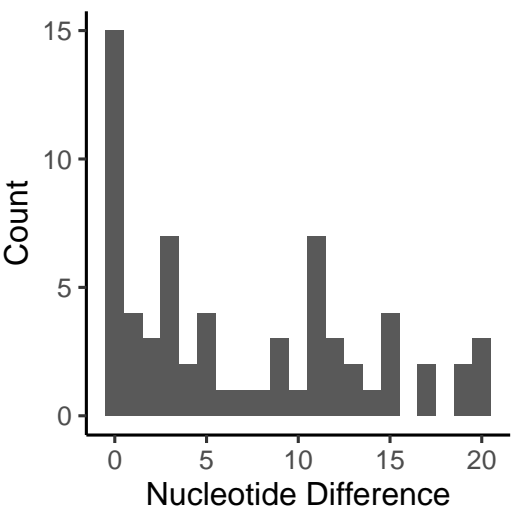
IGHV3-13\*04

31 sequences assigned  
4 (12.9%) exact matches, in which:  
4 unique CDR3  
3 unique J



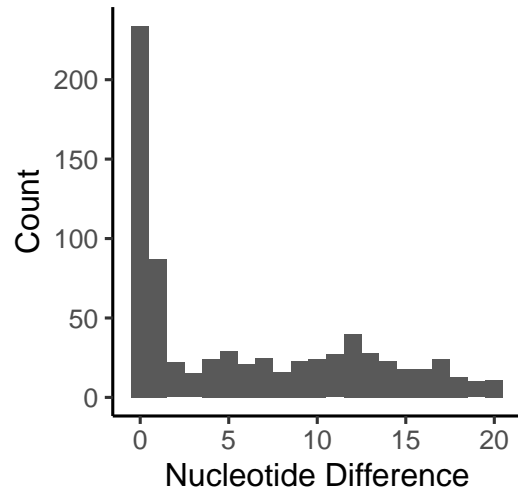
IGHV3-20\*04

86 sequences assigned  
15 (17.4%) exact matches, in which:  
15 unique CDR3  
3 unique J



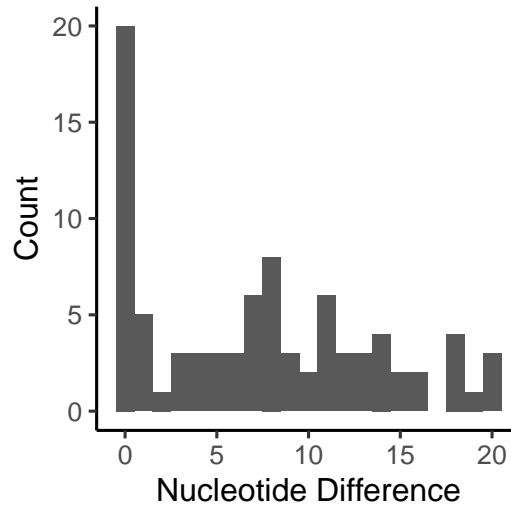
### IGHV3-21\*01

886 sequences assigned  
234 (26.4%) exact matches, in which:  
232 unique CDR3  
6 unique J



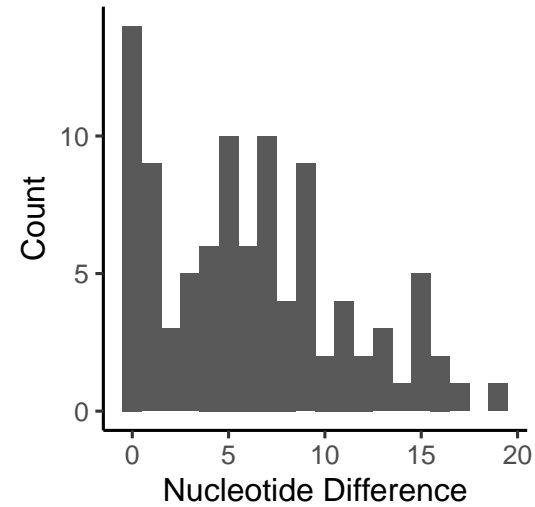
### IGHV3-43\*02

130 sequences assigned  
20 (15.4%) exact matches, in which:  
20 unique CDR3  
4 unique J



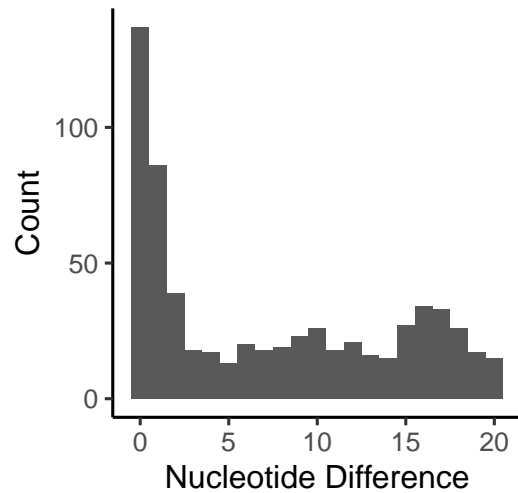
### IGHV3-49\*03

140 sequences assigned  
14 (10%) exact matches, in which:  
14 unique CDR3  
4 unique J



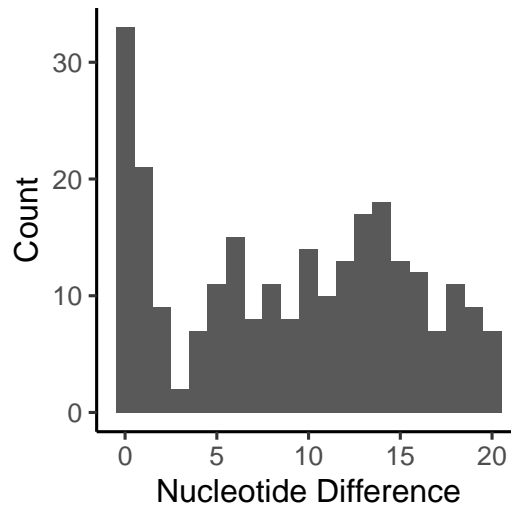
### IGHV3-33\*01

885 sequences assigned  
137 (15.5%) exact matches, in which:  
137 unique CDR3  
6 unique J



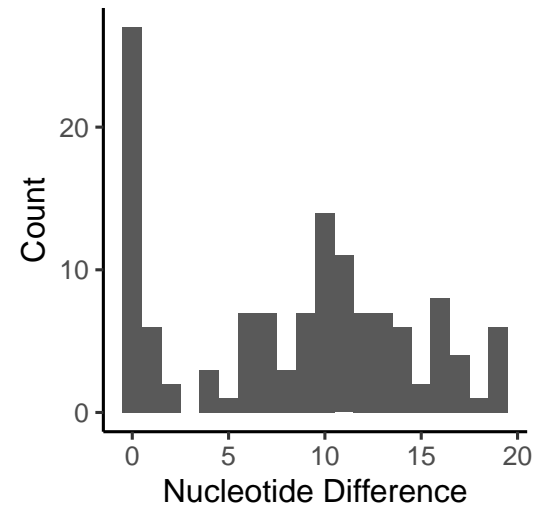
### IGHV3-48\*01

319 sequences assigned  
33 (10.3%) exact matches, in which:  
32 unique CDR3  
5 unique J



### IGHV3-49\*04

166 sequences assigned  
27 (16.3%) exact matches, in which:  
27 unique CDR3  
3 unique J



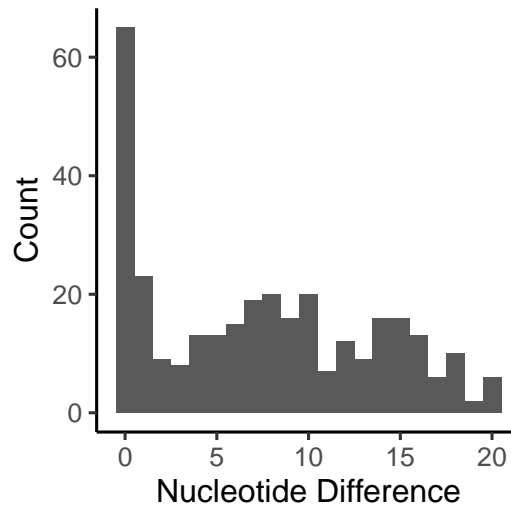
### IGHV3-35\*01

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



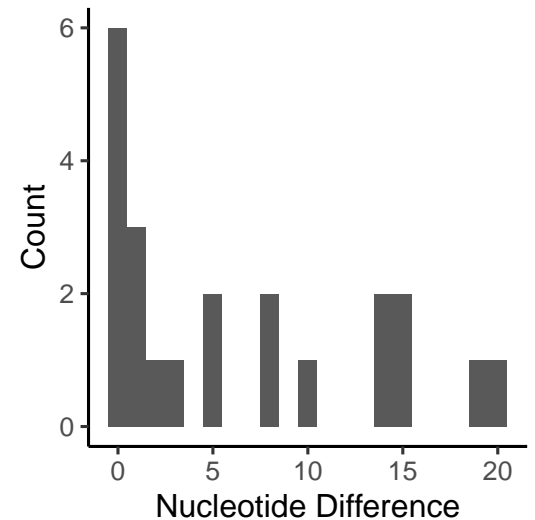
### IGHV3-48\*03

381 sequences assigned  
65 (17.1%) exact matches, in which:  
65 unique CDR3  
4 unique J



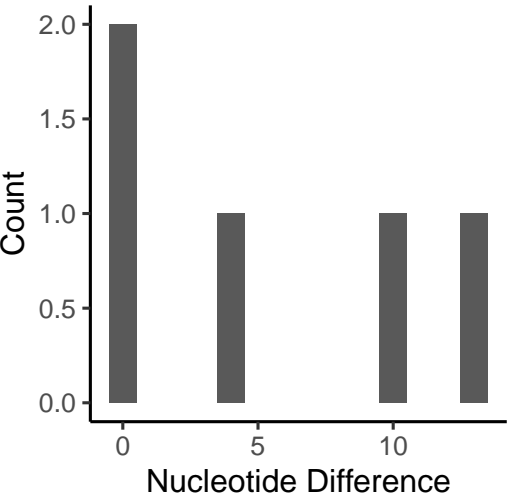
### IGHV3-53\*04

32 sequences assigned  
6 (18.8%) exact matches, in which:  
6 unique CDR3  
4 unique J



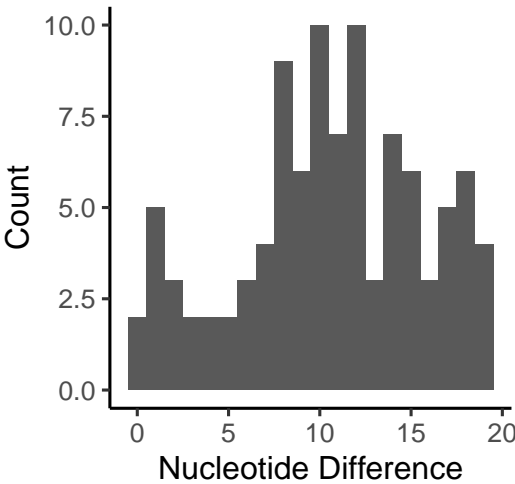
IGHV3-64\*02

6 sequences assigned  
2 (33.3%) exact matches, in which:  
2 unique CDR3  
2 unique J



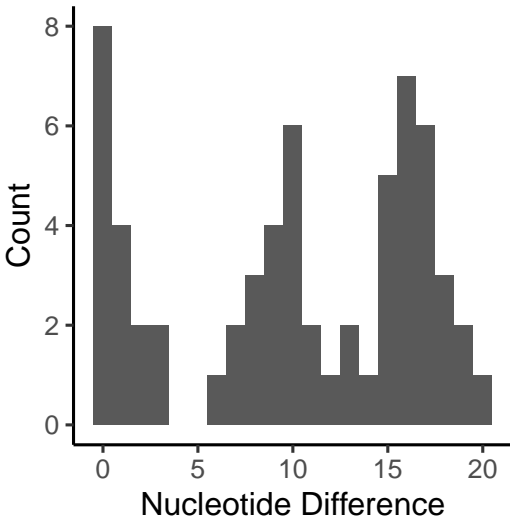
IGHV3-72\*01

116 sequences assigned  
2 (1.7%) exact matches, in which:  
2 unique CDR3  
1 unique J



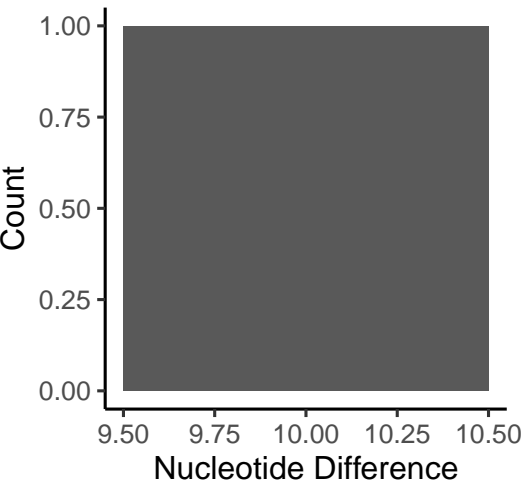
IGHV3-64D\*06

75 sequences assigned  
8 (10.7%) exact matches, in which:  
8 unique CDR3  
2 unique J



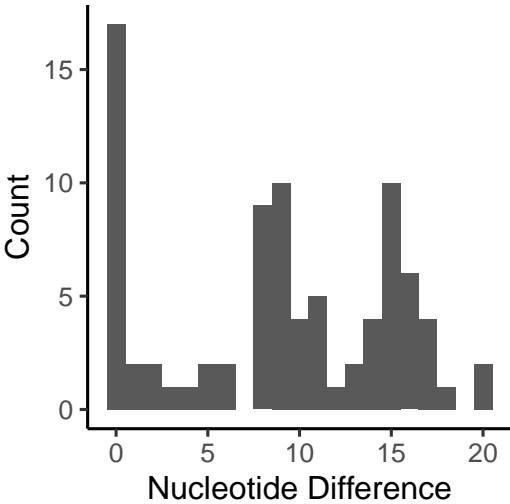
IGHV3-66\*03

1 sequences assigned  
No exact matches.



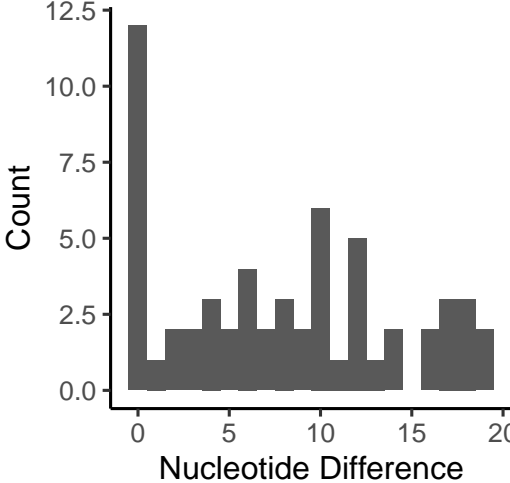
IGHV3-73\*02

97 sequences assigned  
17 (17.5%) exact matches, in which:  
16 unique CDR3  
4 unique J



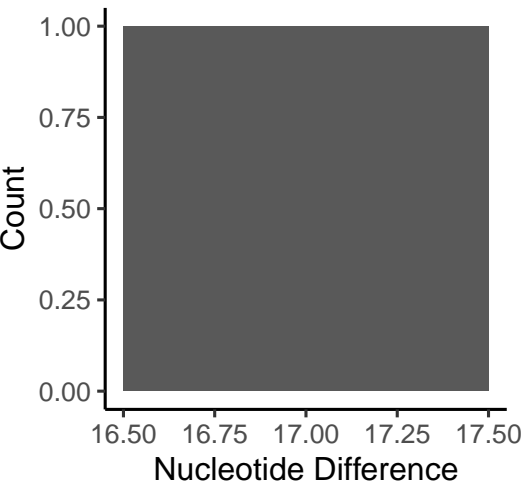
IGHV3-64D\*08

76 sequences assigned  
12 (15.8%) exact matches, in which:  
12 unique CDR3  
3 unique J



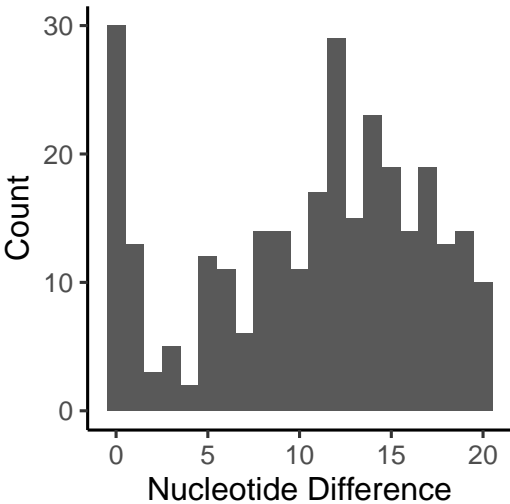
IGHV3-69-1\*01

2 sequences assigned  
No exact matches.



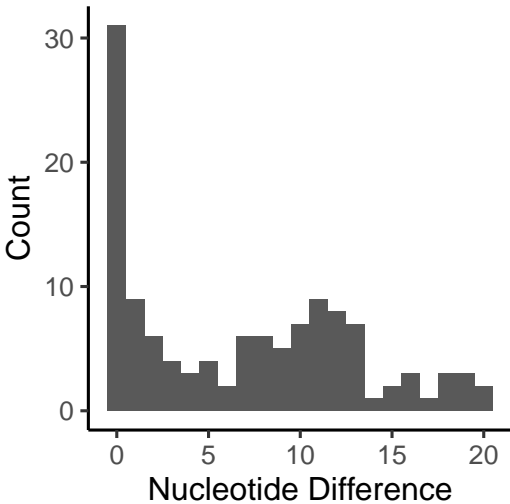
IGHV3-74\*01

376 sequences assigned  
30 (8%) exact matches, in which:  
30 unique CDR3  
5 unique J



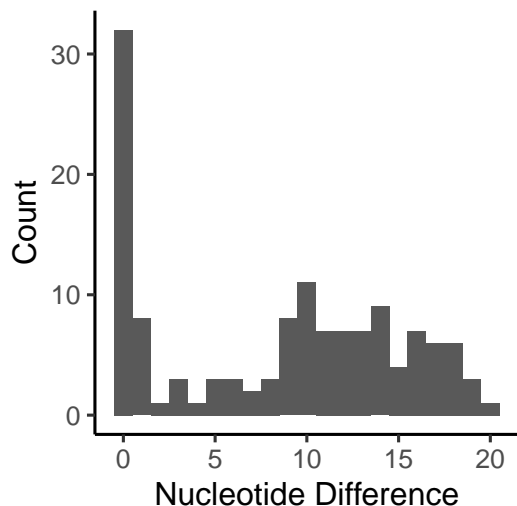
IGHV4-4\*02

175 sequences assigned  
31 (17.7%) exact matches, in which:  
31 unique CDR3  
5 unique J



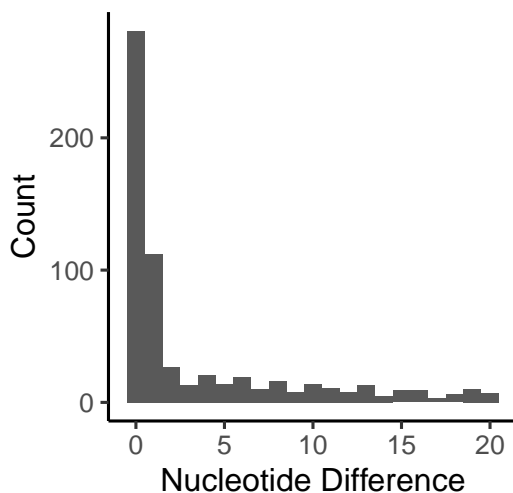
### IGHV4-4\*07

154 sequences assigned  
32 (20.8%) exact matches, in which:  
32 unique CDR3  
5 unique J



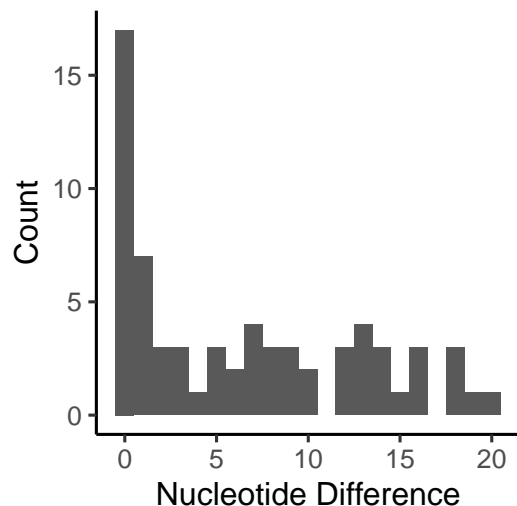
### IGHV4-34\*01

714 sequences assigned  
281 (39.4%) exact matches, in which:  
279 unique CDR3  
6 unique J



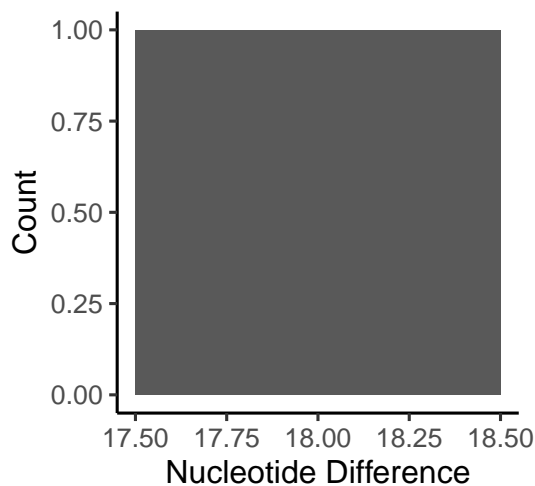
### IGHV4-61\*01

96 sequences assigned  
17 (17.7%) exact matches, in which:  
17 unique CDR3  
4 unique J



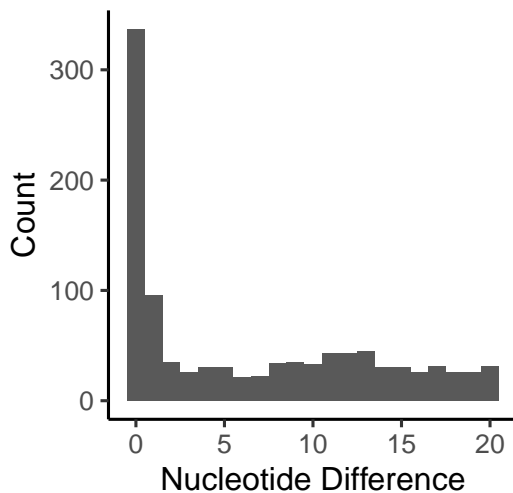
### IGHV4-30-4\*08

1 sequences assigned  
No exact matches.



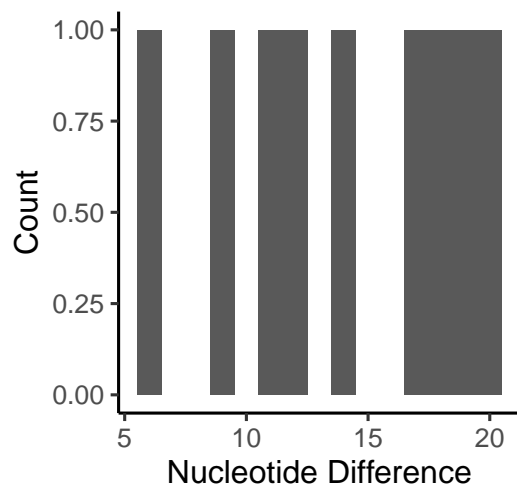
### IGHV4-39\*01

1327 sequences assigned  
337 (25.4%) exact matches, in which:  
335 unique CDR3  
6 unique J



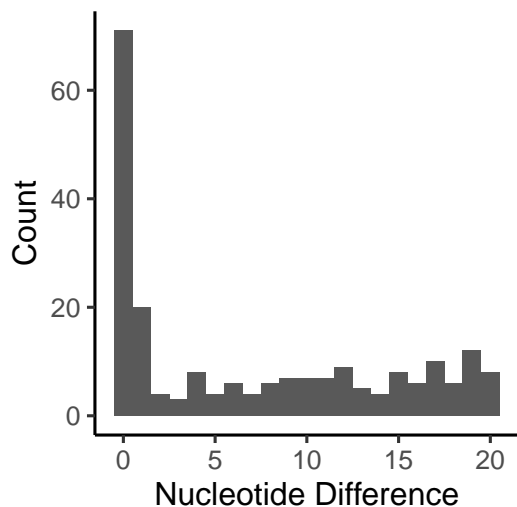
### IGHV4-61\*08

15 sequences assigned  
No exact matches.



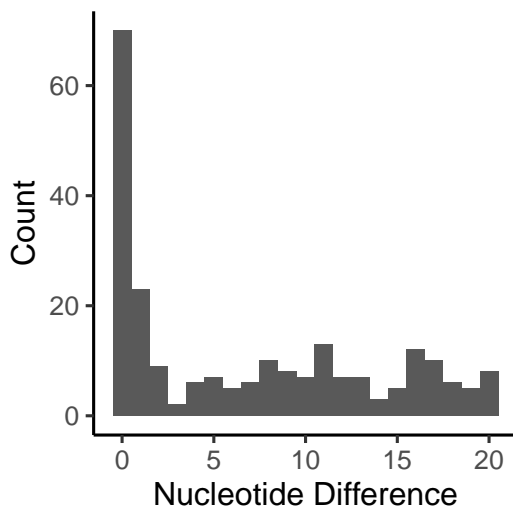
### IGHV4-31\*03

278 sequences assigned  
71 (25.5%) exact matches, in which:  
71 unique CDR3  
5 unique J



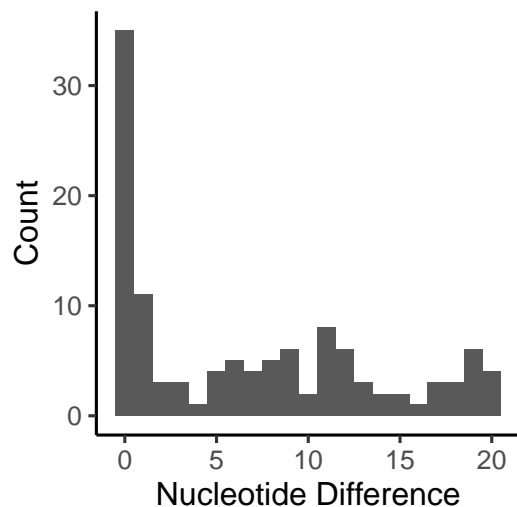
### IGHV4-59\*01

313 sequences assigned  
70 (22.4%) exact matches, in which:  
70 unique CDR3  
6 unique J



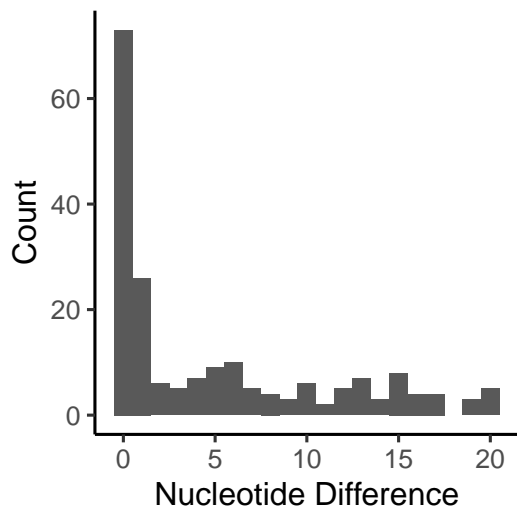
### IGHV5-10-1\*01

143 sequences assigned  
35 (24.5%) exact matches, in which:  
35 unique CDR3  
5 unique J



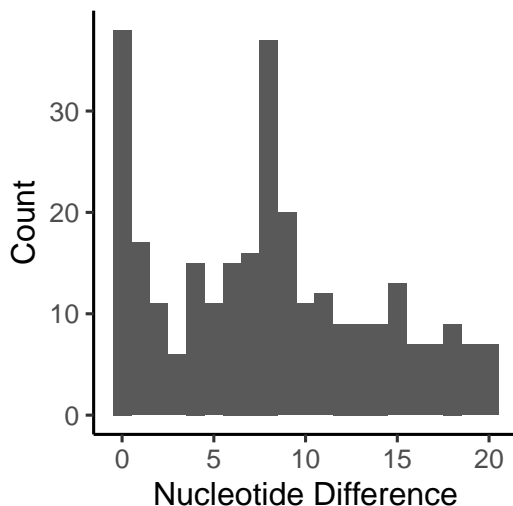
## IGHV5-10-1\*03

231 sequences assigned  
73 (31.6%) exact matches, in which:  
73 unique CDR3  
4 unique J



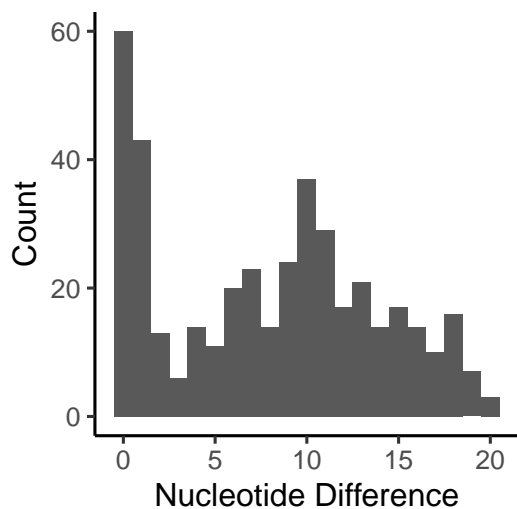
## IGHV6-1\*01

313 sequences assigned  
38 (12.1%) exact matches, in which:  
34 unique CDR3  
5 unique J



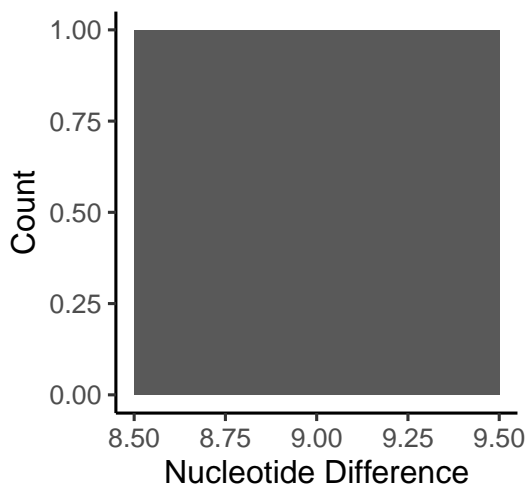
## IGHV5-51\*01

506 sequences assigned  
60 (11.9%) exact matches, in which:  
60 unique CDR3  
6 unique J



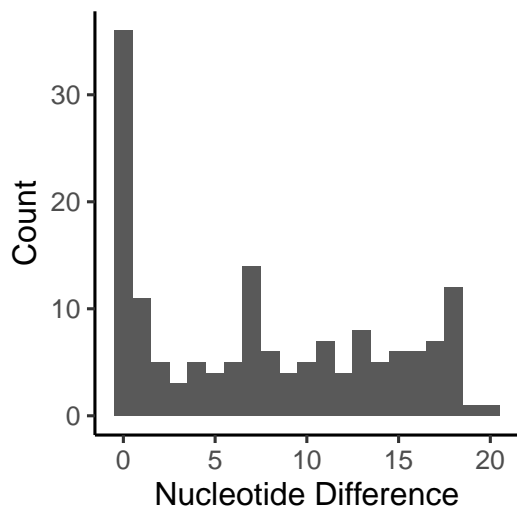
## IGHV3/OR16-9\*01

1 sequences assigned  
No exact matches.



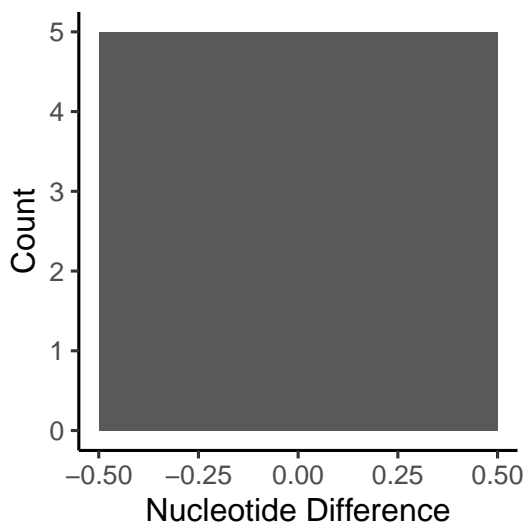
## IGHV5-51\*03

184 sequences assigned  
36 (19.6%) exact matches, in which:  
36 unique CDR3  
5 unique J



## IGHV7-4-1\*01

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







[illegible]