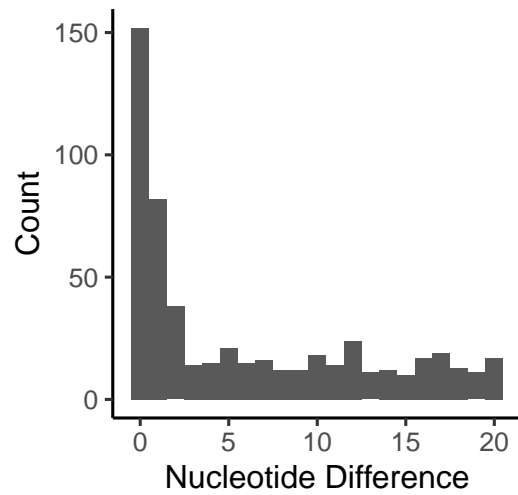


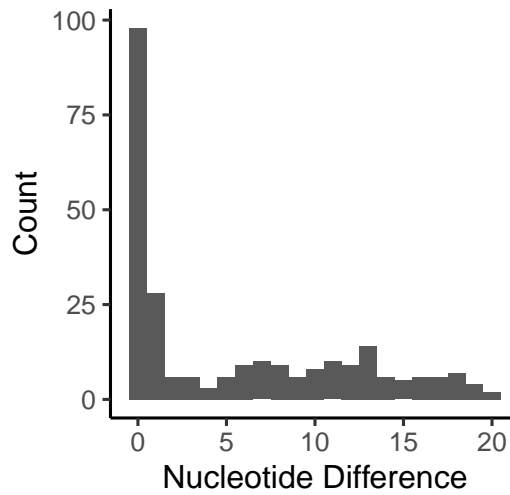
### IGHV1-2\*02

707 sequences assigned  
152 (21.5%) exact matches, in which:  
151 unique CDR3  
6 unique J



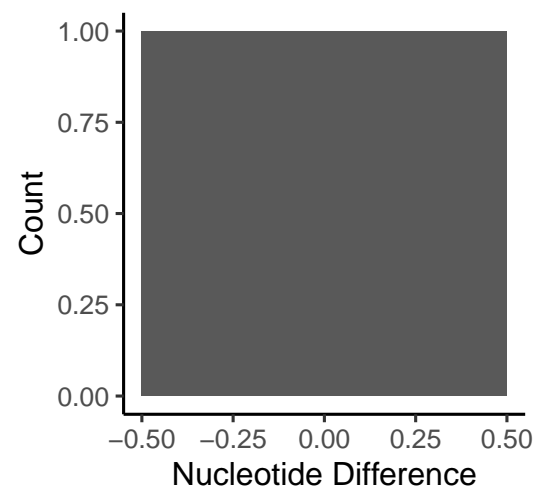
### IGHV1-18\*01

344 sequences assigned  
98 (28.5%) exact matches, in which:  
98 unique CDR3  
5 unique J



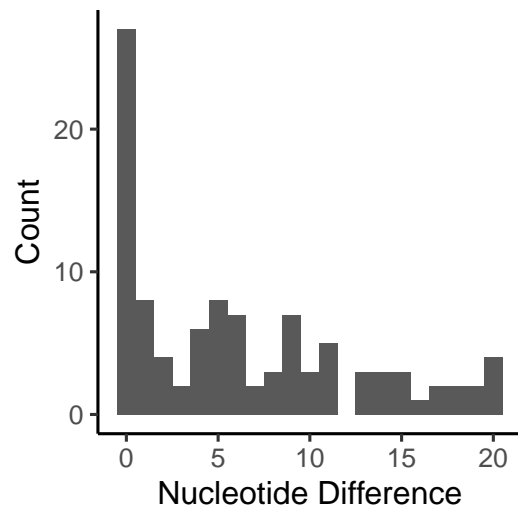
### IGHV1-45\*02

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



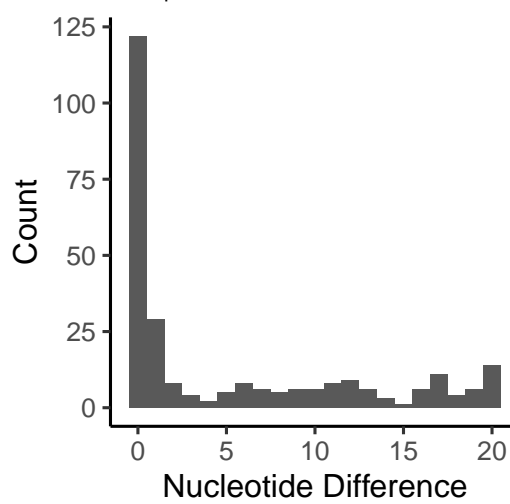
### IGHV1-3\*01

148 sequences assigned  
27 (18.2%) exact matches, in which:  
27 unique CDR3  
3 unique J



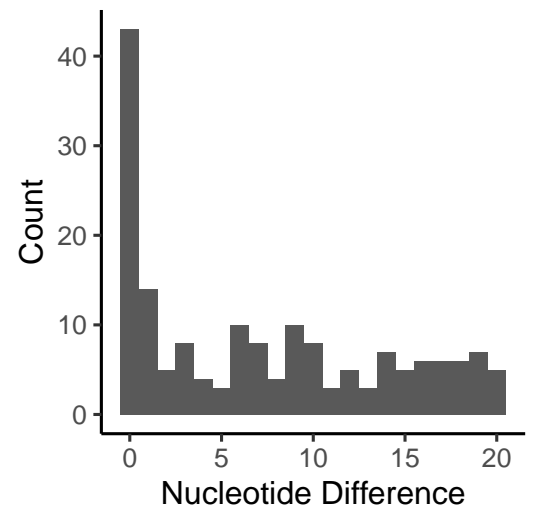
### IGHV1-18\*04

330 sequences assigned  
122 (37%) exact matches, in which:  
121 unique CDR3  
4 unique J



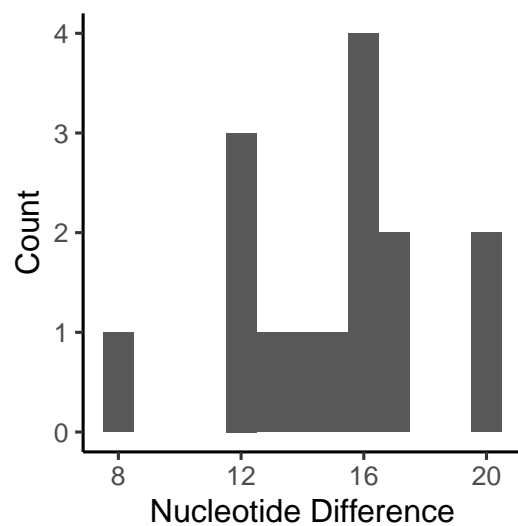
### IGHV1-46\*01

215 sequences assigned  
43 (20%) exact matches, in which:  
43 unique CDR3  
5 unique J



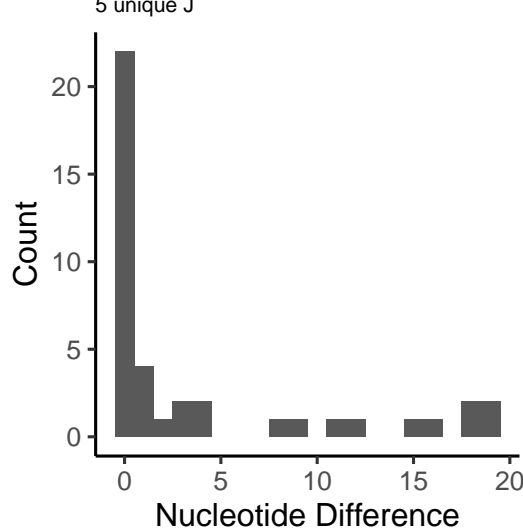
### IGHV1-3\*04

25 sequences assigned  
No exact matches.



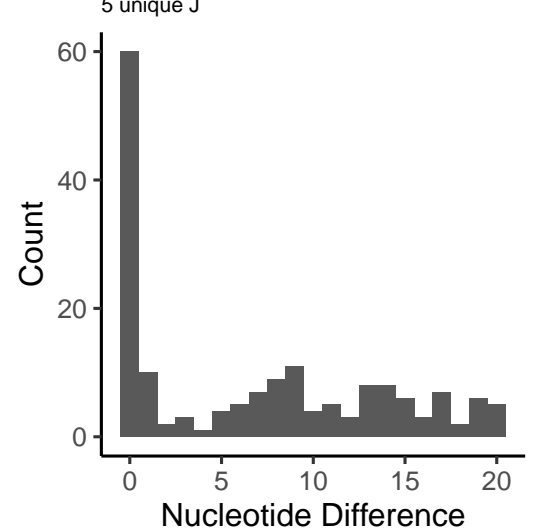
### IGHV1-24\*01

48 sequences assigned  
22 (45.8%) exact matches, in which:  
22 unique CDR3  
5 unique J



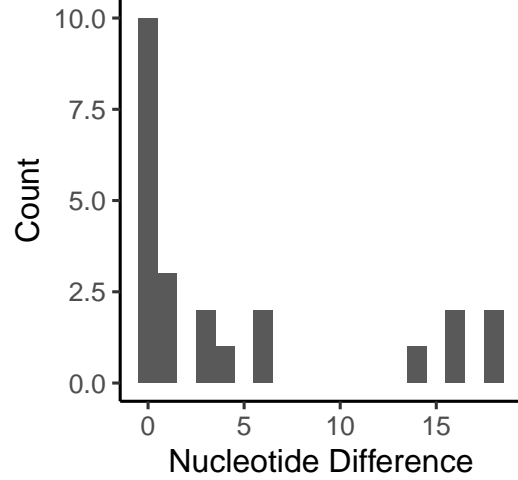
### IGHV1-46\*03

227 sequences assigned  
60 (26.4%) exact matches, in which:  
60 unique CDR3  
5 unique J



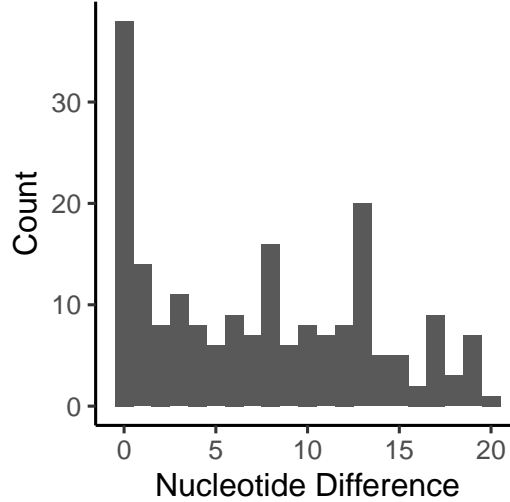
### IGHV1-58\*01

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



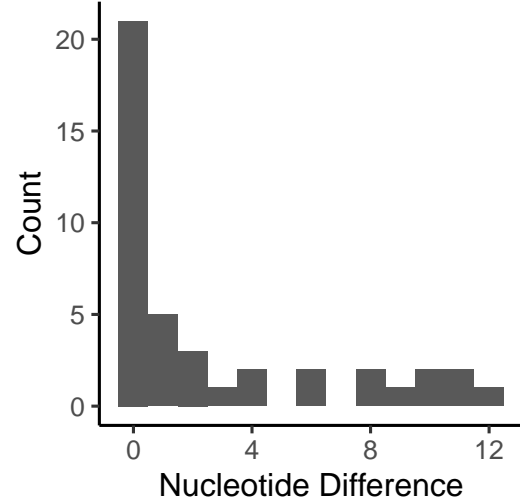
### IGHV2-5\*01

215 sequences assigned  
38 (17.7%) exact matches, in which:  
38 unique CDR3  
5 unique J



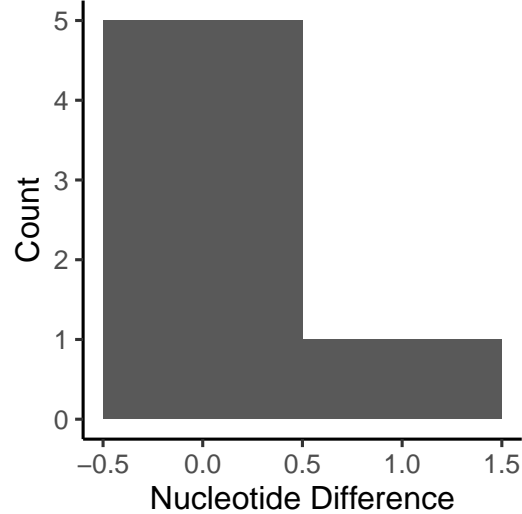
### IGHV2-70\*01

42 sequences assigned  
21 (50%) exact matches, in which:  
21 unique CDR3  
4 unique J



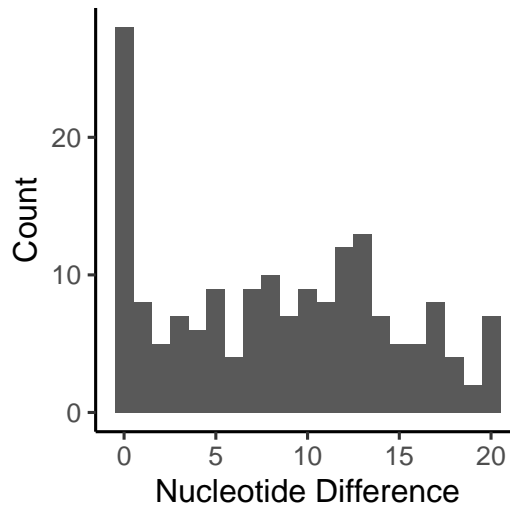
### IGHV1-69-2\*01

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



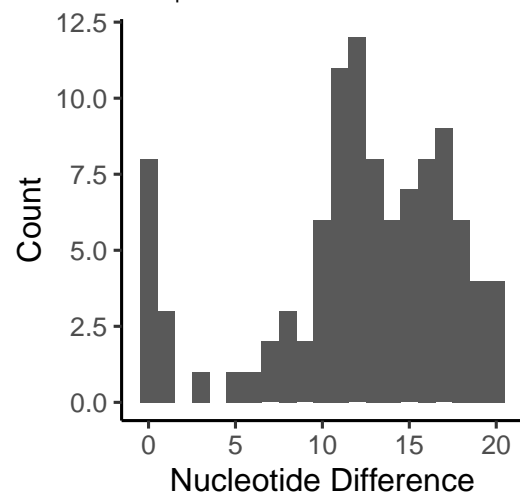
### IGHV2-5\*02

216 sequences assigned  
28 (13%) exact matches, in which:  
28 unique CDR3  
4 unique J



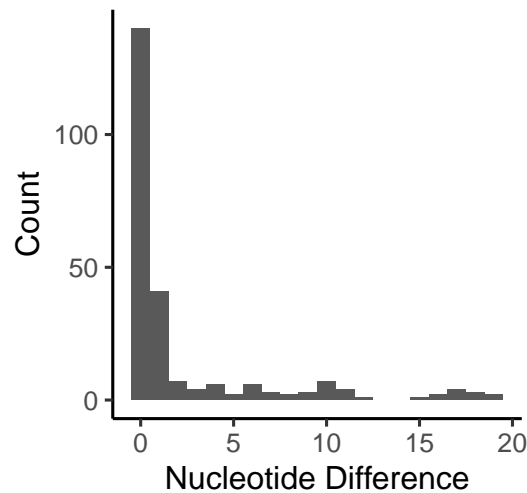
### IGHV3-7\*01

137 sequences assigned  
8 (5.8%) exact matches, in which:  
8 unique CDR3  
6 unique J



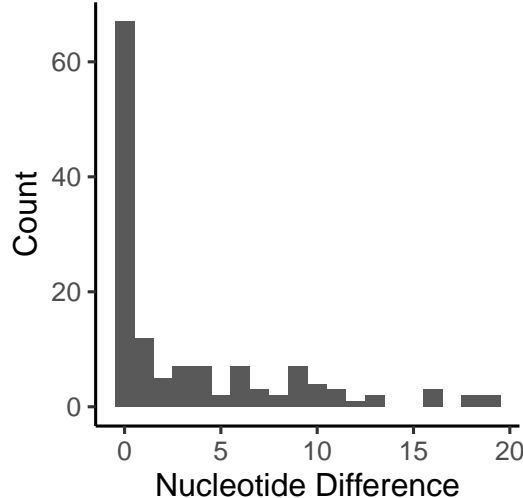
### IGHV1-69\*06

320 sequences assigned  
140 (43.8%) exact matches, in which:  
140 unique CDR3  
6 unique J



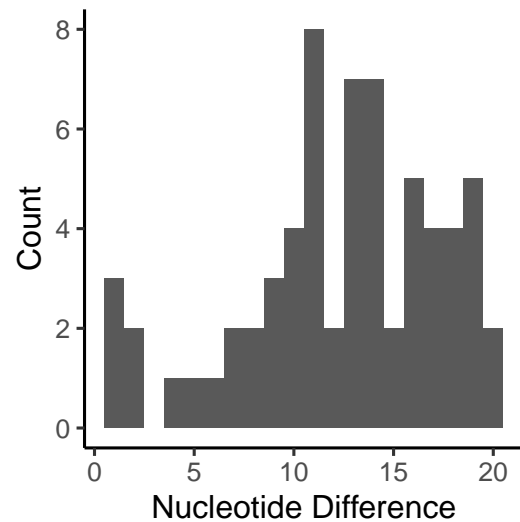
### IGHV2-26\*01

147 sequences assigned  
67 (45.6%) exact matches, in which:  
67 unique CDR3  
5 unique J



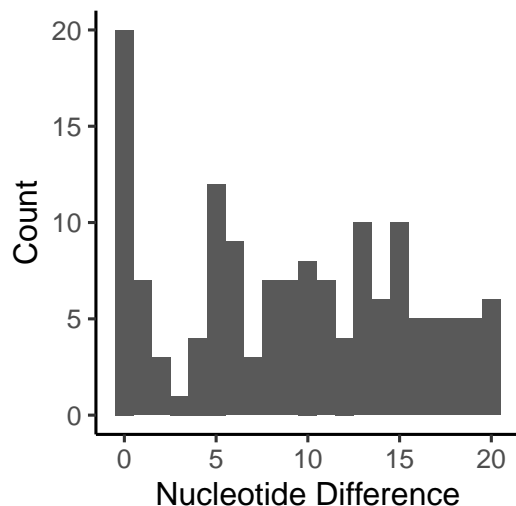
### IGHV3-7\*04

94 sequences assigned  
No exact matches.



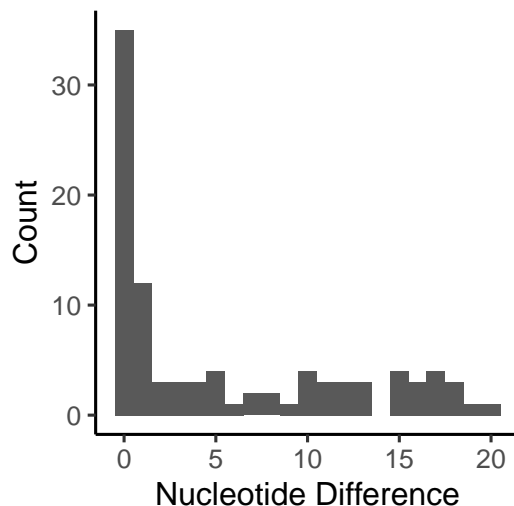
### IGHV3-7\*05

181 sequences assigned  
20 (11%) exact matches, in which:  
20 unique CDR3  
3 unique J



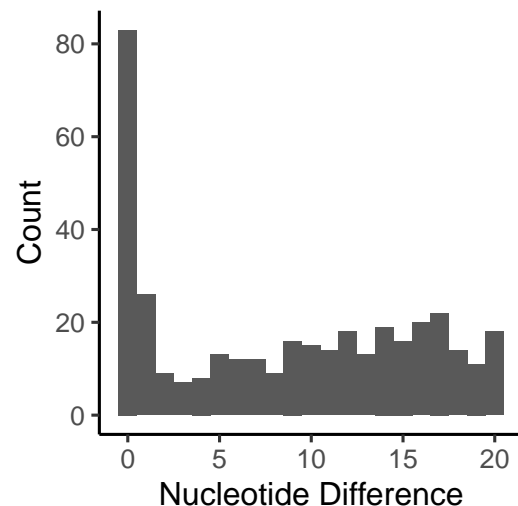
### IGHV3-11\*06

133 sequences assigned  
35 (26.3%) exact matches, in which:  
35 unique CDR3  
5 unique J



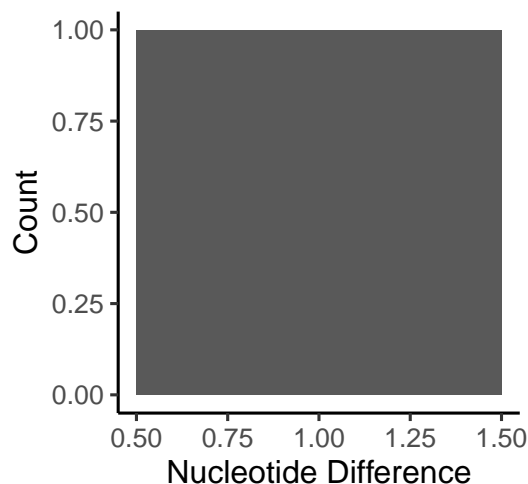
### IGHV3-15\*01

501 sequences assigned  
83 (16.6%) exact matches, in which:  
83 unique CDR3  
5 unique J



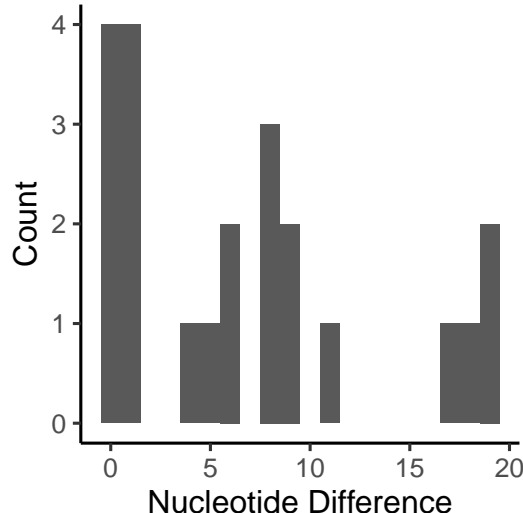
### IGHV3-9\*01

1 sequences assigned  
No exact matches.



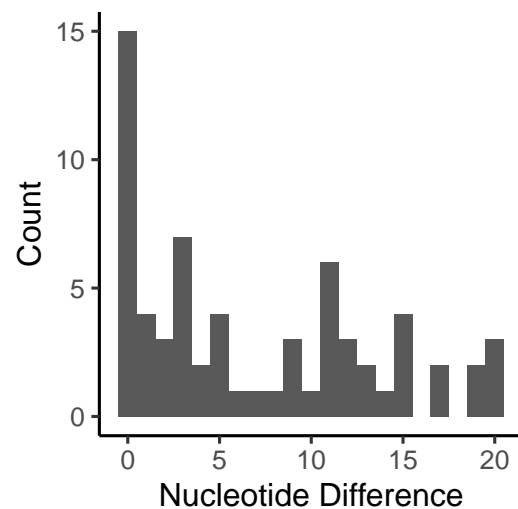
### IGHV3-13\*04

30 sequences assigned  
4 (13.3%) exact matches, in which:  
4 unique CDR3  
3 unique J



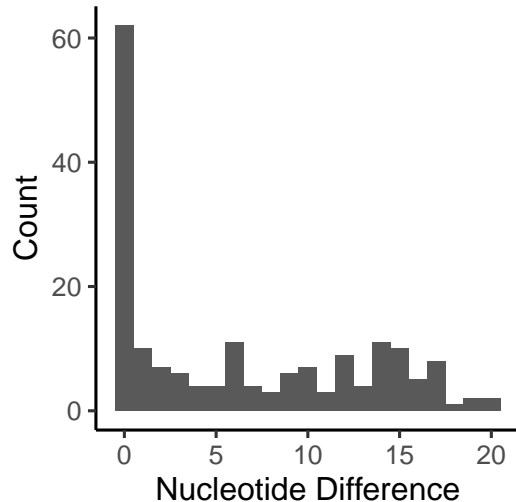
### IGHV3-20\*04

82 sequences assigned  
15 (18.3%) exact matches, in which:  
15 unique CDR3  
3 unique J



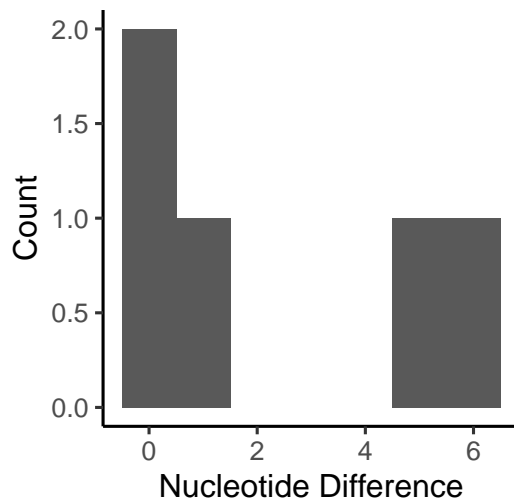
### IGHV3-11\*05

237 sequences assigned  
62 (26.2%) exact matches, in which:  
62 unique CDR3  
5 unique J



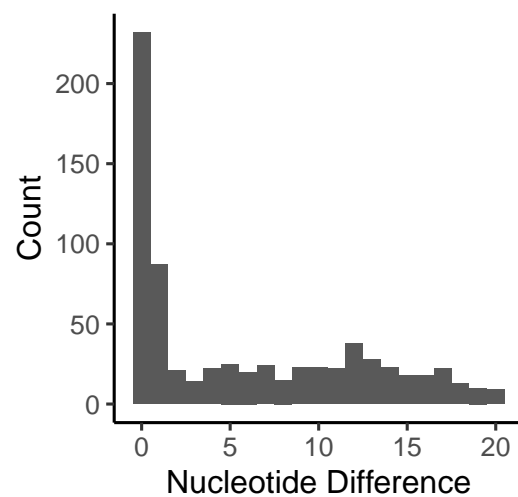
### IGHV3-13\*05

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



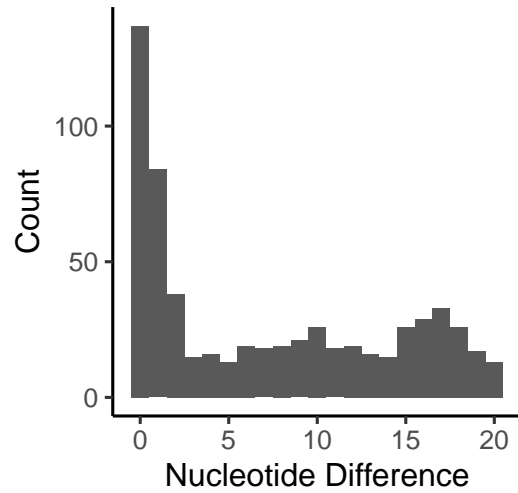
### IGHV3-21\*01

852 sequences assigned  
232 (27.2%) exact matches, in which:  
232 unique CDR3  
6 unique J



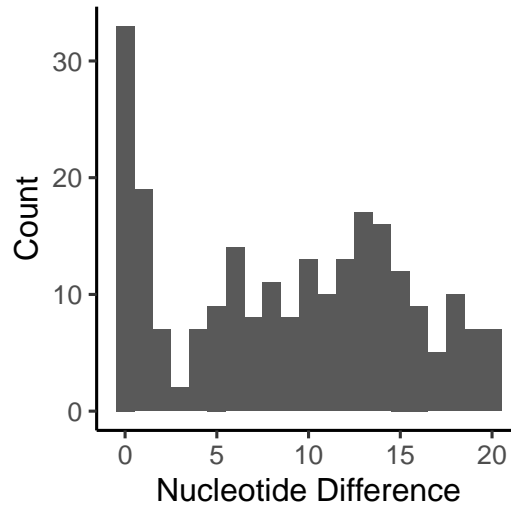
### IGHV3-33\*01

822 sequences assigned  
137 (16.7%) exact matches, in which:  
137 unique CDR3  
6 unique J



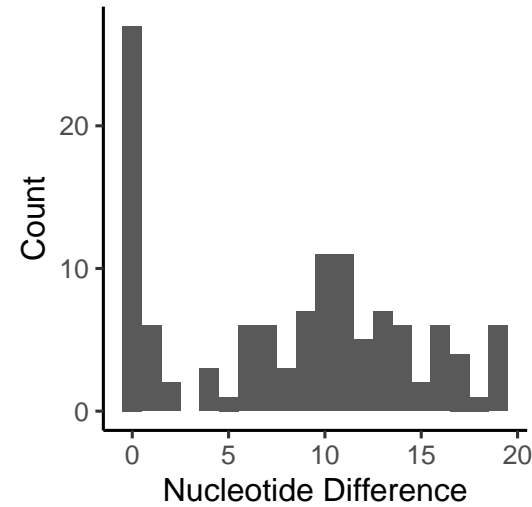
### IGHV3-48\*01

295 sequences assigned  
33 (11.2%) exact matches, in which:  
32 unique CDR3  
5 unique J



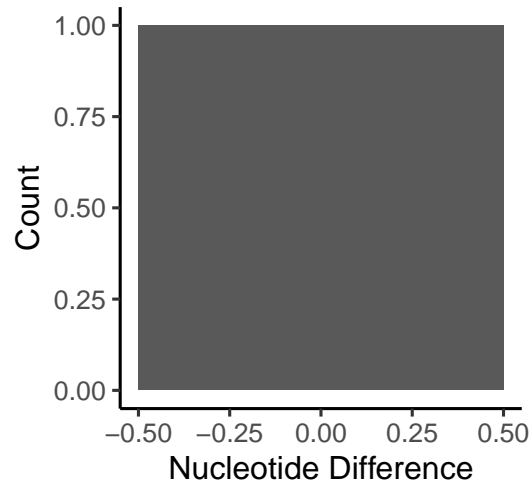
### IGHV3-49\*04

153 sequences assigned  
27 (17.6%) exact matches, in which:  
27 unique CDR3  
3 unique J



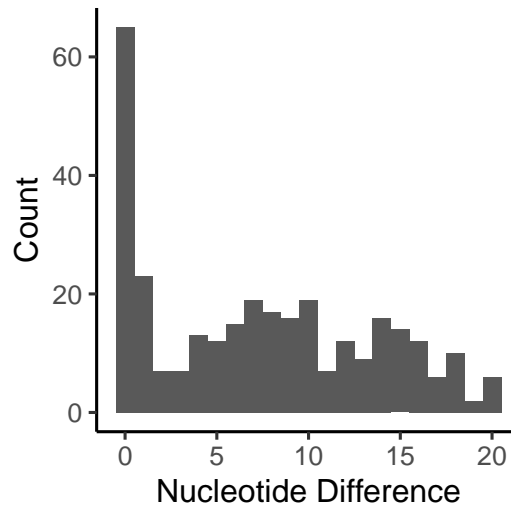
### IGHV3-35\*01

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



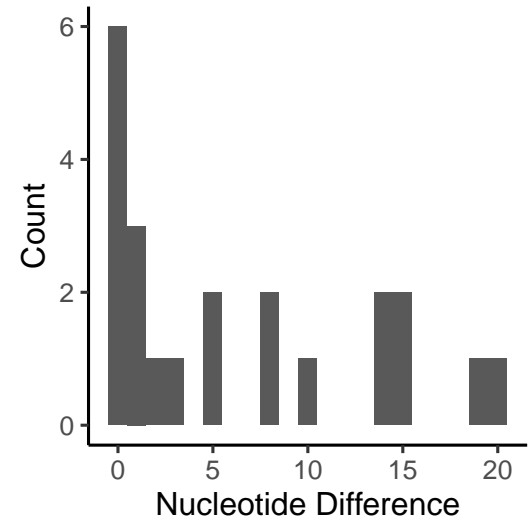
### IGHV3-48\*03

361 sequences assigned  
65 (18%) exact matches, in which:  
65 unique CDR3  
4 unique J



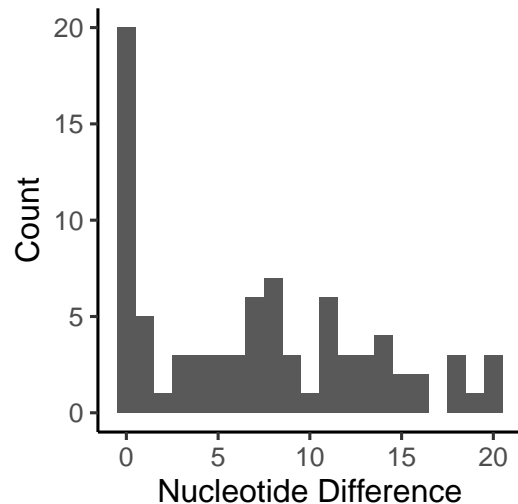
### IGHV3-53\*04

31 sequences assigned  
6 (19.4%) exact matches, in which:  
6 unique CDR3  
4 unique J



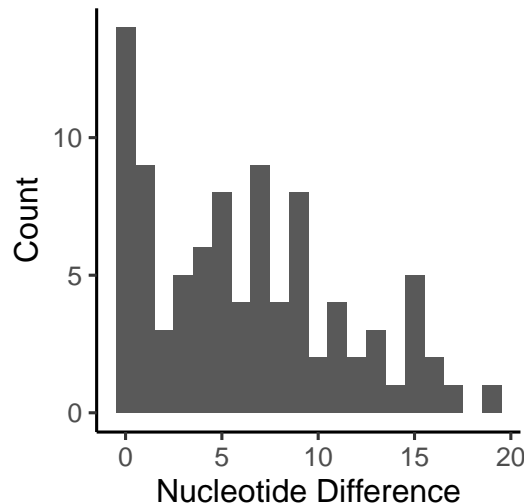
### IGHV3-43\*02

122 sequences assigned  
20 (16.4%) exact matches, in which:  
20 unique CDR3  
4 unique J



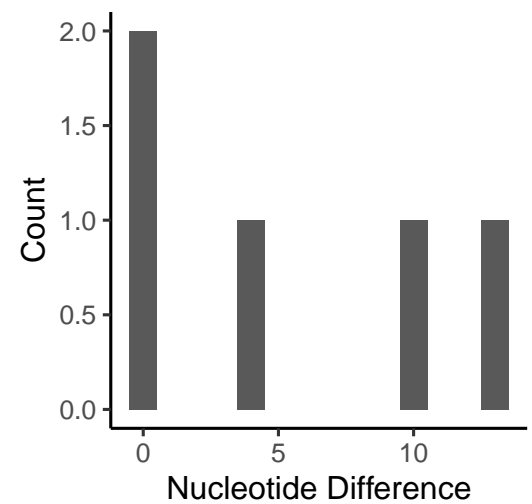
### IGHV3-49\*03

127 sequences assigned  
14 (11%) exact matches, in which:  
14 unique CDR3  
4 unique J



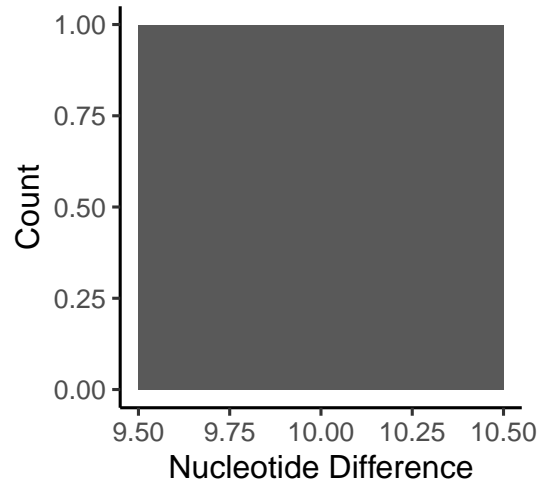
### IGHV3-64\*02

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



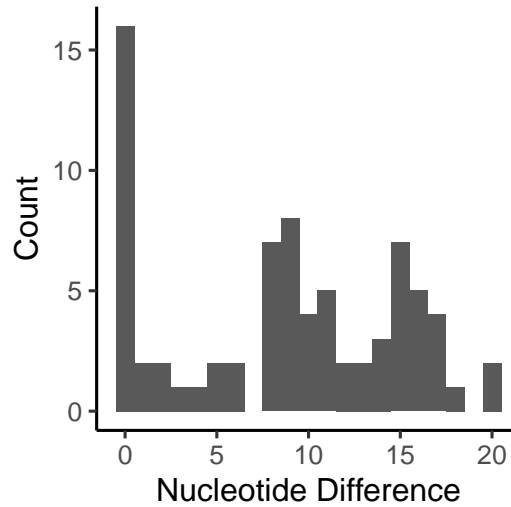
### IGHV3-66\*03

1 sequences assigned  
No exact matches.



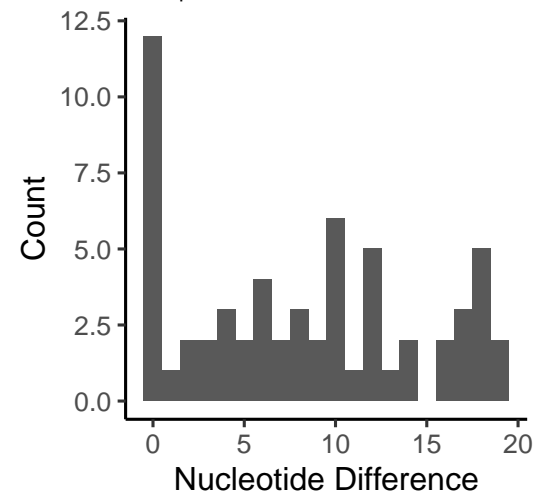
### IGHV3-73\*02

87 sequences assigned  
16 (18.4%) exact matches, in which:  
16 unique CDR3  
4 unique J



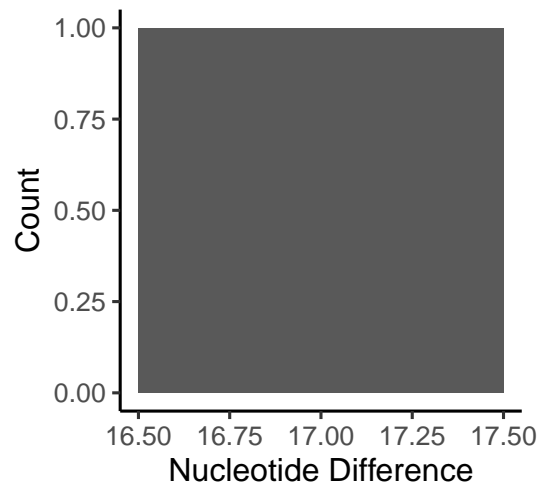
### IGHV3-64D\*08

78 sequences assigned  
12 (15.4%) exact matches, in which:  
12 unique CDR3  
3 unique J



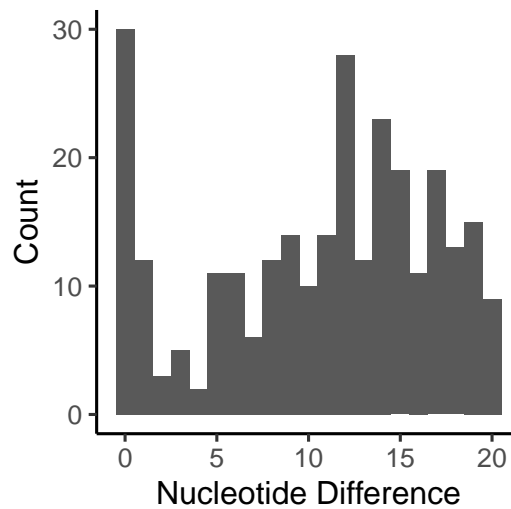
### IGHV3-69-1\*01

2 sequences assigned  
No exact matches.



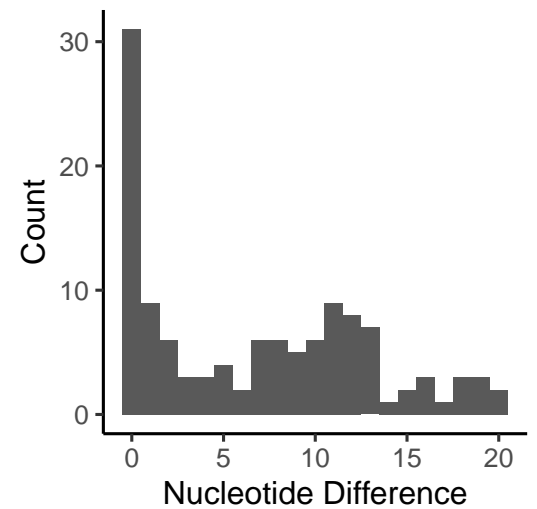
### IGHV3-74\*01

352 sequences assigned  
30 (8.5%) exact matches, in which:  
30 unique CDR3  
5 unique J



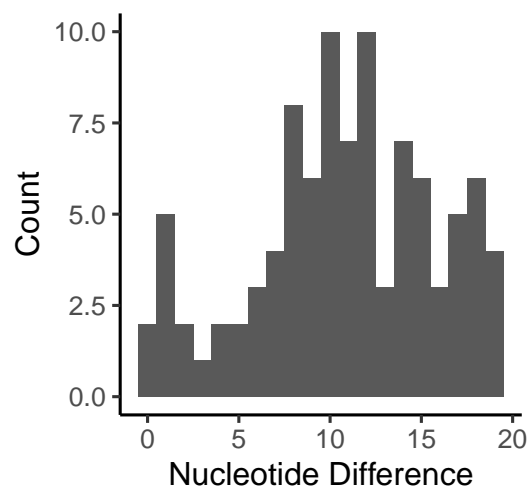
### IGHV4-4\*02

172 sequences assigned  
31 (18%) exact matches, in which:  
31 unique CDR3  
5 unique J



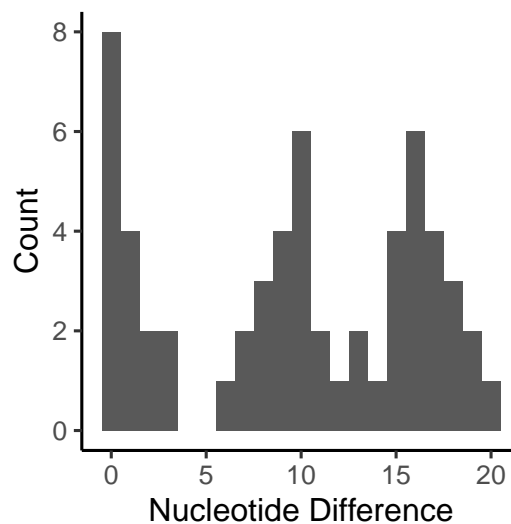
### IGHV3-72\*01

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



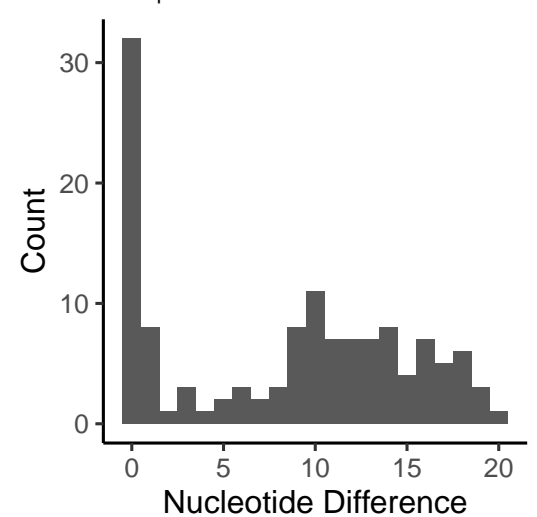
### IGHV3-64D\*06

69 sequences assigned  
8 (11.6%) exact matches, in which:  
8 unique CDR3  
2 unique J



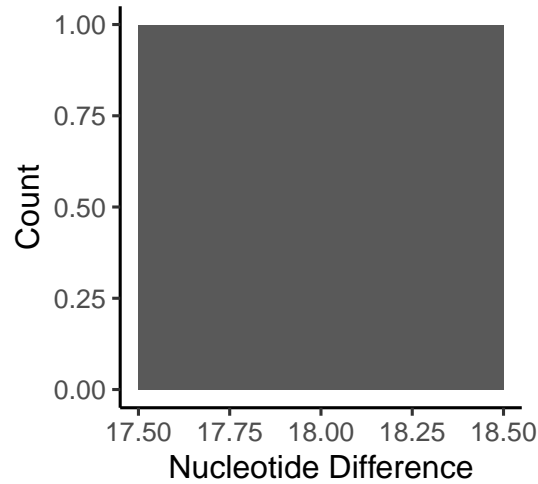
### IGHV4-4\*07

148 sequences assigned  
32 (21.6%) exact matches, in which:  
32 unique CDR3  
5 unique J



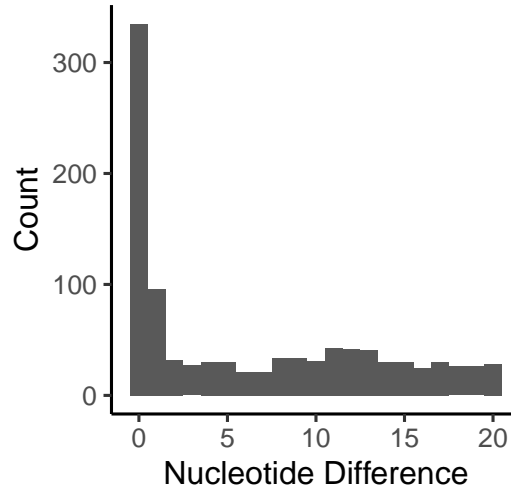
### IGHV4-30-4\*08

1 sequences assigned  
No exact matches.



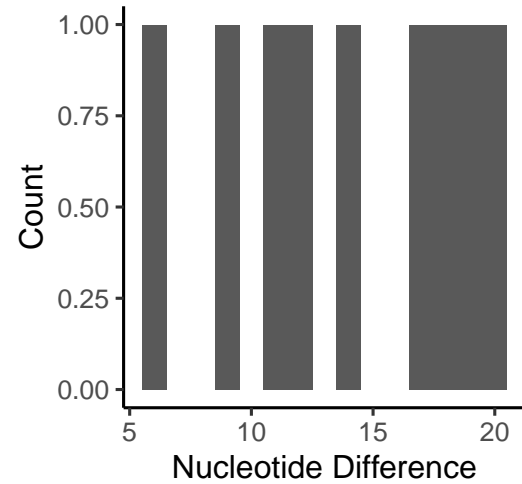
### IGHV4-39\*01

1291 sequences assigned  
335 (25.9%) exact matches, in which:  
335 unique CDR3  
6 unique J



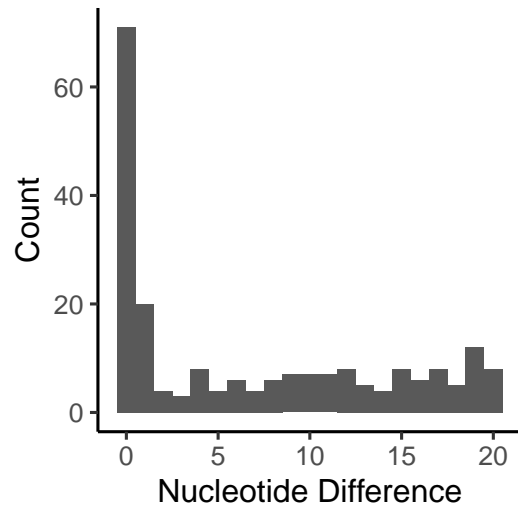
### IGHV4-61\*08

13 sequences assigned  
No exact matches.



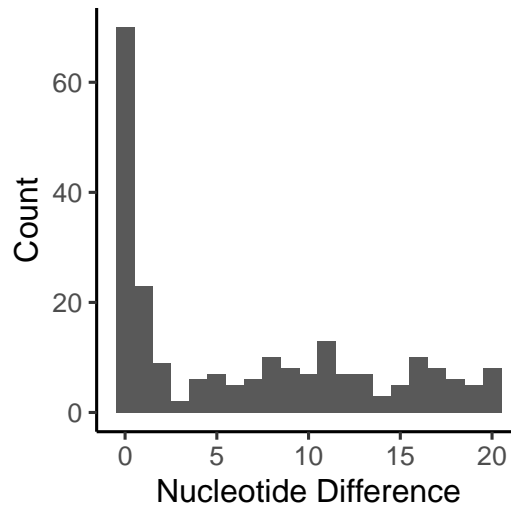
### IGHV4-31\*03

271 sequences assigned  
71 (26.2%) exact matches, in which:  
71 unique CDR3  
5 unique J



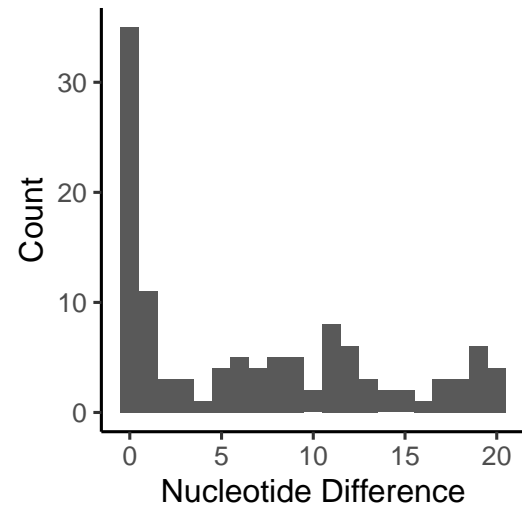
### IGHV4-59\*01

304 sequences assigned  
70 (23%) exact matches, in which:  
70 unique CDR3  
6 unique J



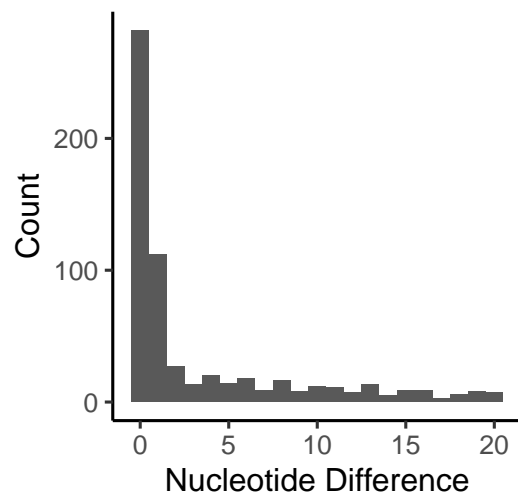
### IGHV5-10-1\*01

139 sequences assigned  
35 (25.2%) exact matches, in which:  
35 unique CDR3  
5 unique J



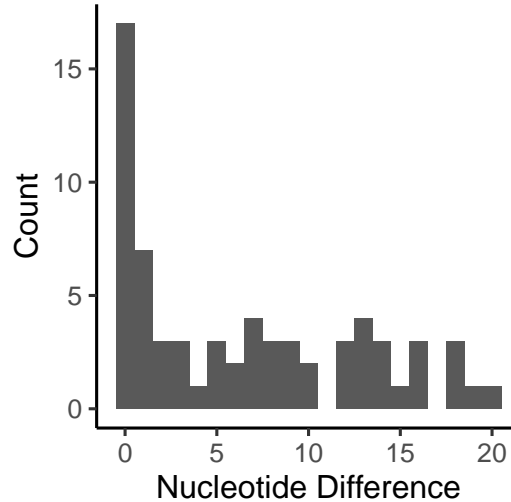
### IGHV4-34\*01

703 sequences assigned  
282 (40.1%) exact matches, in which:  
280 unique CDR3  
6 unique J



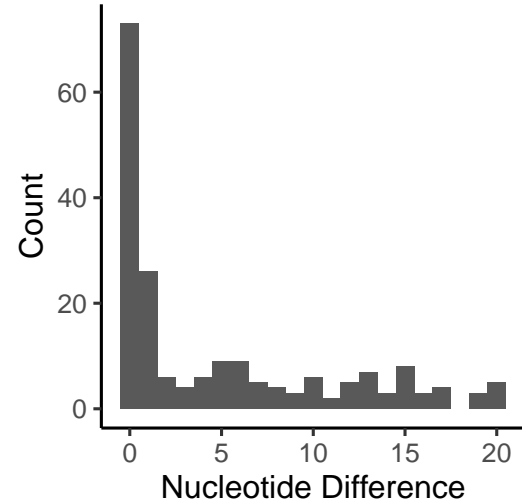
### IGHV4-61\*01

94 sequences assigned  
17 (18.1%) exact matches, in which:  
17 unique CDR3  
4 unique J



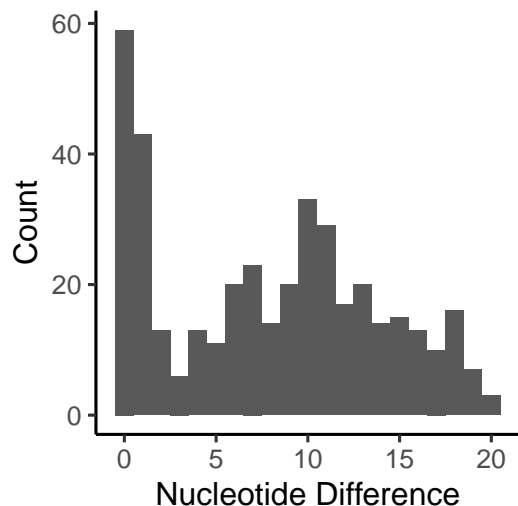
### IGHV5-10-1\*03

226 sequences assigned  
73 (32.3%) exact matches, in which:  
73 unique CDR3  
4 unique J



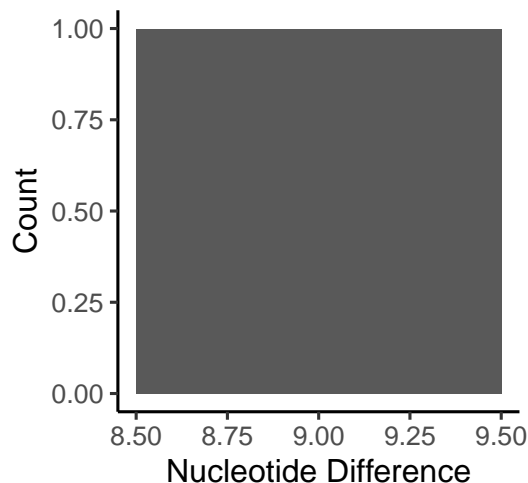
## IGHV5-51\*01

482 sequences assigned  
59 (12.2%) exact matches, in which:  
59 unique CDR3  
6 unique J



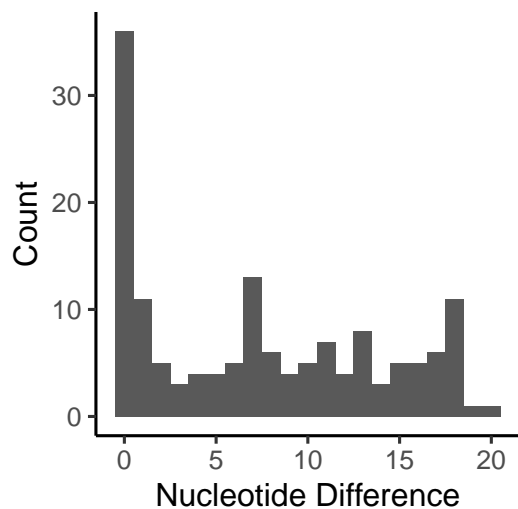
## IGHV3/OR16-9\*01

1 sequences assigned  
No exact matches.



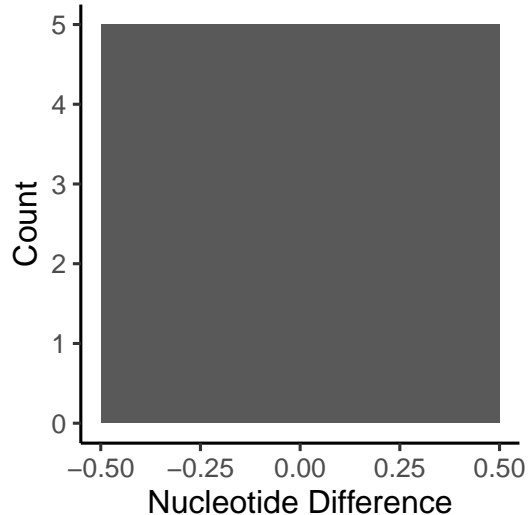
## IGHV5-51\*03

174 sequences assigned  
36 (20.7%) exact matches, in which:  
36 unique CDR3  
5 unique J



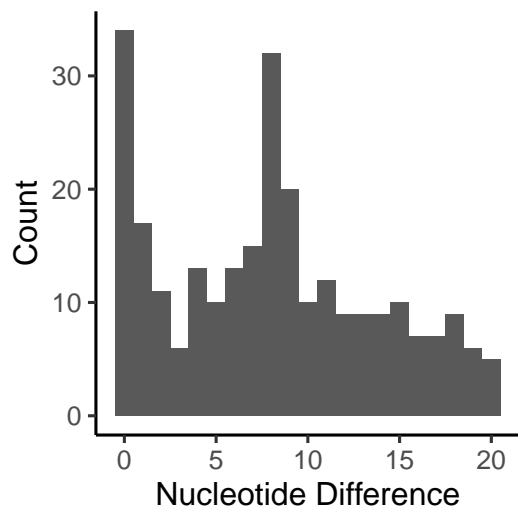
## IGHV7-4-1\*01

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



## IGHV6-1\*01

290 sequences assigned  
34 (11.7%) exact matches, in which:  
33 unique CDR3  
5 unique J







Warning – no inferred sequences found.