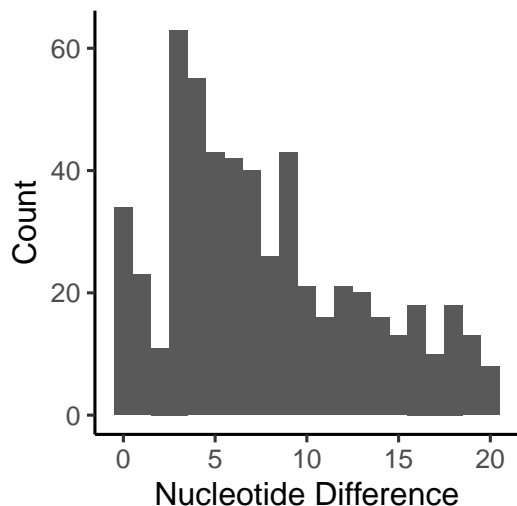


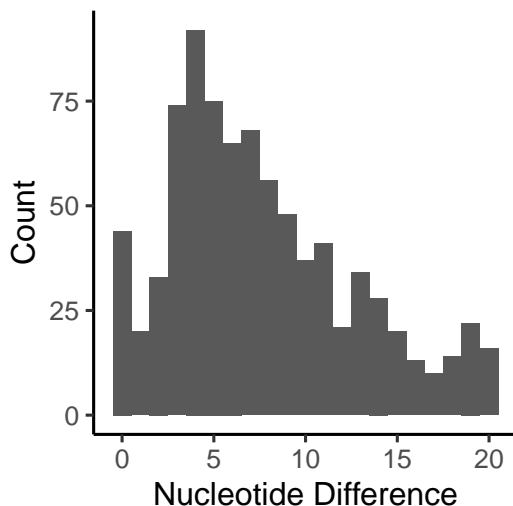
## IGHV1-2\*02

577 sequences assigned  
34 (5.9%) exact matches, in which:  
34 unique CDR3  
5 unique J



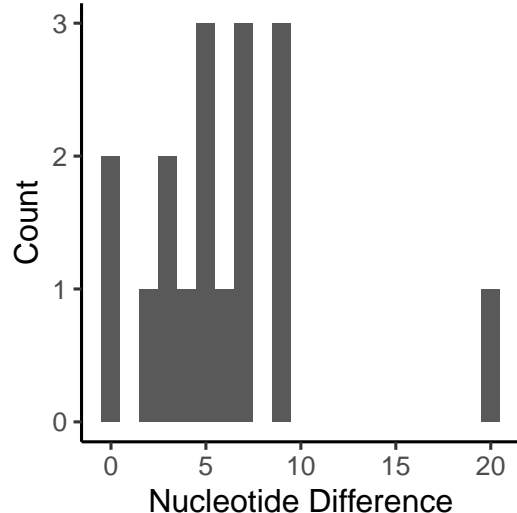
## IGHV1-18\*01

892 sequences assigned  
44 (4.9%) exact matches, in which:  
44 unique CDR3  
5 unique J



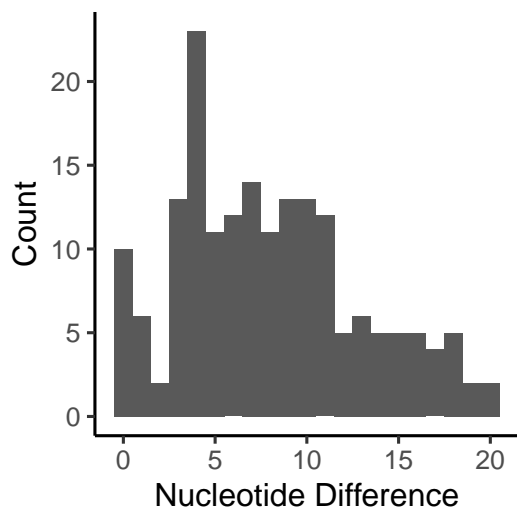
## IGHV1-58\*02

17 sequences assigned  
2 (11.8%) exact matches, in which:  
2 unique CDR3  
2 unique J



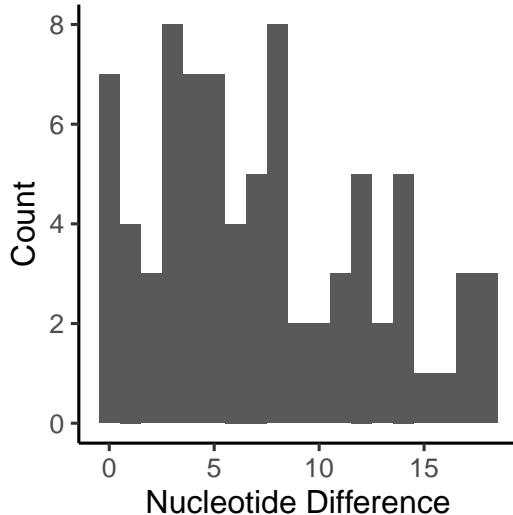
## IGHV1-3\*01\_05

191 sequences assigned  
10 (5.2%) exact matches, in which:  
10 unique CDR3  
3 unique J



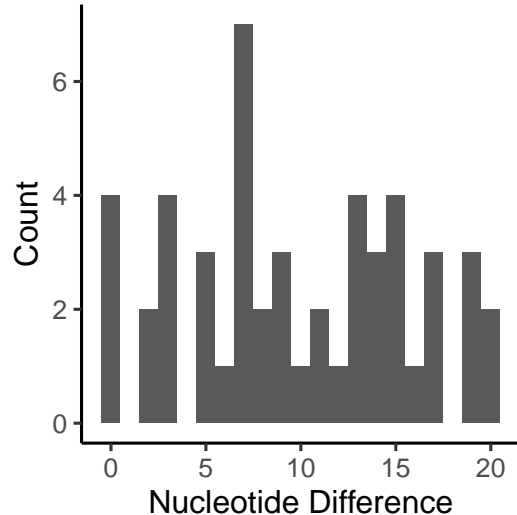
## IGHV1-24\*01

84 sequences assigned  
7 (8.3%) exact matches, in which:  
7 unique CDR3  
2 unique J



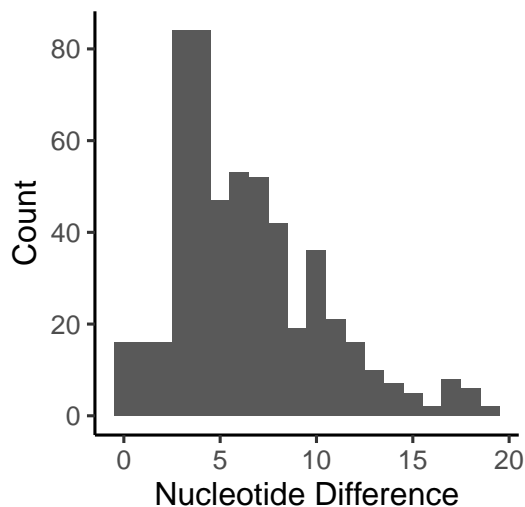
## IGHV1-69\*02

56 sequences assigned  
4 (7.1%) exact matches, in which:  
4 unique CDR3  
1 unique J



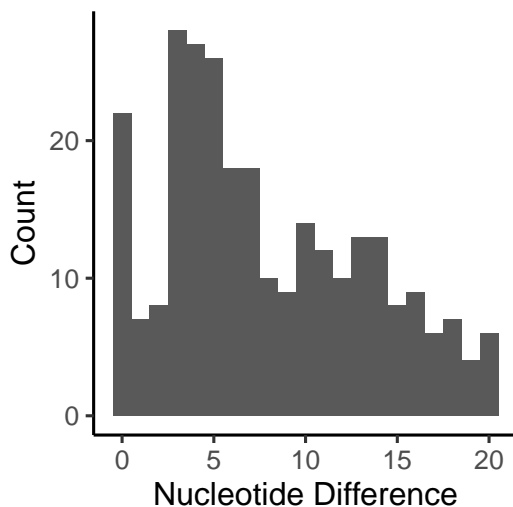
## IGHV1-8\*01

548 sequences assigned  
16 (2.9%) exact matches, in which:  
16 unique CDR3  
4 unique J



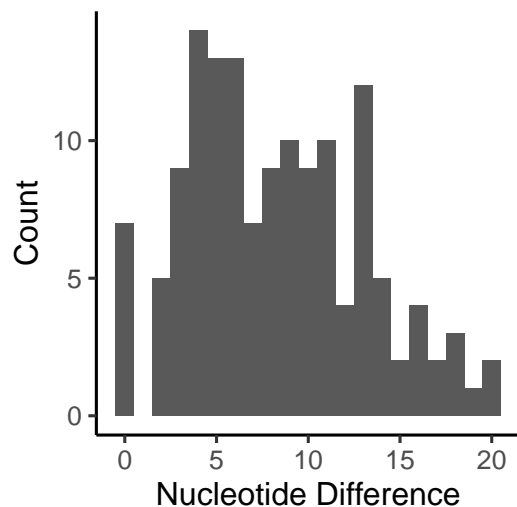
## IGHV1-46\*01

294 sequences assigned  
22 (7.5%) exact matches, in which:  
22 unique CDR3  
4 unique J



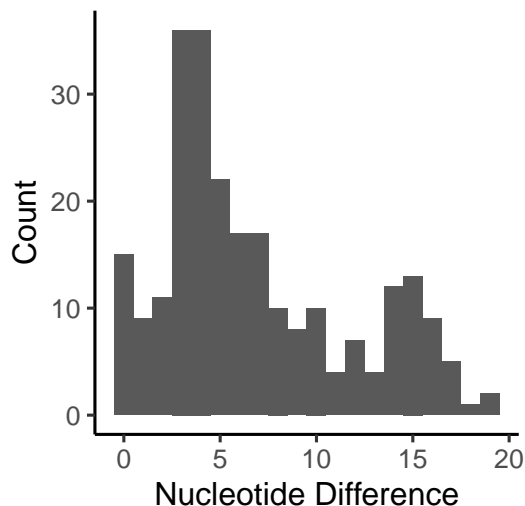
## IGHV1-69\*04\_09

162 sequences assigned  
7 (4.3%) exact matches, in which:  
7 unique CDR3  
3 unique J



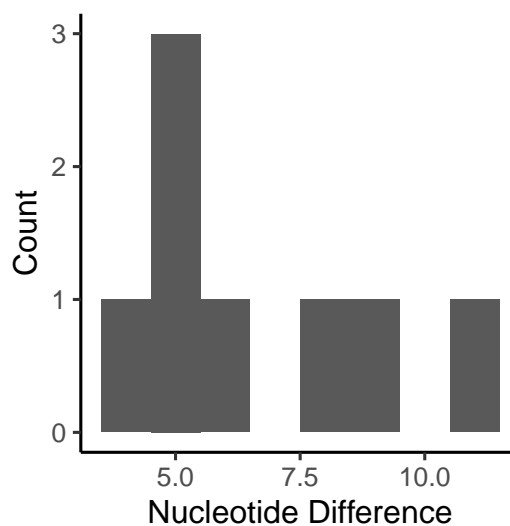
### IGHV2-5\*02

267 sequences assigned  
15 (5.6%) exact matches, in which:  
15 unique CDR3  
5 unique J



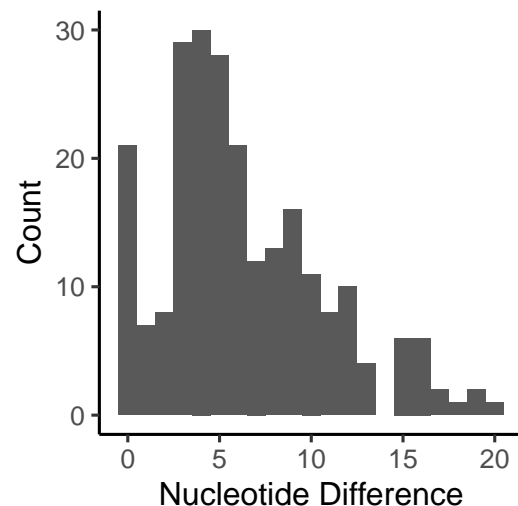
### IGHV2-70D\*14

8 sequences assigned  
No exact matches.



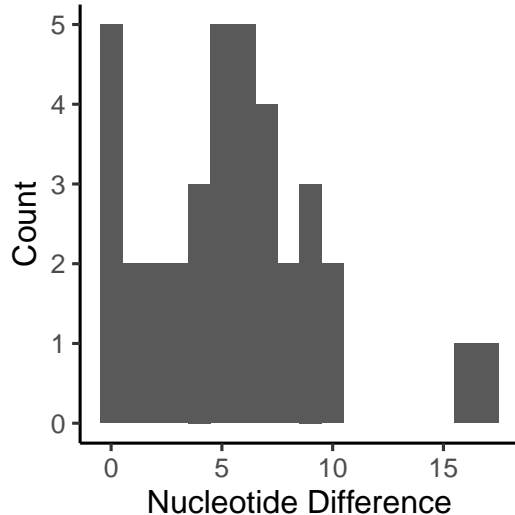
### IGHV3-9\*01

254 sequences assigned  
21 (8.3%) exact matches, in which:  
17 unique CDR3  
4 unique J



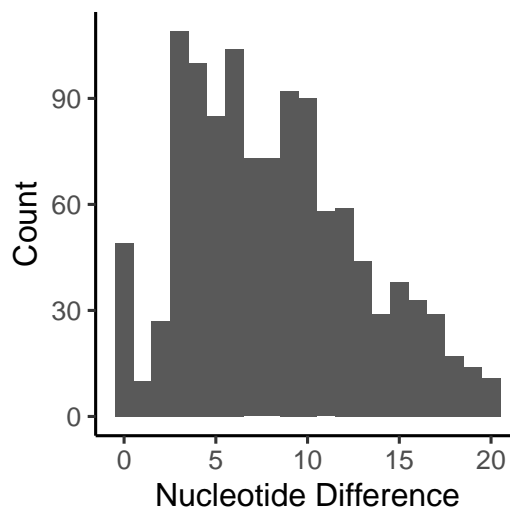
### IGHV2-26\*01

37 sequences assigned  
5 (13.5%) exact matches, in which:  
5 unique CDR3  
3 unique J



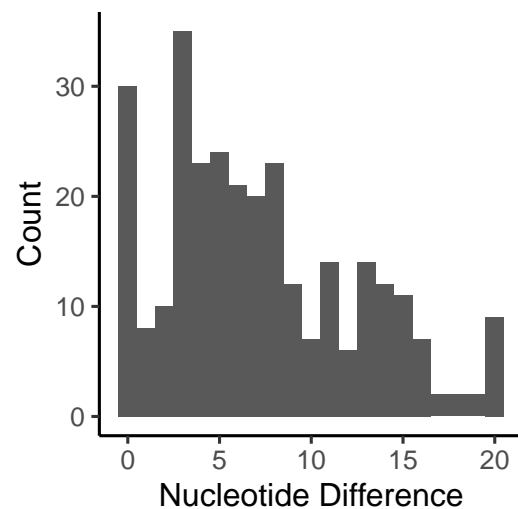
### IGHV3-7\*01

1179 sequences assigned  
49 (4.2%) exact matches, in which:  
32 unique CDR3  
5 unique J



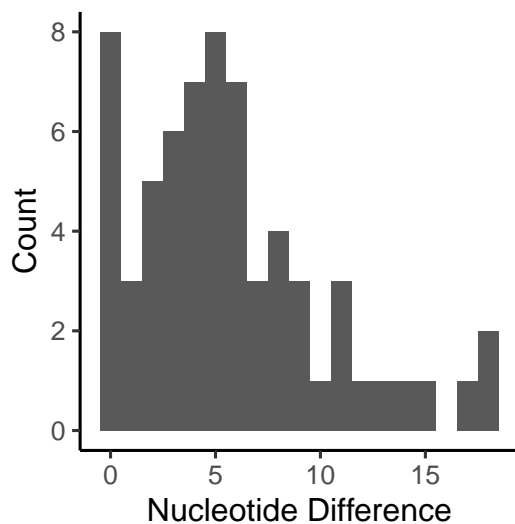
### IGHV3-11\*01

310 sequences assigned  
30 (9.7%) exact matches, in which:  
19 unique CDR3  
4 unique J



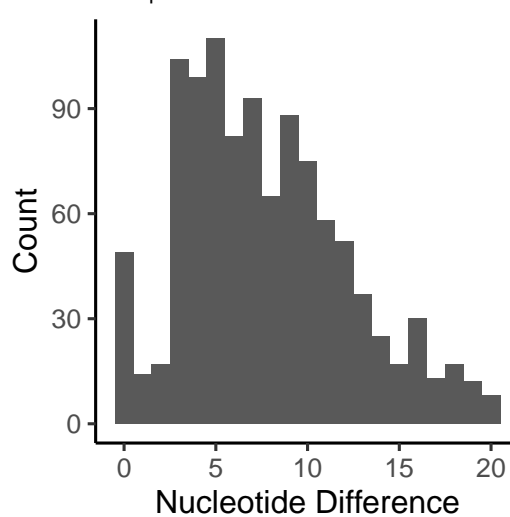
### IGHV2-70\*11\_15

66 sequences assigned  
8 (12.1%) exact matches, in which:  
8 unique CDR3  
3 unique J



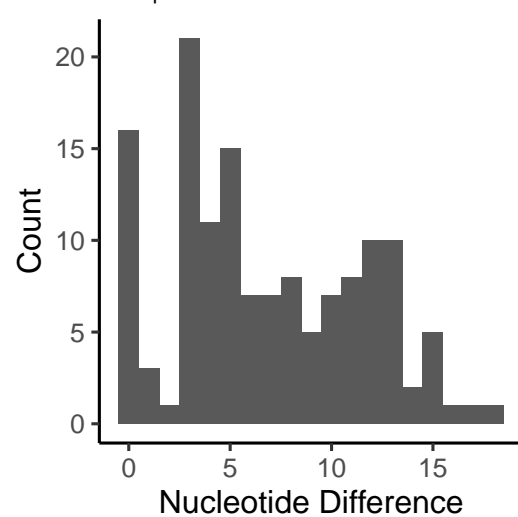
### IGHV3-7\*03

1082 sequences assigned  
49 (4.5%) exact matches, in which:  
28 unique CDR3  
4 unique J



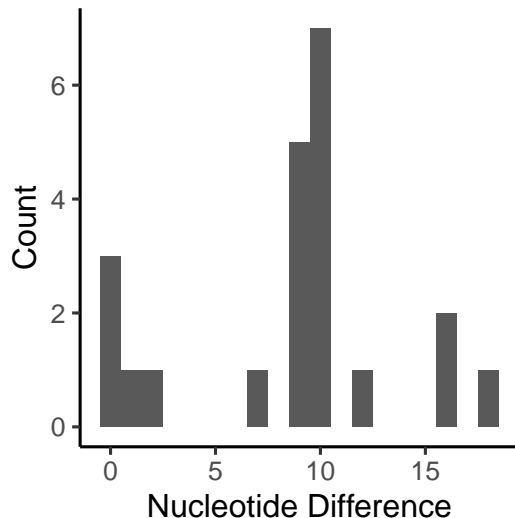
### IGHV3-11\*06

140 sequences assigned  
16 (11.4%) exact matches, in which:  
10 unique CDR3  
4 unique J



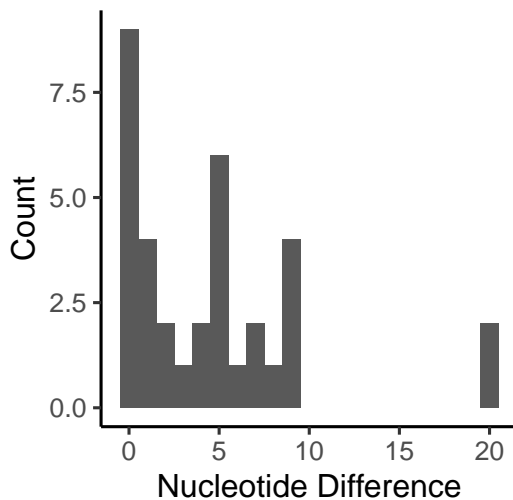
### IGHV3-13\*01

23 sequences assigned  
3 (13%) exact matches, in which:  
2 unique CDR3  
2 unique J



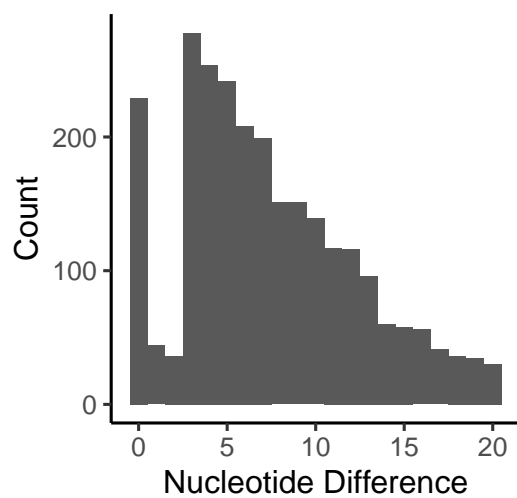
### IGHV3-20\*01\_02

34 sequences assigned  
9 (26.5%) exact matches, in which:  
5 unique CDR3  
3 unique J



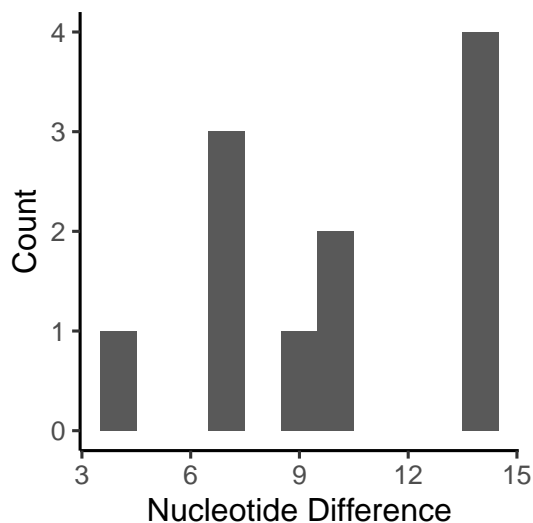
### IGHV3-23\*01\_04

2748 sequences assigned  
229 (8.3%) exact matches, in which:  
151 unique CDR3  
5 unique J



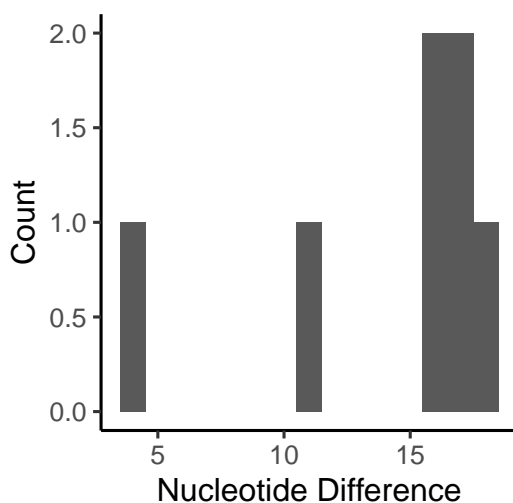
### IGHV3-13\*05

11 sequences assigned  
No exact matches.



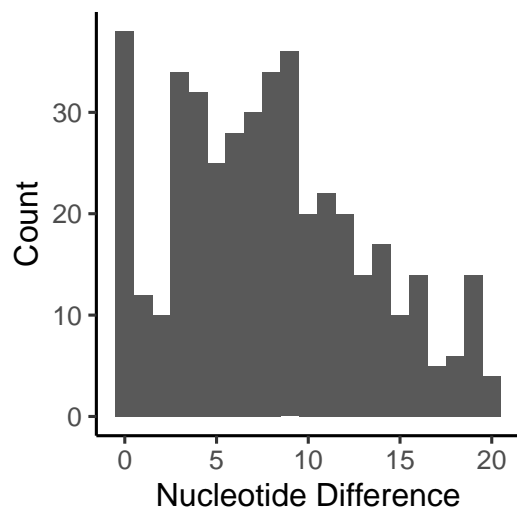
### IGHV3-20\*03\_04

8 sequences assigned  
No exact matches.



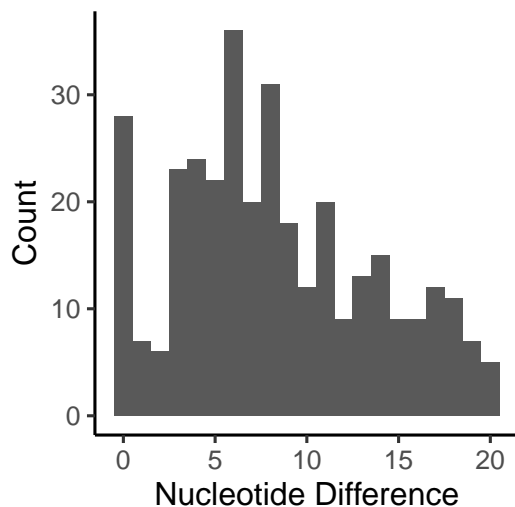
### IGHV3-30-3\*01

445 sequences assigned  
38 (8.5%) exact matches, in which:  
29 unique CDR3  
6 unique J



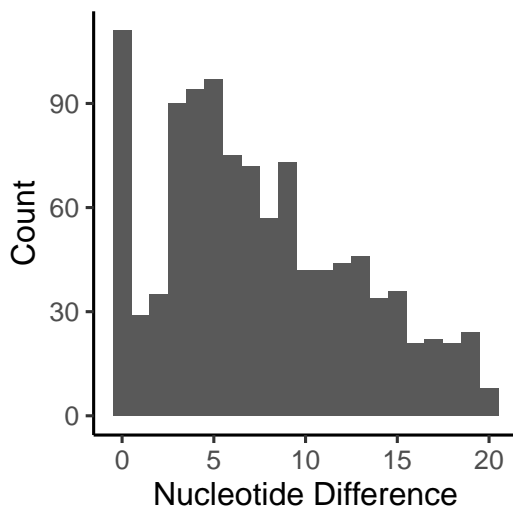
### IGHV3-15\*01\_02

353 sequences assigned  
28 (7.9%) exact matches, in which:  
20 unique CDR3  
4 unique J



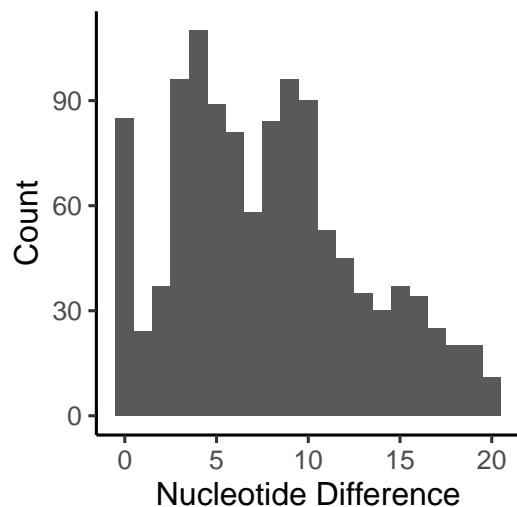
### IGHV3-21\*01\_02

1131 sequences assigned  
111 (9.8%) exact matches, in which:  
68 unique CDR3  
5 unique J



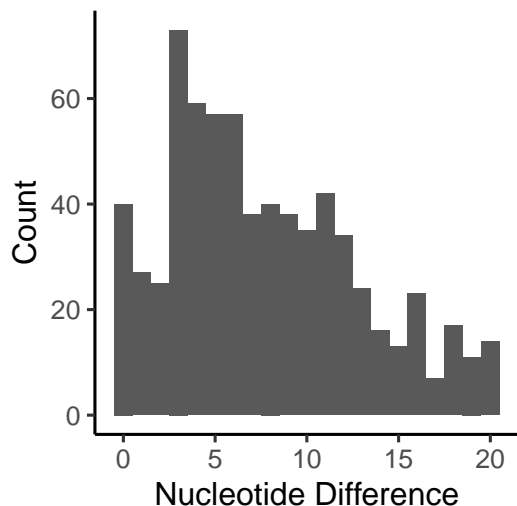
### IGHV3-30\*18

1194 sequences assigned  
85 (7.1%) exact matches, in which:  
56 unique CDR3  
5 unique J



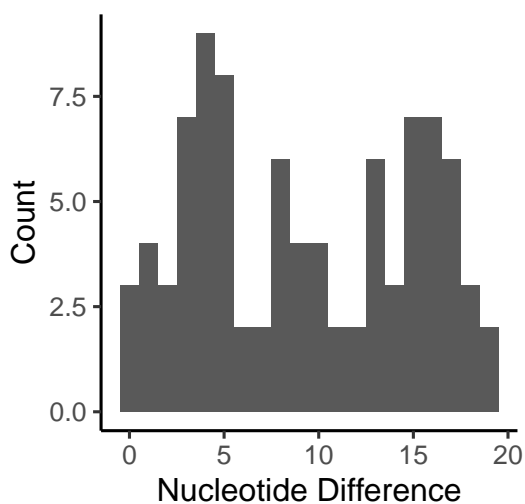
### IGHV3-33\*01

717 sequences assigned  
40 (5.6%) exact matches, in which:  
28 unique CDR3  
4 unique J



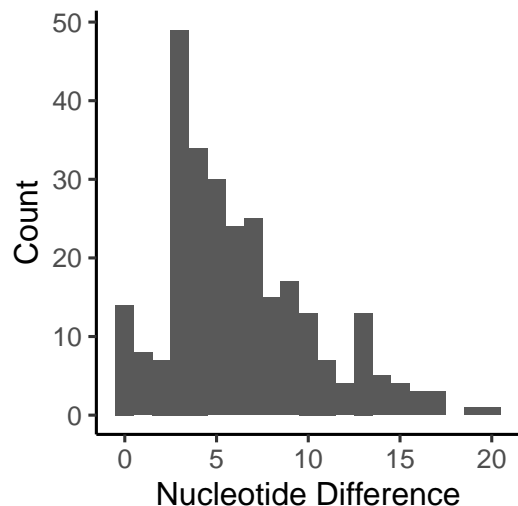
### IGHV3-49\*03\_05

93 sequences assigned  
3 (3.2%) exact matches, in which:  
2 unique CDR3  
2 unique J



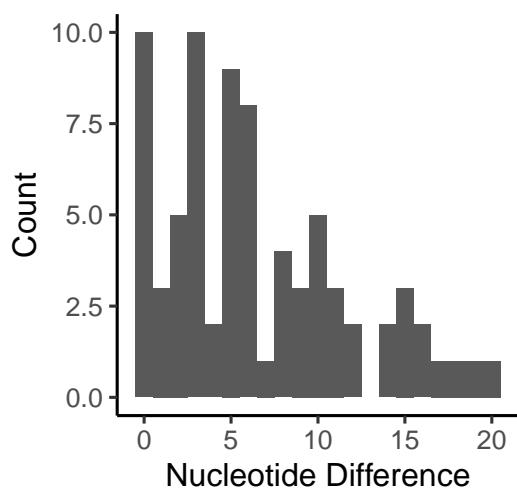
### IGHV3-66\*01

285 sequences assigned  
14 (4.9%) exact matches, in which:  
8 unique CDR3  
3 unique J



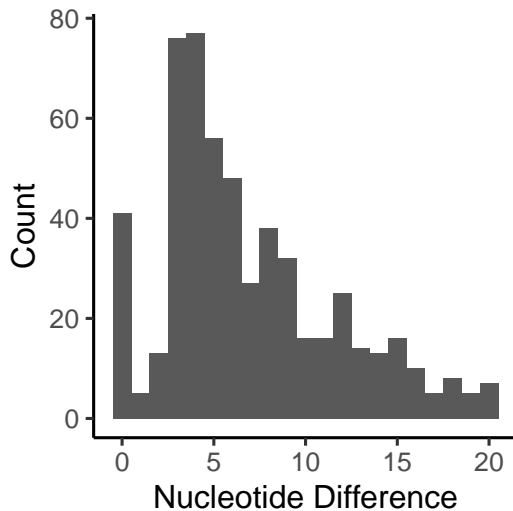
### IGHV3-43\*01

112 sequences assigned  
10 (8.9%) exact matches, in which:  
5 unique CDR3  
2 unique J



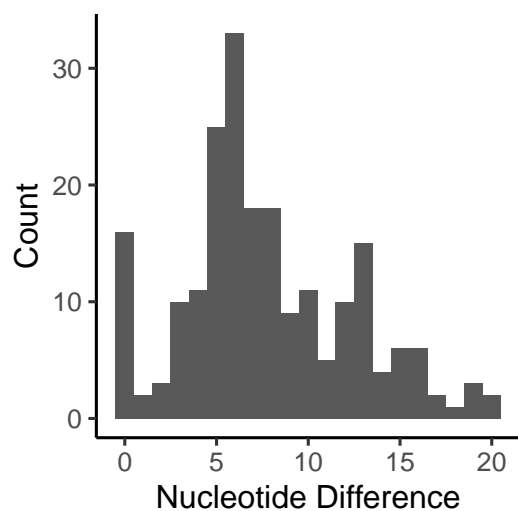
### IGHV3-53\*01\_02

571 sequences assigned  
41 (7.2%) exact matches, in which:  
28 unique CDR3  
3 unique J



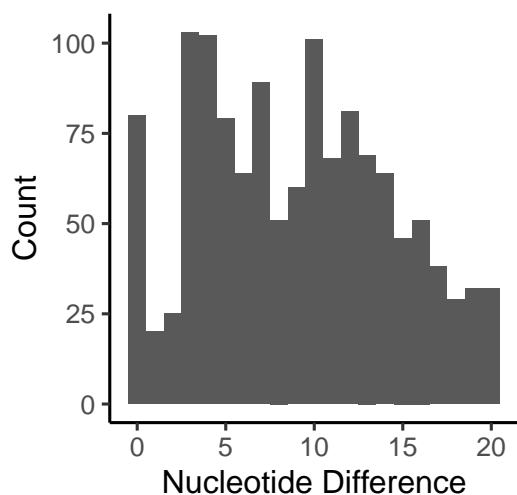
### IGHV3-66\*02

230 sequences assigned  
16 (7%) exact matches, in which:  
11 unique CDR3  
4 unique J



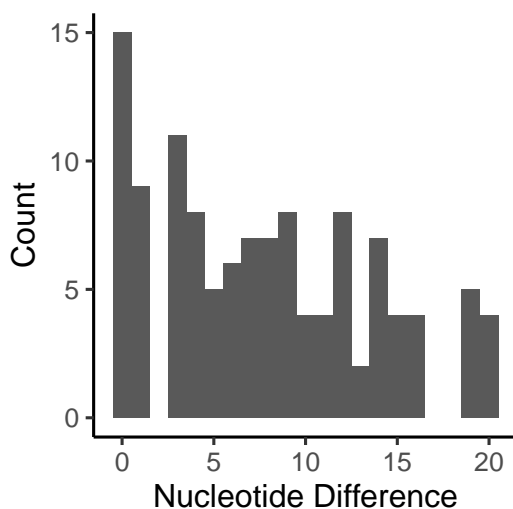
### IGHV3-48\*02

1390 sequences assigned  
80 (5.8%) exact matches, in which:  
47 unique CDR3  
6 unique J



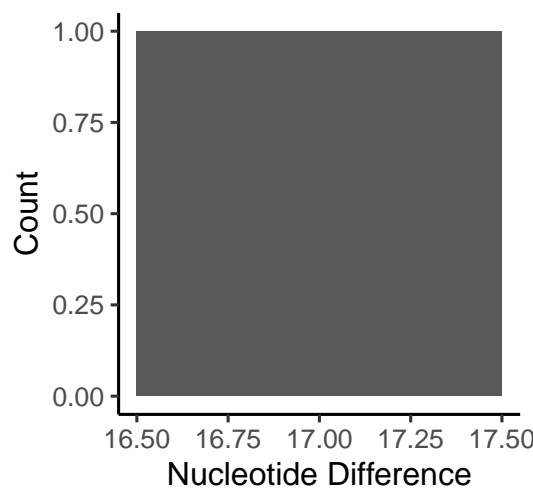
### IGHV3-64\*01

129 sequences assigned  
15 (11.6%) exact matches, in which:  
8 unique CDR3  
3 unique J



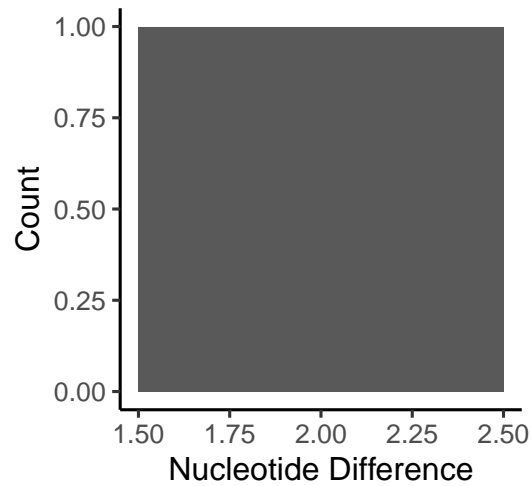
### IGHV3-69-1\*01

1 sequences assigned  
No exact matches.



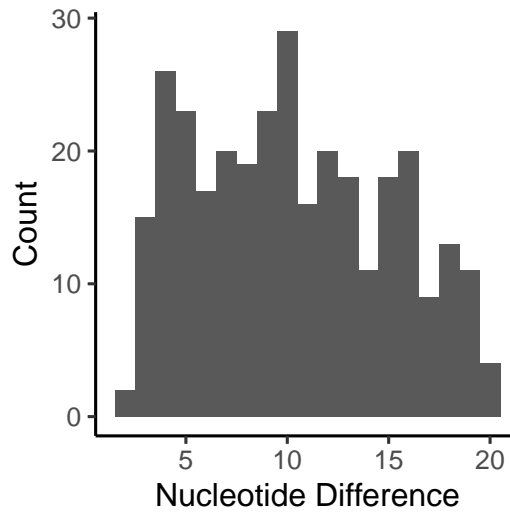
### IGHV3-69-1\*02

3 sequences assigned  
No exact matches.



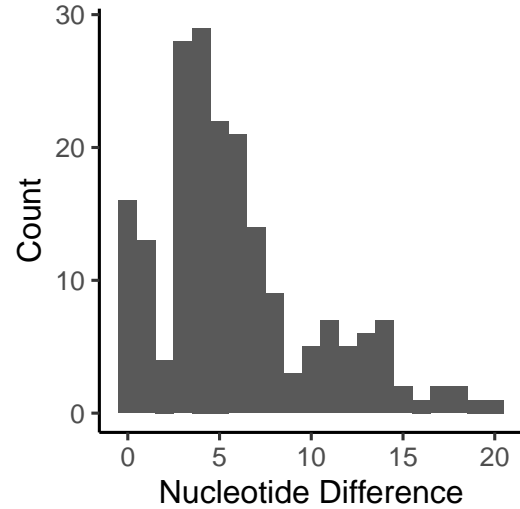
### IGHV3-74\*03

330 sequences assigned  
No exact matches.



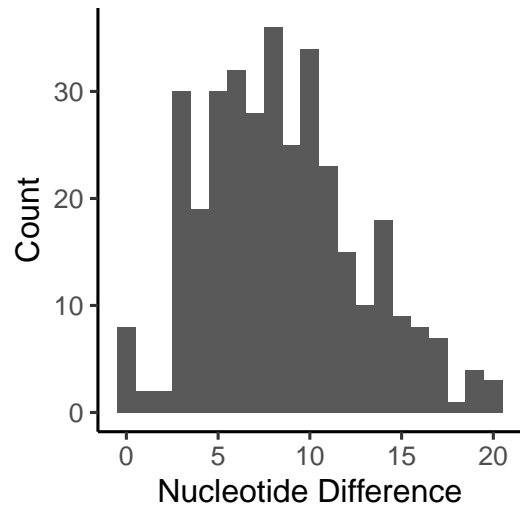
### IGHV4-4\*07

204 sequences assigned  
16 (7.8%) exact matches, in which:  
14 unique CDR3  
4 unique J



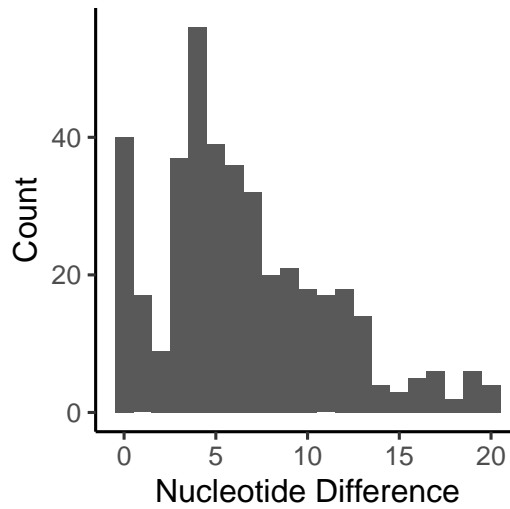
### IGHV3-72\*01

355 sequences assigned  
8 (2.3%) exact matches, in which:  
5 unique CDR3  
2 unique J



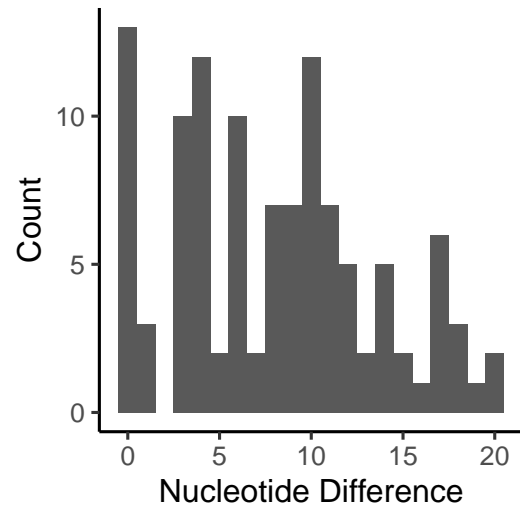
### IGHV3-74\*01\_02

413 sequences assigned  
40 (9.7%) exact matches, in which:  
29 unique CDR3  
5 unique J



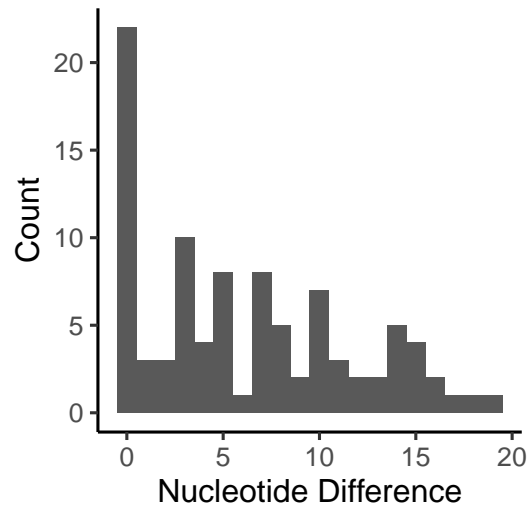
### IGHV4-4\*02\_03

134 sequences assigned  
13 (9.7%) exact matches, in which:  
9 unique CDR3  
4 unique J



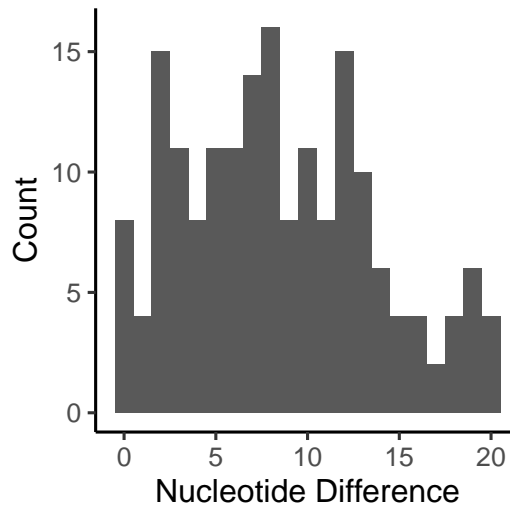
### IGHV3-73\*01\_02

96 sequences assigned  
22 (22.9%) exact matches, in which:  
11 unique CDR3  
4 unique J



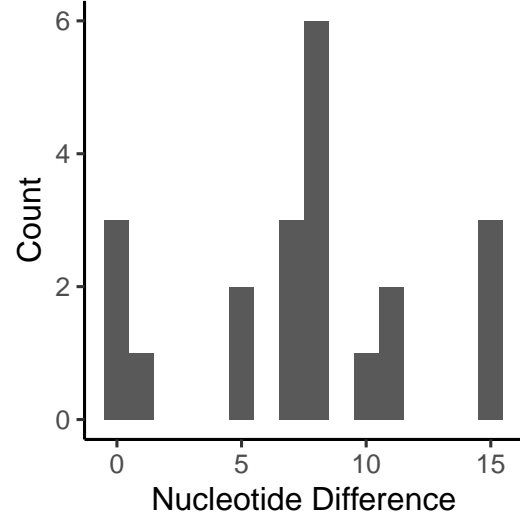
### IGHV3-64D\*09

187 sequences assigned  
8 (4.3%) exact matches, in which:  
7 unique CDR3  
3 unique J



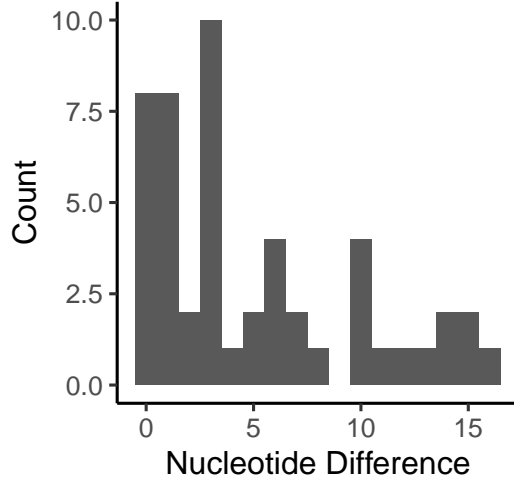
### IGHV4-28\*01\_07

23 sequences assigned  
3 (13%) exact matches, in which:  
1 unique CDR3  
1 unique J



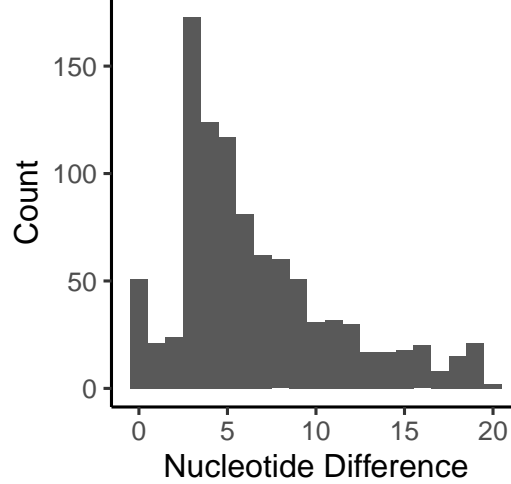
### IGHV4-30-2\*01

52 sequences assigned  
8 (15.4%) exact matches, in which:  
6 unique CDR3  
3 unique J



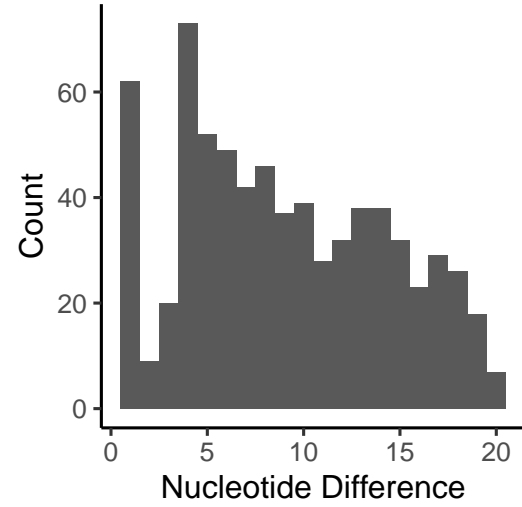
### IGHV4-34\*01\_02

1012 sequences assigned  
51 (5%) exact matches, in which:  
37 unique CDR3  
5 unique J



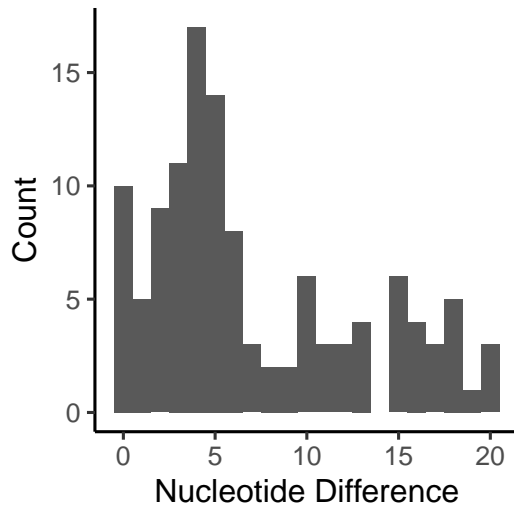
### IGHV4-39\*02

801 sequences assigned  
No exact matches.



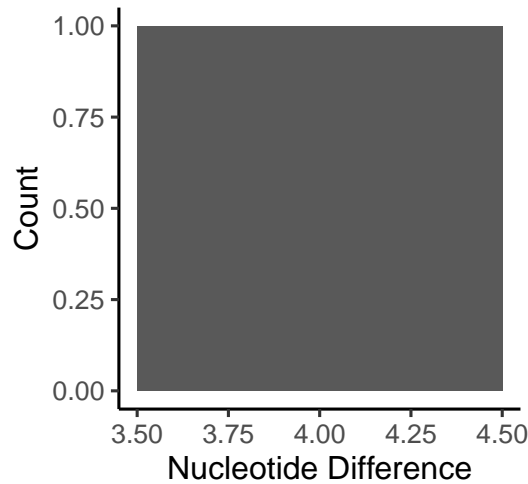
### IGHV4-30-4\*01

194 sequences assigned  
10 (5.2%) exact matches, in which:  
8 unique CDR3  
5 unique J



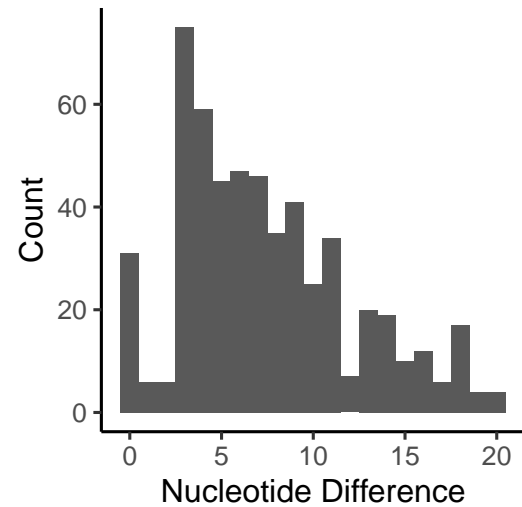
### IGHV4-38-2\*01

2 sequences assigned  
No exact matches.



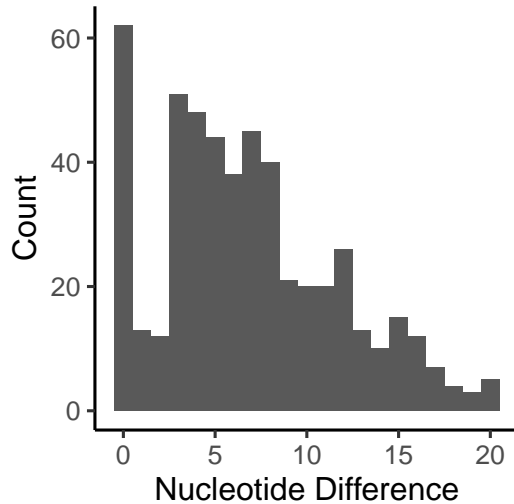
### IGHV4-59\*08

561 sequences assigned  
31 (5.5%) exact matches, in which:  
22 unique CDR3  
5 unique J



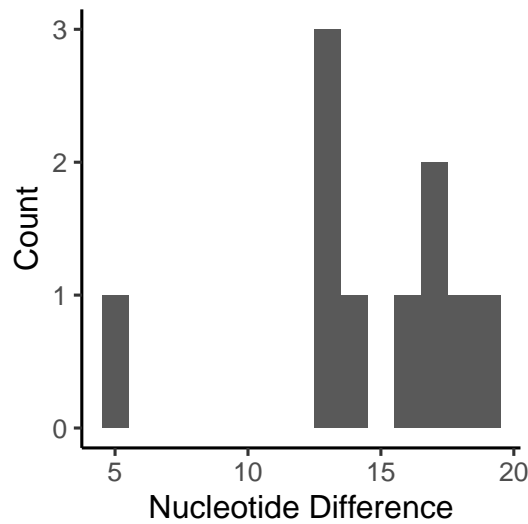
### IGHV4-31\*02

528 sequences assigned  
62 (11.7%) exact matches, in which:  
48 unique CDR3  
5 unique J



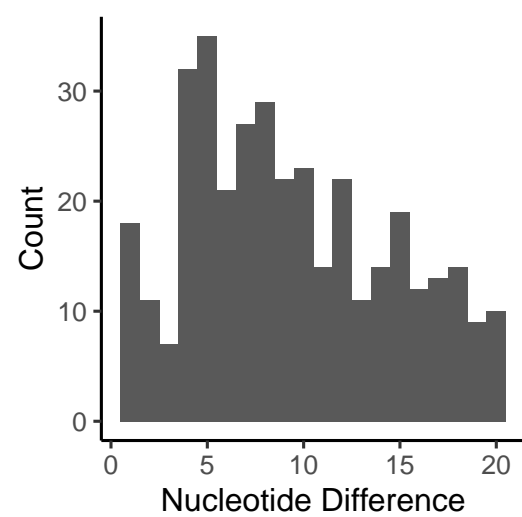
### IGHV4-38-2\*02

12 sequences assigned  
No exact matches.



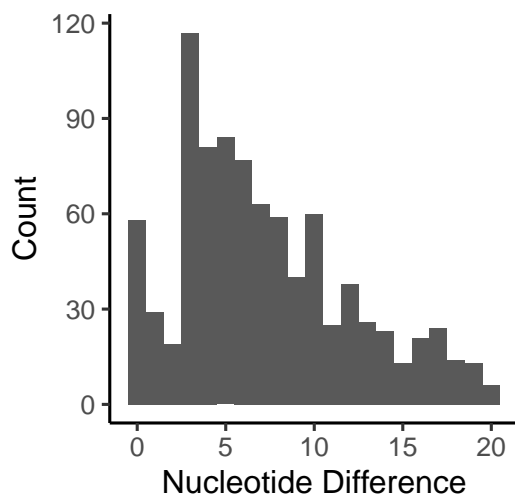
### IGHV4-59\*11

383 sequences assigned  
No exact matches.



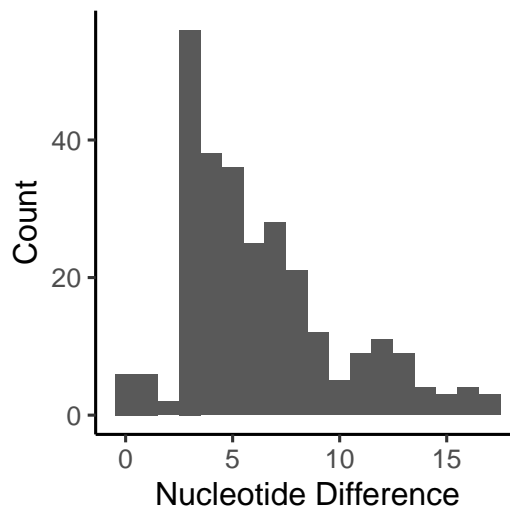
### IGHV4–59\*01\_07

926 sequences assigned  
58 (6.3%) exact matches, in which:  
44 unique CDR3  
5 unique J



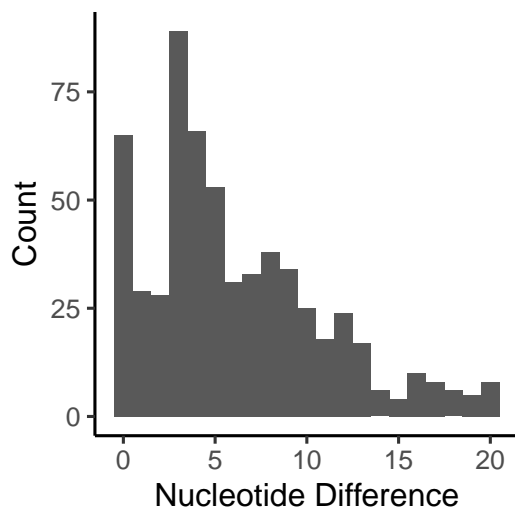
### IGHV6–1\*01\_02

282 sequences assigned  
6 (2.1%) exact matches, in which:  
5 unique CDR3  
3 unique J



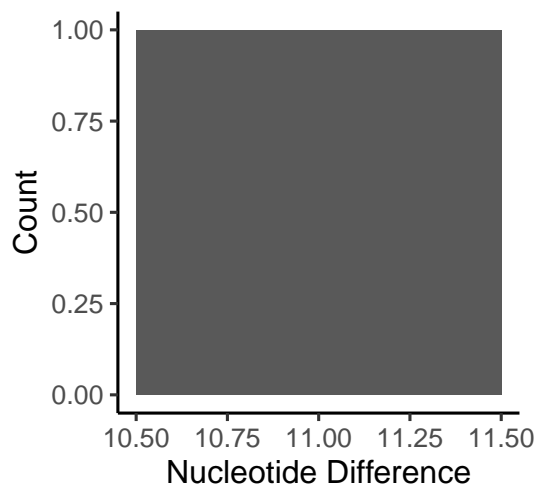
### IGHV4–61\*02

624 sequences assigned  
65 (10.4%) exact matches, in which:  
55 unique CDR3  
6 unique J



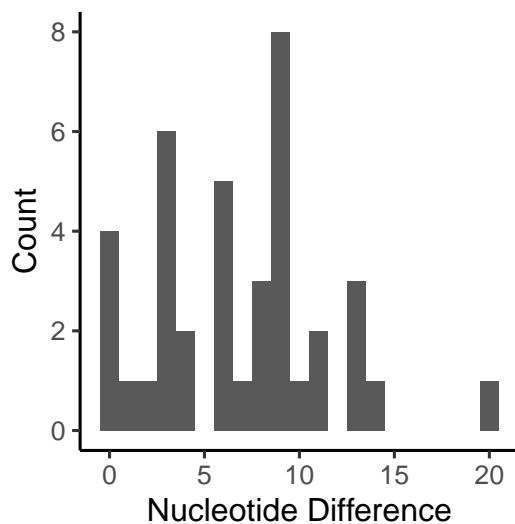
### IGHV7–4–1\*01

1 sequences assigned  
No exact matches.



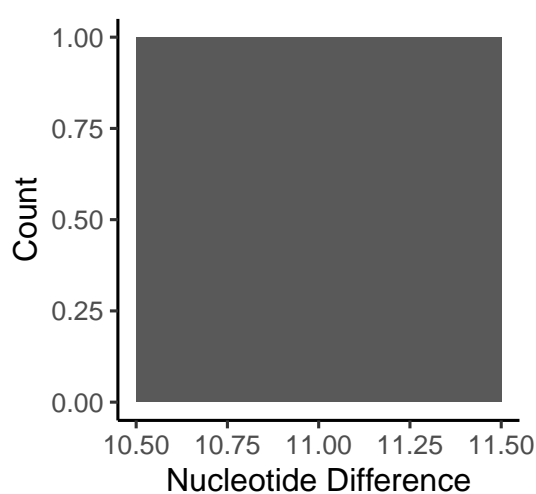
### IGHV5–10–1\*01\_03

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



### IGHV7–4–1\*02

1 sequences assigned  
No exact matches.







Warning – no inferred sequences found.