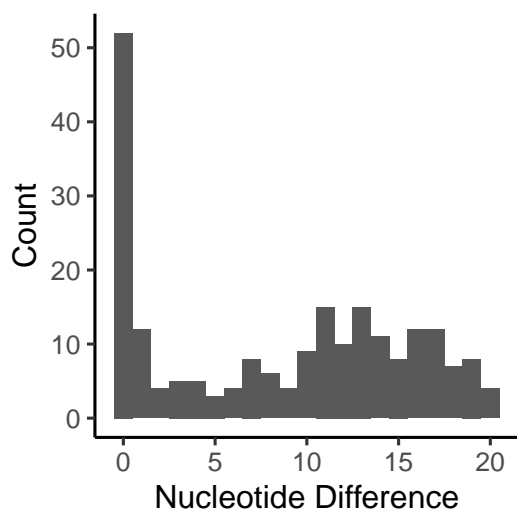


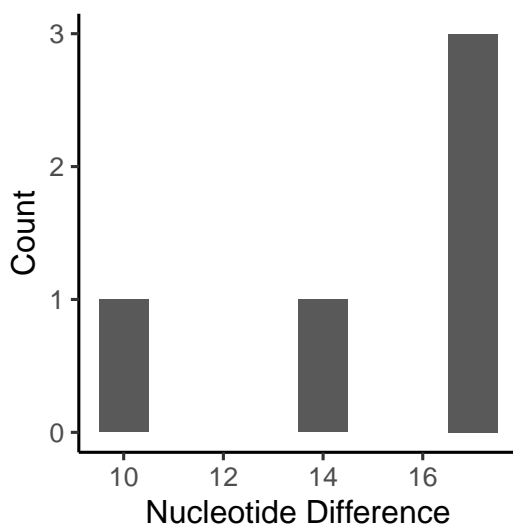
### IGHV1-2\*02

273 sequences assigned  
52 (19%) exact matches, in which:  
52 unique CDR3  
5 unique J



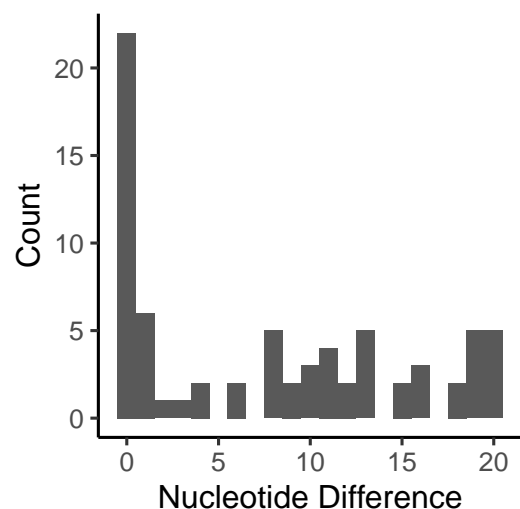
### IGHV1-3\*04

14 sequences assigned  
No exact matches.



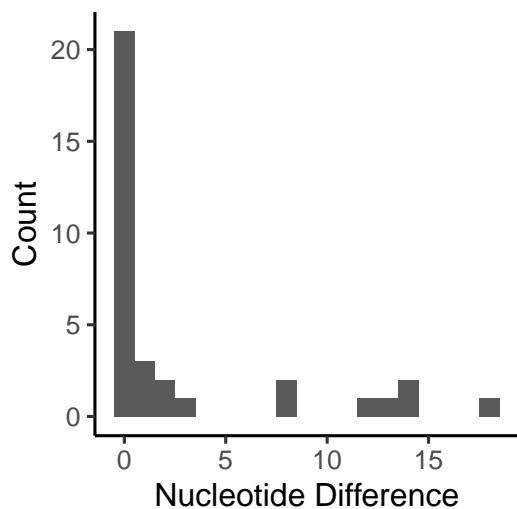
### IGHV1-18\*04

106 sequences assigned  
22 (20.8%) exact matches, in which:  
22 unique CDR3  
4 unique J



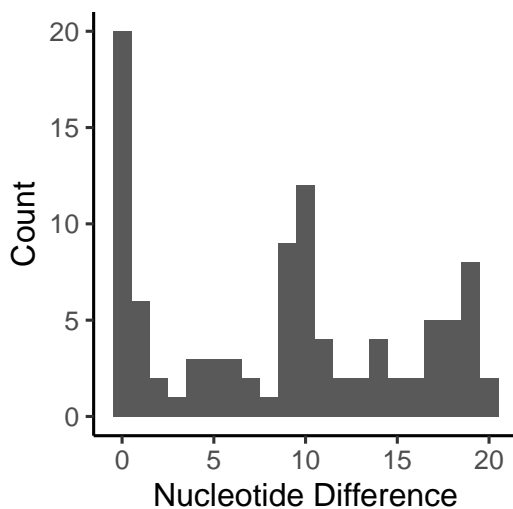
### IGHV1-2\*04

35 sequences assigned  
21 (60%) exact matches, in which:  
21 unique CDR3  
4 unique J



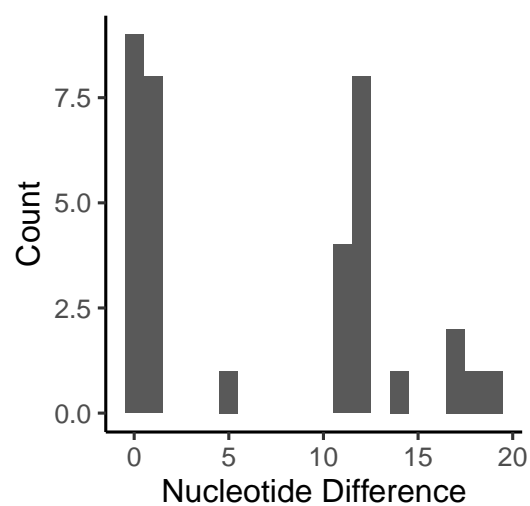
### IGHV1-8\*01

117 sequences assigned  
20 (17.1%) exact matches, in which:  
20 unique CDR3  
4 unique J



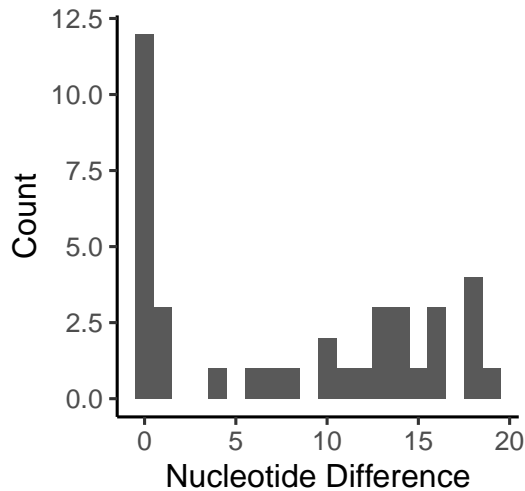
### IGHV1-24\*01

38 sequences assigned  
9 (23.7%) exact matches, in which:  
9 unique CDR3  
4 unique J



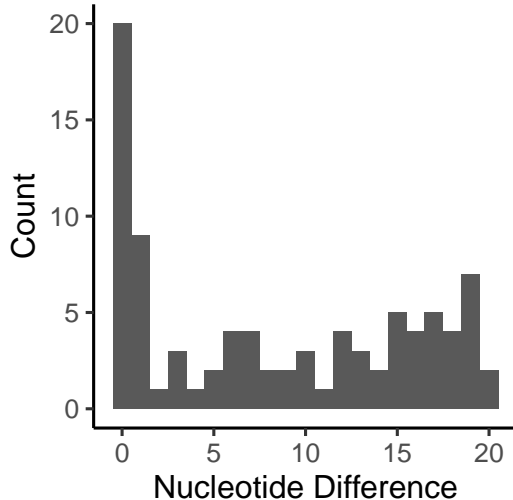
### IGHV1-3\*01

56 sequences assigned  
12 (21.4%) exact matches, in which:  
12 unique CDR3  
3 unique J



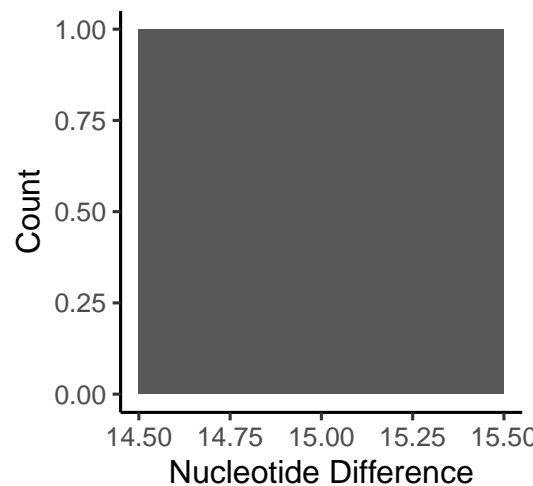
### IGHV1-18\*01

127 sequences assigned  
20 (15.7%) exact matches, in which:  
20 unique CDR3  
4 unique J



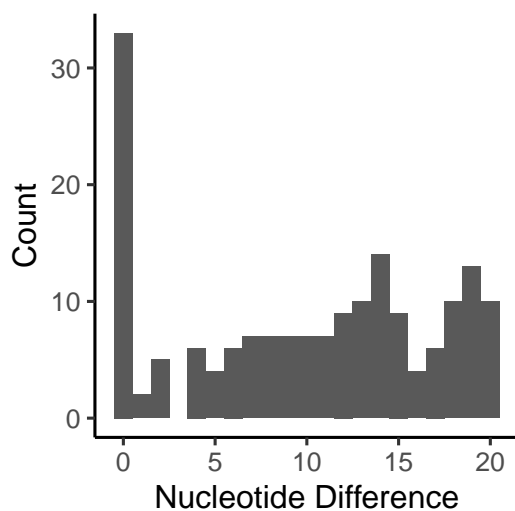
### IGHV1-45\*02

1 sequences assigned  
No exact matches.



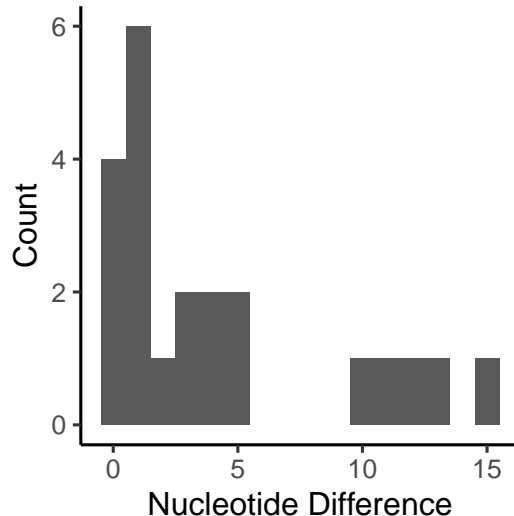
### IGHV1-46\*01

235 sequences assigned  
33 (14%) exact matches, in which:  
32 unique CDR3  
4 unique J



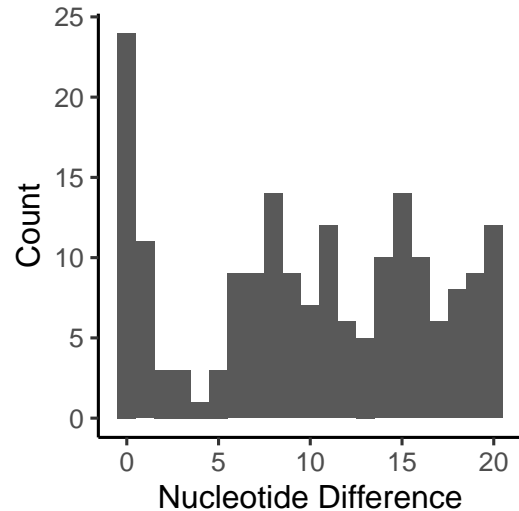
### IGHV2-26\*01

24 sequences assigned  
4 (16.7%) exact matches, in which:  
4 unique CDR3  
2 unique J



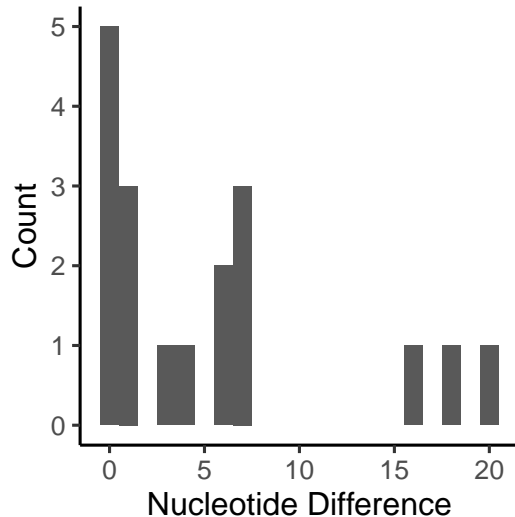
### IGHV3-7\*01

261 sequences assigned  
24 (9.2%) exact matches, in which:  
24 unique CDR3  
5 unique J



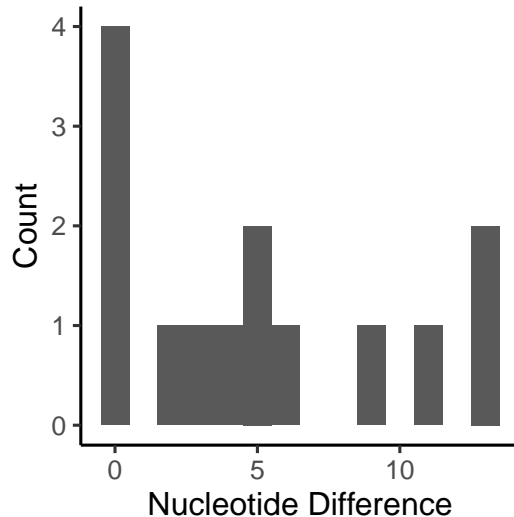
### IGHV1-58\*01

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



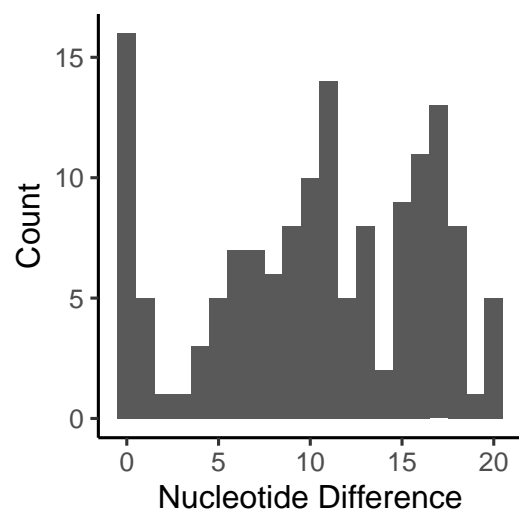
### IGHV2-70\*01

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



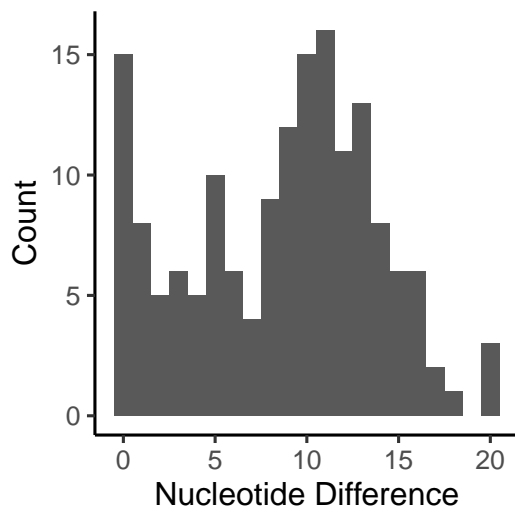
### IGHV3-7\*03

179 sequences assigned  
16 (8.9%) exact matches, in which:  
16 unique CDR3  
5 unique J



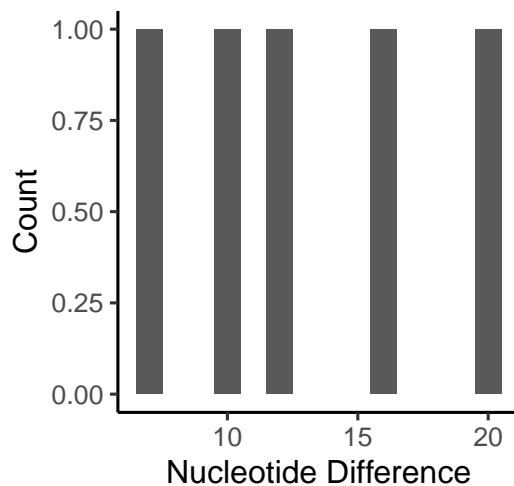
### IGHV2-5\*02

193 sequences assigned  
15 (7.8%) exact matches, in which:  
15 unique CDR3  
3 unique J



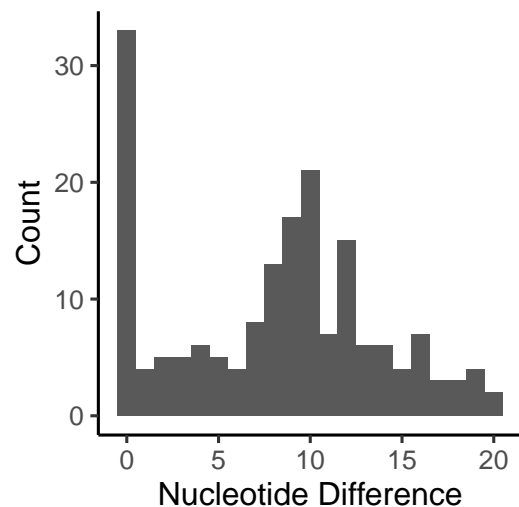
### IGHV2-70\*13

6 sequences assigned  
No exact matches.



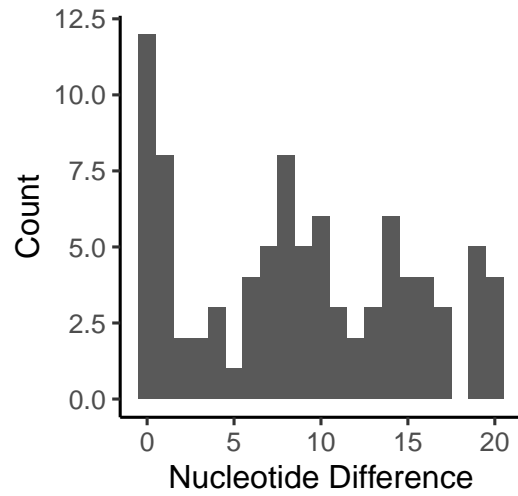
### IGHV3-9\*01

225 sequences assigned  
33 (14.7%) exact matches, in which:  
33 unique CDR3  
6 unique J



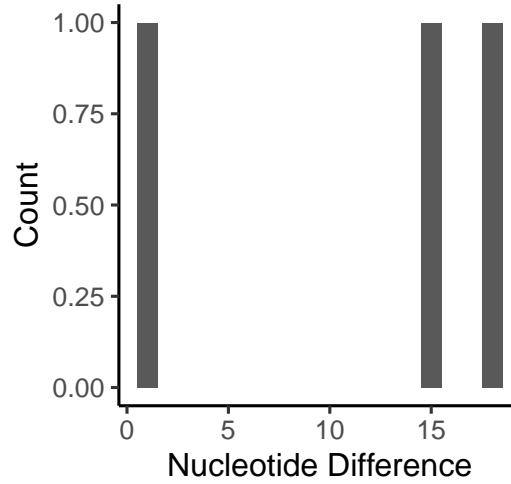
### IGHV3-11\*01

104 sequences assigned  
12 (11.5%) exact matches, in which:  
12 unique CDR3  
4 unique J



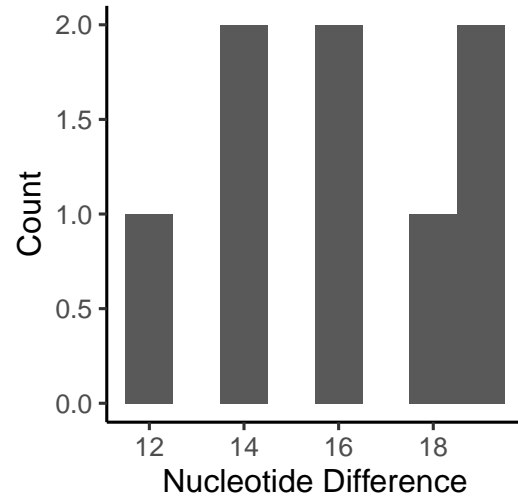
### IGHV3-13\*05

4 sequences assigned  
No exact matches.



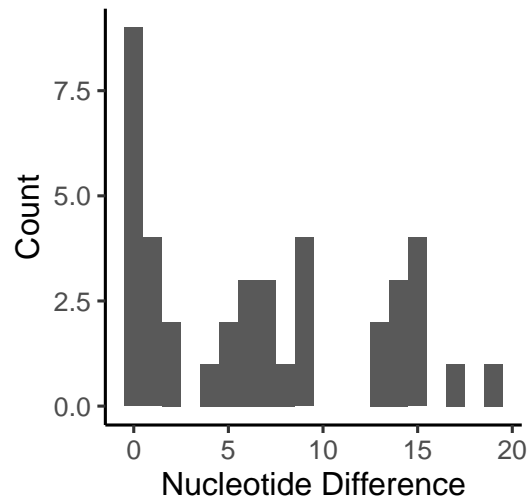
### IGHV3-20\*04

9 sequences assigned  
No exact matches.



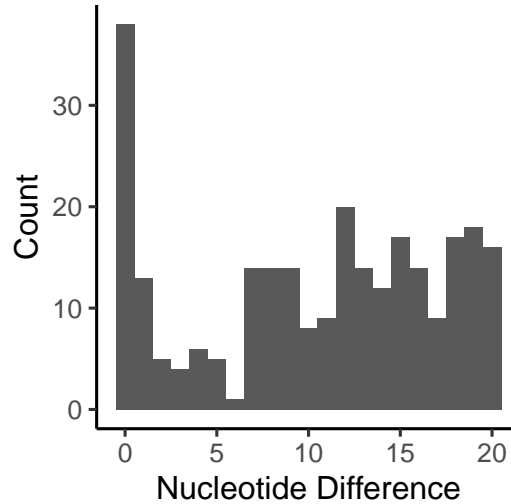
### IGHV3-11\*06

42 sequences assigned  
9 (21.4%) exact matches, in which:  
9 unique CDR3  
3 unique J



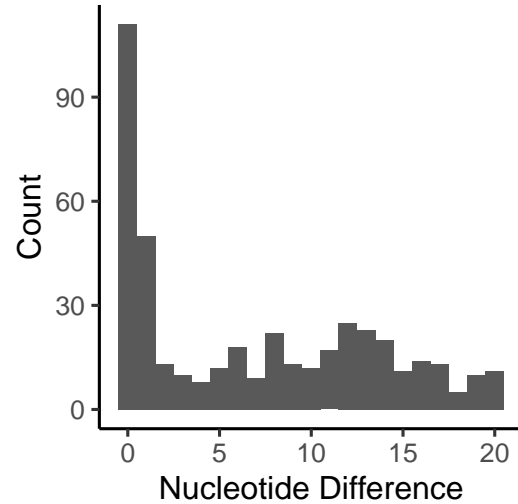
### IGHV3-15\*01

349 sequences assigned  
38 (10.9%) exact matches, in which:  
38 unique CDR3  
5 unique J



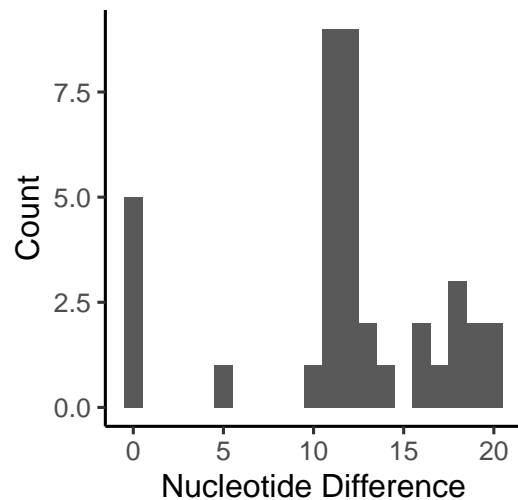
### IGHV3-21\*01

502 sequences assigned  
111 (22.1%) exact matches, in which:  
111 unique CDR3  
6 unique J



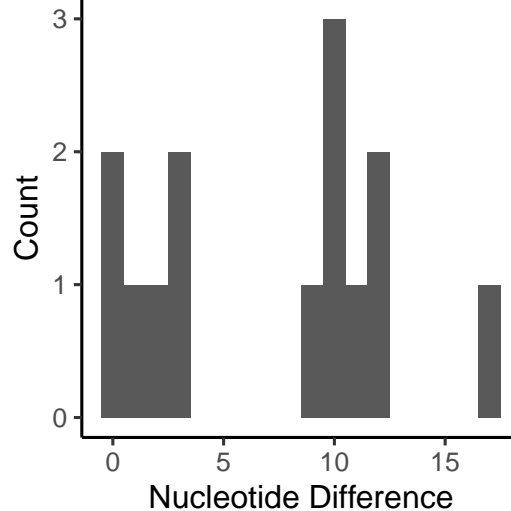
### IGHV3-13\*01

48 sequences assigned  
5 (10.4%) exact matches, in which:  
5 unique CDR3  
4 unique J



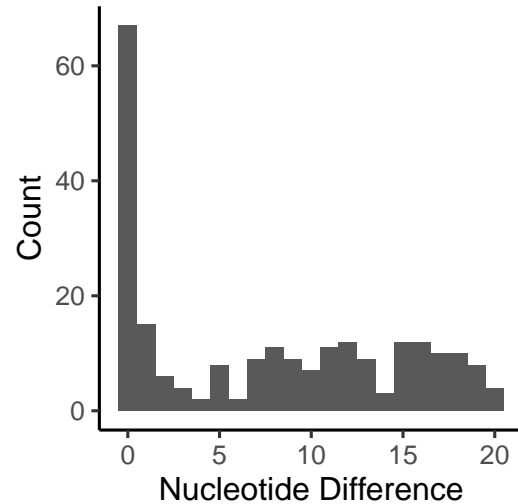
### IGHV3-20\*01

15 sequences assigned  
2 (13.3%) exact matches, in which:  
2 unique CDR3  
2 unique J



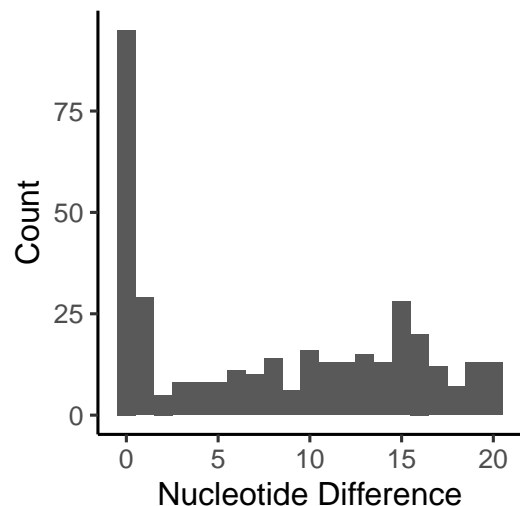
### IGHV3-30-3\*01

283 sequences assigned  
67 (23.7%) exact matches, in which:  
67 unique CDR3  
5 unique J



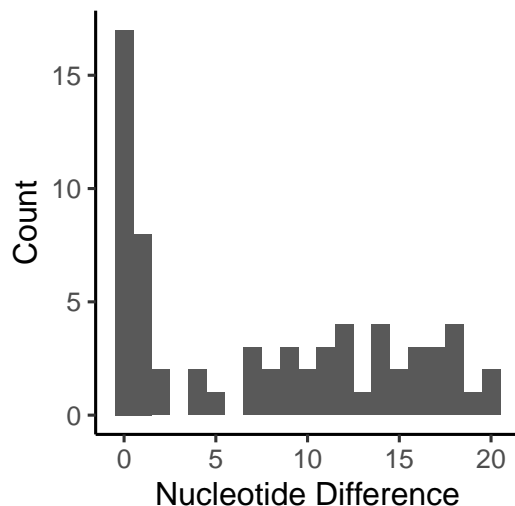
### IGHV3-33\*01

457 sequences assigned  
95 (20.8%) exact matches, in which:  
94 unique CDR3  
6 unique J



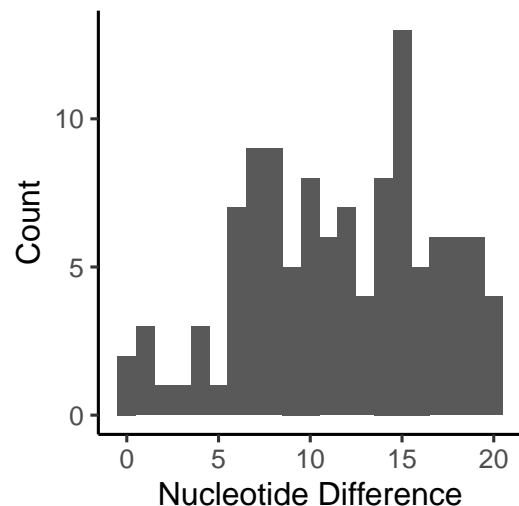
### IGHV3-49\*05

91 sequences assigned  
17 (18.7%) exact matches, in which:  
17 unique CDR3  
5 unique J



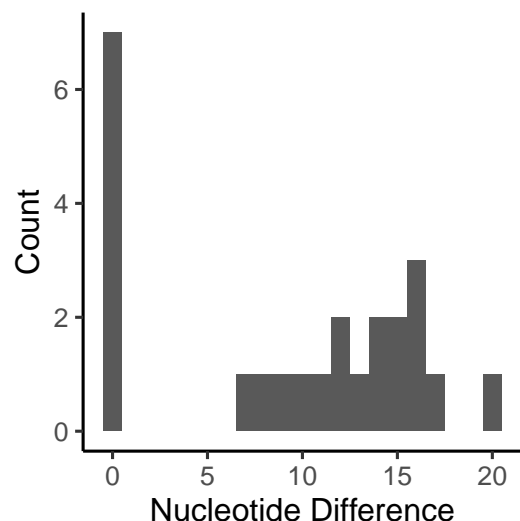
### IGHV3-72\*01

129 sequences assigned  
2 (1.6%) exact matches, in which:  
2 unique CDR3  
2 unique J



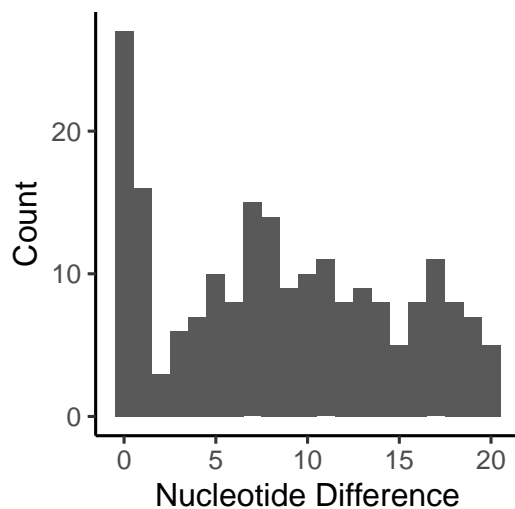
### IGHV3-43\*01

32 sequences assigned  
7 (21.9%) exact matches, in which:  
7 unique CDR3  
3 unique J



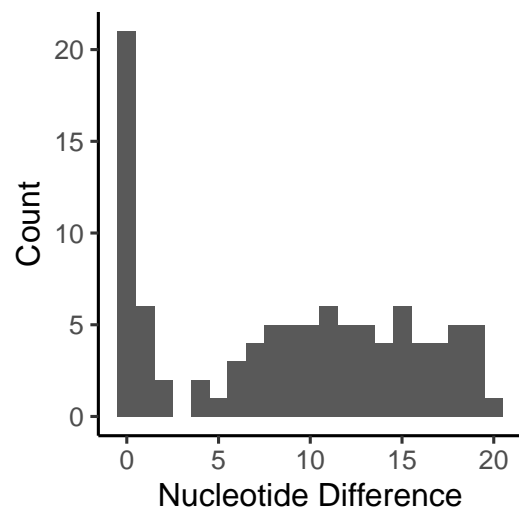
### IGHV3-53\*01

279 sequences assigned  
27 (9.7%) exact matches, in which:  
27 unique CDR3  
6 unique J



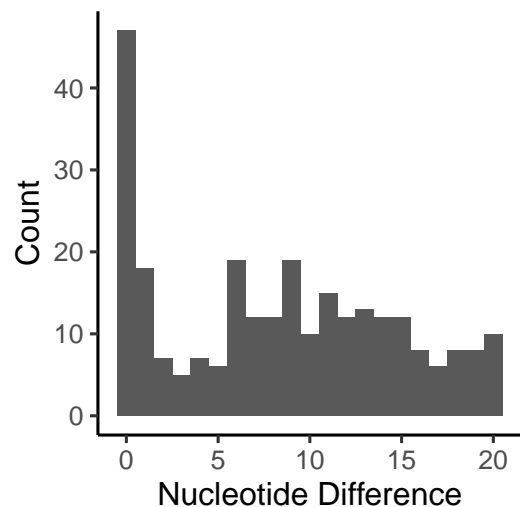
### IGHV3-73\*02

127 sequences assigned  
21 (16.5%) exact matches, in which:  
21 unique CDR3  
4 unique J



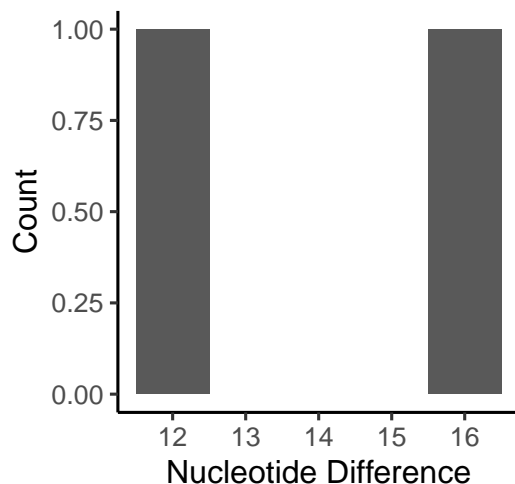
### IGHV3-48\*02

316 sequences assigned  
47 (14.9%) exact matches, in which:  
46 unique CDR3  
4 unique J



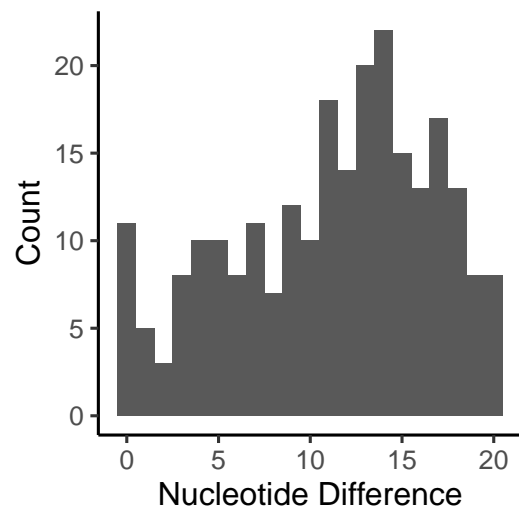
### IGHV3-64\*02

4 sequences assigned  
No exact matches.



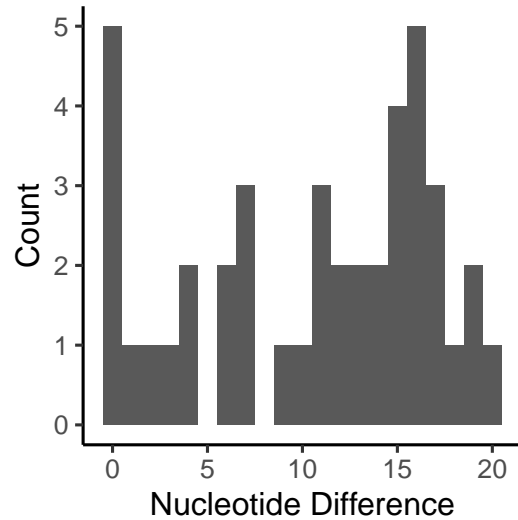
### IGHV3-74\*01

286 sequences assigned  
11 (3.8%) exact matches, in which:  
11 unique CDR3  
3 unique J



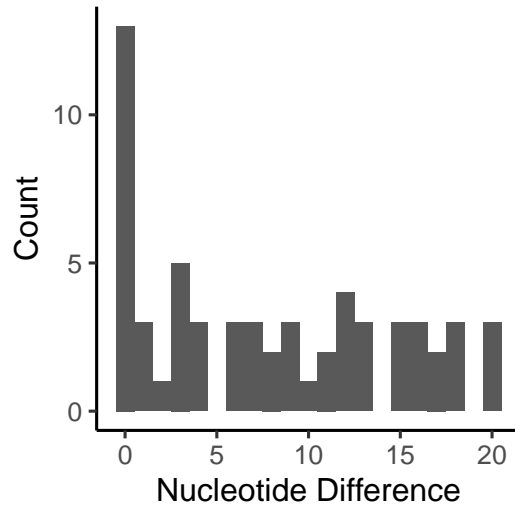
### IGHV3-64D\*06

51 sequences assigned  
5 (9.8%) exact matches, in which:  
5 unique CDR3  
3 unique J



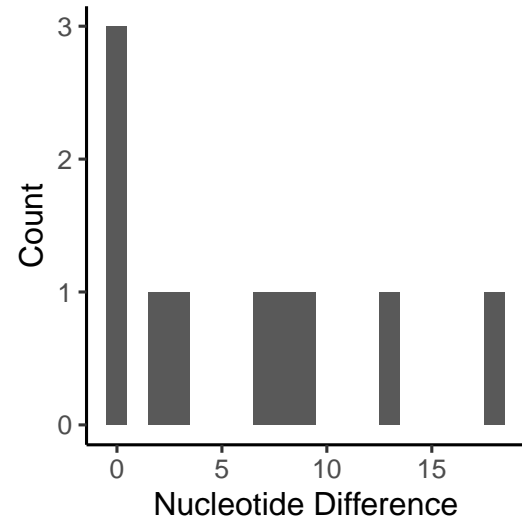
### IGHV4-4\*07

98 sequences assigned  
13 (13.3%) exact matches, in which:  
13 unique CDR3  
5 unique J



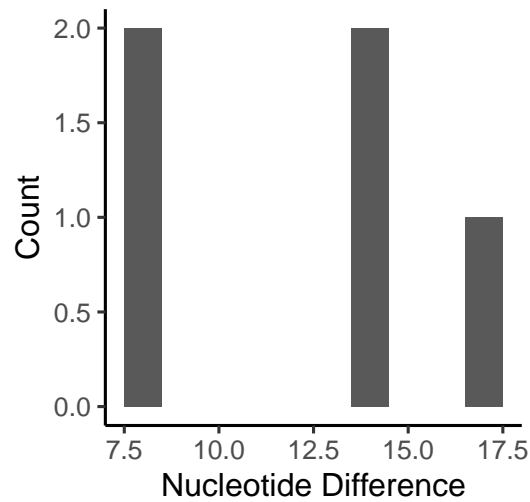
### IGHV4-30-2\*01

16 sequences assigned  
3 (18.8%) exact matches, in which:  
3 unique CDR3  
2 unique J



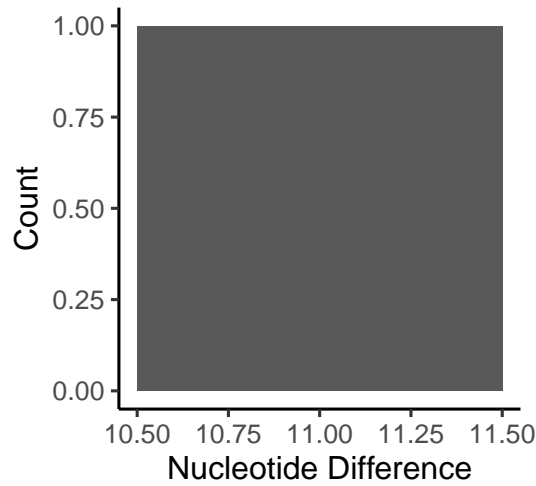
### IGHV3-64D\*08

7 sequences assigned  
No exact matches.



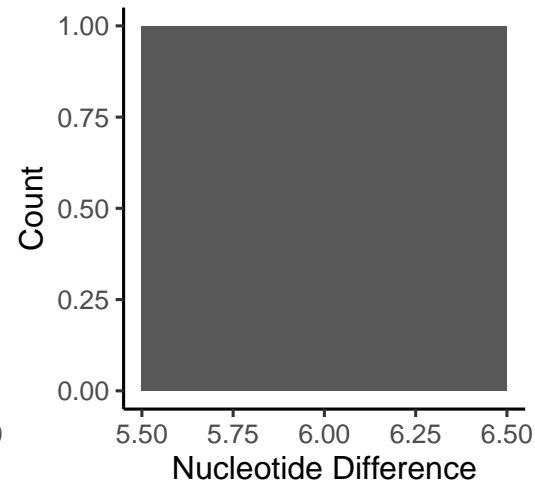
### IGHV4-28\*07

1 sequences assigned  
No exact matches.



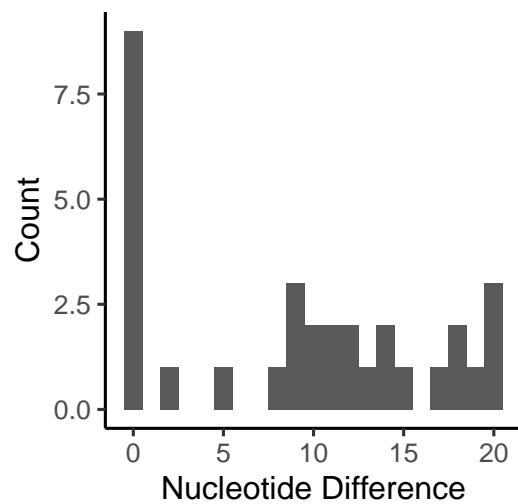
### IGHV4-30-2\*06

2 sequences assigned  
No exact matches.



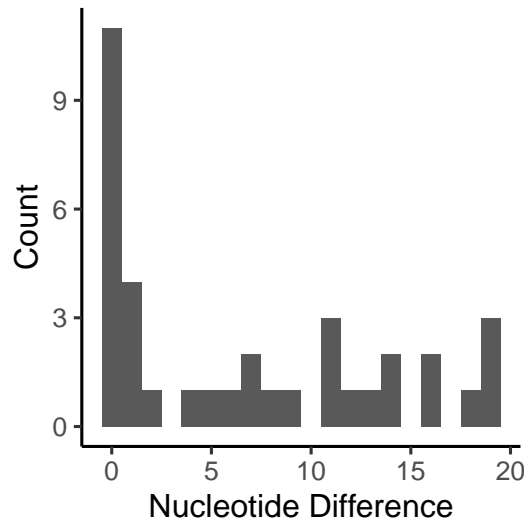
### IGHV4-4\*02

50 sequences assigned  
9 (18%) exact matches, in which:  
9 unique CDR3  
6 unique J



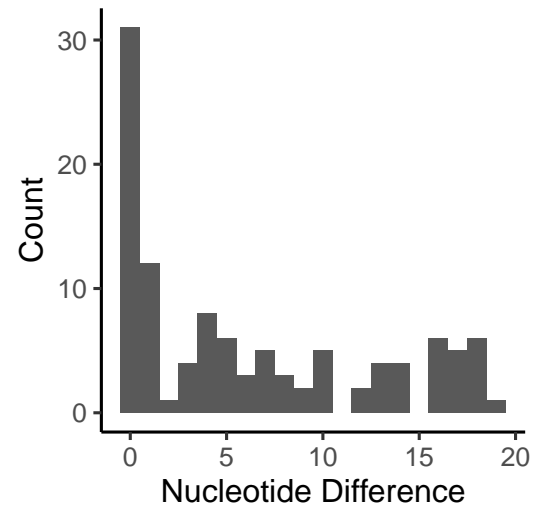
### IGHV4-30-4\*01

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



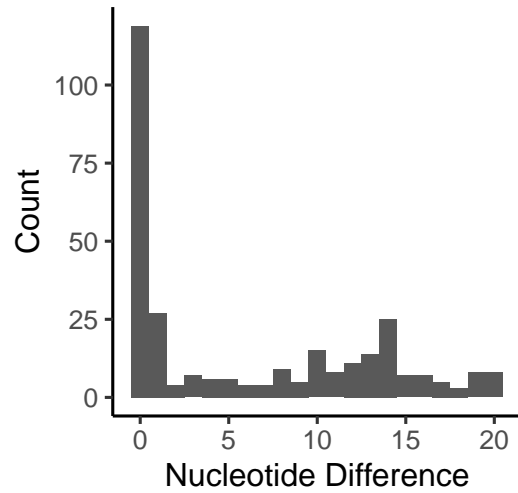
### IGHV4-31\*03

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



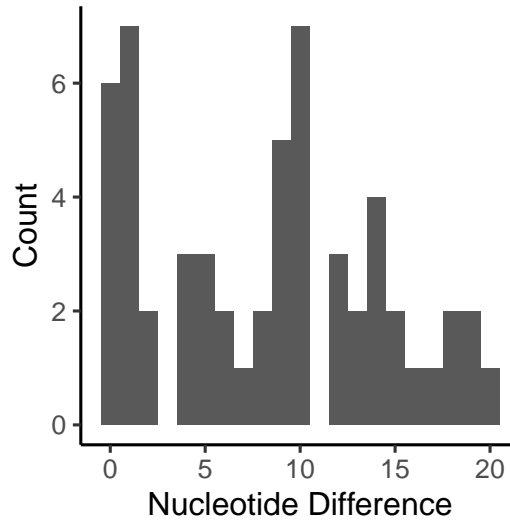
### IGHV4-34\*01

375 sequences assigned  
119 (31.7%) exact matches, in which:  
119 unique CDR3  
6 unique J



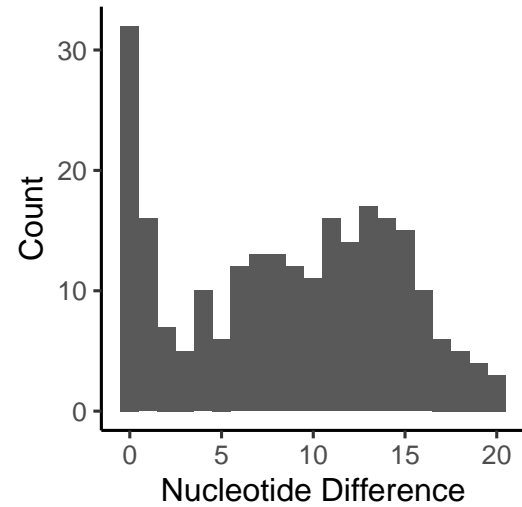
### IGHV4-61\*01

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



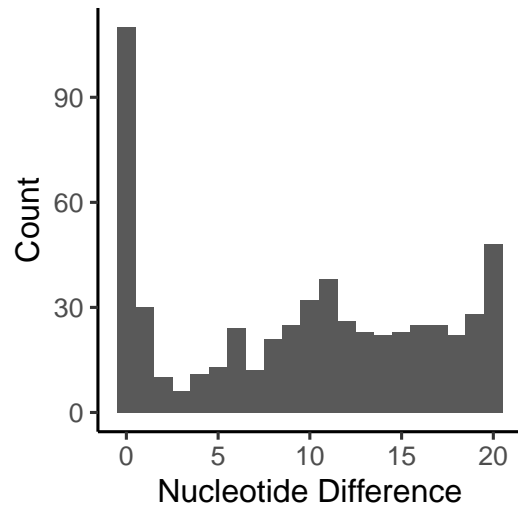
### IGHV5-51\*01

293 sequences assigned  
32 (10.9%) exact matches, in which:  
32 unique CDR3  
6 unique J



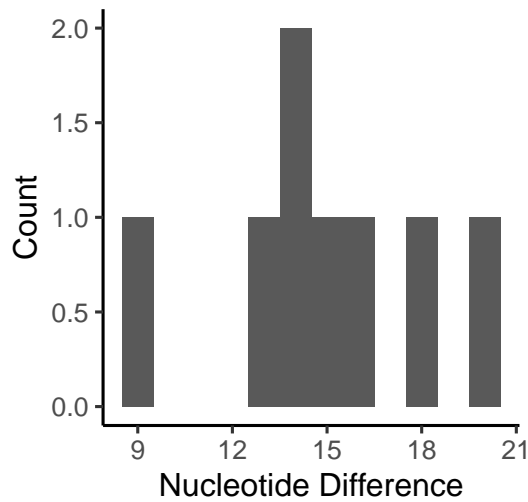
### IGHV4-39\*01

762 sequences assigned  
110 (14.4%) exact matches, in which:  
109 unique CDR3  
6 unique J



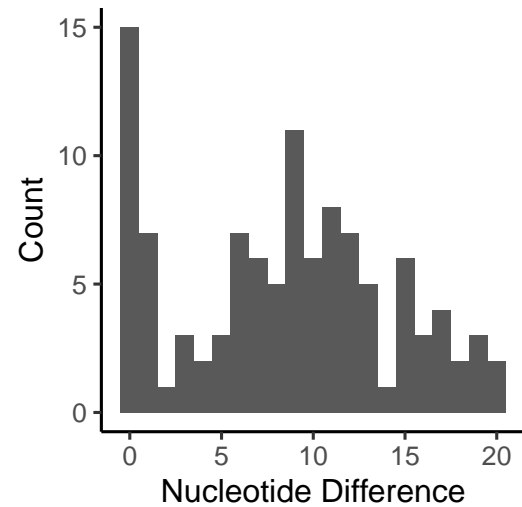
### IGHV4-61\*08

14 sequences assigned  
No exact matches.



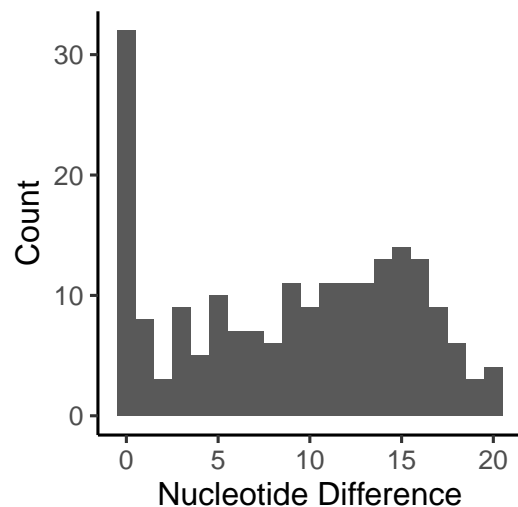
### IGHV6-1\*01

118 sequences assigned  
15 (12.7%) exact matches, in which:  
15 unique CDR3  
4 unique J



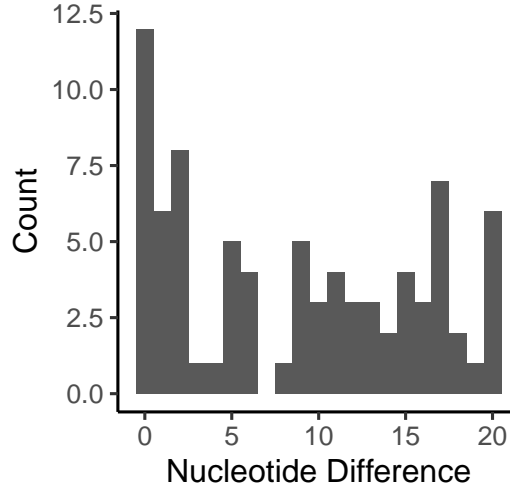
### IGHV4-59\*01

289 sequences assigned  
32 (11.1%) exact matches, in which:  
32 unique CDR3  
5 unique J



### IGHV5-10-1\*03

105 sequences assigned  
12 (11.4%) exact matches, in which:  
12 unique CDR3  
3 unique J



### IGHV7-4-1\*01

2 sequences assigned  
1 (50%) exact matches, in which:  
1 unique CDR3  
1 unique J

