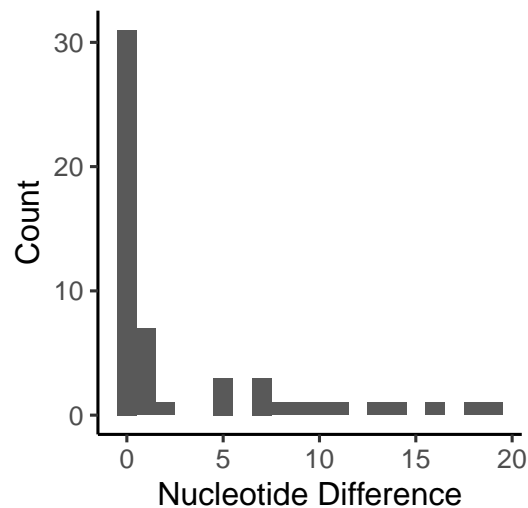


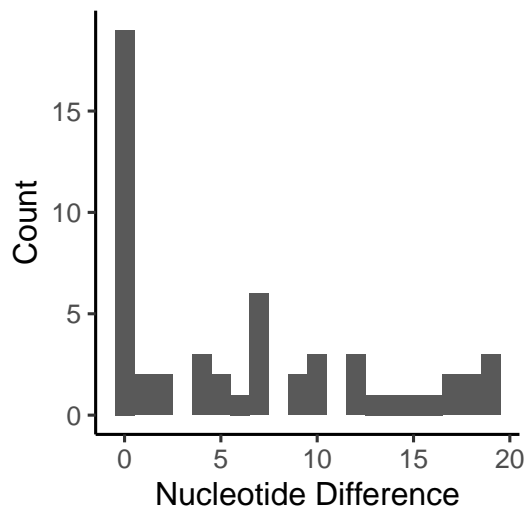
### IGHV1-2\*04

63 sequences assigned  
31 (49.2%) exact matches, in which:  
30 unique CDR3  
6 unique J



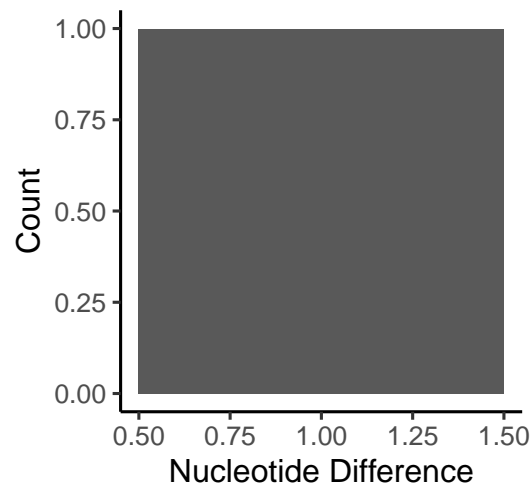
### IGHV1-8\*01

60 sequences assigned  
19 (31.7%) exact matches, in which:  
19 unique CDR3  
4 unique J



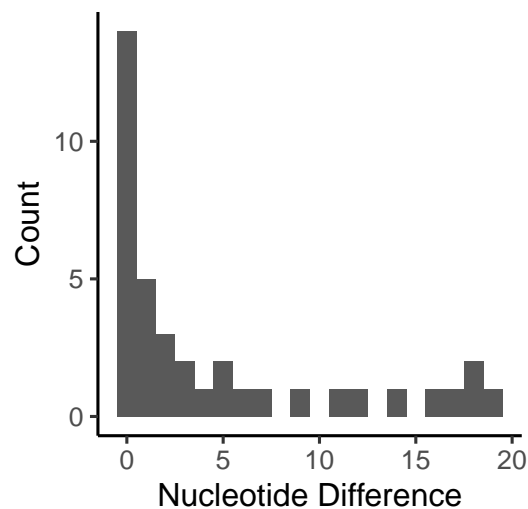
### IGHV1-45\*02

1 sequences assigned  
No exact matches.



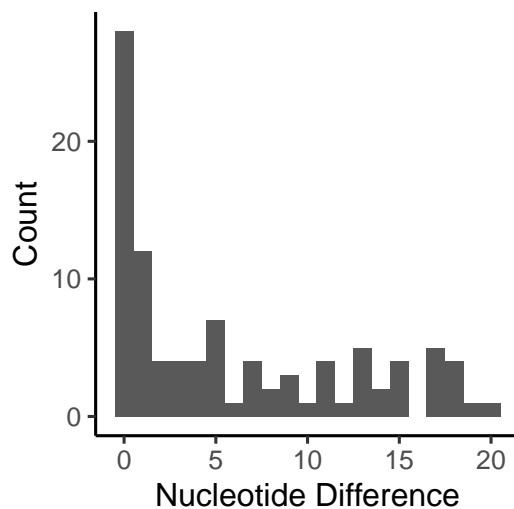
### IGHV1-3\*01

107 sequences assigned  
14 (13.1%) exact matches, in which:  
14 unique CDR3  
4 unique J



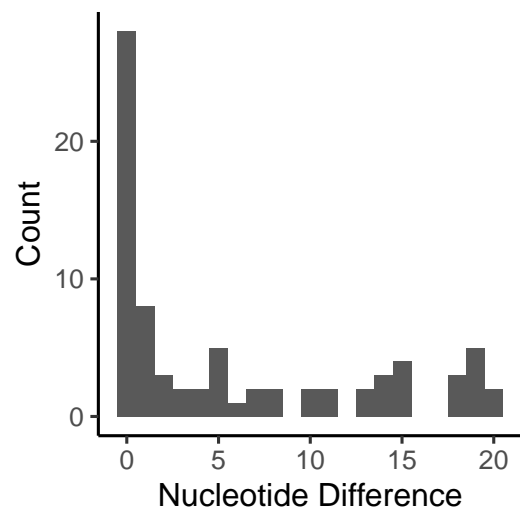
### IGHV1-18\*01

142 sequences assigned  
28 (19.7%) exact matches, in which:  
28 unique CDR3  
4 unique J



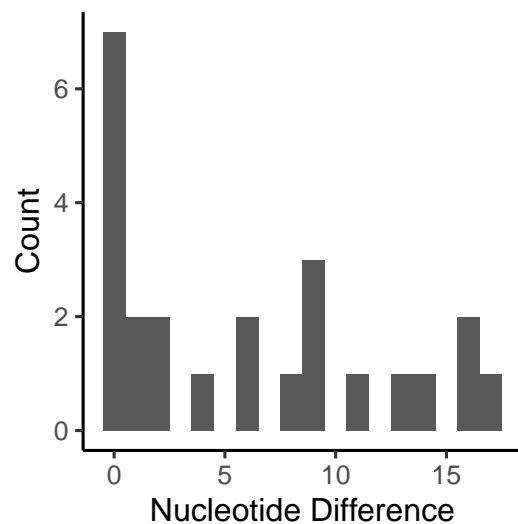
### IGHV1-46\*01

128 sequences assigned  
28 (21.9%) exact matches, in which:  
28 unique CDR3  
5 unique J



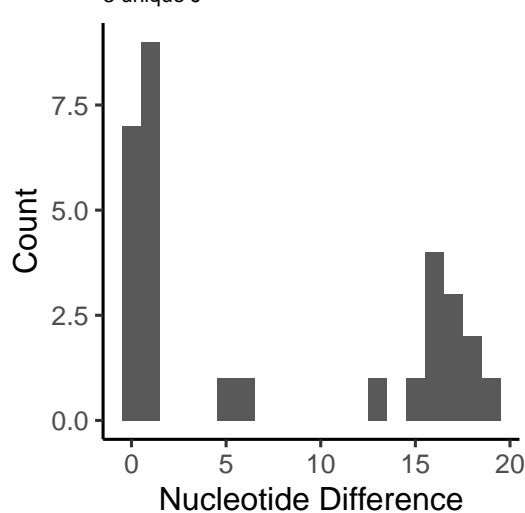
### IGHV1-3\*05

30 sequences assigned  
7 (23.3%) exact matches, in which:  
7 unique CDR3  
4 unique J



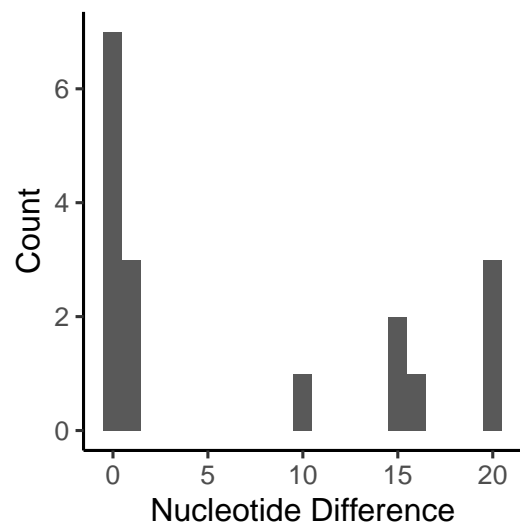
### IGHV1-24\*01

49 sequences assigned  
7 (14.3%) exact matches, in which:  
7 unique CDR3  
3 unique J



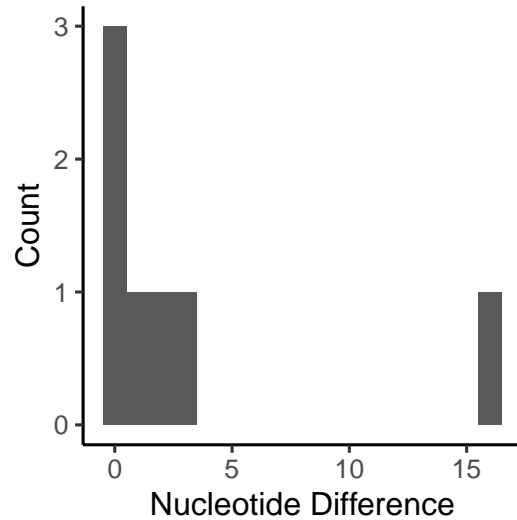
### IGHV1-58\*01

19 sequences assigned  
7 (36.8%) exact matches, in which:  
7 unique CDR3  
3 unique J



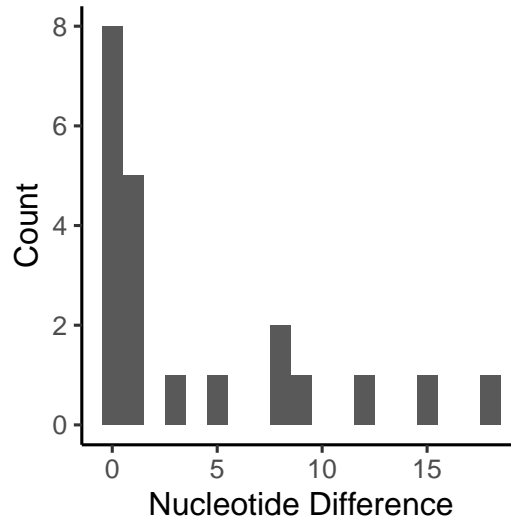
### IGHV1-69-2\*01

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



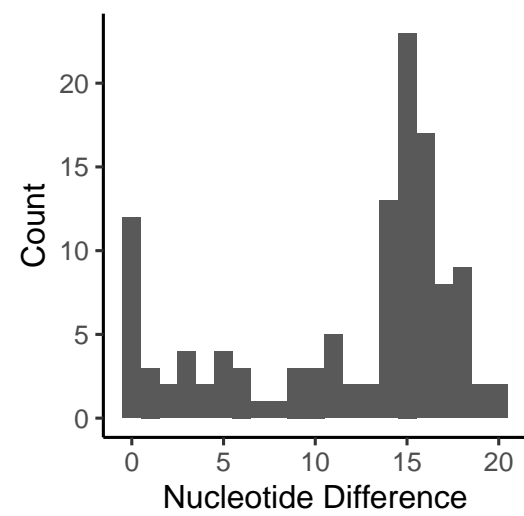
### IGHV2-26\*01

22 sequences assigned  
8 (36.4%) exact matches, in which:  
8 unique CDR3  
3 unique J



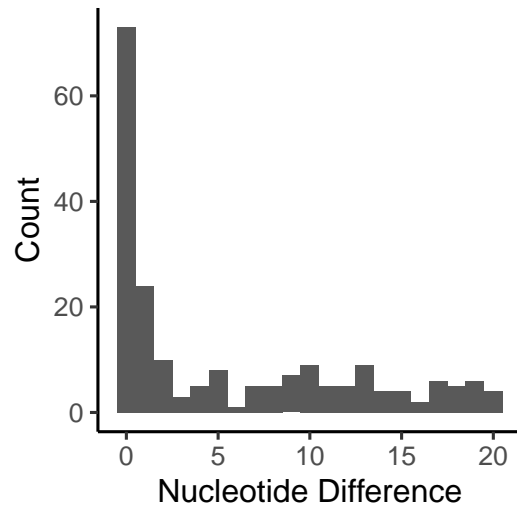
### IGHV3-7\*03

160 sequences assigned  
12 (7.5%) exact matches, in which:  
12 unique CDR3  
5 unique J



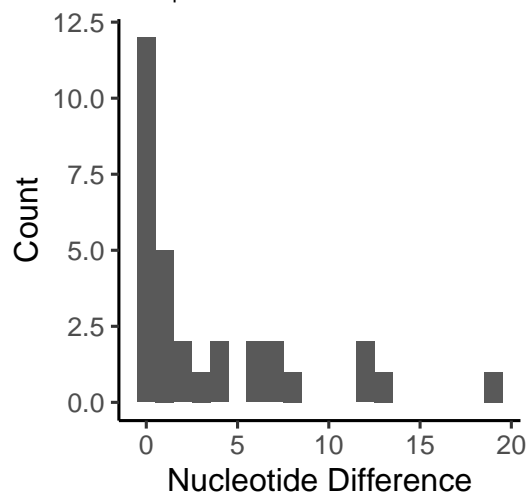
### IGHV1-69\*06

286 sequences assigned  
73 (25.5%) exact matches, in which:  
73 unique CDR3  
6 unique J



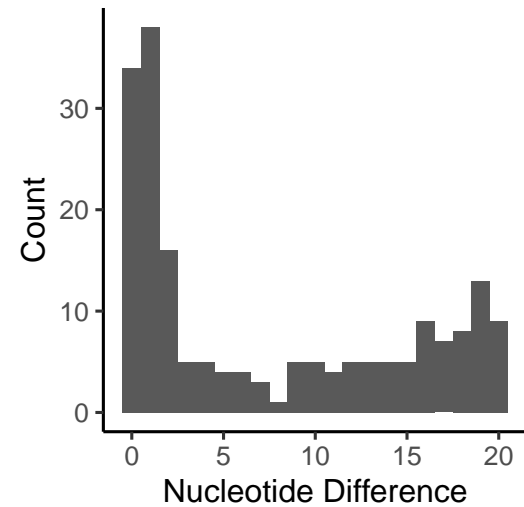
### IGHV2-70\*01

33 sequences assigned  
12 (36.4%) exact matches, in which:  
11 unique CDR3  
5 unique J



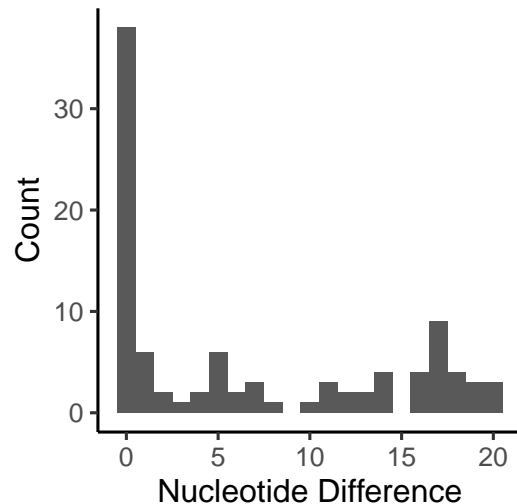
### IGHV3-9\*01

284 sequences assigned  
34 (12%) exact matches, in which:  
34 unique CDR3  
6 unique J



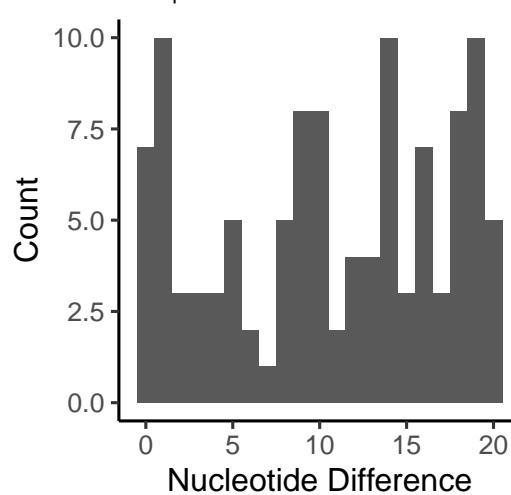
### IGHV2-5\*02

126 sequences assigned  
38 (30.2%) exact matches, in which:  
38 unique CDR3  
6 unique J



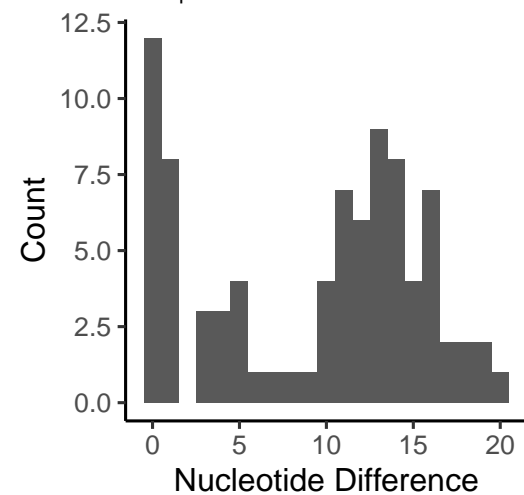
### IGHV3-7\*01

181 sequences assigned  
7 (3.9%) exact matches, in which:  
7 unique CDR3  
4 unique J



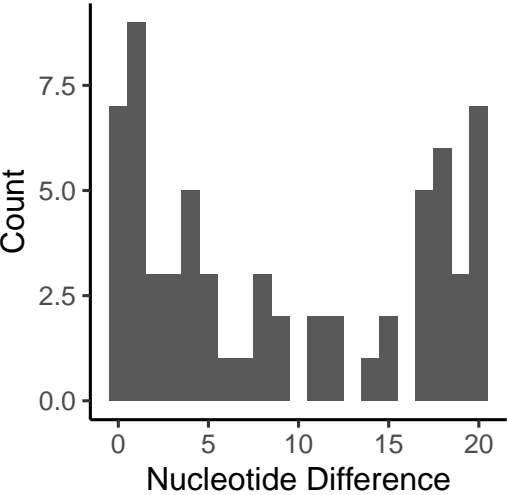
### IGHV3-11\*01

110 sequences assigned  
12 (10.9%) exact matches, in which:  
12 unique CDR3  
5 unique J



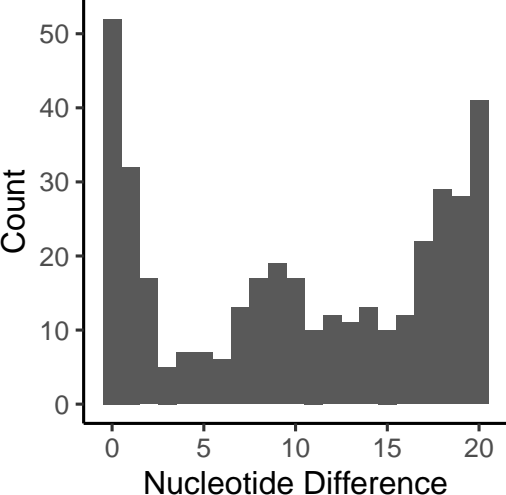
IGHV3-11\*06

99 sequences assigned  
7 (7.1%) exact matches, in which:  
7 unique CDR3  
4 unique J



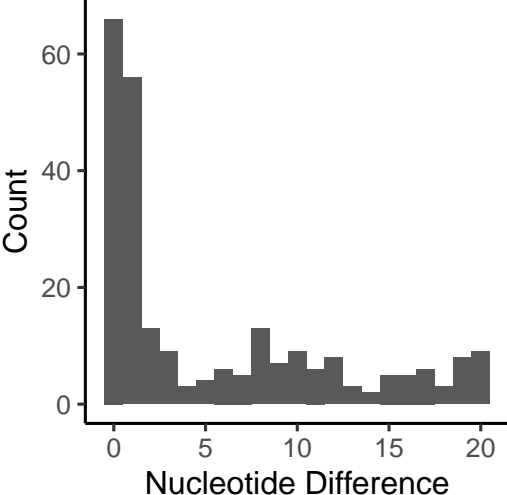
IGHV3-15\*07

573 sequences assigned  
52 (9.1%) exact matches, in which:  
50 unique CDR3  
6 unique J



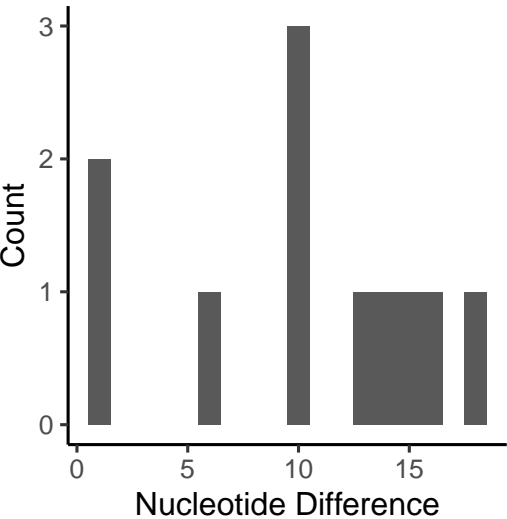
IGHV3-21\*01

323 sequences assigned  
66 (20.4%) exact matches, in which:  
65 unique CDR3  
5 unique J



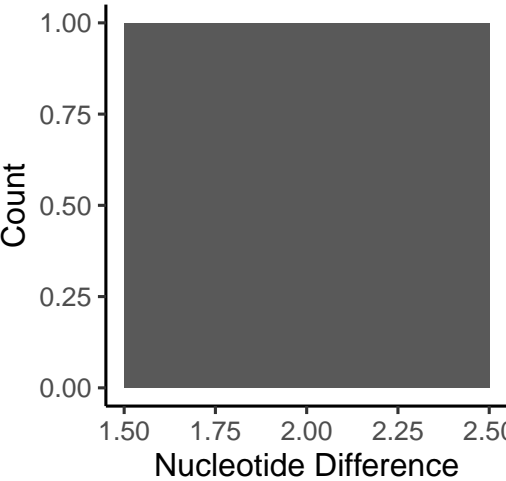
IGHV3-13\*01

15 sequences assigned  
No exact matches.



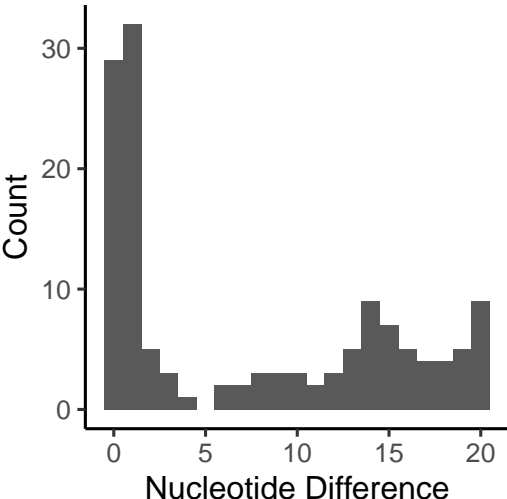
IGHV3-20\*01

1 sequences assigned  
No exact matches.



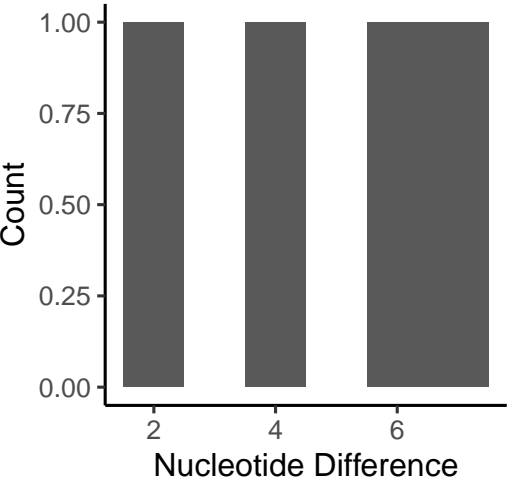
IGHV3-23\*04

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



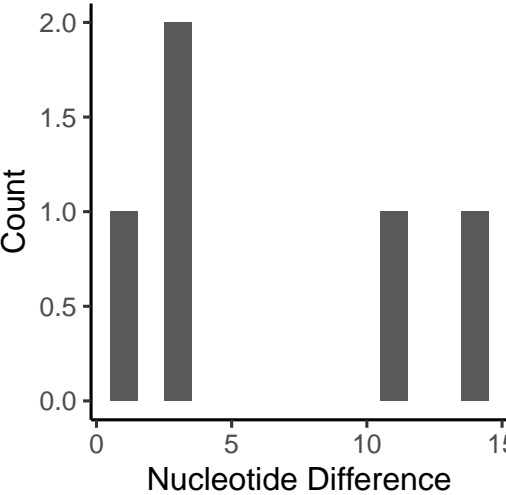
IGHV3-13\*05

4 sequences assigned  
No exact matches.



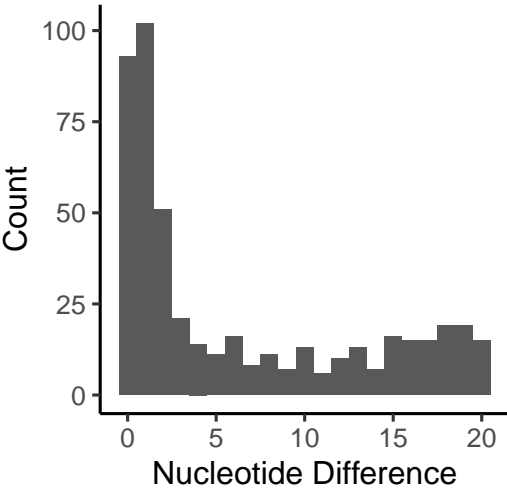
IGHV3-20\*04

7 sequences assigned  
No exact matches.



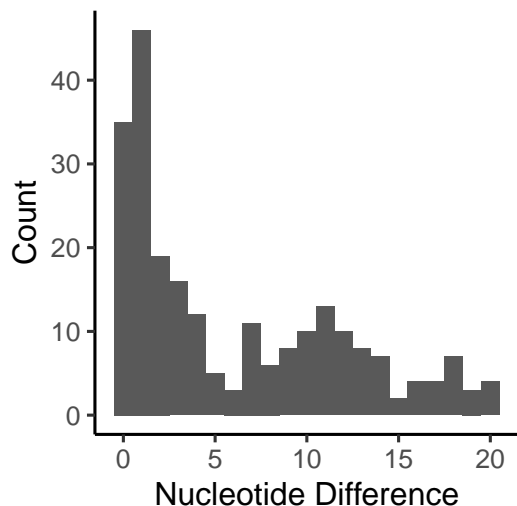
IGHV3-30-3\*01

672 sequences assigned  
93 (13.8%) exact matches, in which:  
91 unique CDR3  
6 unique J



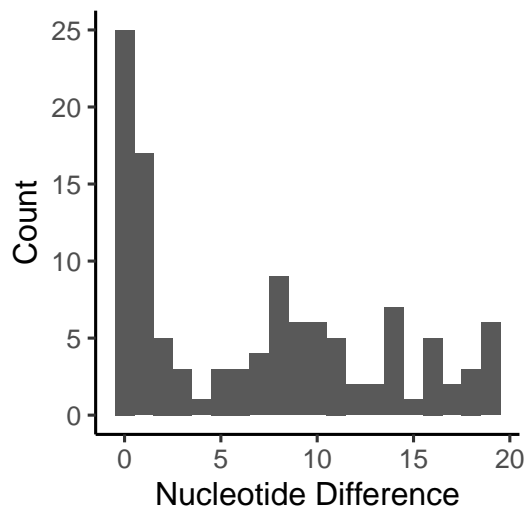
### IGHV3-33\*01

296 sequences assigned  
35 (11.8%) exact matches, in which:  
35 unique CDR3  
6 unique J



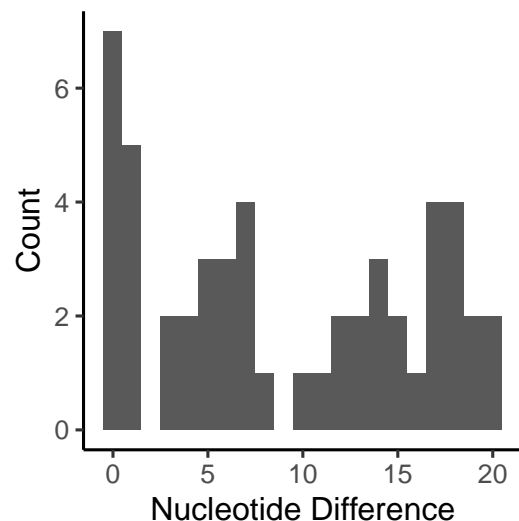
### IGHV3-48\*03

154 sequences assigned  
25 (16.2%) exact matches, in which:  
25 unique CDR3  
6 unique J



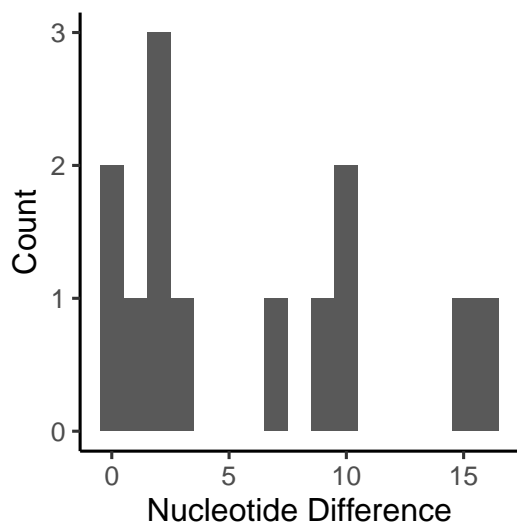
### IGHV3-53\*01

66 sequences assigned  
7 (10.6%) exact matches, in which:  
7 unique CDR3  
3 unique J



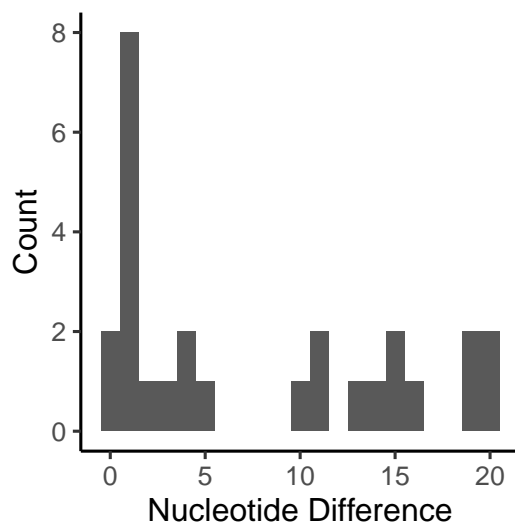
### IGHV3-43\*01

14 sequences assigned  
2 (14.3%) exact matches, in which:  
2 unique CDR3  
2 unique J



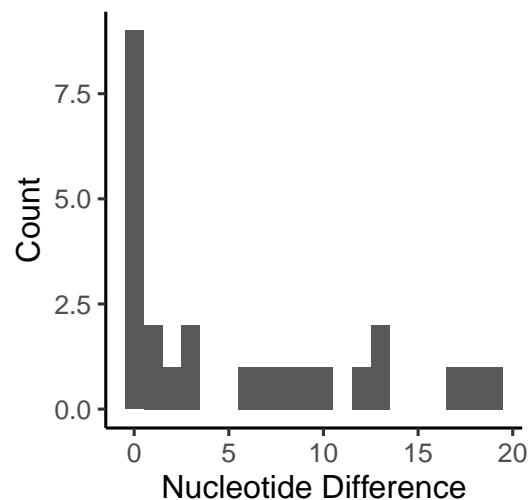
### IGHV3-49\*04

37 sequences assigned  
2 (5.4%) exact matches, in which:  
2 unique CDR3  
1 unique J



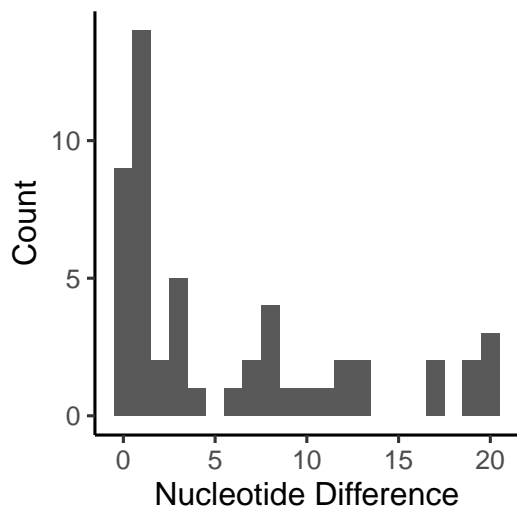
### IGHV3-53\*02

40 sequences assigned  
9 (22.5%) exact matches, in which:  
9 unique CDR3  
4 unique J



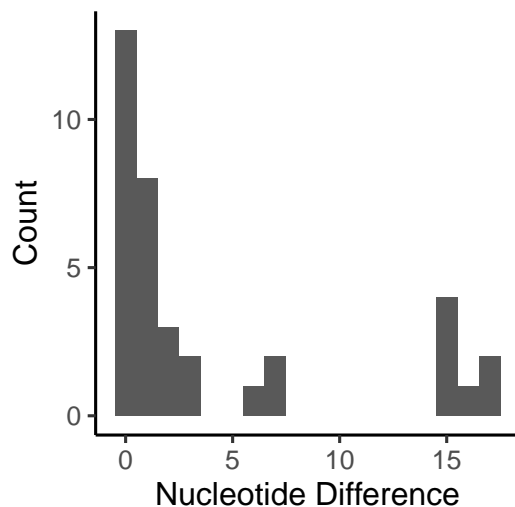
### IGHV3-48\*02

68 sequences assigned  
9 (13.2%) exact matches, in which:  
9 unique CDR3  
4 unique J



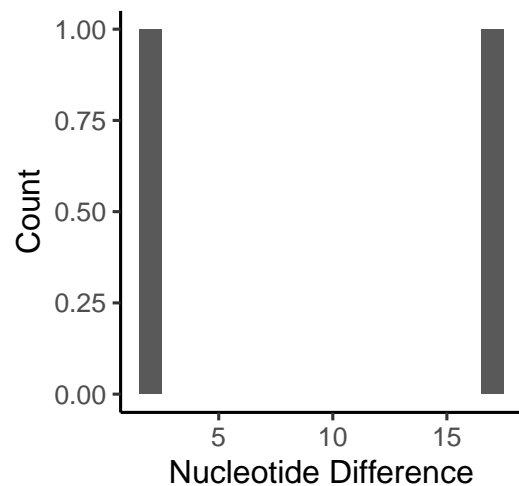
### IGHV3-49\*05

38 sequences assigned  
13 (34.2%) exact matches, in which:  
11 unique CDR3  
5 unique J



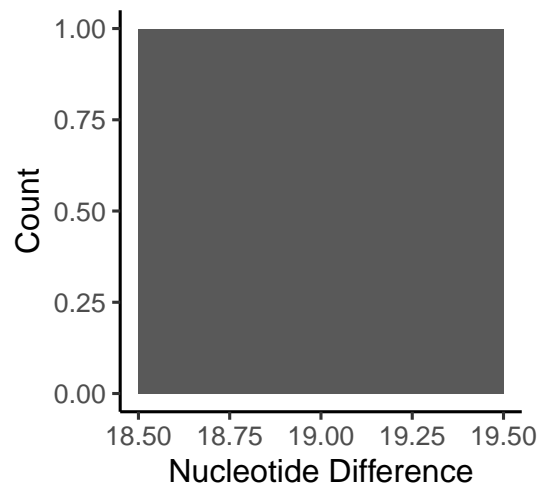
### IGHV3-64\*02

3 sequences assigned  
No exact matches.



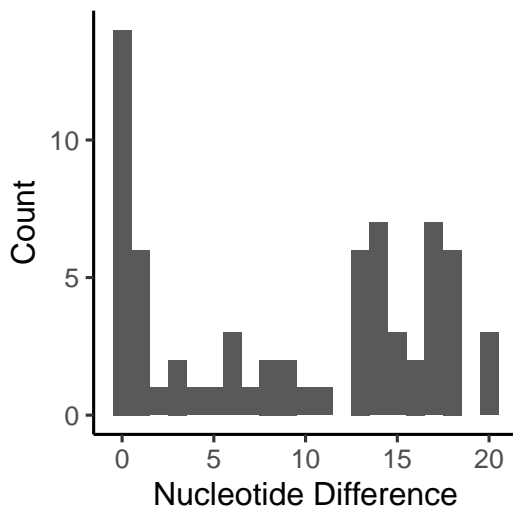
### IGHV3-64\*04

1 sequences assigned  
No exact matches.



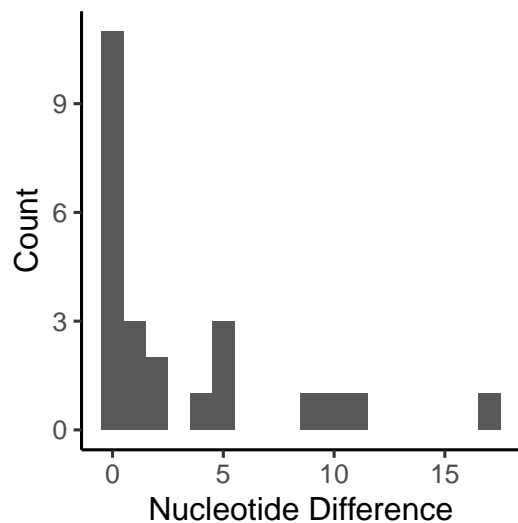
### IGHV3-74\*01

85 sequences assigned  
14 (16.5%) exact matches, in which:  
14 unique CDR3  
3 unique J



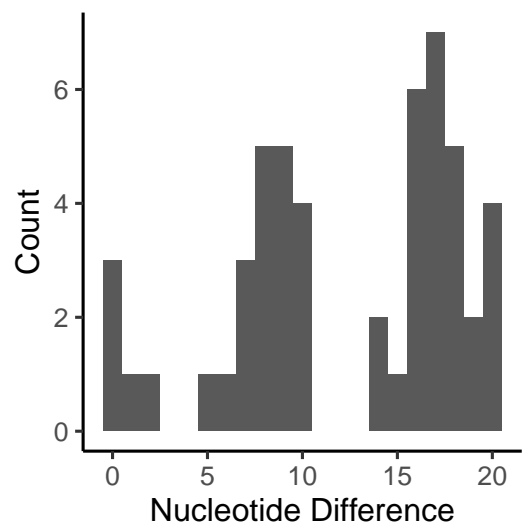
### IGHV3-64D\*06

39 sequences assigned  
11 (28.2%) exact matches, in which:  
11 unique CDR3  
3 unique J



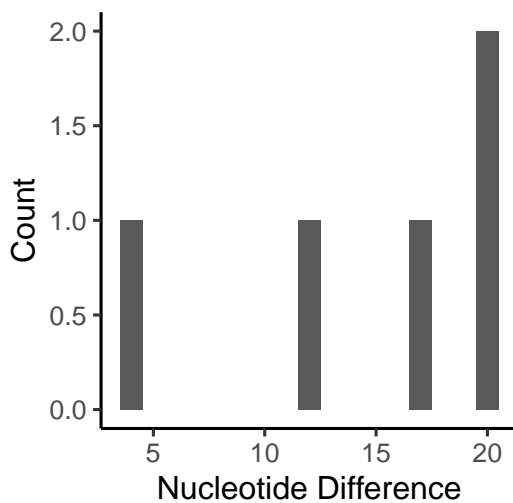
### IGHV3-72\*01

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



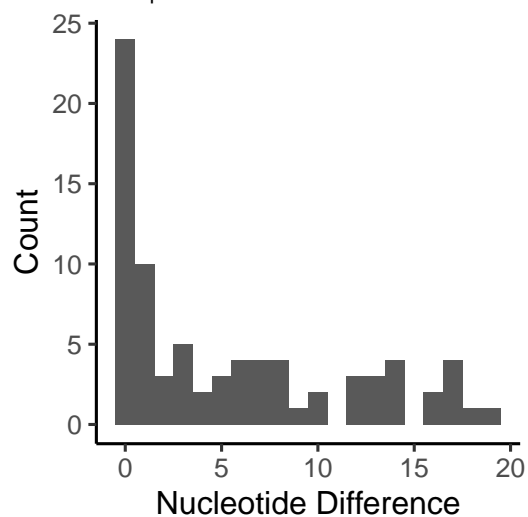
### IGHV3-74\*03

15 sequences assigned  
No exact matches.



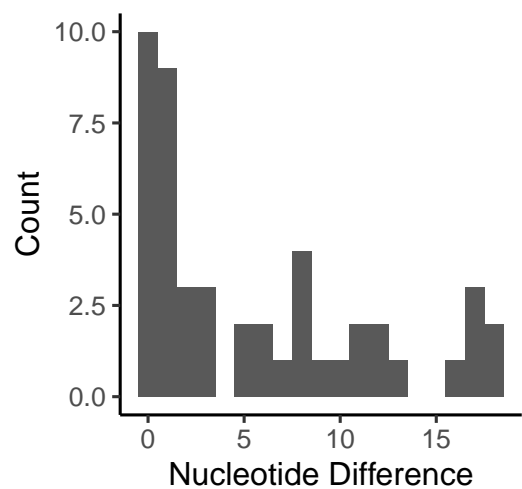
### IGHV4-4\*02

113 sequences assigned  
24 (21.2%) exact matches, in which:  
24 unique CDR3  
4 unique J



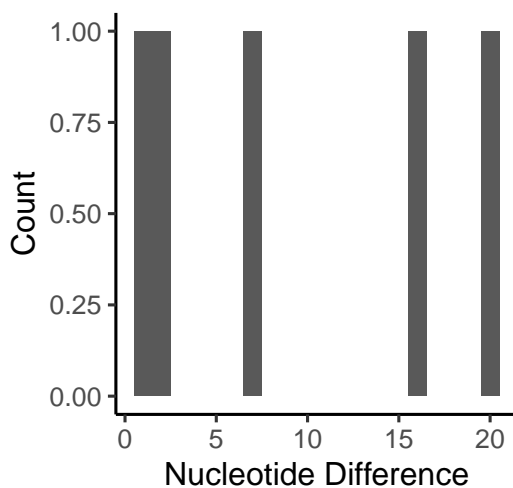
### IGHV3-73\*02

51 sequences assigned  
10 (19.6%) exact matches, in which:  
10 unique CDR3  
5 unique J



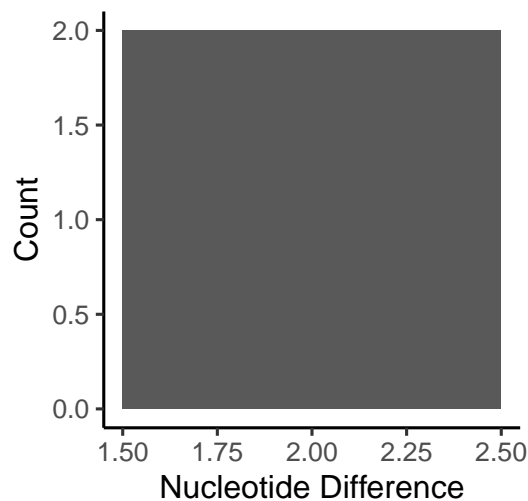
### IGHV3-43D\*04

9 sequences assigned  
No exact matches.



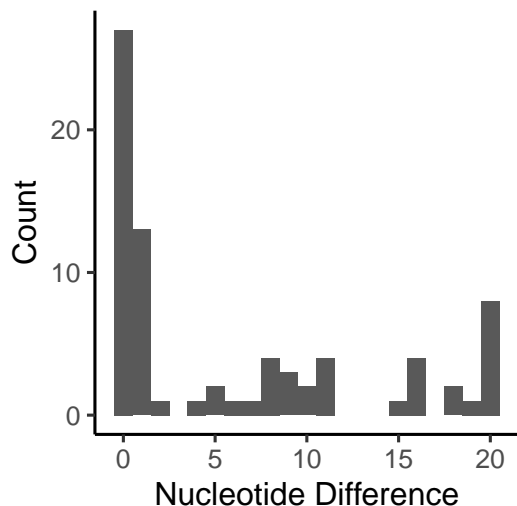
### IGHV4-28\*04

2 sequences assigned  
No exact matches.



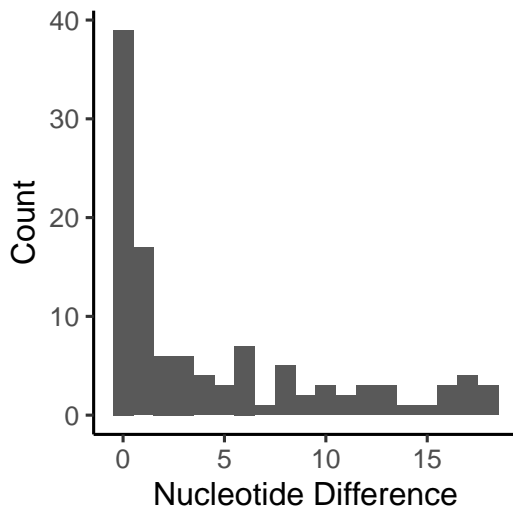
### IGHV4-30-4\*01

104 sequences assigned  
27 (26%) exact matches, in which:  
27 unique CDR3  
5 unique J



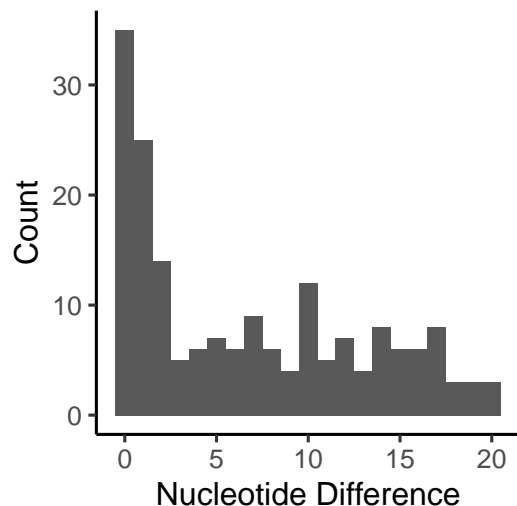
### IGHV4-34\*01

132 sequences assigned  
39 (29.5%) exact matches, in which:  
39 unique CDR3  
4 unique J



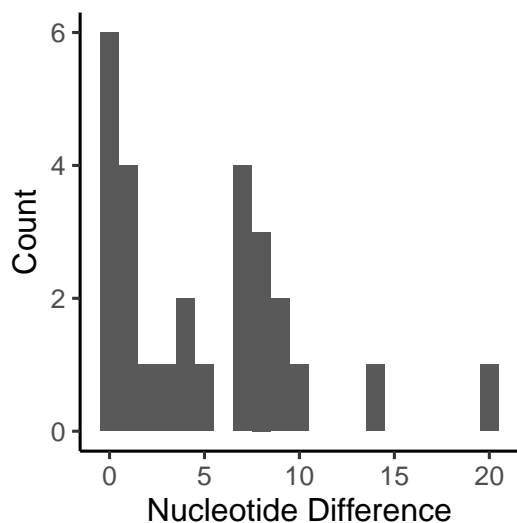
### IGHV4-39\*01

297 sequences assigned  
35 (11.8%) exact matches, in which:  
35 unique CDR3  
5 unique J



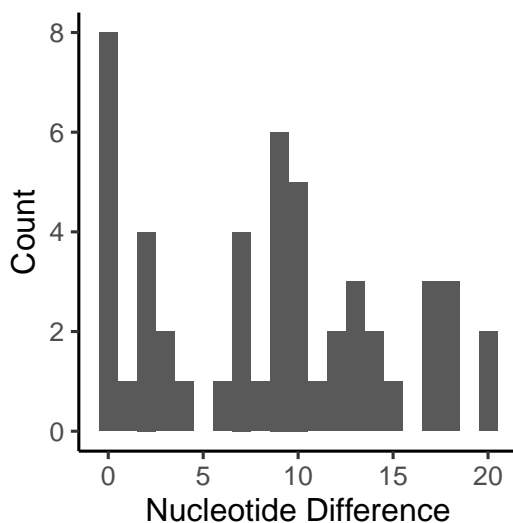
### IGHV4-30-2\*01

43 sequences assigned  
6 (14%) exact matches, in which:  
6 unique CDR3  
3 unique J



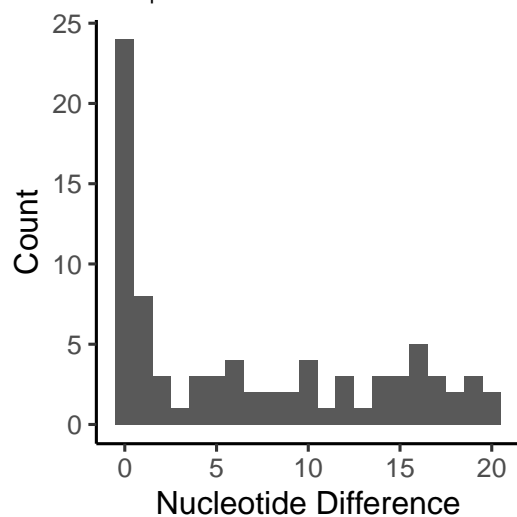
### IGHV4-38-2\*01

71 sequences assigned  
8 (11.3%) exact matches, in which:  
8 unique CDR3  
4 unique J



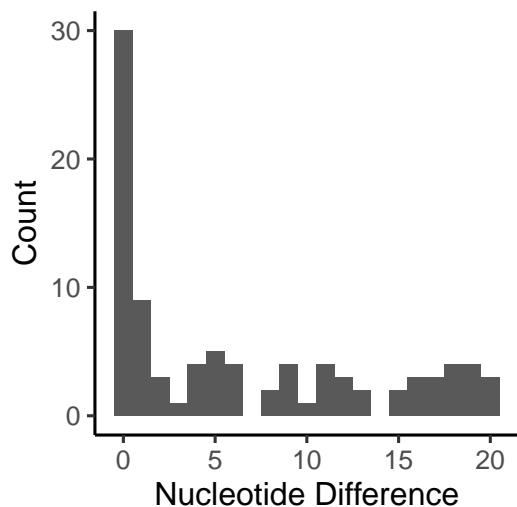
### IGHV4-59\*01

120 sequences assigned  
24 (20%) exact matches, in which:  
23 unique CDR3  
5 unique J



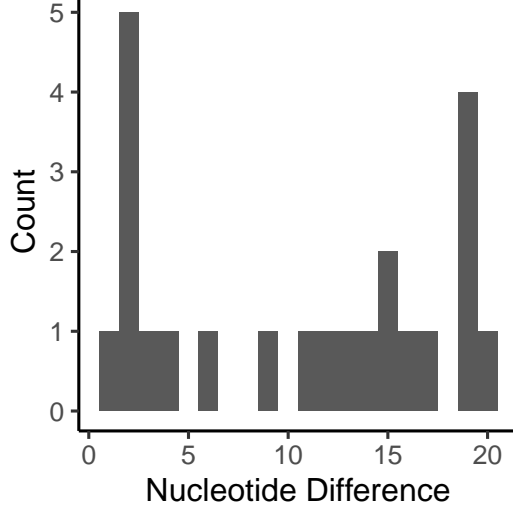
### IGHV4-31\*03

127 sequences assigned  
30 (23.6%) exact matches, in which:  
30 unique CDR3  
4 unique J



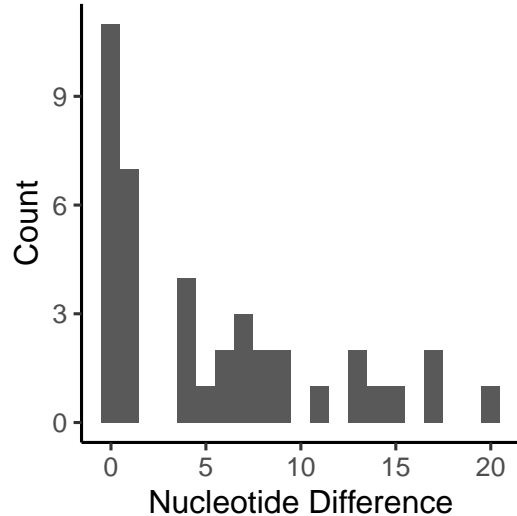
### IGHV4-38-2\*02

35 sequences assigned  
No exact matches.



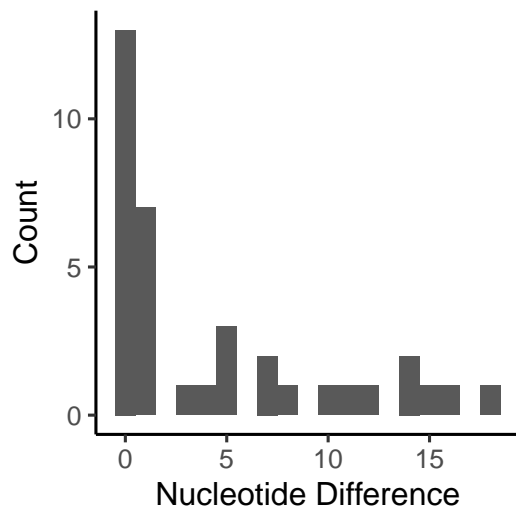
### IGHV4-61\*01

60 sequences assigned  
11 (18.3%) exact matches, in which:  
11 unique CDR3  
4 unique J



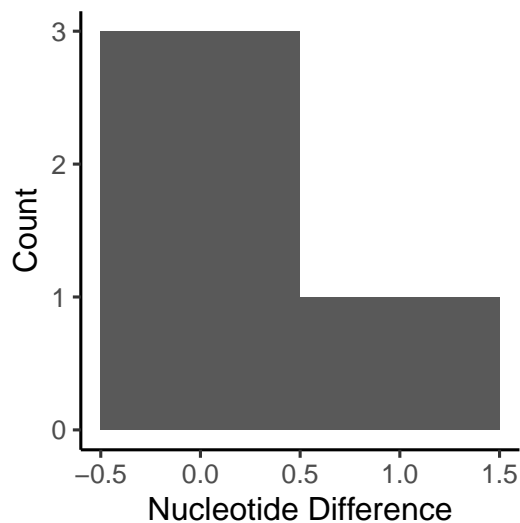
## IGHV5-10-1\*03

57 sequences assigned  
13 (22.8%) exact matches, in which:  
13 unique CDR3  
5 unique J



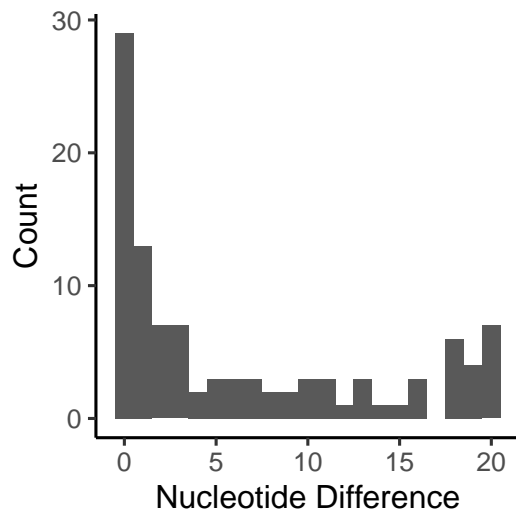
## IGHV7-4-1\*01

4 sequences assigned  
3 (75%) exact matches, in which:  
3 unique CDR3  
2 unique J



## IGHV5-51\*01

147 sequences assigned  
29 (19.7%) exact matches, in which:  
27 unique CDR3  
5 unique J



## IGHV6-1\*01

118 sequences assigned  
12 (10.2%) exact matches, in which:  
12 unique CDR3  
5 unique J

