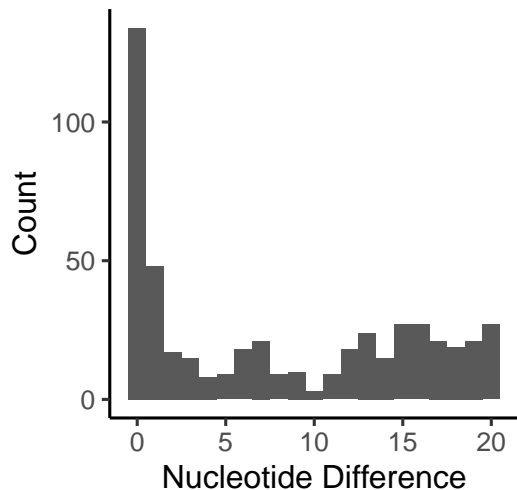


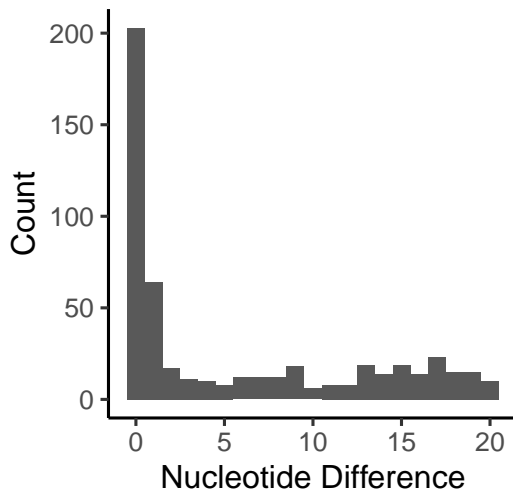
### IGHV1-2\*02

874 sequences assigned  
134 (15.3%) exact matches, in which:  
130 unique CDR3  
6 unique J



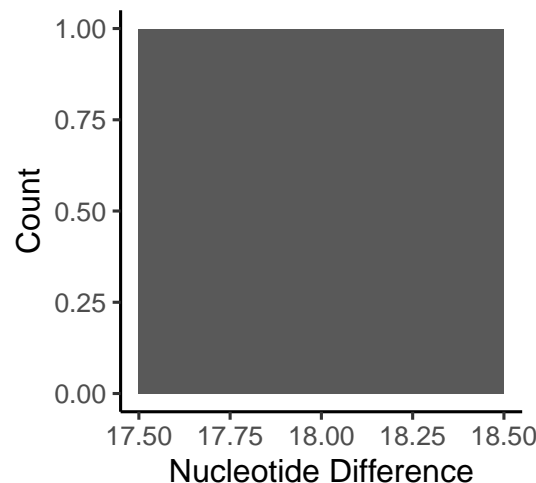
### IGHV1-8\*01

684 sequences assigned  
203 (29.7%) exact matches, in which:  
198 unique CDR3  
7 unique J



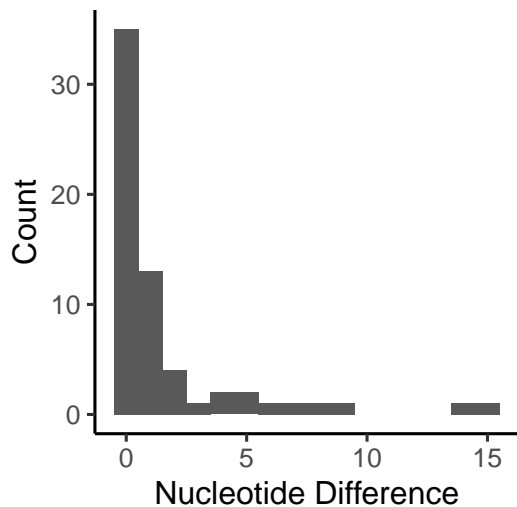
### IGHV1-45\*01

4 sequences assigned  
No exact matches.



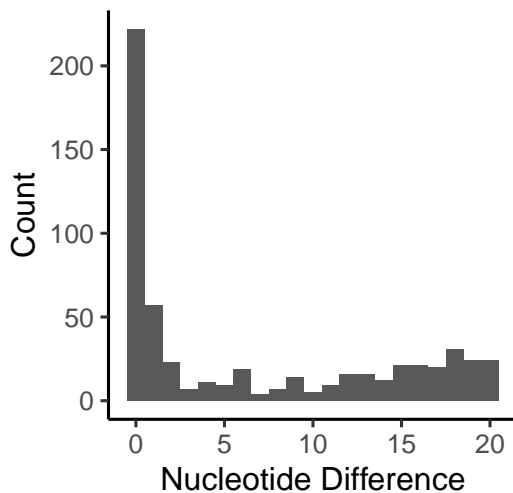
### IGHV1-2\*04

82 sequences assigned  
35 (42.7%) exact matches, in which:  
35 unique CDR3  
4 unique J



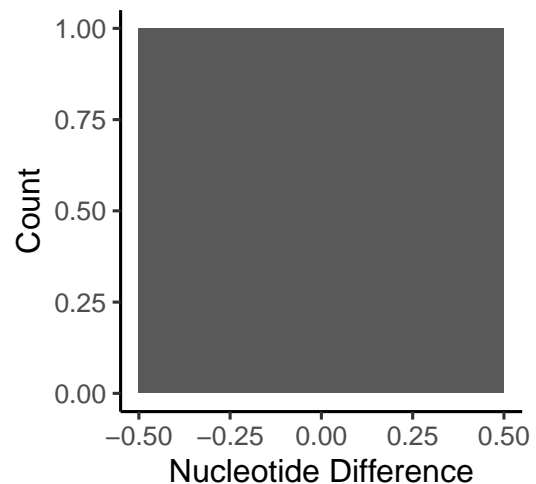
### IGHV1-18\*01

1012 sequences assigned  
222 (21.9%) exact matches, in which:  
220 unique CDR3  
7 unique J



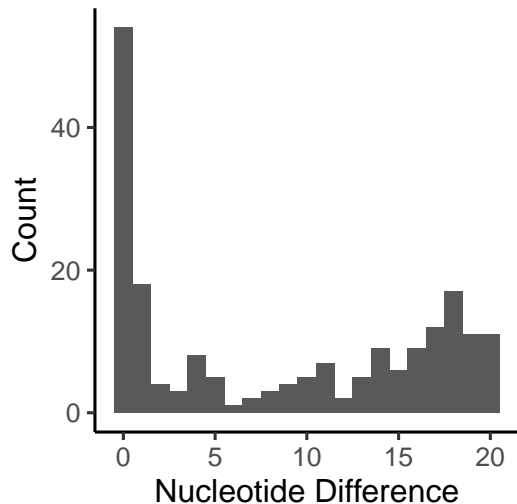
### IGHV1-45\*02

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



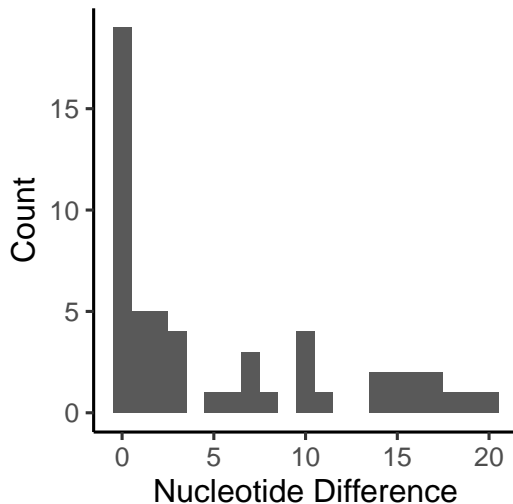
### IGHV1-3\*01

396 sequences assigned  
54 (13.6%) exact matches, in which:  
54 unique CDR3  
6 unique J



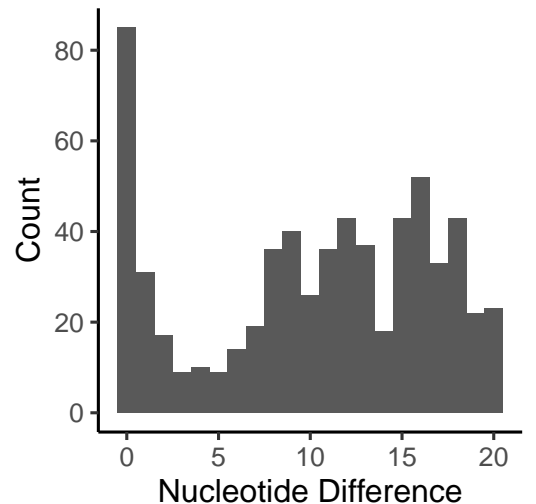
### IGHV1-24\*01

86 sequences assigned  
19 (22.1%) exact matches, in which:  
18 unique CDR3  
6 unique J



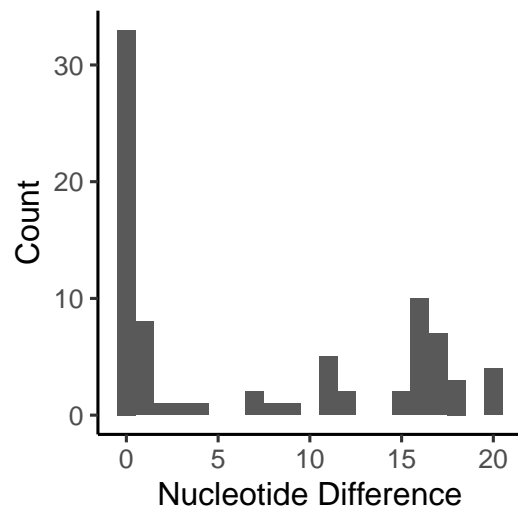
### IGHV1-46\*01

1111 sequences assigned  
85 (7.7%) exact matches, in which:  
83 unique CDR3  
6 unique J



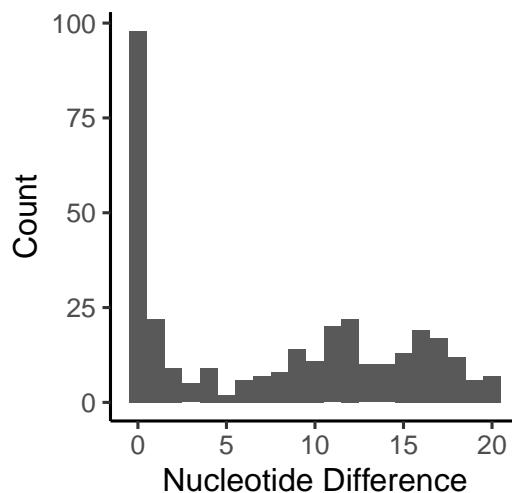
### IGHV1-58\*01

141 sequences assigned  
33 (23.4%) exact matches, in which:  
33 unique CDR3  
7 unique J



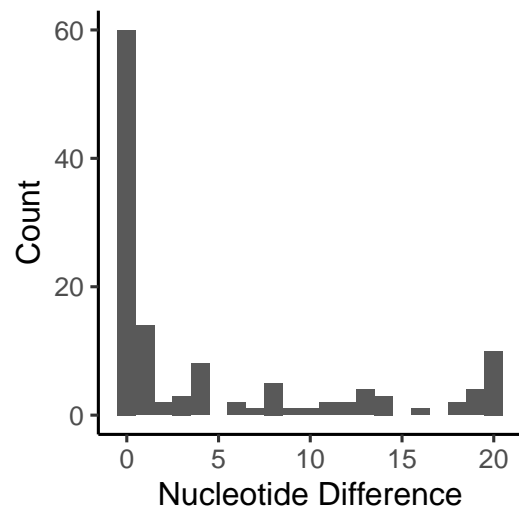
### IGHV2-5\*01

418 sequences assigned  
98 (23.4%) exact matches, in which:  
95 unique CDR3  
6 unique J



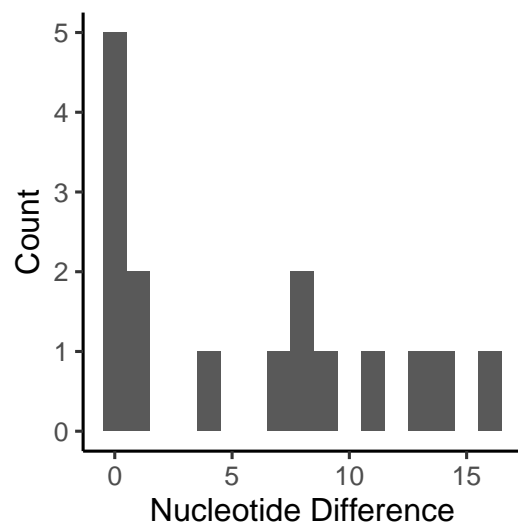
### IGHV2-70\*01

155 sequences assigned  
60 (38.7%) exact matches, in which:  
59 unique CDR3  
6 unique J



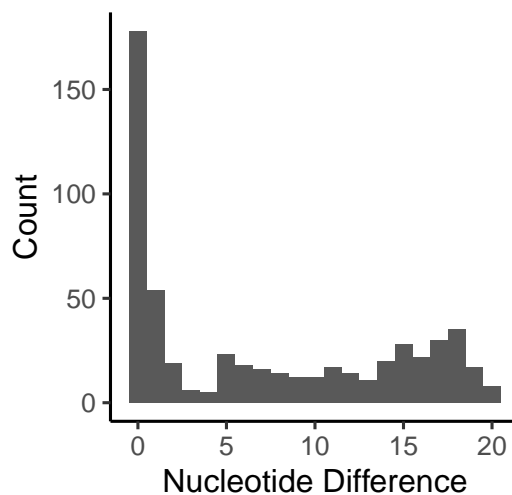
### IGHV1-69-2\*01

28 sequences assigned  
5 (17.9%) exact matches, in which:  
5 unique CDR3  
2 unique J



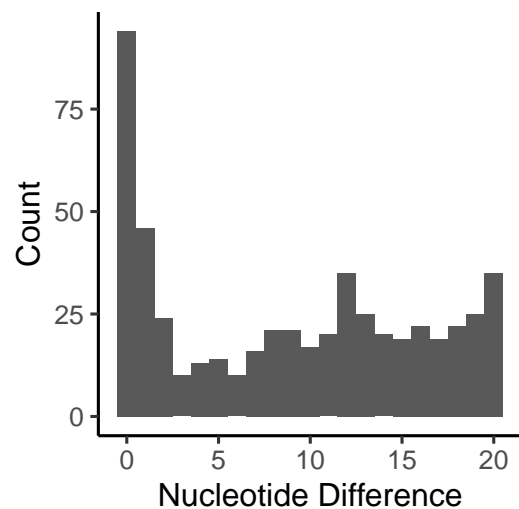
### IGHV2-5\*02

740 sequences assigned  
178 (24.1%) exact matches, in which:  
171 unique CDR3  
6 unique J



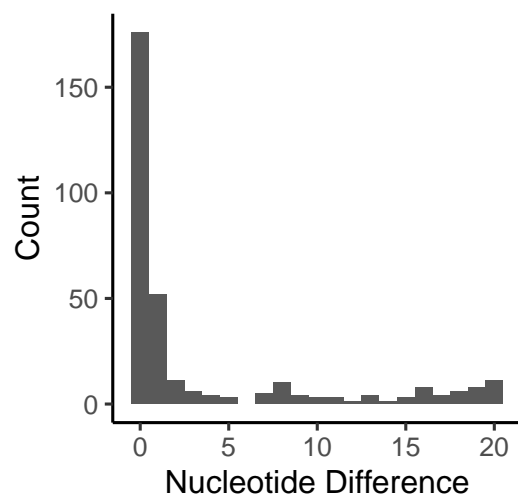
### IGHV3-7\*01

796 sequences assigned  
94 (11.8%) exact matches, in which:  
94 unique CDR3  
7 unique J



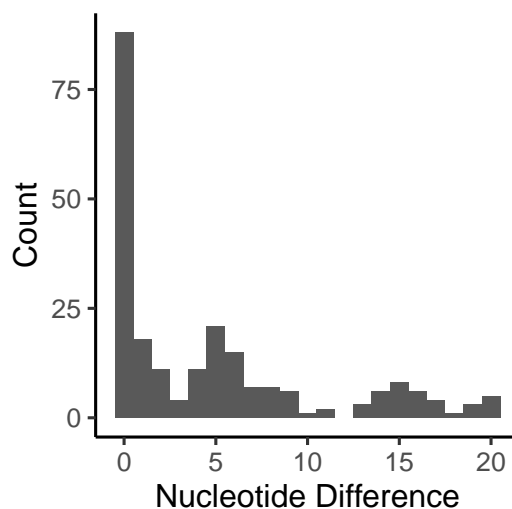
### IGHV1-69\*06

511 sequences assigned  
176 (34.4%) exact matches, in which:  
170 unique CDR3  
6 unique J



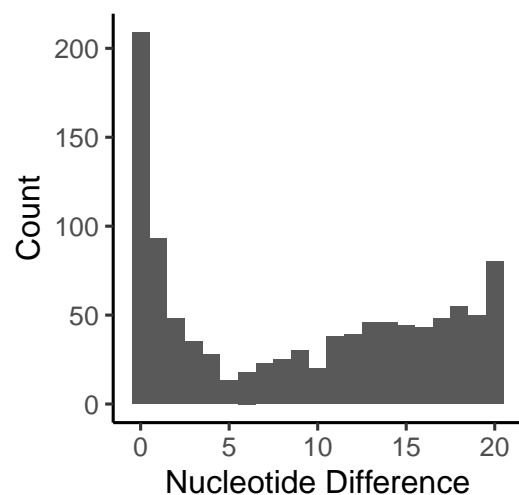
### IGHV2-26\*01

239 sequences assigned  
88 (36.8%) exact matches, in which:  
86 unique CDR3  
7 unique J



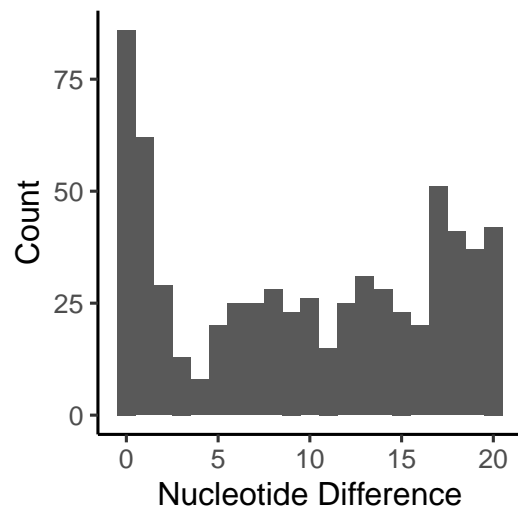
### IGHV3-9\*01

1820 sequences assigned  
209 (11.5%) exact matches, in which:  
206 unique CDR3  
7 unique J



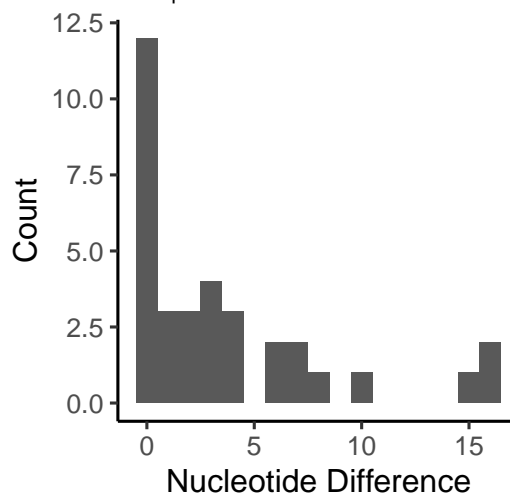
### IGHV3-11\*01

1150 sequences assigned  
86 (7.5%) exact matches, in which:  
86 unique CDR3  
7 unique J



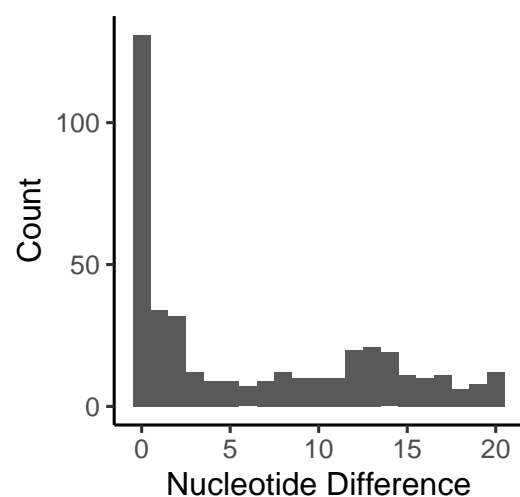
### IGHV3-20\*01

63 sequences assigned  
12 (19%) exact matches, in which:  
12 unique CDR3  
5 unique J



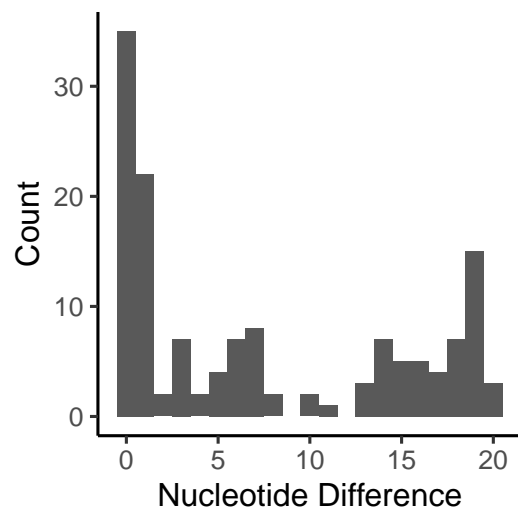
### IGHV3-30-3\*01

638 sequences assigned  
131 (20.5%) exact matches, in which:  
129 unique CDR3  
7 unique J



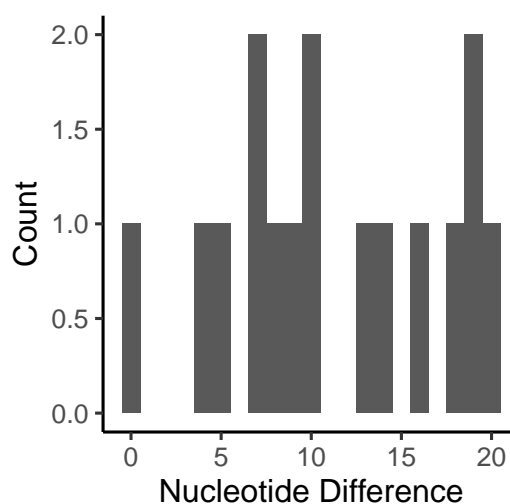
### IGHV3-13\*01

325 sequences assigned  
35 (10.8%) exact matches, in which:  
35 unique CDR3  
6 unique J



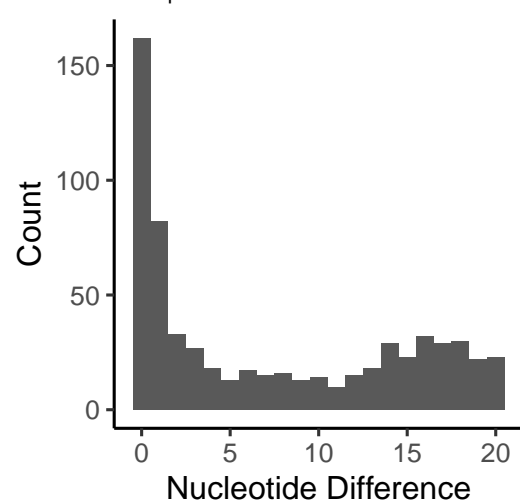
### IGHV3-20\*04

29 sequences assigned  
1 (3.4%) exact matches, in which:  
1 unique CDR3  
1 unique J



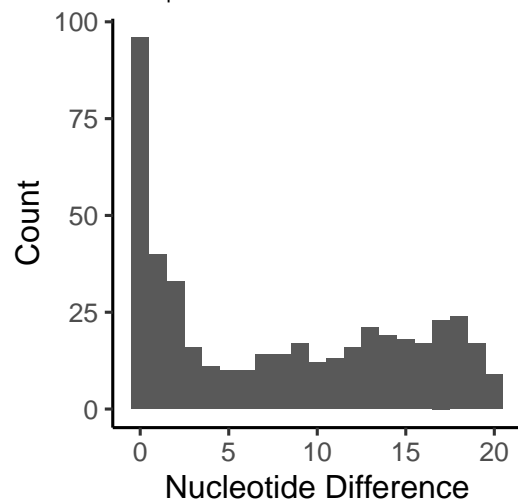
### IGHV3-33\*01

1139 sequences assigned  
162 (14.2%) exact matches, in which:  
161 unique CDR3  
7 unique J



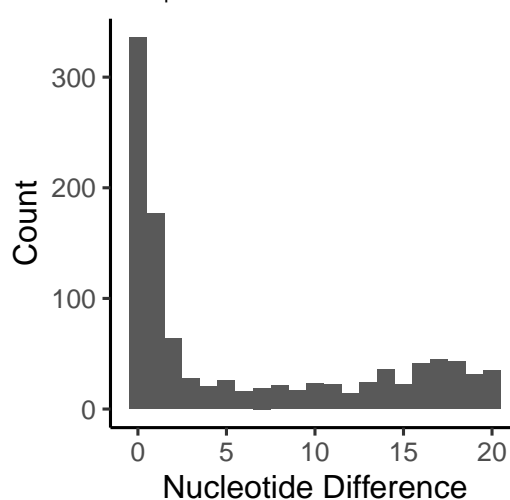
### IGHV3-15\*01

804 sequences assigned  
96 (11.9%) exact matches, in which:  
94 unique CDR3  
6 unique J



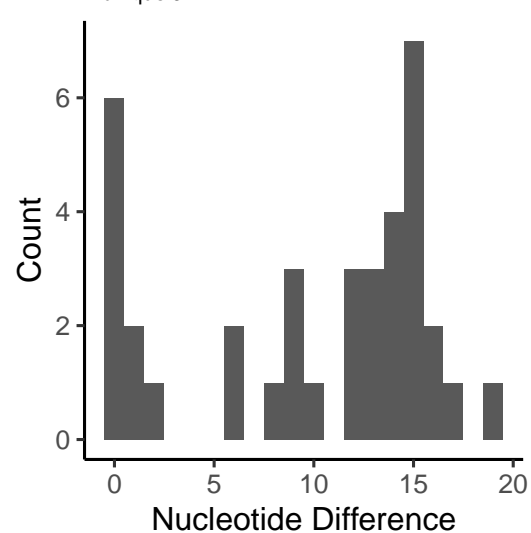
### IGHV3-21\*01

1567 sequences assigned  
336 (21.4%) exact matches, in which:  
323 unique CDR3  
7 unique J



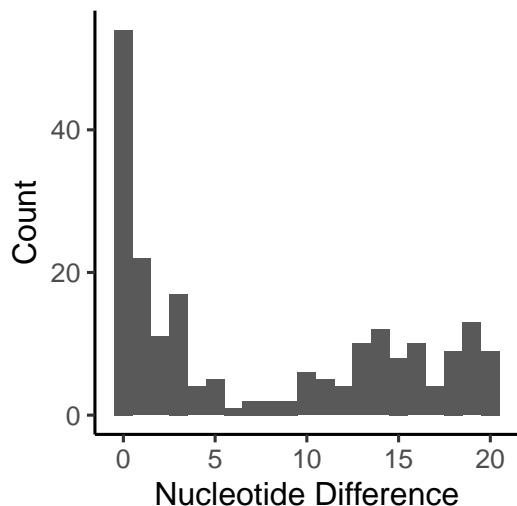
### IGHV3-43\*01

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



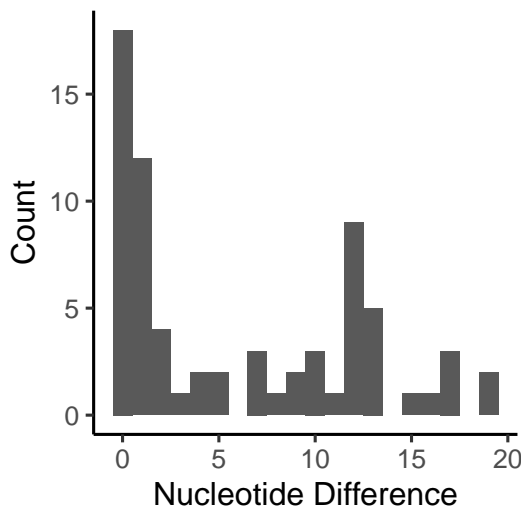
## IGHV3-48\*02

314 sequences assigned  
54 (17.2%) exact matches, in which:  
54 unique CDR3  
6 unique J



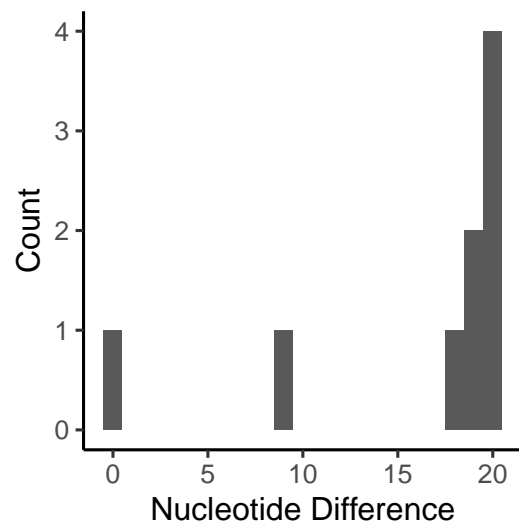
## IGHV3-49\*05

98 sequences assigned  
18 (18.4%) exact matches, in which:  
17 unique CDR3  
4 unique J



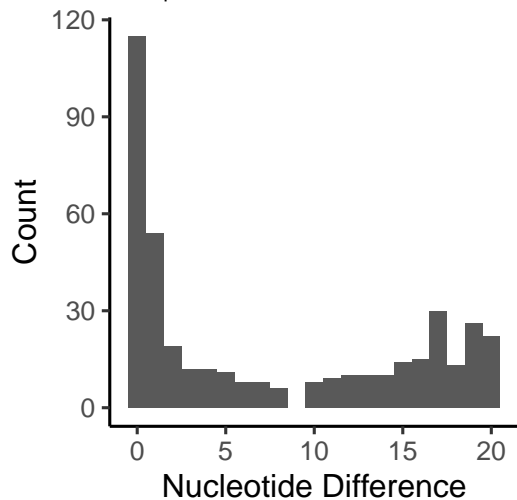
## IGHV3-64\*02

15 sequences assigned  
1 (6.7%) exact matches, in which:  
1 unique CDR3  
1 unique J



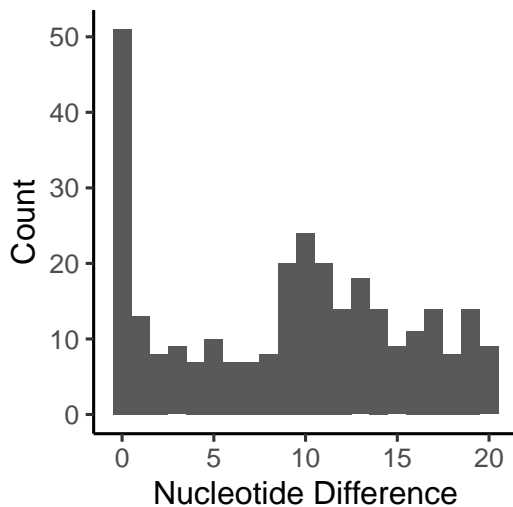
## IGHV3-48\*03

616 sequences assigned  
115 (18.7%) exact matches, in which:  
112 unique CDR3  
6 unique J



## IGHV3-53\*01

417 sequences assigned  
51 (12.2%) exact matches, in which:  
50 unique CDR3  
6 unique J



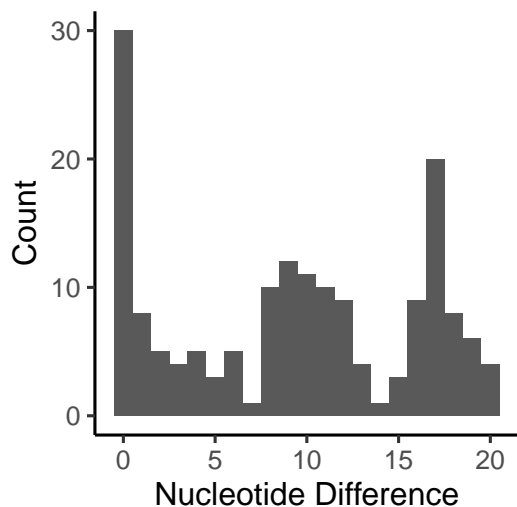
## IGHV3-66\*01

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



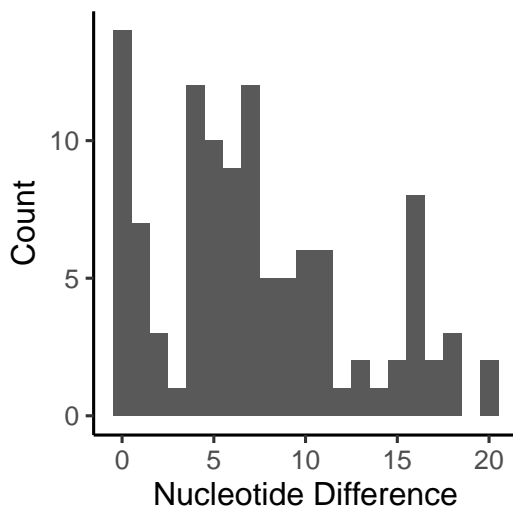
## IGHV3-49\*04

233 sequences assigned  
30 (12.9%) exact matches, in which:  
30 unique CDR3  
3 unique J



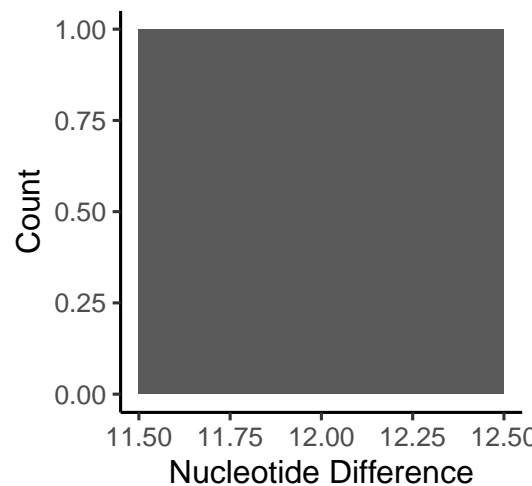
## IGHV3-53\*02

152 sequences assigned  
14 (9.2%) exact matches, in which:  
13 unique CDR3  
4 unique J



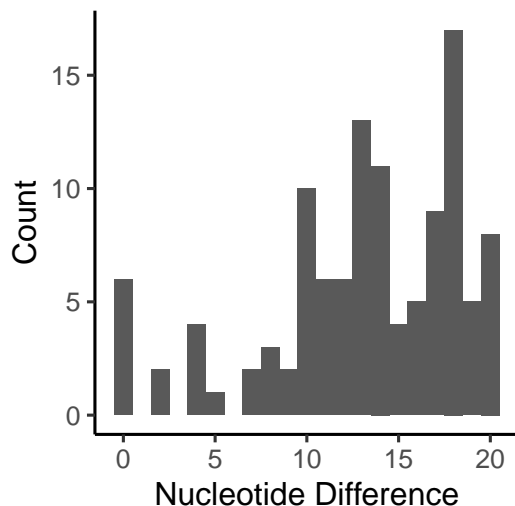
## IGHV3-71\*01

1 sequences assigned  
No exact matches.



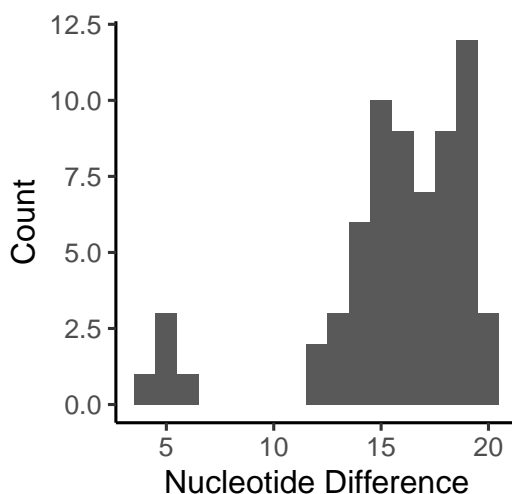
### IGHV3-72\*01

206 sequences assigned  
6 (2.9%) exact matches, in which:  
6 unique CDR3  
2 unique J



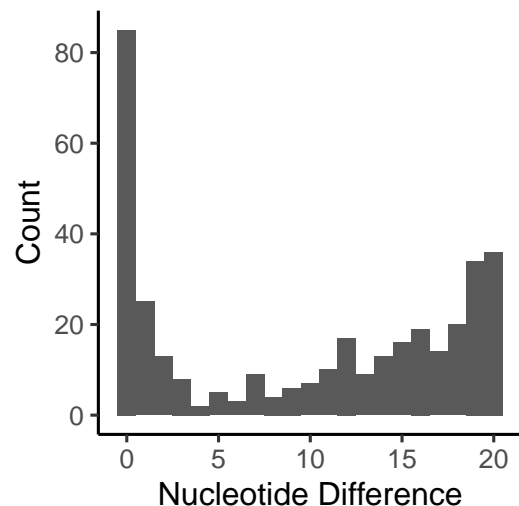
### IGHV3-74\*03

115 sequences assigned  
No exact matches.



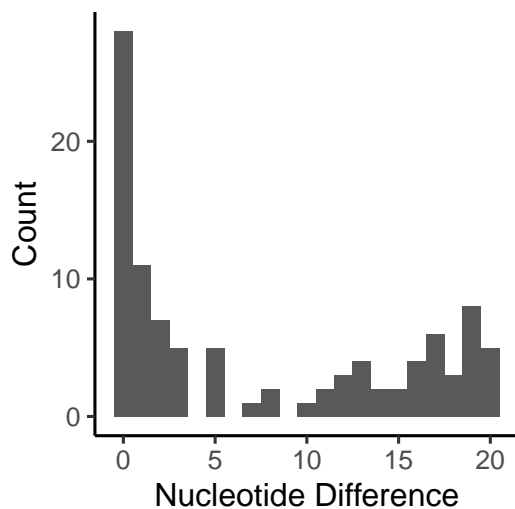
### IGHV4-4\*02

661 sequences assigned  
85 (12.9%) exact matches, in which:  
84 unique CDR3  
6 unique J



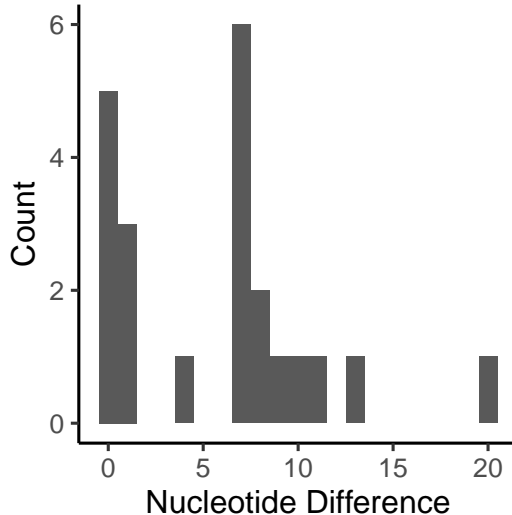
### IGHV3-73\*02

191 sequences assigned  
28 (14.7%) exact matches, in which:  
28 unique CDR3  
5 unique J



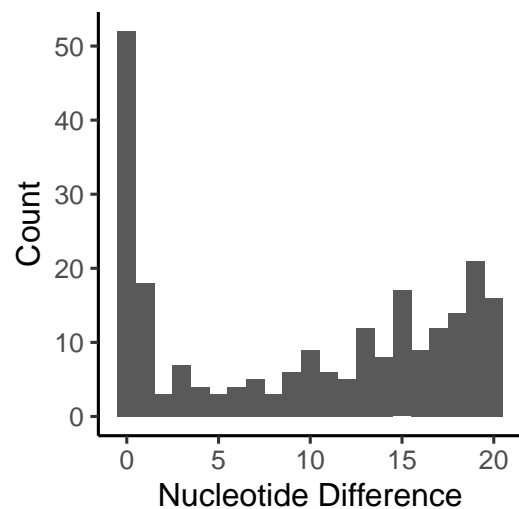
### IGHV3-43D\*04

28 sequences assigned  
5 (17.9%) exact matches, in which:  
5 unique CDR3  
3 unique J



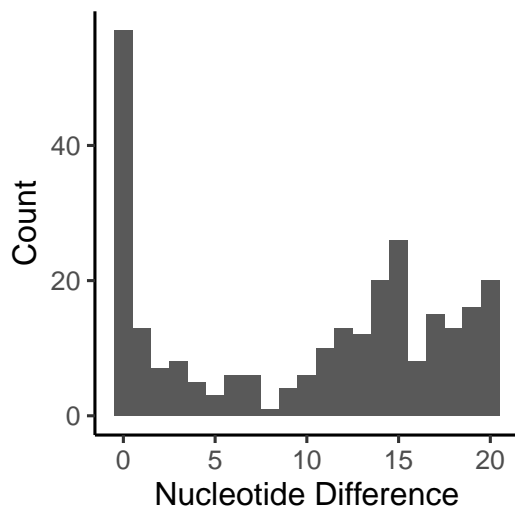
### IGHV4-4\*07

706 sequences assigned  
52 (7.4%) exact matches, in which:  
50 unique CDR3  
6 unique J



### IGHV3-74\*01

601 sequences assigned  
57 (9.5%) exact matches, in which:  
55 unique CDR3  
7 unique J



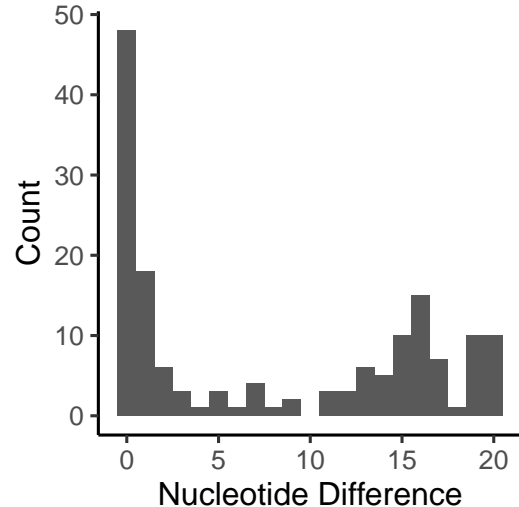
### IGHV3-64D\*08

1 sequences assigned  
No exact matches.



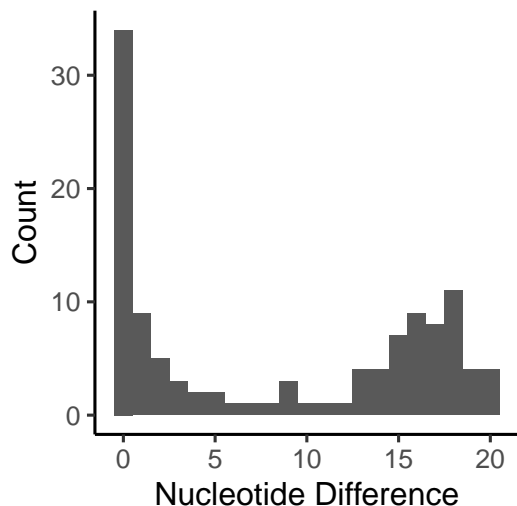
### IGHV4-30-4\*01

273 sequences assigned  
48 (17.6%) exact matches, in which:  
48 unique CDR3  
6 unique J



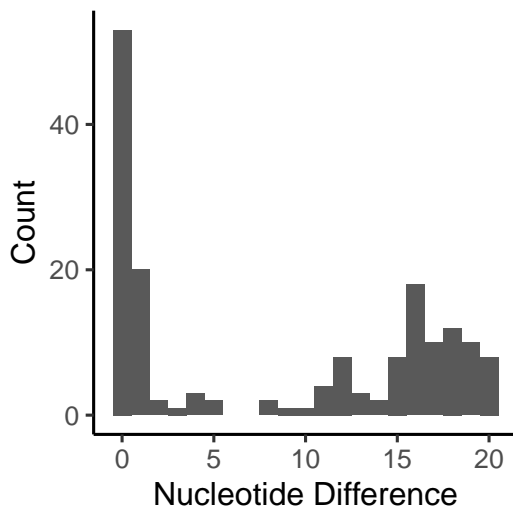
### IGHV4-30-2\*01

244 sequences assigned  
34 (13.9%) exact matches, in which:  
34 unique CDR3  
6 unique J



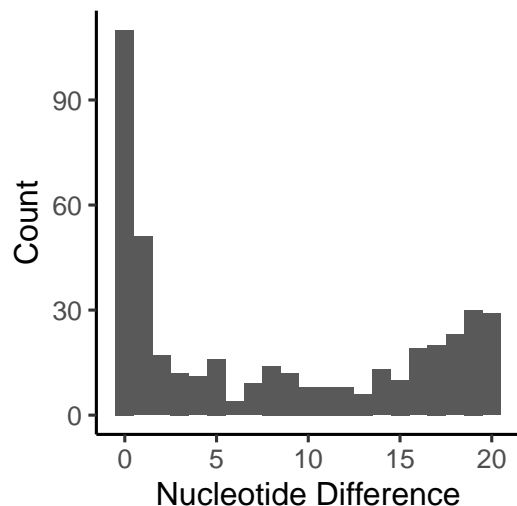
### IGHV4-38-2\*01

441 sequences assigned  
53 (12%) exact matches, in which:  
53 unique CDR3  
5 unique J



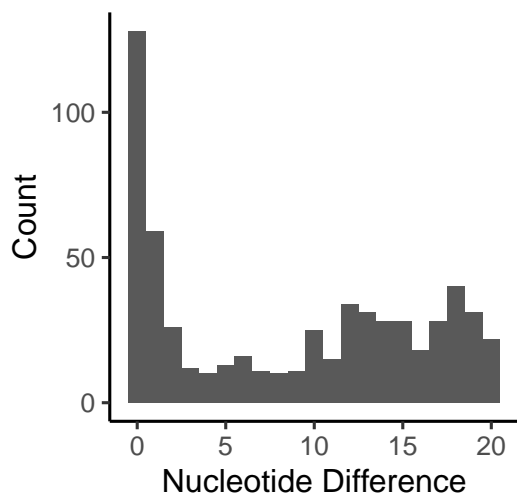
### IGHV4-59\*01

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



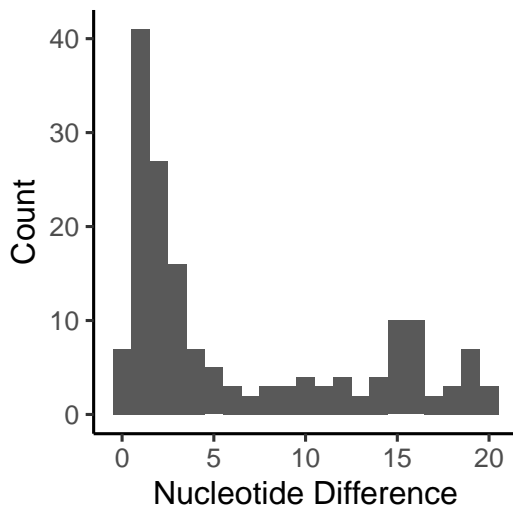
### IGHV4-31\*03

984 sequences assigned  
128 (13%) exact matches, in which:  
126 unique CDR3  
7 unique J



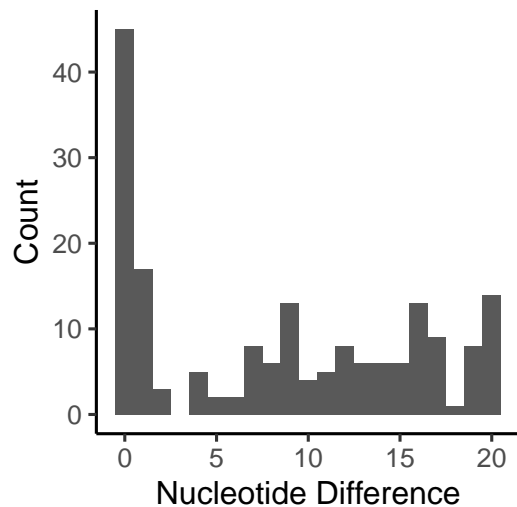
### IGHV4-38-2\*02

285 sequences assigned  
7 (2.5%) exact matches, in which:  
7 unique CDR3  
4 unique J



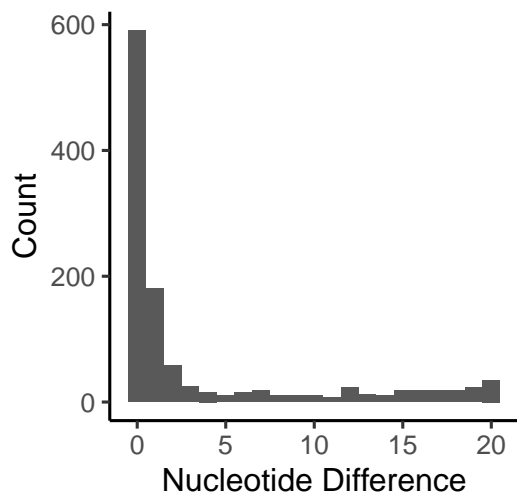
### IGHV4-61\*01

375 sequences assigned  
45 (12%) exact matches, in which:  
45 unique CDR3  
7 unique J



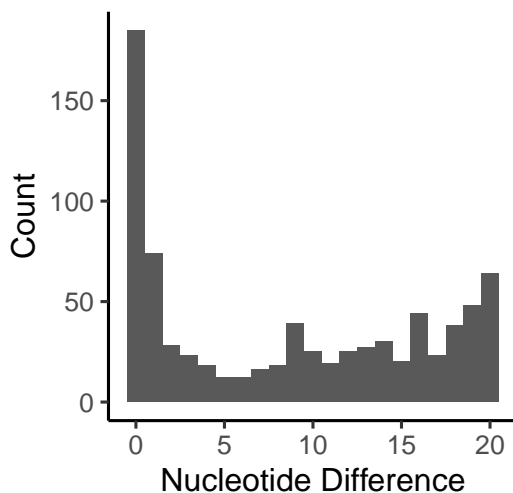
### IGHV4-34\*01

1496 sequences assigned  
591 (39.5%) exact matches, in which:  
580 unique CDR3  
7 unique J



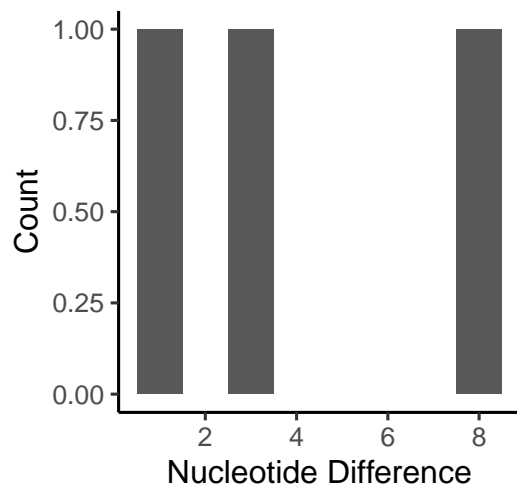
### IGHV4-39\*01

1674 sequences assigned  
185 (11.1%) exact matches, in which:  
182 unique CDR3  
7 unique J



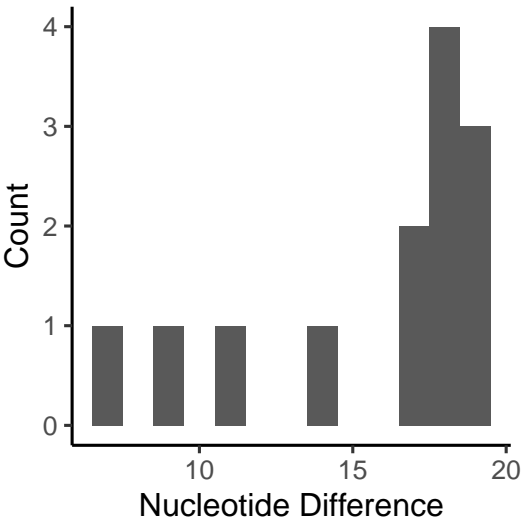
### IGHV1/OR15-1\*04

3 sequences assigned  
No exact matches.



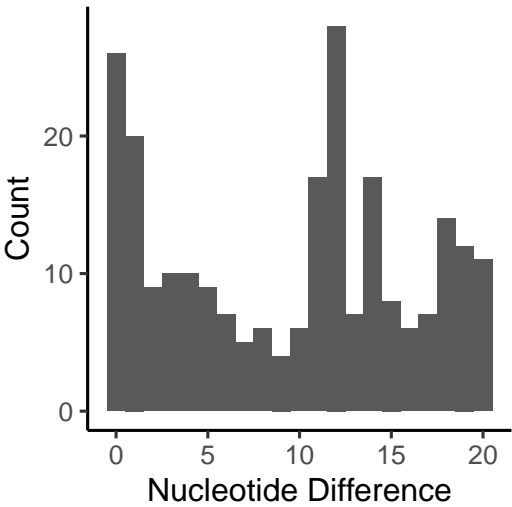
IGHV4/OR15–8\*02

24 sequences assigned  
No exact matches.



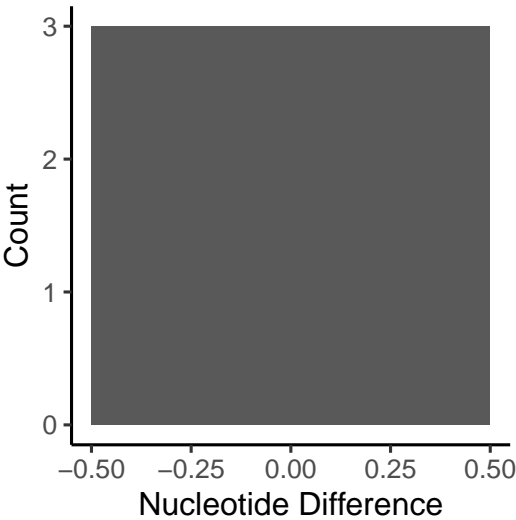
IGHV6–1\*01

381 sequences assigned  
26 (6.8%) exact matches, in which:  
26 unique CDR3  
6 unique J



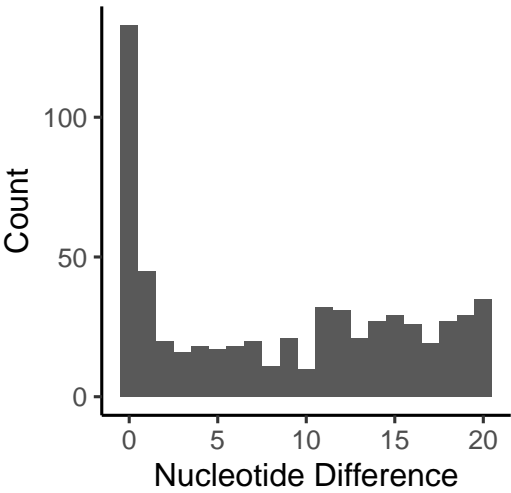
IGHV7–4–1\*01

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



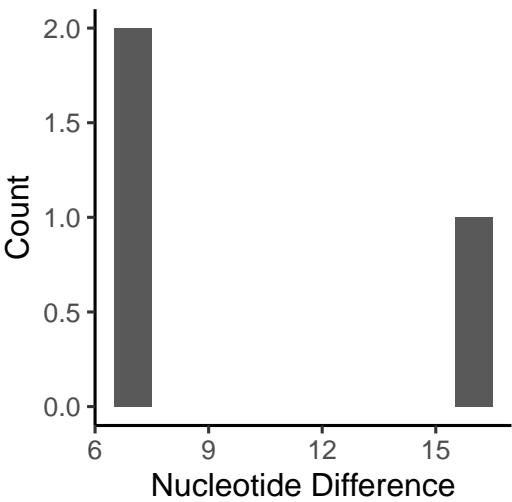
IGHV5–51\*01

1001 sequences assigned  
133 (13.3%) exact matches, in which:  
131 unique CDR3  
7 unique J



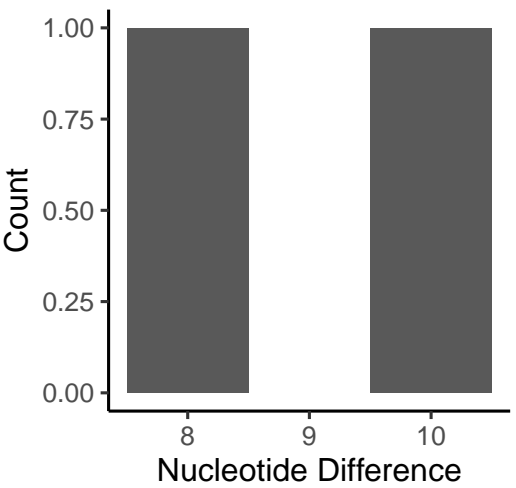
IGHV3/OR16–9\*01

3 sequences assigned  
No exact matches.



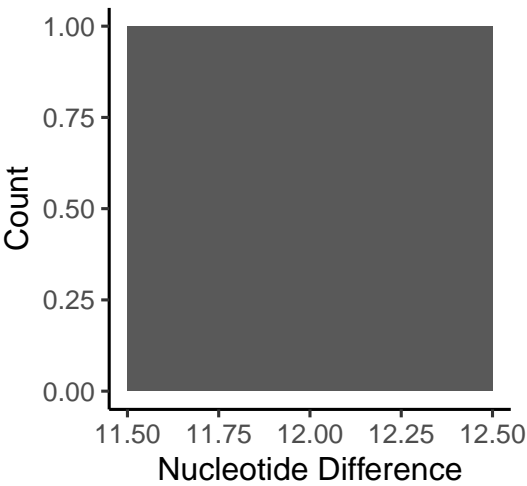
IGHV7–4–1\*02

3 sequences assigned  
No exact matches.



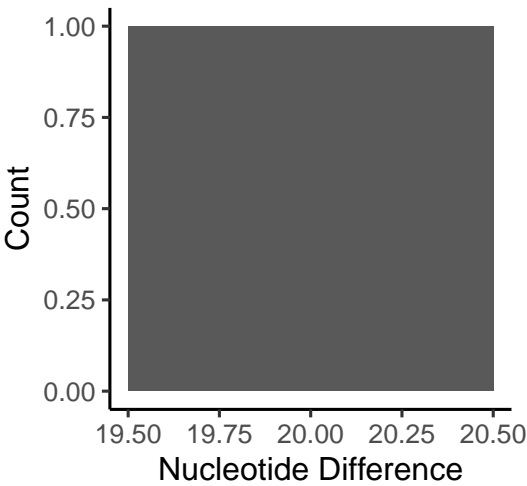
IGHV5–78\*01

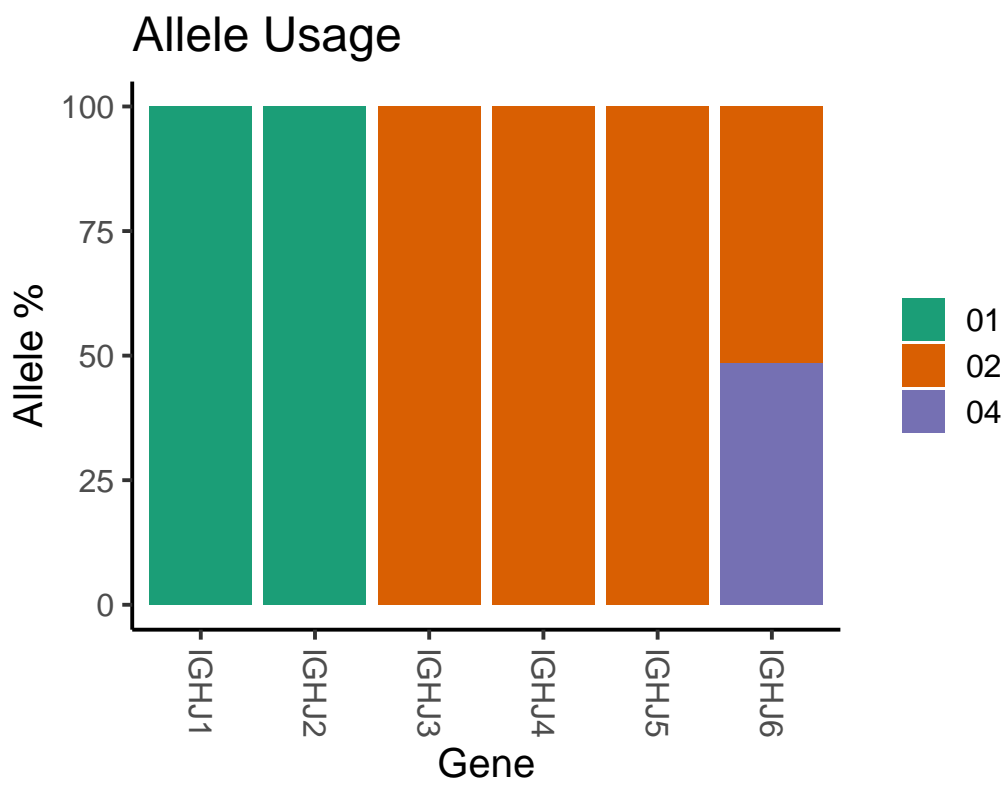
1 sequences assigned  
No exact matches.



IGHV3/OR16–12\*01

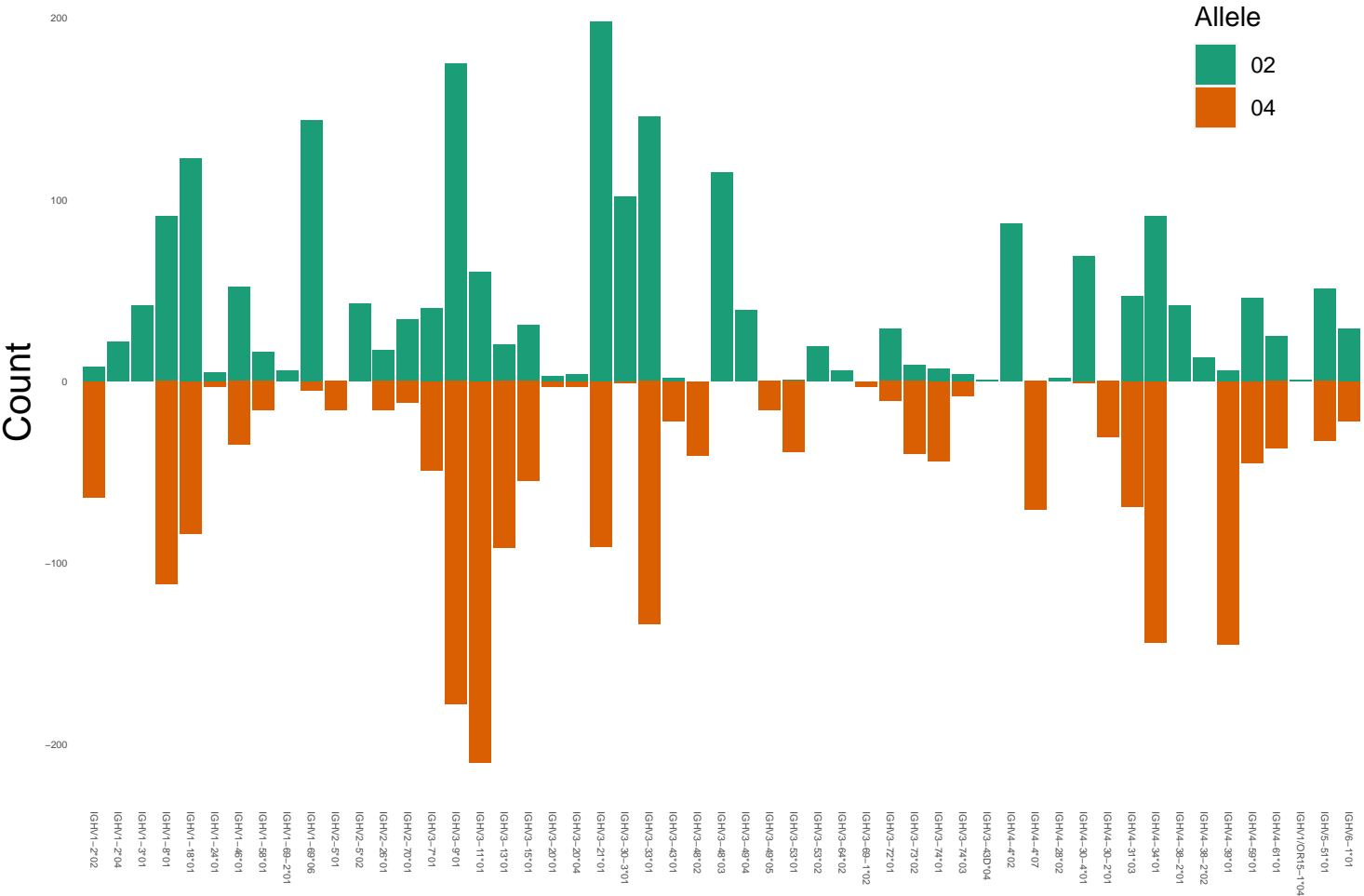
1 sequences assigned  
No exact matches.







Sequence Count by IGHJ6 allele usage



[illegible]