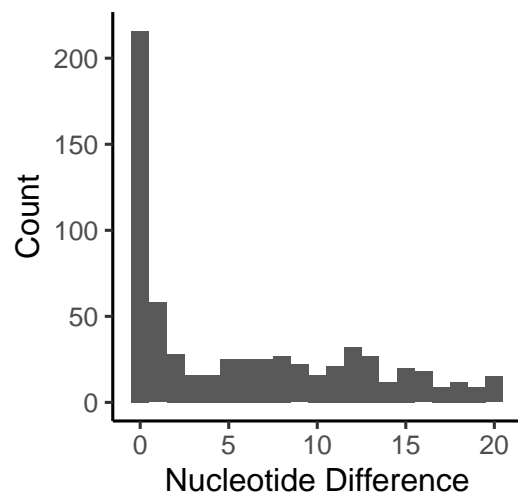


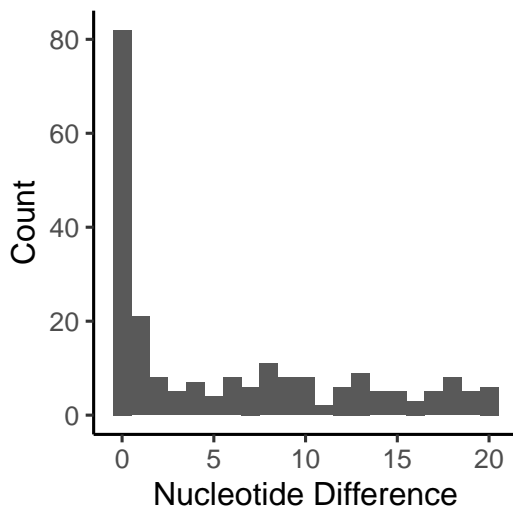
### IGHV1-2\*02

732 sequences assigned  
216 (29.5%) exact matches, in which:  
112 unique CDR3  
6 unique J



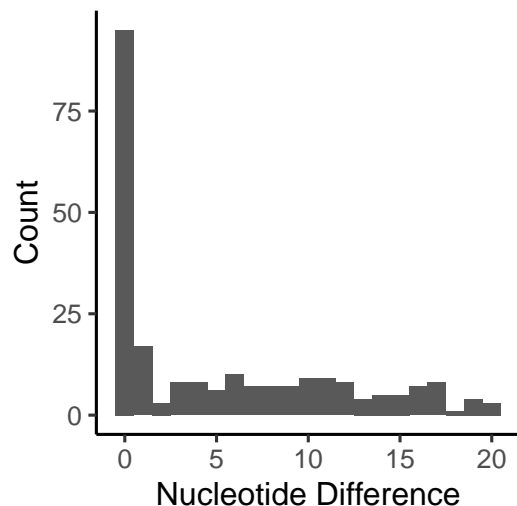
### IGHV1-18\*01

248 sequences assigned  
82 (33.1%) exact matches, in which:  
80 unique CDR3  
5 unique J



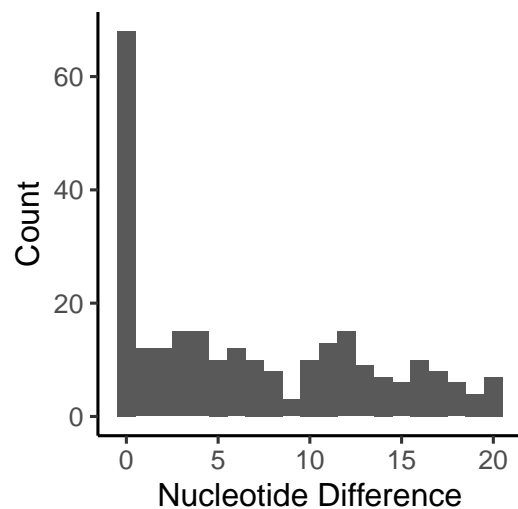
### IGHV1-46\*03

252 sequences assigned  
95 (37.7%) exact matches, in which:  
95 unique CDR3  
7 unique J



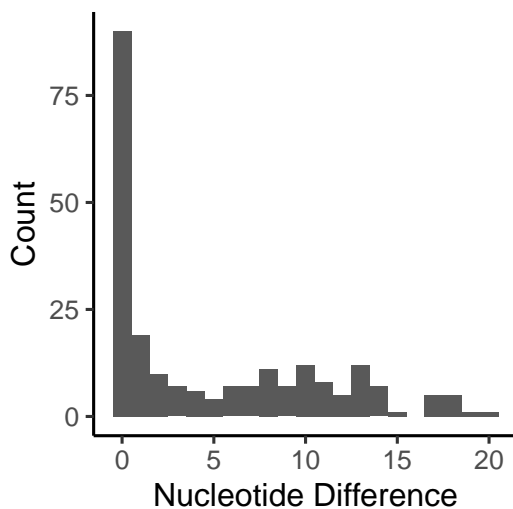
### IGHV1-3\*01

305 sequences assigned  
68 (22.3%) exact matches, in which:  
68 unique CDR3  
4 unique J



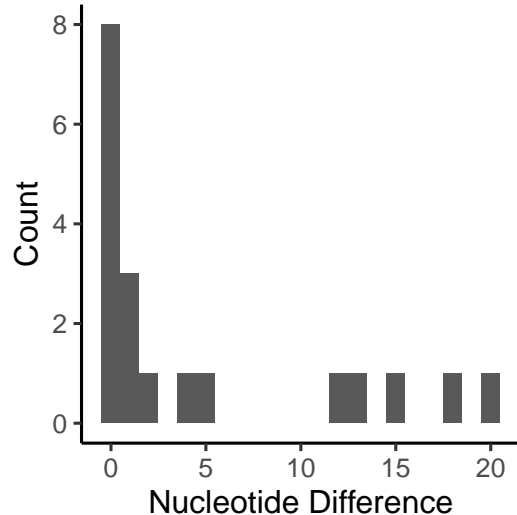
### IGHV1-18\*04

249 sequences assigned  
90 (36.1%) exact matches, in which:  
90 unique CDR3  
6 unique J



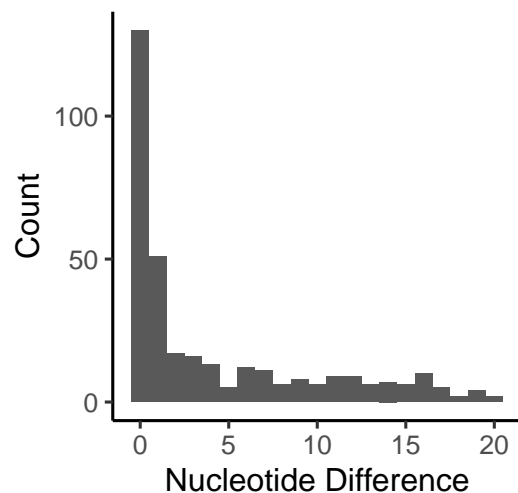
### IGHV1-58\*02

27 sequences assigned  
8 (29.6%) exact matches, in which:  
8 unique CDR3  
3 unique J



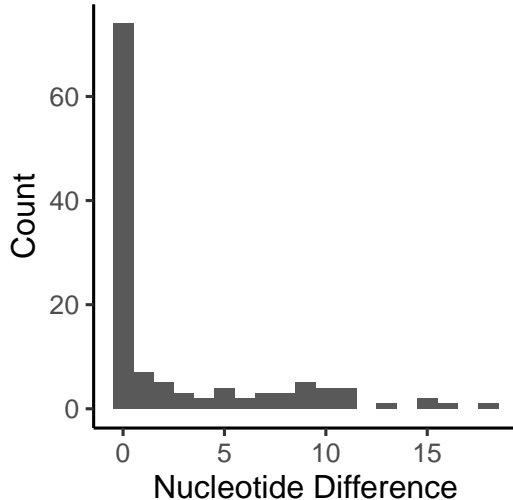
### IGHV1-8\*01

360 sequences assigned  
130 (36.1%) exact matches, in which:  
126 unique CDR3  
6 unique J



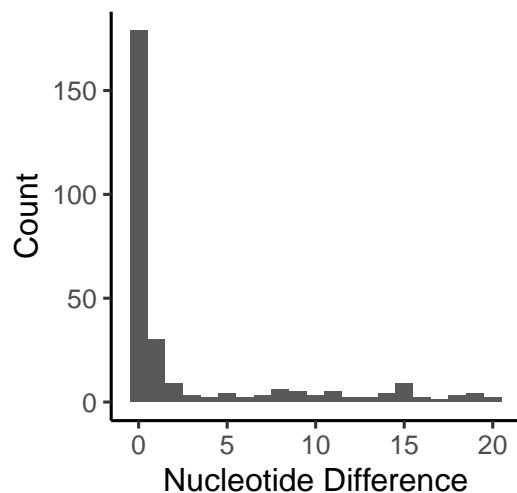
### IGHV1-24\*01

132 sequences assigned  
74 (56.1%) exact matches, in which:  
73 unique CDR3  
6 unique J



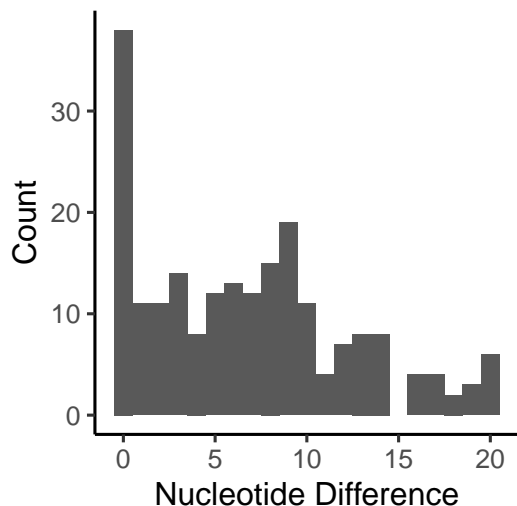
### IGHV1-69\*04

333 sequences assigned  
179 (53.8%) exact matches, in which:  
176 unique CDR3  
6 unique J



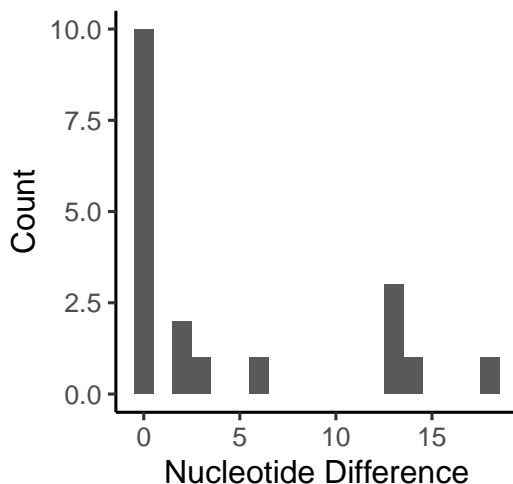
### IGHV2-5\*01

230 sequences assigned  
38 (16.5%) exact matches, in which:  
38 unique CDR3  
4 unique J



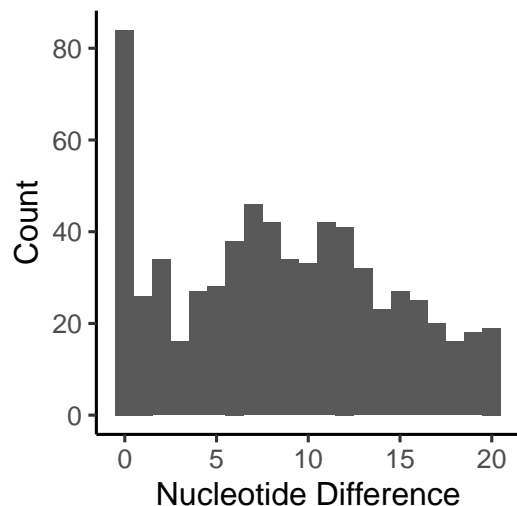
### IGHV2-70\*01

26 sequences assigned  
10 (38.5%) exact matches, in which:  
10 unique CDR3  
4 unique J



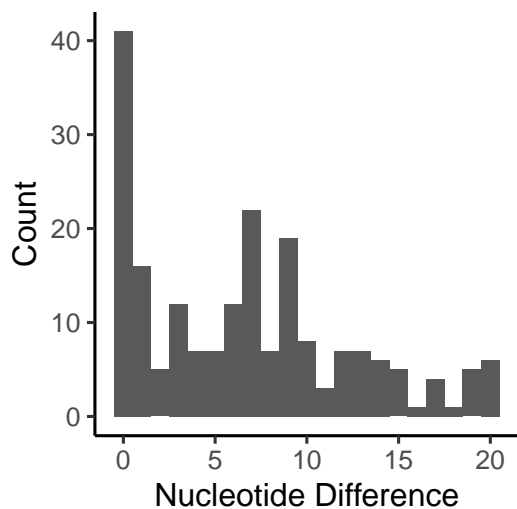
### IGHV3-7\*03

778 sequences assigned  
84 (10.8%) exact matches, in which:  
83 unique CDR3  
6 unique J



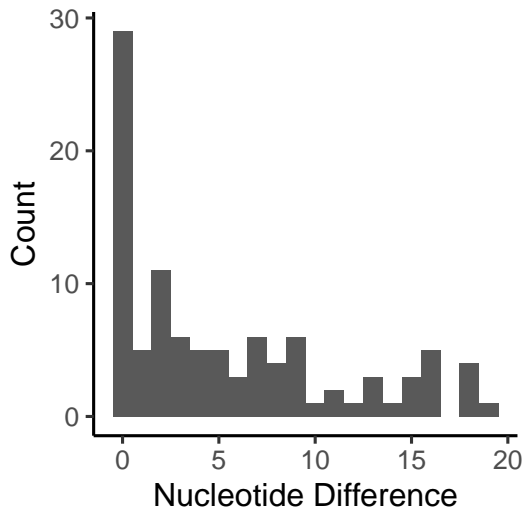
### IGHV2-5\*02

236 sequences assigned  
41 (17.4%) exact matches, in which:  
41 unique CDR3  
5 unique J



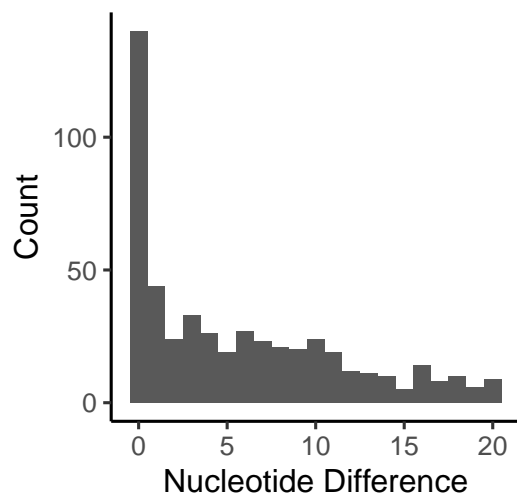
### IGHV2-70\*15

112 sequences assigned  
29 (25.9%) exact matches, in which:  
28 unique CDR3  
5 unique J



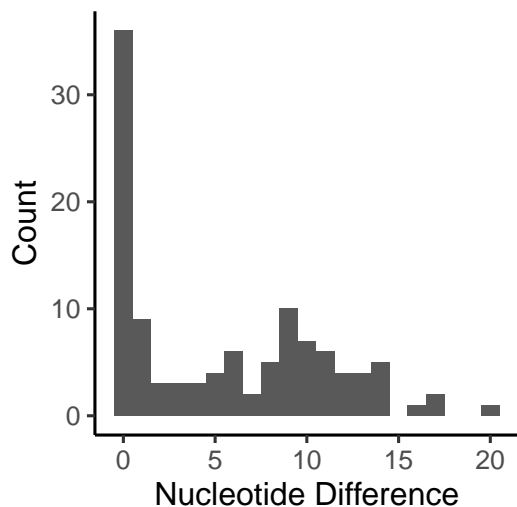
### IGHV3-9\*01

557 sequences assigned  
140 (25.1%) exact matches, in which:  
140 unique CDR3  
6 unique J



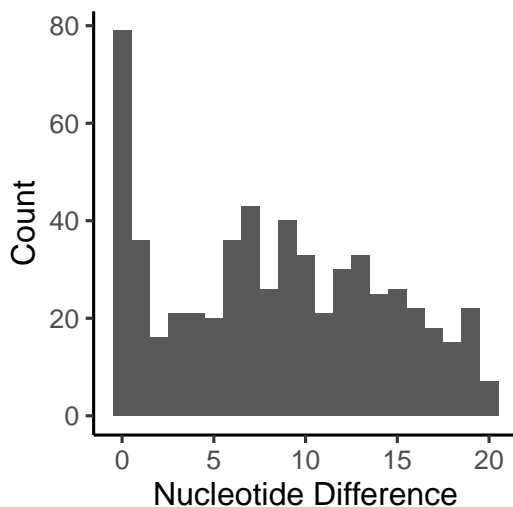
### IGHV2-26\*01

118 sequences assigned  
36 (30.5%) exact matches, in which:  
36 unique CDR3  
7 unique J



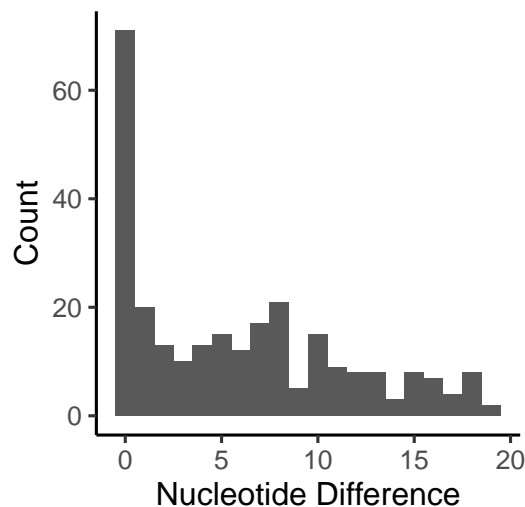
### IGHV3-7\*01

672 sequences assigned  
79 (11.8%) exact matches, in which:  
79 unique CDR3  
6 unique J



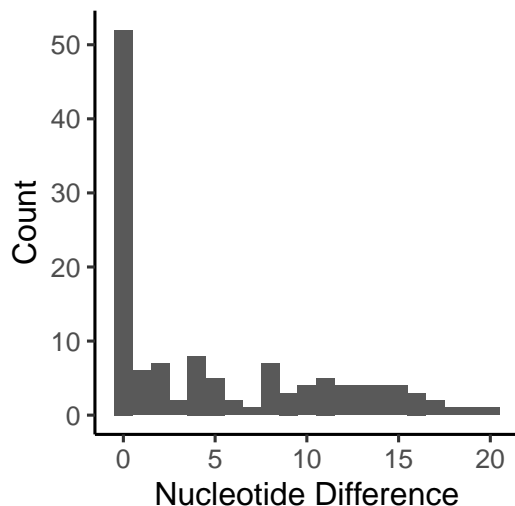
### IGHV3-11\*01

289 sequences assigned  
71 (24.6%) exact matches, in which:  
71 unique CDR3  
5 unique J



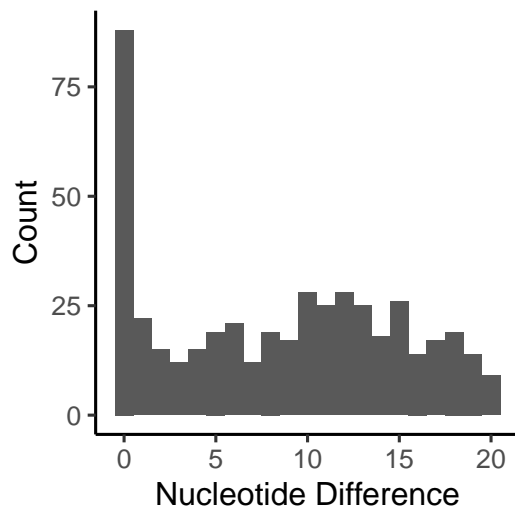
### IGHV3-11\*06

153 sequences assigned  
52 (34%) exact matches, in which:  
49 unique CDR3  
5 unique J



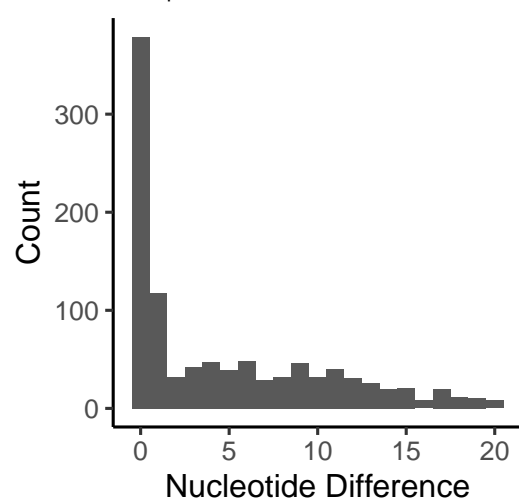
### IGHV3-15\*01

572 sequences assigned  
88 (15.4%) exact matches, in which:  
88 unique CDR3  
7 unique J



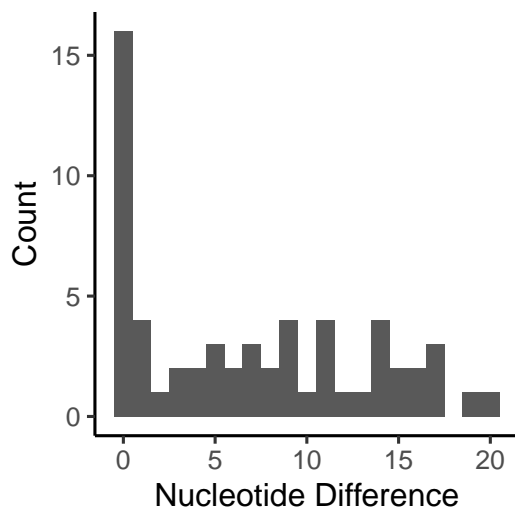
### IGHV3-21\*01

1125 sequences assigned  
379 (33.7%) exact matches, in which:  
372 unique CDR3  
6 unique J



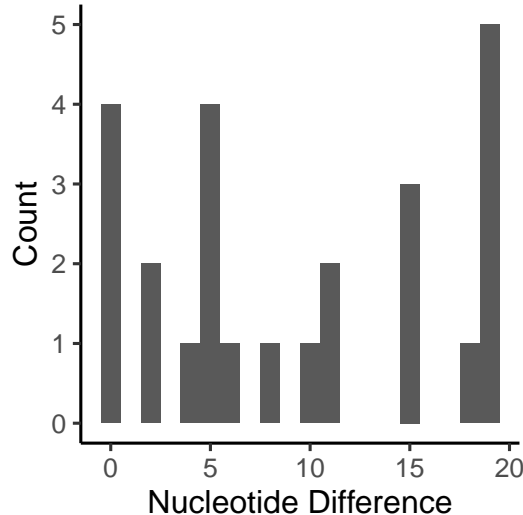
### IGHV3-13\*01

67 sequences assigned  
16 (23.9%) exact matches, in which:  
16 unique CDR3  
4 unique J



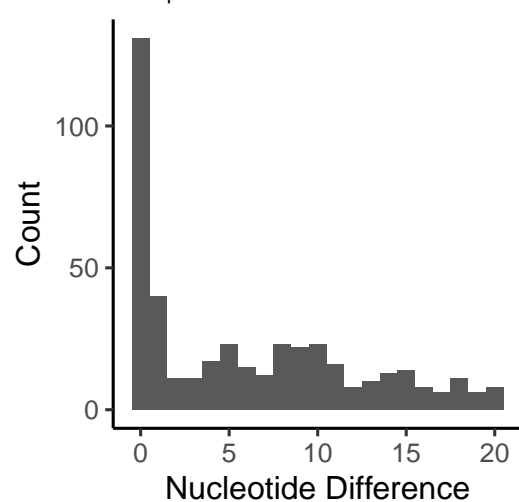
### IGHV3-20\*01

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



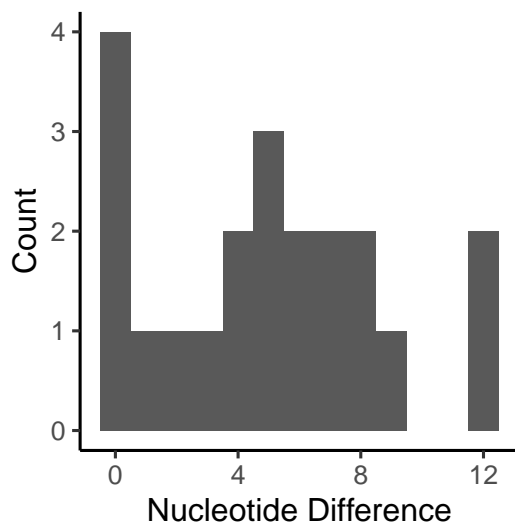
### IGHV3-30-3\*01

488 sequences assigned  
131 (26.8%) exact matches, in which:  
128 unique CDR3  
5 unique J



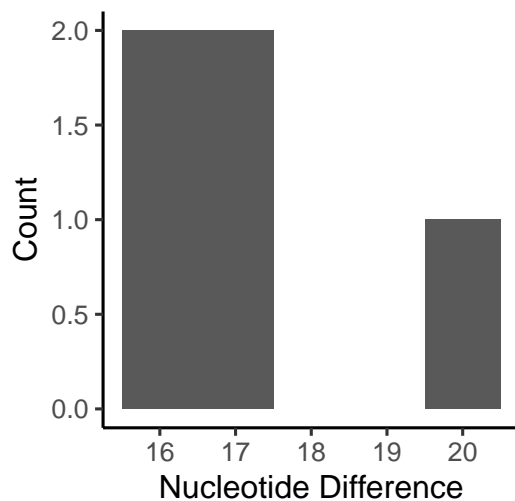
### IGHV3-13\*05

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



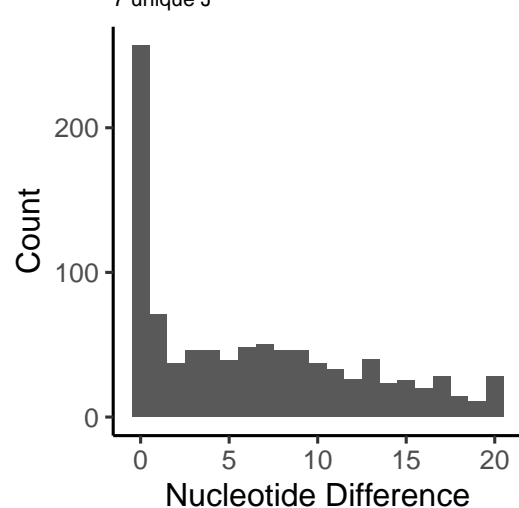
### IGHV3-20\*04

13 sequences assigned  
No exact matches.



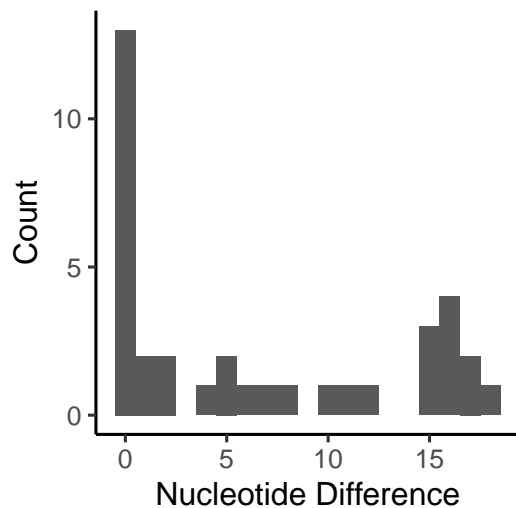
### IGHV3-33\*01

1081 sequences assigned  
257 (23.8%) exact matches, in which:  
252 unique CDR3  
7 unique J



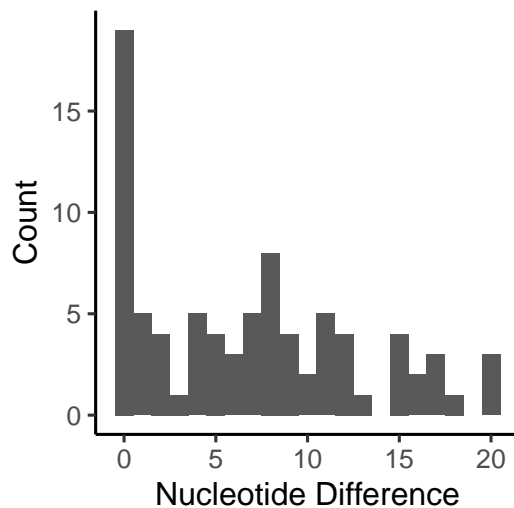
### IGHV3-43\*01

45 sequences assigned  
13 (28.9%) exact matches, in which:  
13 unique CDR3  
6 unique J



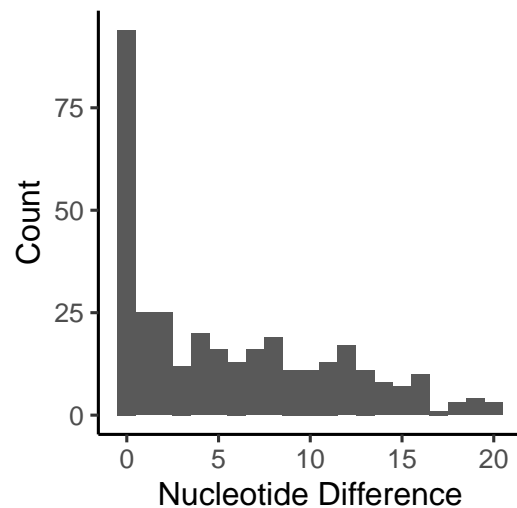
### IGHV3-53\*02

90 sequences assigned  
19 (21.1%) exact matches, in which:  
18 unique CDR3  
3 unique J



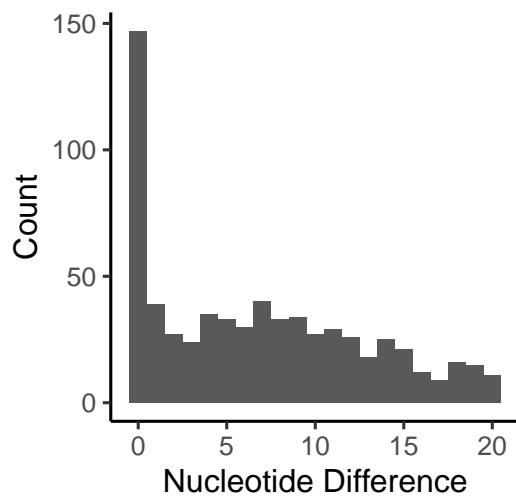
### IGHV3-66\*01

407 sequences assigned  
94 (23.1%) exact matches, in which:  
93 unique CDR3  
6 unique J



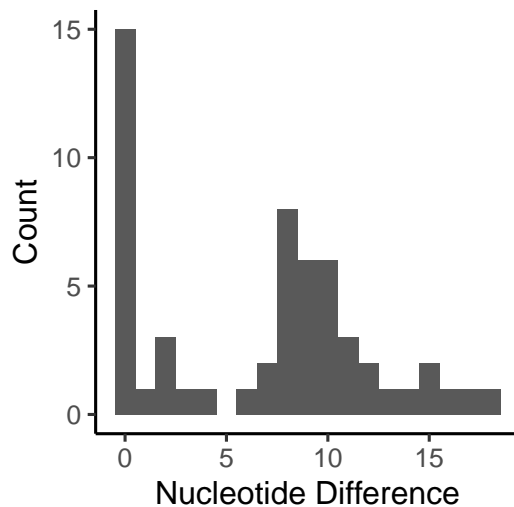
### IGHV3-48\*01

735 sequences assigned  
147 (20%) exact matches, in which:  
145 unique CDR3  
7 unique J



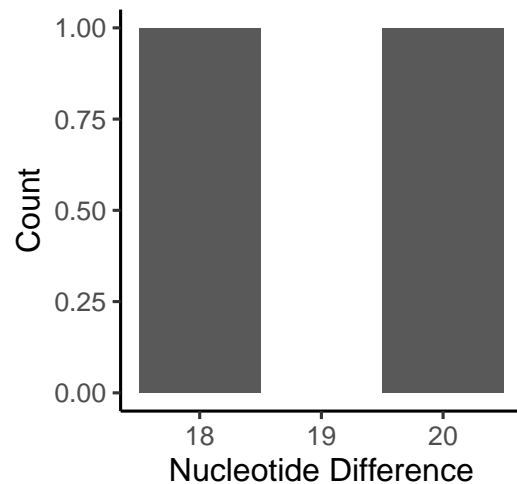
### IGHV3-64\*01

57 sequences assigned  
15 (26.3%) exact matches, in which:  
15 unique CDR3  
4 unique J



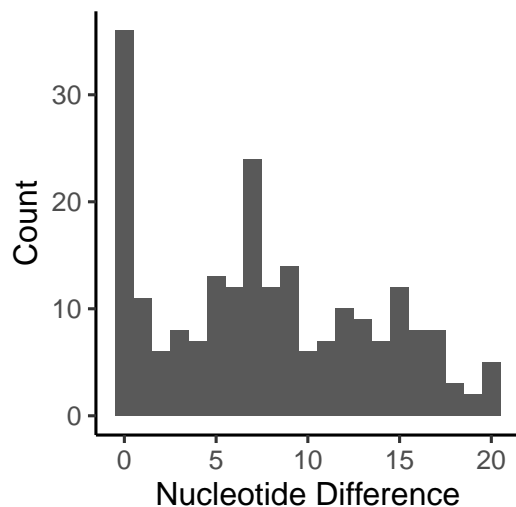
### IGHV3-69-1\*01

5 sequences assigned  
No exact matches.



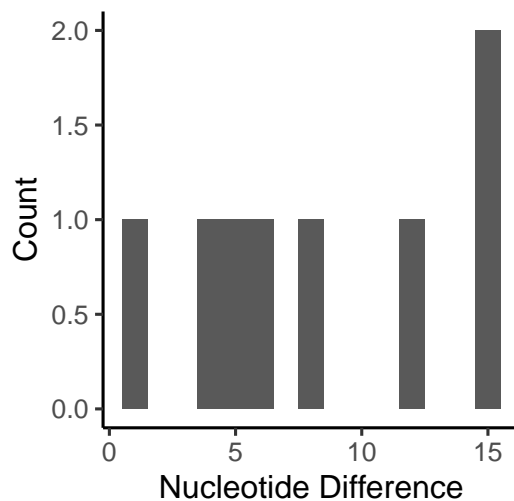
### IGHV3-49\*03

248 sequences assigned  
36 (14.5%) exact matches, in which:  
36 unique CDR3  
6 unique J



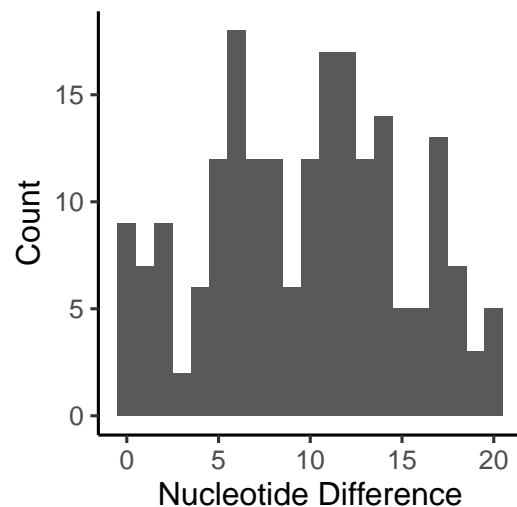
### IGHV3-64\*07

12 sequences assigned  
No exact matches.



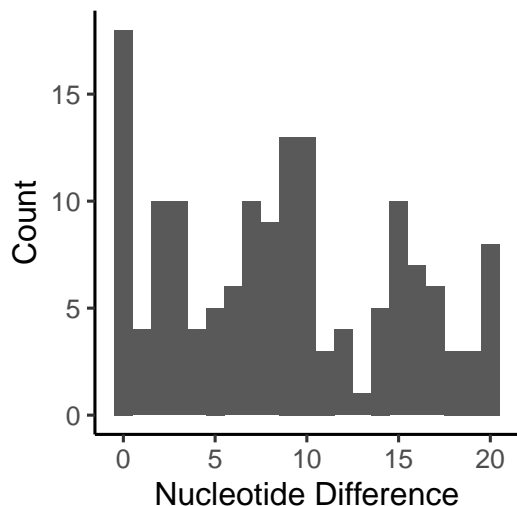
### IGHV3-72\*01

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



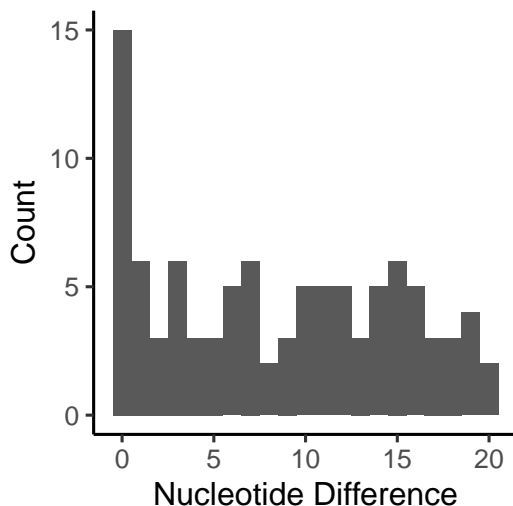
### IGHV3-73\*01

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



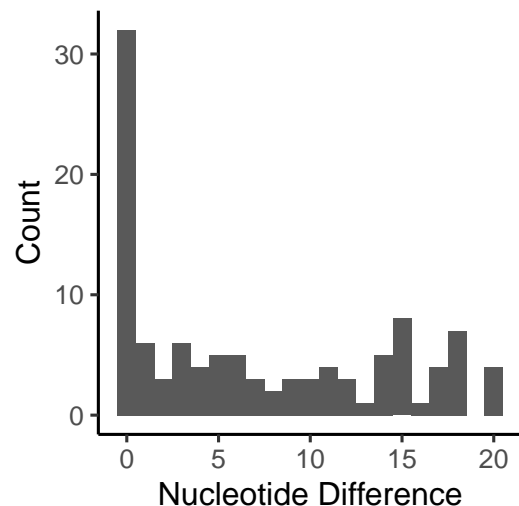
### IGHV3-64D\*06

105 sequences assigned  
15 (14.3%) exact matches, in which:  
15 unique CDR3  
3 unique J



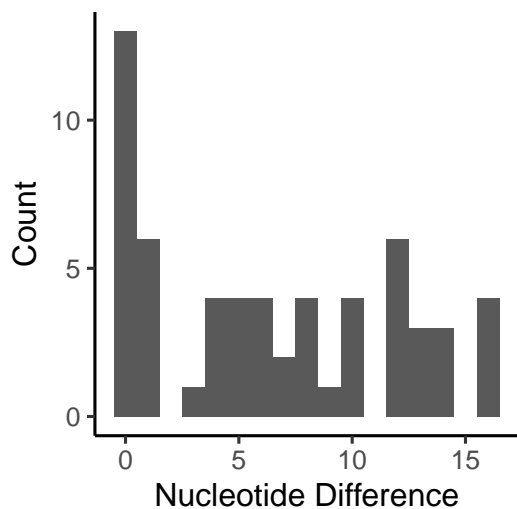
### IGHV4-30-4\*01

131 sequences assigned  
32 (24.4%) exact matches, in which:  
32 unique CDR3  
5 unique J



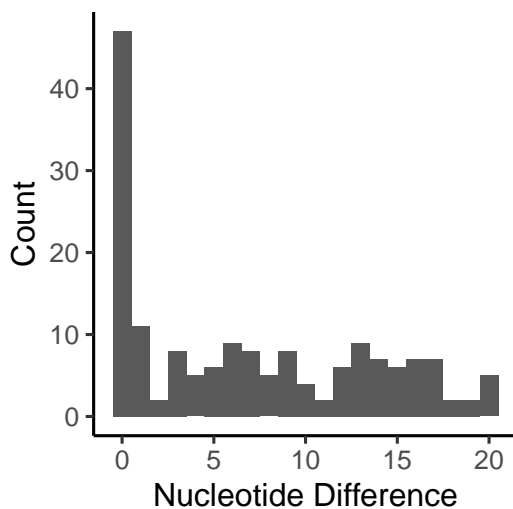
### IGHV3-73\*02

72 sequences assigned  
13 (18.1%) exact matches, in which:  
12 unique CDR3  
3 unique J



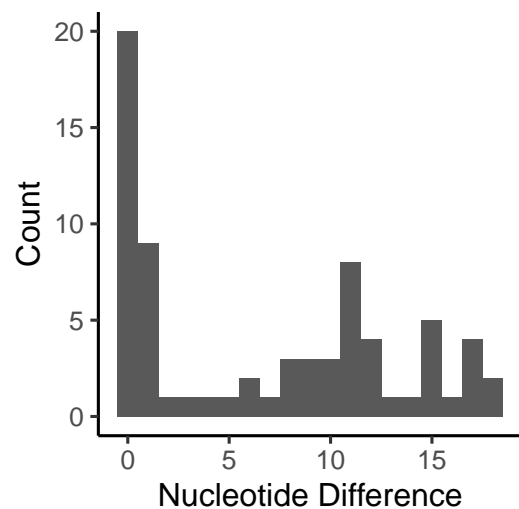
### IGHV4-4\*07

190 sequences assigned  
47 (24.7%) exact matches, in which:  
47 unique CDR3  
4 unique J



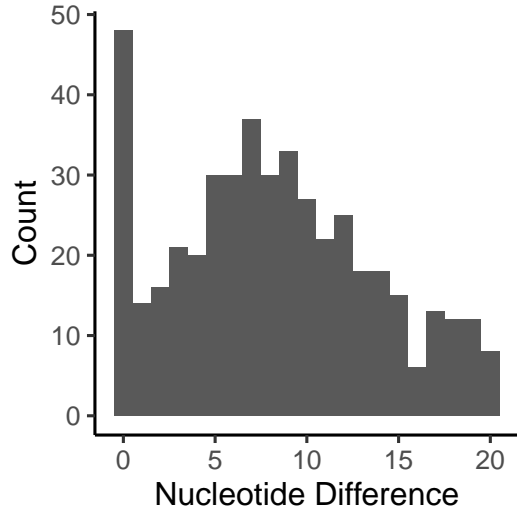
### IGHV4-30-2\*01

83 sequences assigned  
20 (24.1%) exact matches, in which:  
19 unique CDR3  
6 unique J



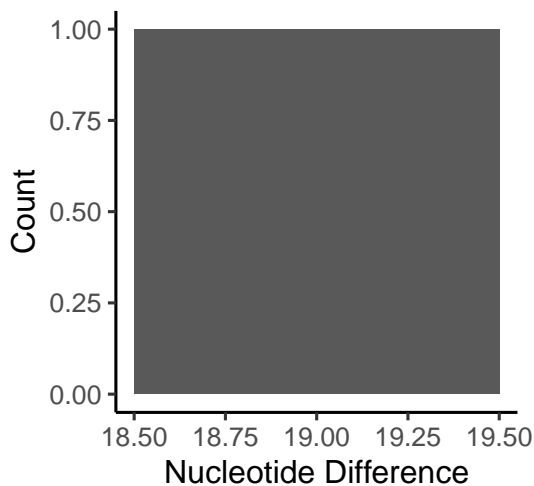
### IGHV3-74\*01

522 sequences assigned  
48 (9.2%) exact matches, in which:  
46 unique CDR3  
5 unique J



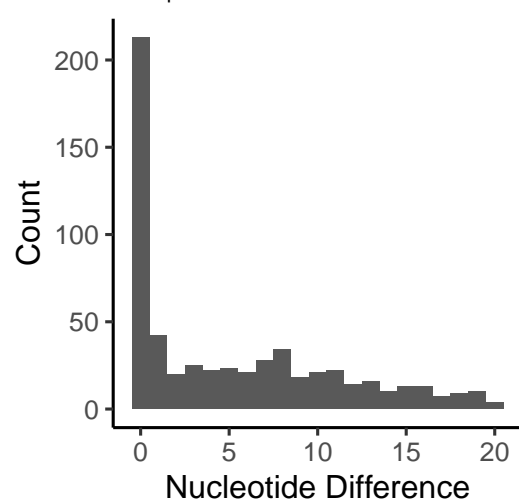
### IGHV4-28\*05

1 sequences assigned  
No exact matches.



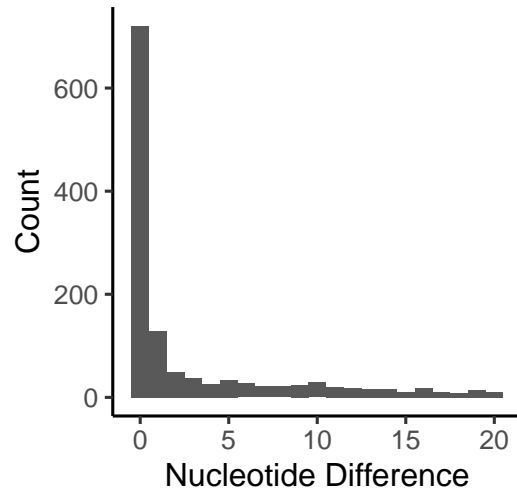
### IGHV4-31\*03

653 sequences assigned  
213 (32.6%) exact matches, in which:  
213 unique CDR3  
7 unique J



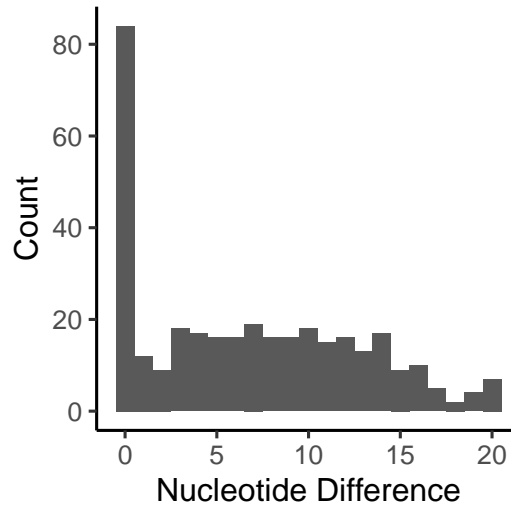
### IGHV4-34\*01

1376 sequences assigned  
721 (52.4%) exact matches, in which:  
705 unique CDR3  
7 unique J



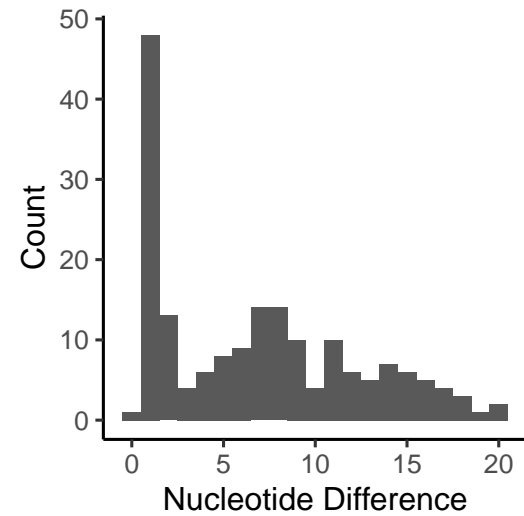
### IGHV4-59\*08

394 sequences assigned  
84 (21.3%) exact matches, in which:  
84 unique CDR3  
6 unique J



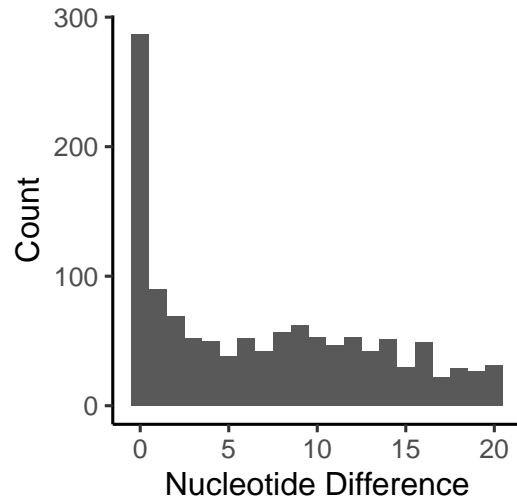
### IGHV5-51\*01

197 sequences assigned  
1 (0.5%) exact matches, in which:  
1 unique CDR3  
1 unique J



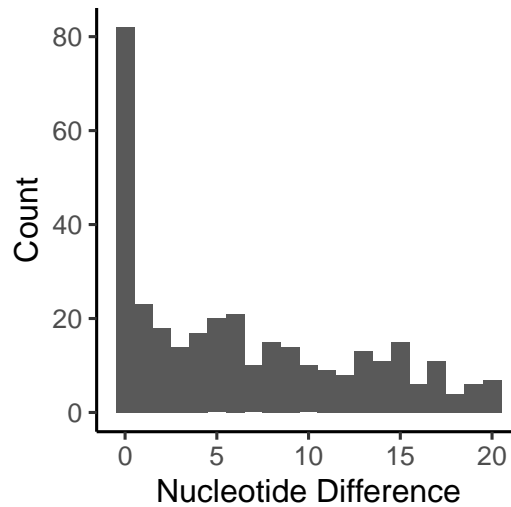
### IGHV4-39\*01

1385 sequences assigned  
287 (20.7%) exact matches, in which:  
281 unique CDR3  
7 unique J



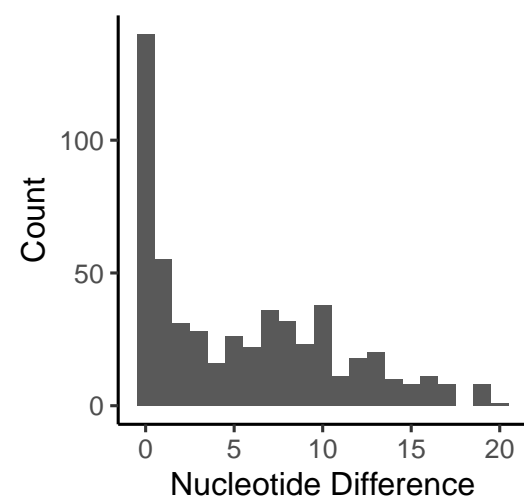
### IGHV4-61\*02\_A234G

379 sequences assigned  
82 (21.6%) exact matches, in which:  
79 unique CDR3  
6 unique J



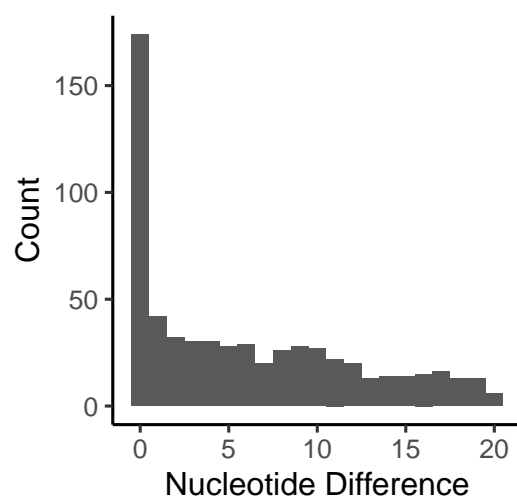
### IGHV5-51\*03

585 sequences assigned  
140 (23.9%) exact matches, in which:  
136 unique CDR3  
7 unique J



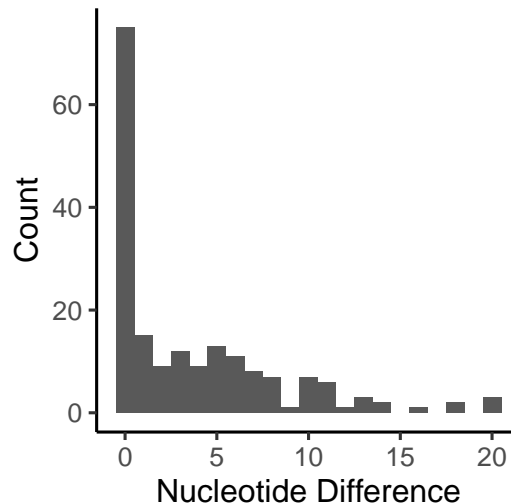
### IGHV4-59\*01

686 sequences assigned  
174 (25.4%) exact matches, in which:  
174 unique CDR3  
7 unique J



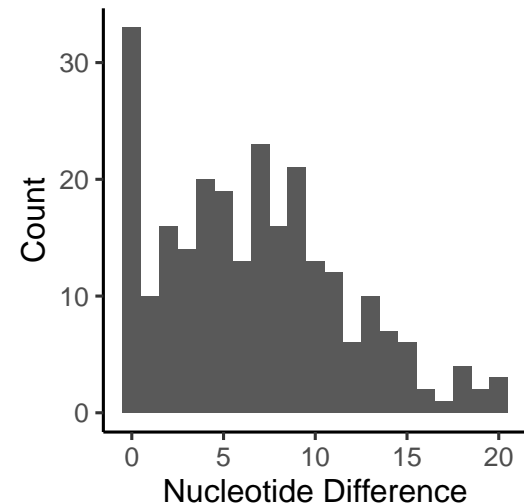
### IGHV5-10-1\*03

224 sequences assigned  
75 (33.5%) exact matches, in which:  
75 unique CDR3  
5 unique J



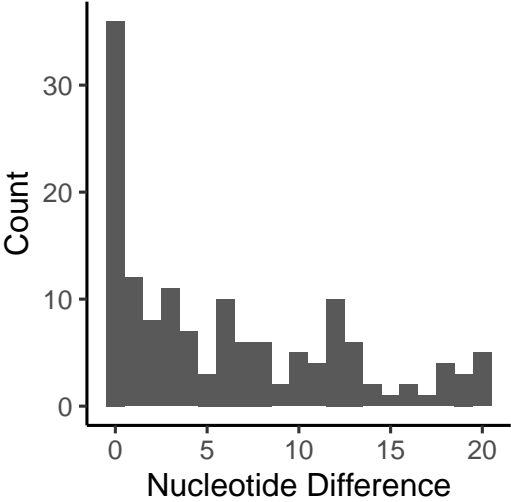
### IGHV6-1\*01

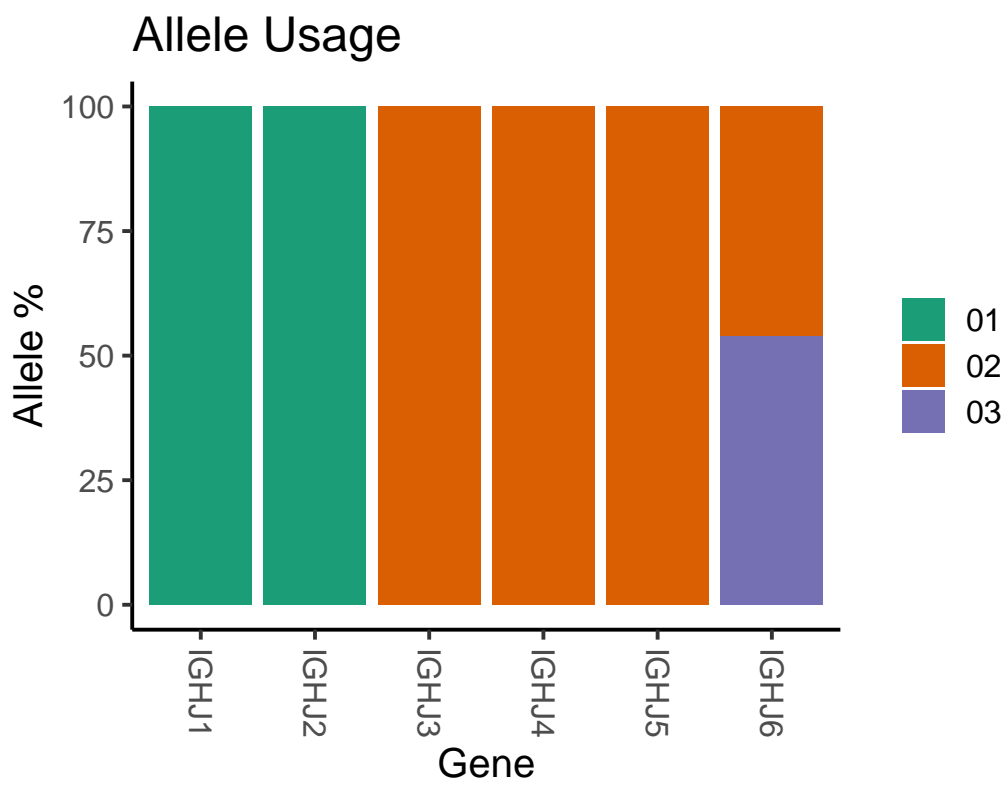
263 sequences assigned  
33 (12.5%) exact matches, in which:  
32 unique CDR3  
5 unique J



# IGHV7-4-1\*02

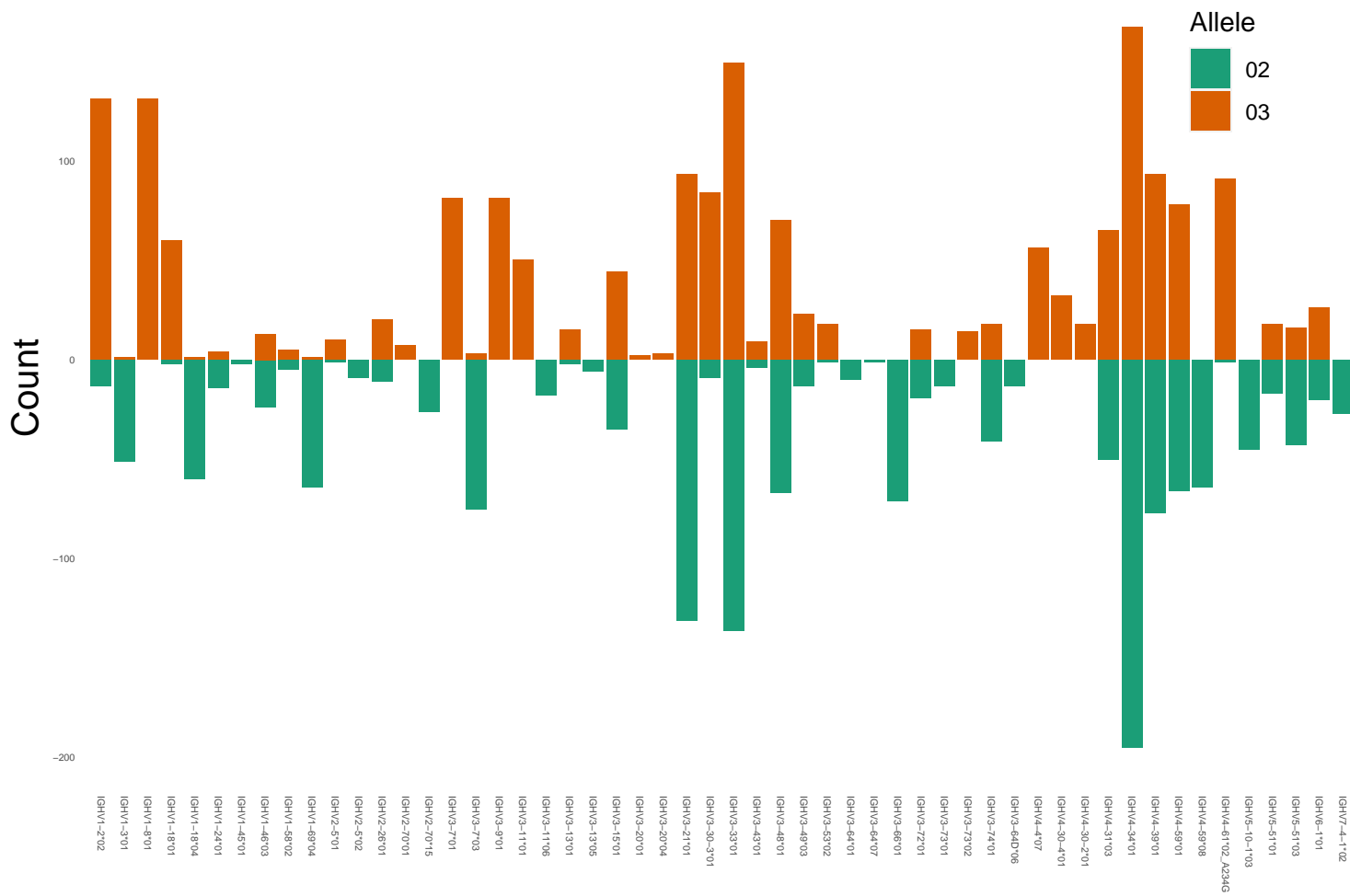
159 sequences assigned  
36 (22.6%) exact matches, in which:  
36 unique CDR3  
6 unique J







Sequence Count by IGHJ6 allele usage



Warning – no inferred sequences found.