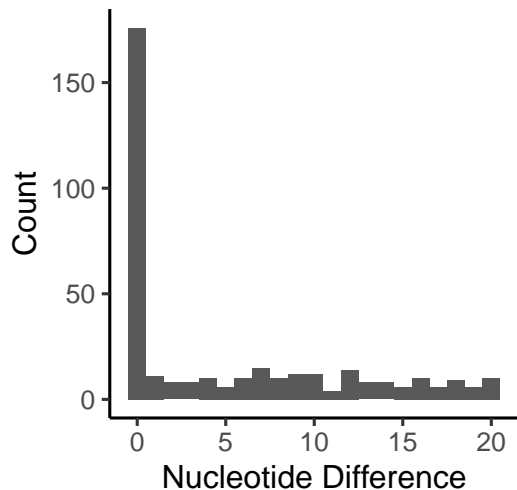


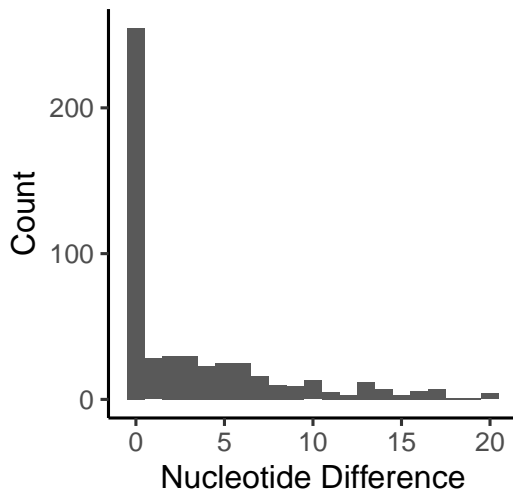
### IGHV1-2\*02

388 sequences assigned  
176 (45.4%) exact matches, in which:  
176 unique CDR3  
6 unique J



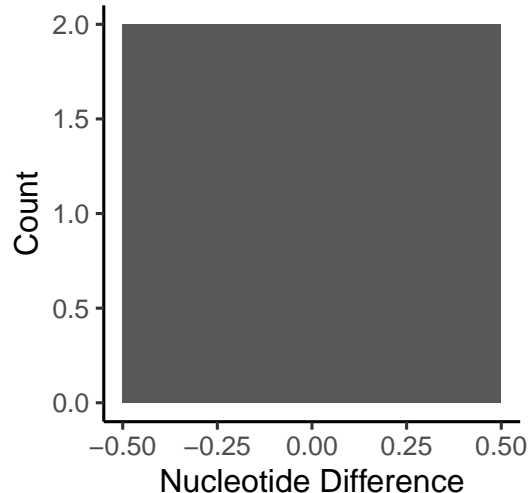
### IGHV1-8\*01

545 sequences assigned  
255 (46.8%) exact matches, in which:  
254 unique CDR3  
6 unique J



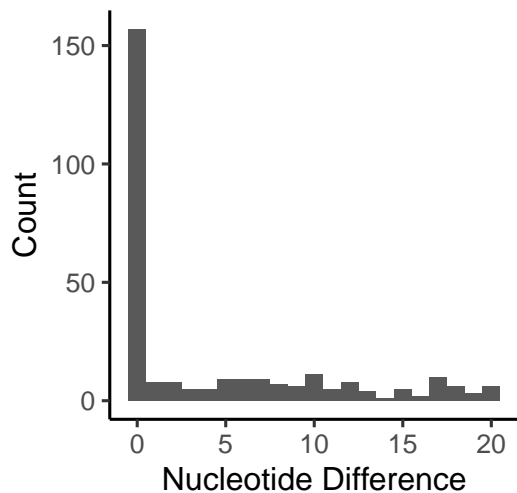
### IGHV1-45\*02

2 sequences assigned  
2 (100%) exact matches, in which:  
2 unique CDR3  
1 unique J



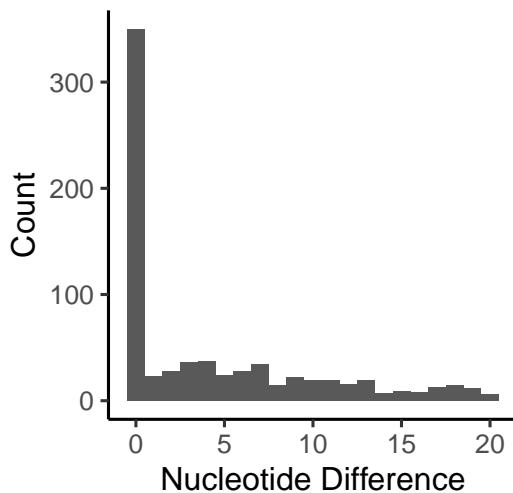
### IGHV1-2\*06

348 sequences assigned  
157 (45.1%) exact matches, in which:  
157 unique CDR3  
6 unique J



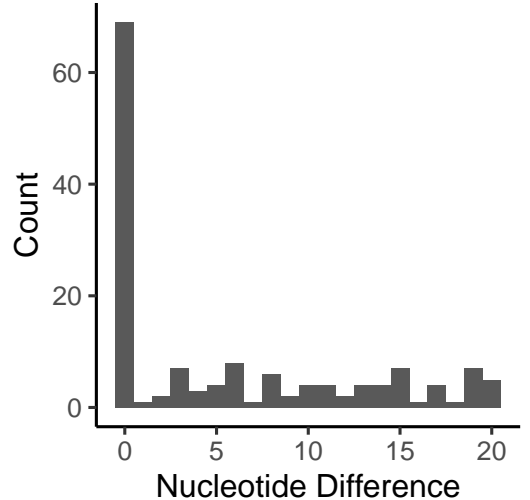
### IGHV1-18\*01

820 sequences assigned  
350 (42.7%) exact matches, in which:  
350 unique CDR3  
7 unique J



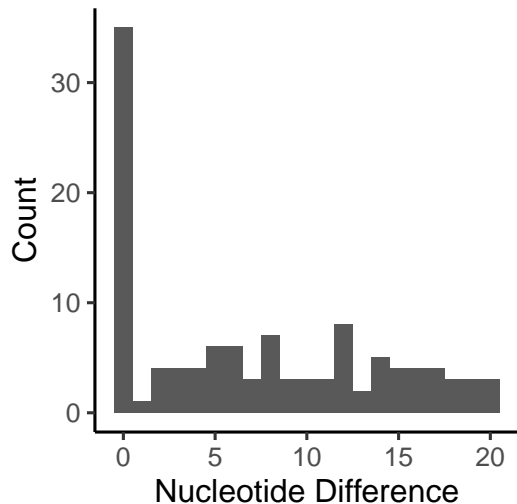
### IGHV1-46\*01

177 sequences assigned  
69 (39%) exact matches, in which:  
67 unique CDR3  
6 unique J



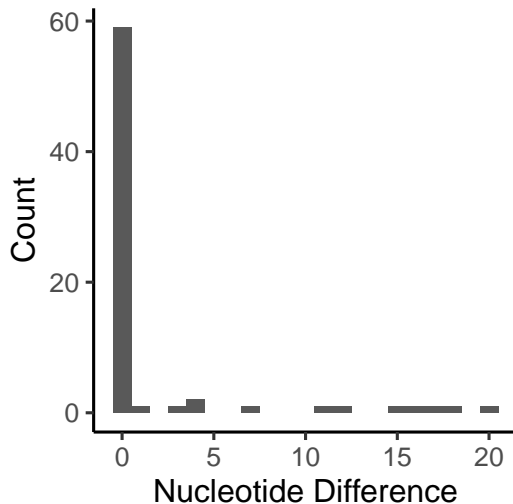
### IGHV1-3\*01\_05

135 sequences assigned  
35 (25.9%) exact matches, in which:  
34 unique CDR3  
4 unique J



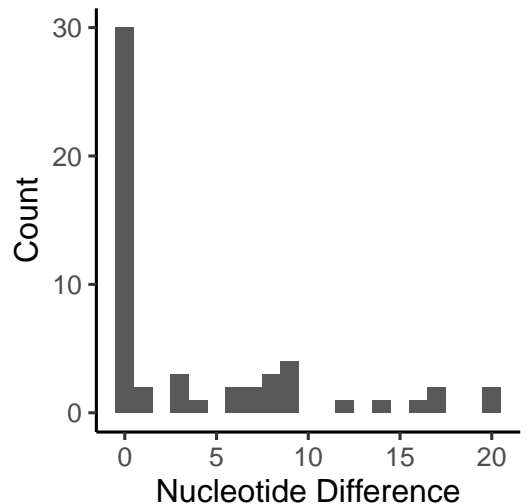
### IGHV1-24\*01

74 sequences assigned  
59 (79.7%) exact matches, in which:  
59 unique CDR3  
7 unique J



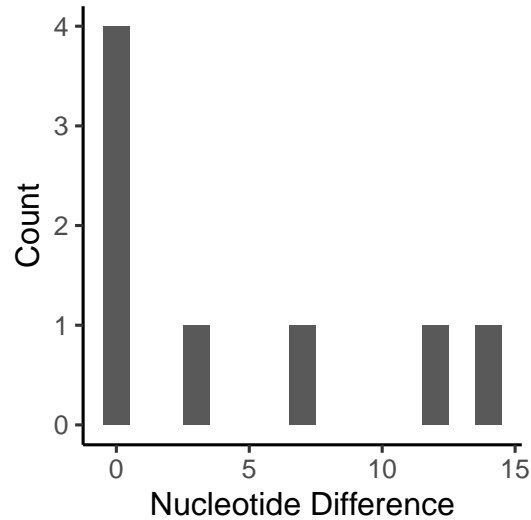
### IGHV1-46\*03

59 sequences assigned  
30 (50.8%) exact matches, in which:  
30 unique CDR3  
5 unique J



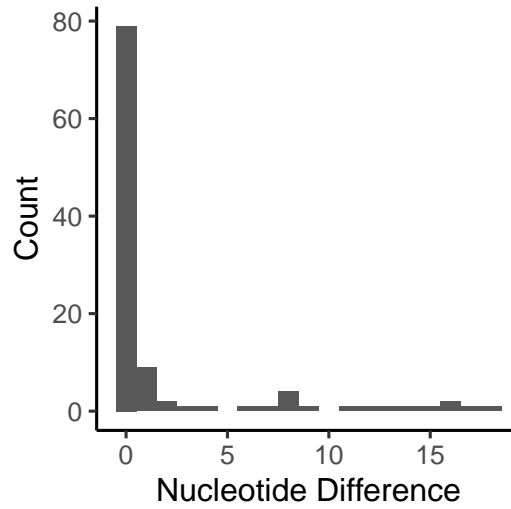
### IGHV1-58\*02

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



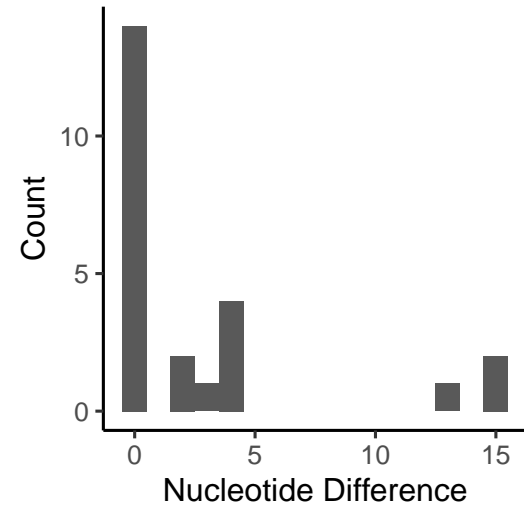
### IGHV1-69\*04\_09

115 sequences assigned  
79 (68.7%) exact matches, in which:  
79 unique CDR3  
6 unique J



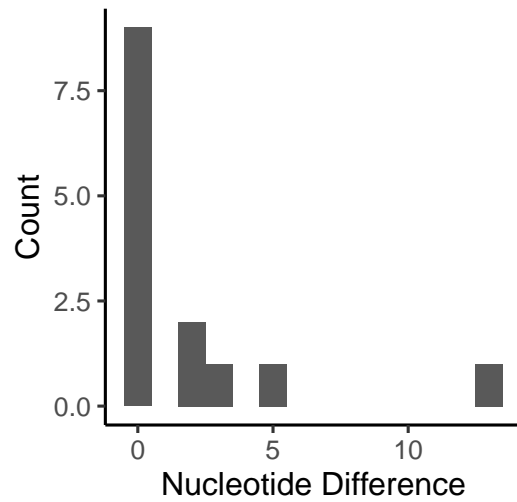
### IGHV2-26\*01

26 sequences assigned  
14 (53.8%) exact matches, in which:  
14 unique CDR3  
5 unique J



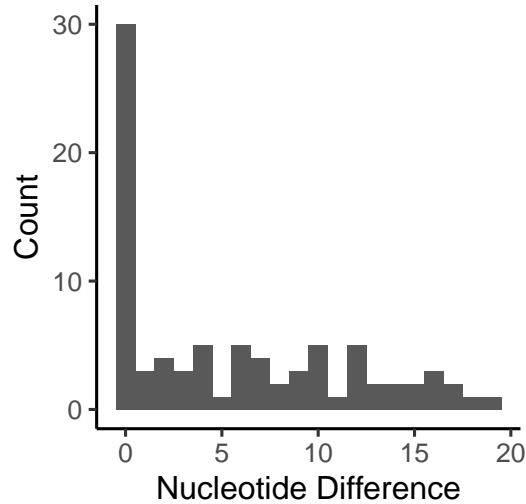
### IGHV1-58\*01\_03

14 sequences assigned  
9 (64.3%) exact matches, in which:  
9 unique CDR3  
3 unique J



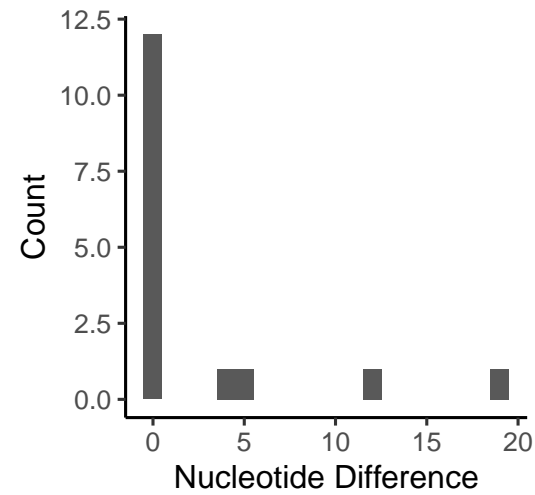
### IGHV2-5\*01

99 sequences assigned  
30 (30.3%) exact matches, in which:  
30 unique CDR3  
5 unique J



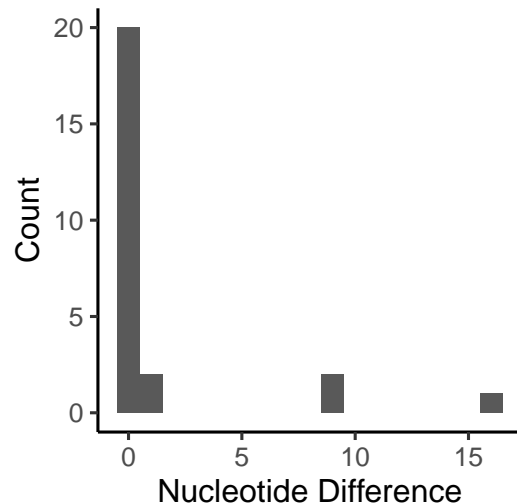
### IGHV2-70\*01

17 sequences assigned  
12 (70.6%) exact matches, in which:  
11 unique CDR3  
3 unique J



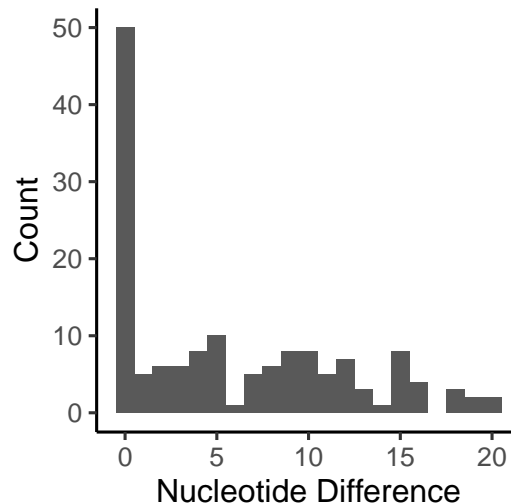
### IGHV1-69\*02

30 sequences assigned  
20 (66.7%) exact matches, in which:  
20 unique CDR3  
6 unique J



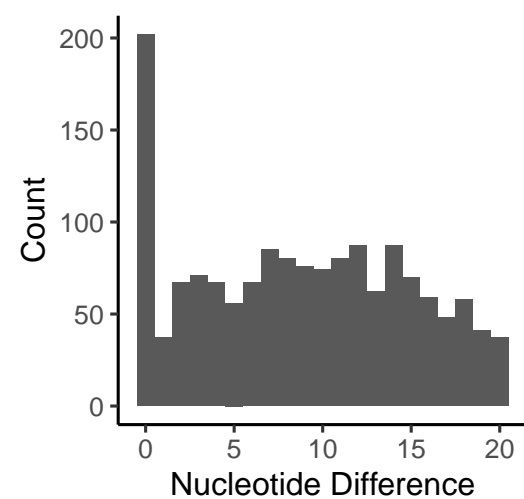
### IGHV2-5\*02

155 sequences assigned  
50 (32.3%) exact matches, in which:  
50 unique CDR3  
6 unique J



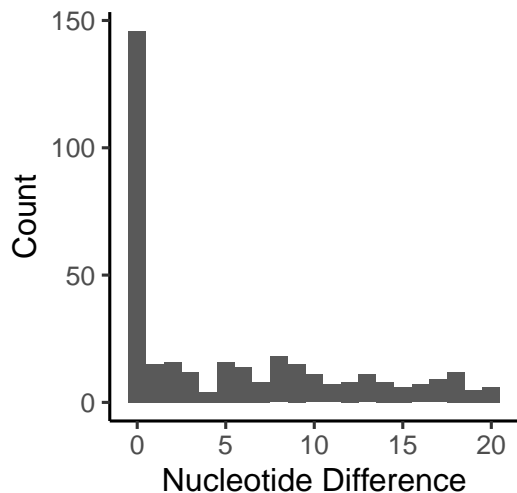
### IGHV3-7\*01

1693 sequences assigned  
202 (11.9%) exact matches, in which:  
195 unique CDR3  
7 unique J



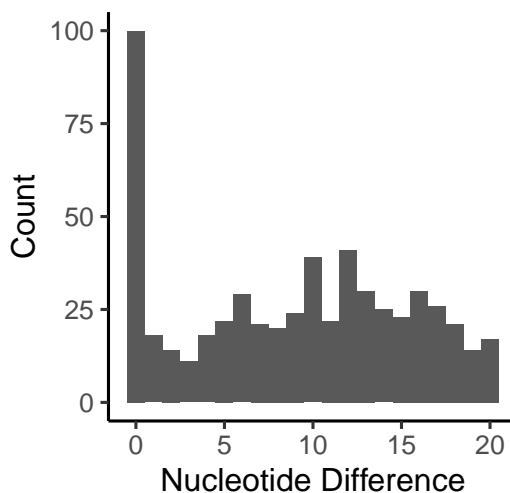
### IGHV3-9\*01

411 sequences assigned  
146 (35.5%) exact matches, in which:  
143 unique CDR3  
7 unique J



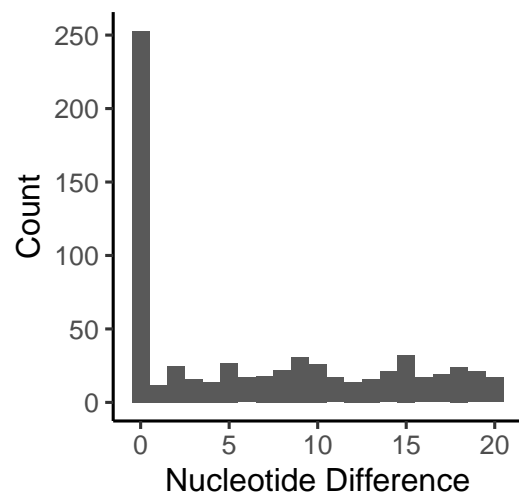
### IGHV3-15\*01\_02

650 sequences assigned  
100 (15.4%) exact matches, in which:  
99 unique CDR3  
7 unique J



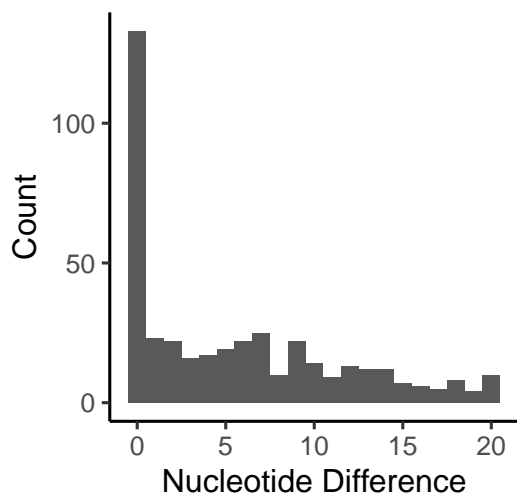
### IGHV3-30-3\*01

821 sequences assigned  
253 (30.8%) exact matches, in which:  
253 unique CDR3  
7 unique J



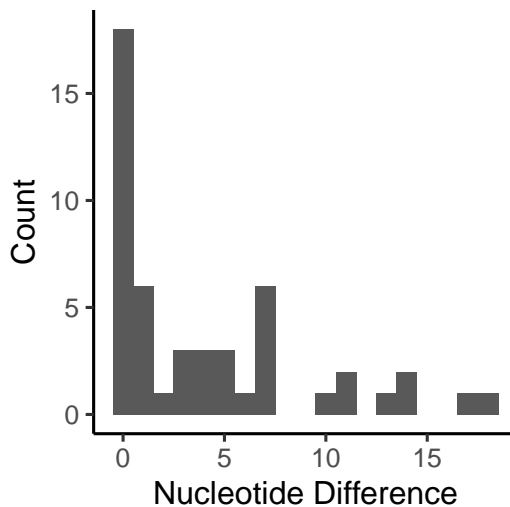
### IGHV3-11\*01

467 sequences assigned  
133 (28.5%) exact matches, in which:  
131 unique CDR3  
7 unique J



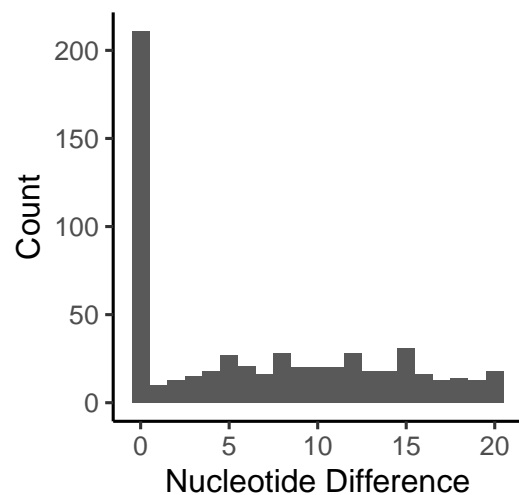
### IGHV3-20\*01\_02

51 sequences assigned  
18 (35.3%) exact matches, in which:  
18 unique CDR3  
6 unique J



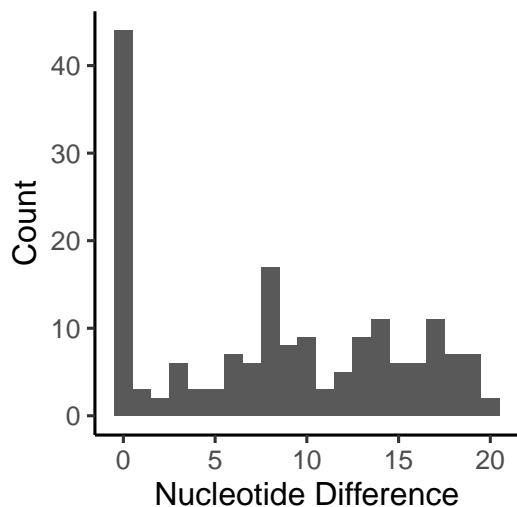
### IGHV3-33\*01

686 sequences assigned  
211 (30.8%) exact matches, in which:  
207 unique CDR3  
7 unique J



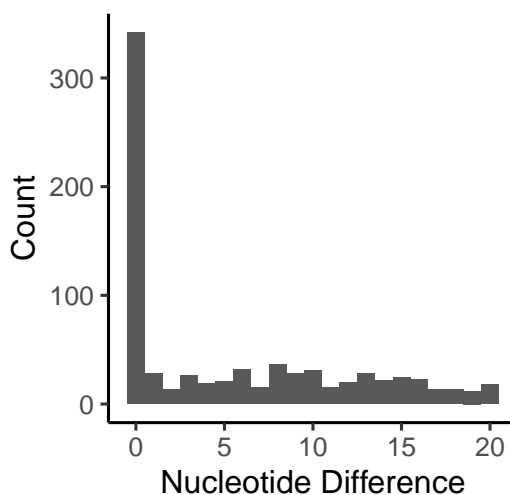
### IGHV3-13\*01

190 sequences assigned  
44 (23.2%) exact matches, in which:  
43 unique CDR3  
6 unique J



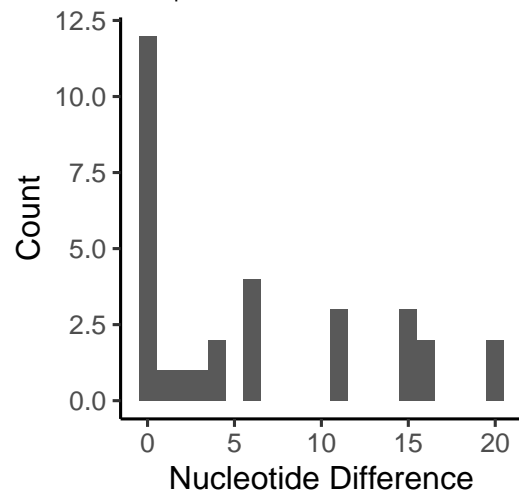
### IGHV3-21\*01\_02

858 sequences assigned  
342 (39.9%) exact matches, in which:  
335 unique CDR3  
7 unique J



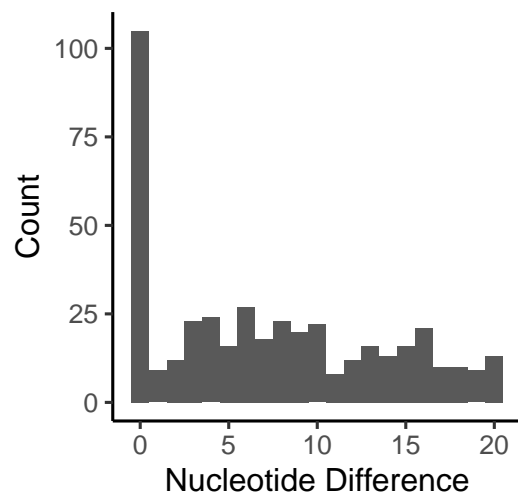
### IGHV3-43\*01

41 sequences assigned  
12 (29.3%) exact matches, in which:  
12 unique CDR3  
4 unique J



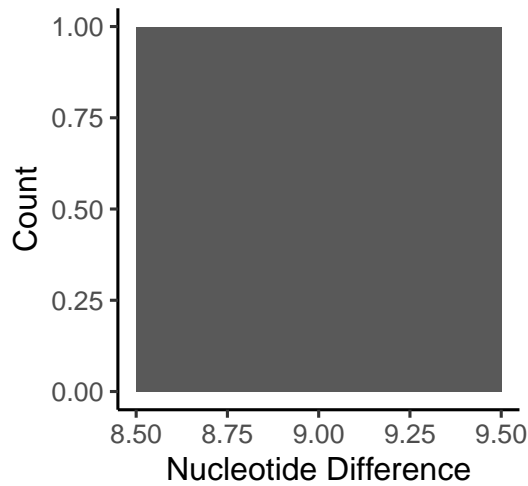
### IGHV3-48\*01

477 sequences assigned  
105 (22%) exact matches, in which:  
96 unique CDR3  
6 unique J



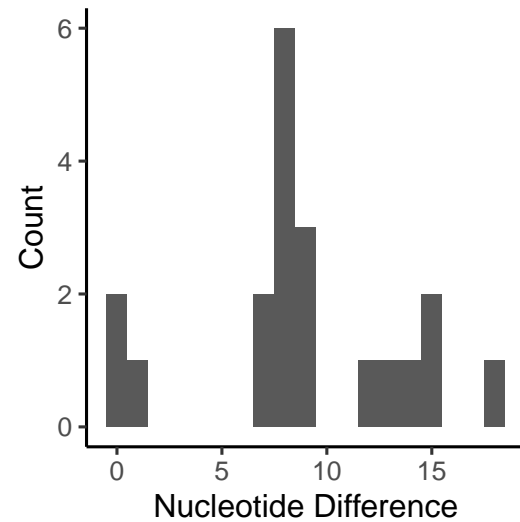
### IGHV3-52\*01\_03

1 sequences assigned  
No exact matches.



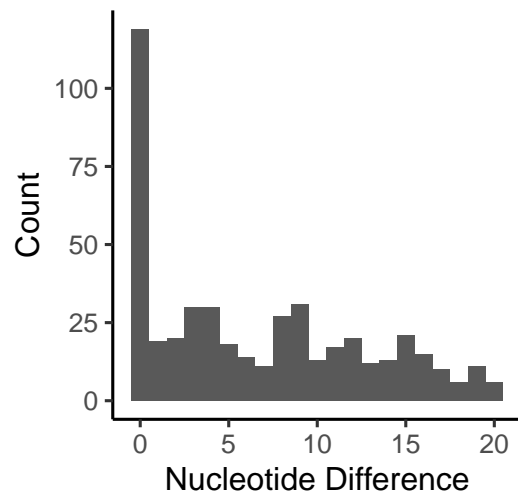
### IGHV3-64\*02\_07

22 sequences assigned  
2 (9.1%) exact matches, in which:  
2 unique CDR3  
1 unique J



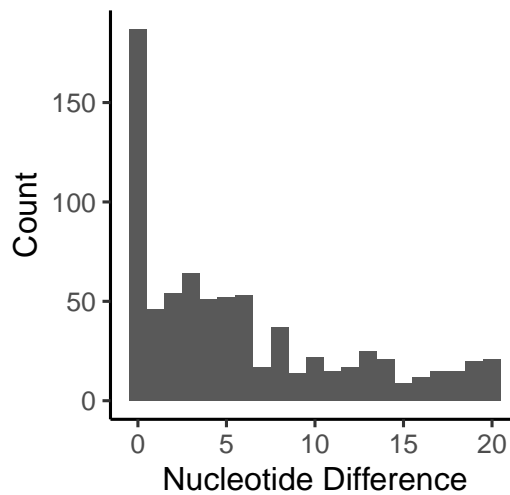
### IGHV3-48\*02

518 sequences assigned  
119 (23%) exact matches, in which:  
110 unique CDR3  
5 unique J



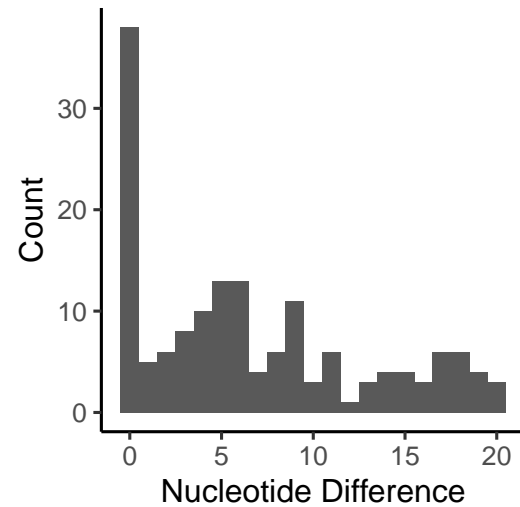
### IGHV3-53\*01\_02

852 sequences assigned  
187 (21.9%) exact matches, in which:  
177 unique CDR3  
6 unique J



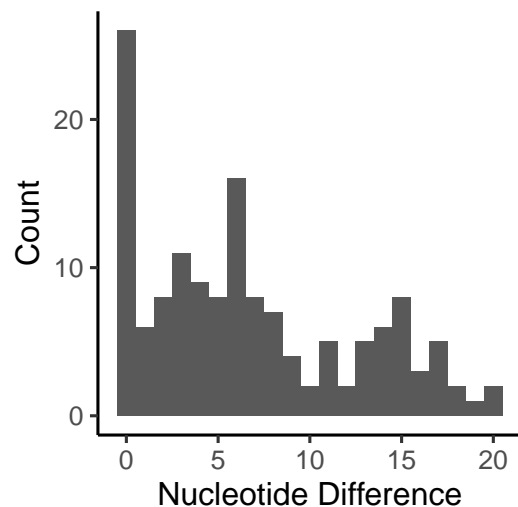
### IGHV3-66\*02

192 sequences assigned  
38 (19.8%) exact matches, in which:  
37 unique CDR3  
4 unique J



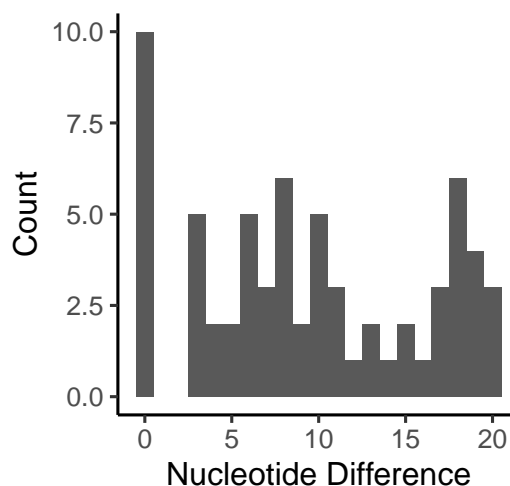
### IGHV3-49\*03\_05

167 sequences assigned  
26 (15.6%) exact matches, in which:  
26 unique CDR3  
5 unique J



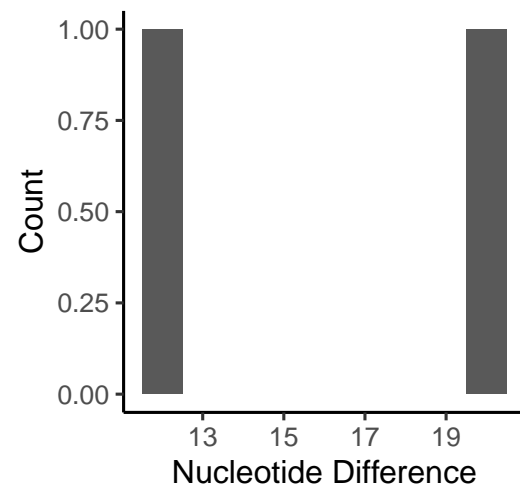
### IGHV3-64\*01

67 sequences assigned  
10 (14.9%) exact matches, in which:  
9 unique CDR3  
3 unique J



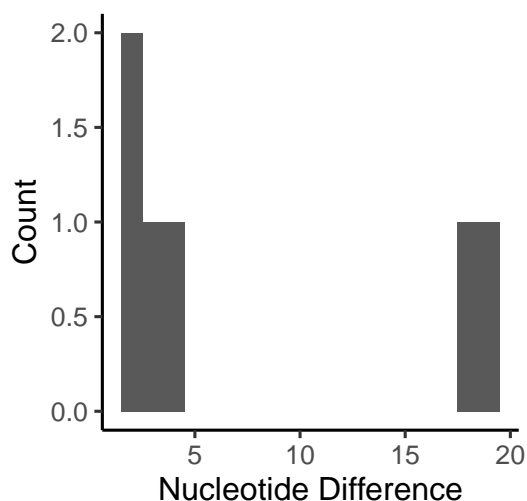
### IGHV3-69-1\*01

2 sequences assigned  
No exact matches.



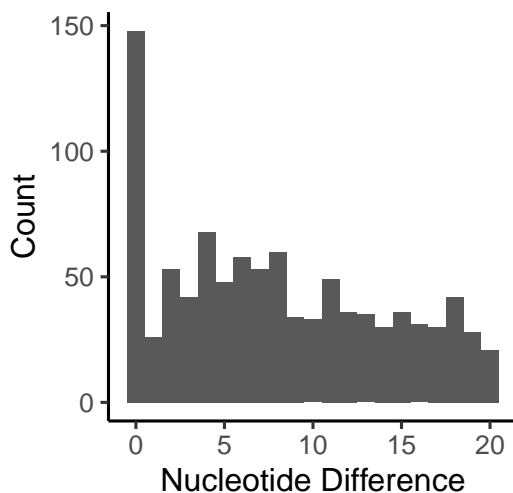
### IGHV3-69-1\*02

10 sequences assigned  
No exact matches.



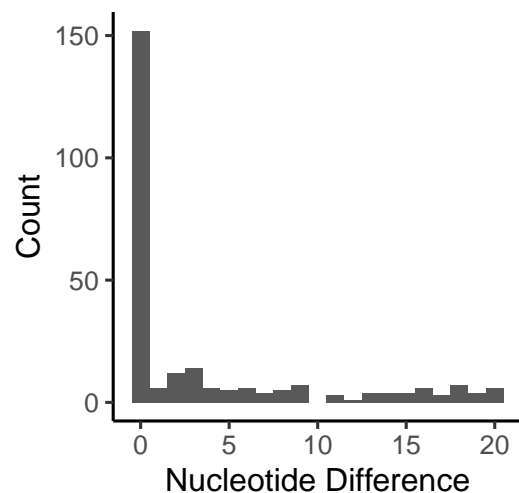
### IGHV3-74\*01\_02

1066 sequences assigned  
148 (13.9%) exact matches, in which:  
138 unique CDR3  
7 unique J



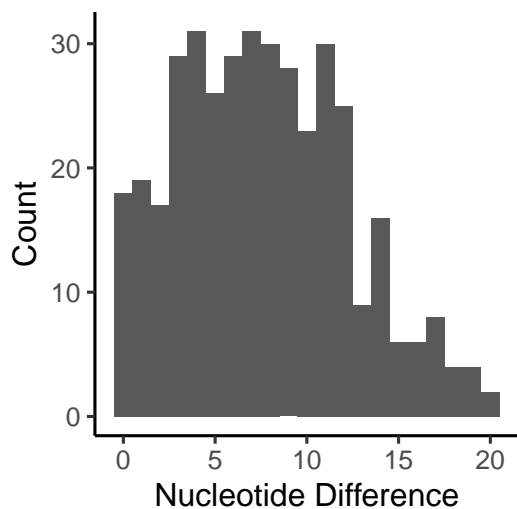
### IGHV4-30-4\*01

301 sequences assigned  
152 (50.5%) exact matches, in which:  
150 unique CDR3  
7 unique J



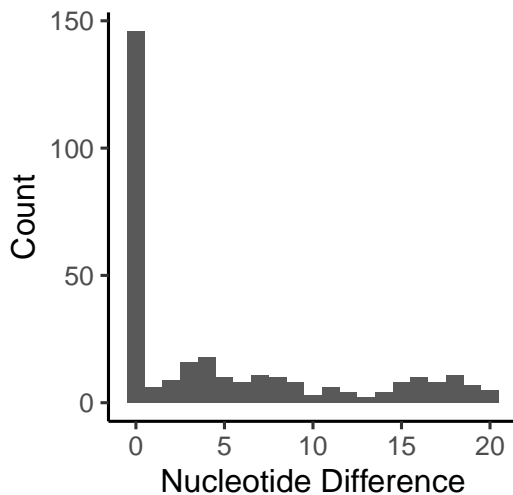
### IGHV3-72\*01

403 sequences assigned  
18 (4.5%) exact matches, in which:  
14 unique CDR3  
5 unique J



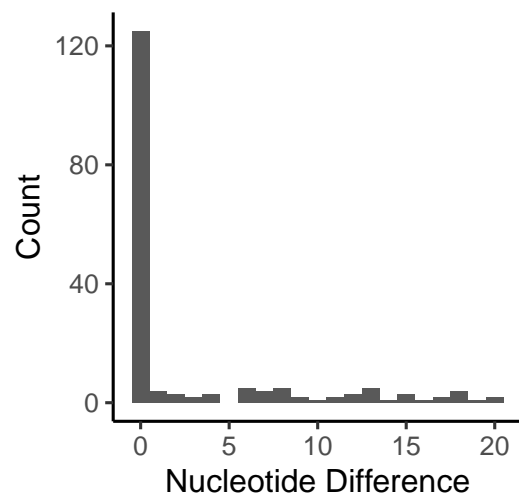
### IGHV4-4\*07

357 sequences assigned  
146 (40.9%) exact matches, in which:  
143 unique CDR3  
6 unique J



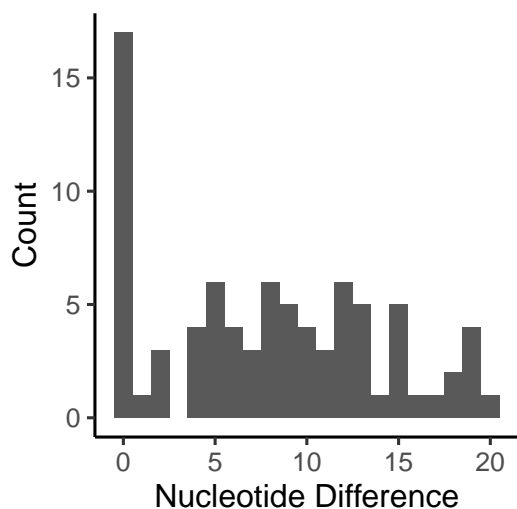
### IGHV4-30-2\*01

194 sequences assigned  
125 (64.4%) exact matches, in which:  
123 unique CDR3  
6 unique J



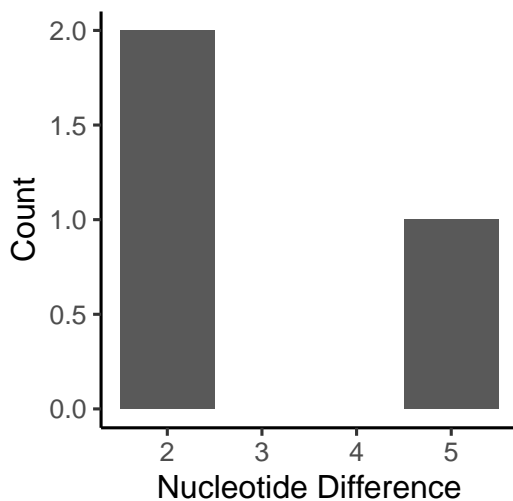
### IGHV3-73\*01\_02

90 sequences assigned  
17 (18.9%) exact matches, in which:  
17 unique CDR3  
3 unique J



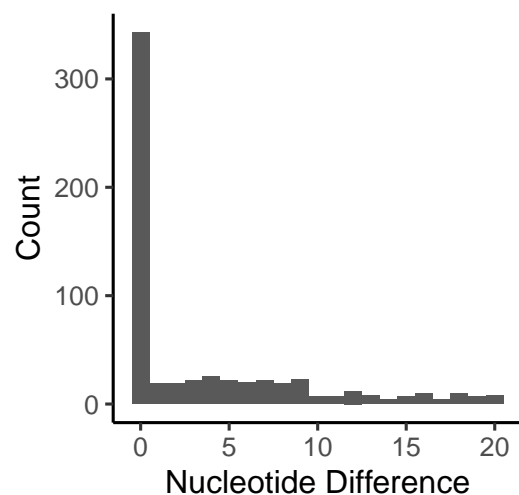
### IGHV4-28\*01\_07

3 sequences assigned  
No exact matches.



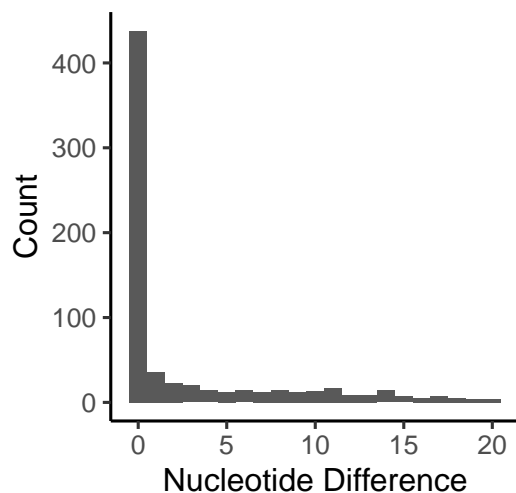
### IGHV4-31\*03\_04

677 sequences assigned  
343 (50.7%) exact matches, in which:  
340 unique CDR3  
7 unique J



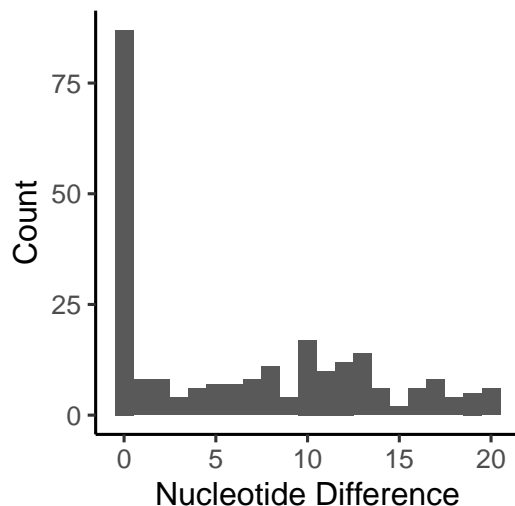
### IGHV4-34\*01\_02

741 sequences assigned  
438 (59.1%) exact matches, in which:  
437 unique CDR3  
7 unique J



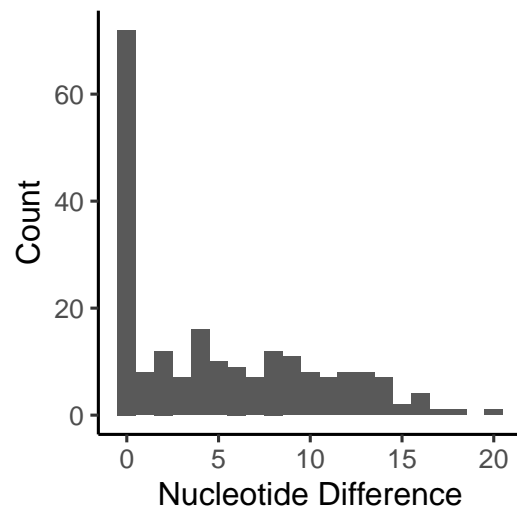
### IGHV4-61\*01

272 sequences assigned  
87 (32%) exact matches, in which:  
84 unique CDR3  
5 unique J



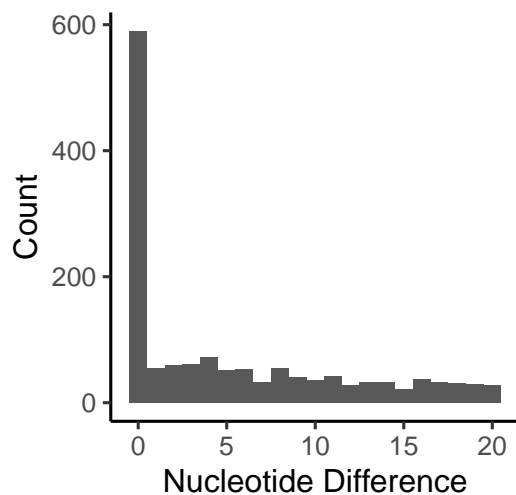
### IGHV6-1\*01\_02

224 sequences assigned  
72 (32.1%) exact matches, in which:  
72 unique CDR3  
6 unique J



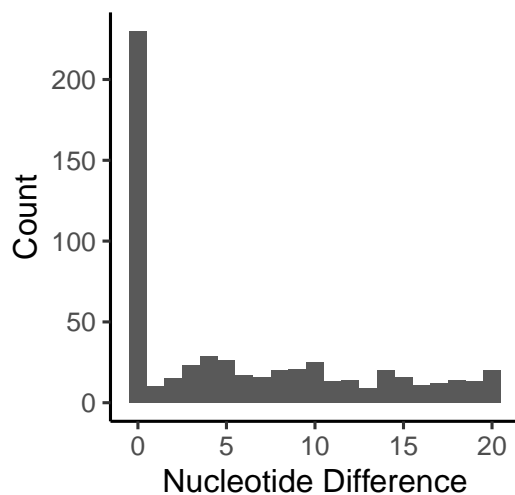
### IGHV4-39\*01\_05

1604 sequences assigned  
590 (36.8%) exact matches, in which:  
579 unique CDR3  
7 unique J



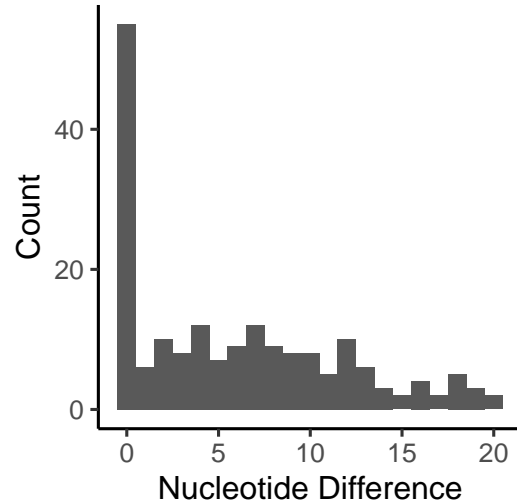
### IGHV4-61\*02

663 sequences assigned  
230 (34.7%) exact matches, in which:  
224 unique CDR3  
6 unique J



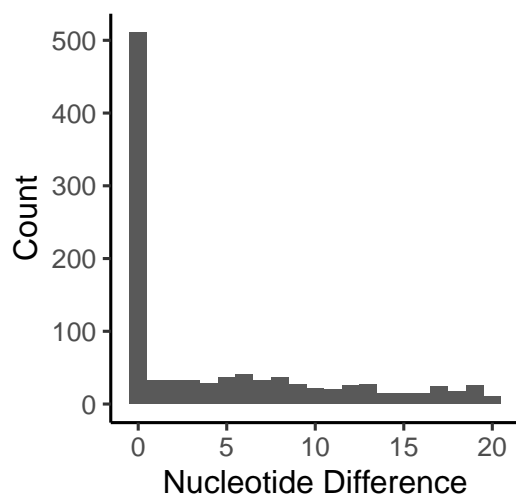
### IGHV7-4-1\*02

194 sequences assigned  
55 (28.4%) exact matches, in which:  
55 unique CDR3  
6 unique J



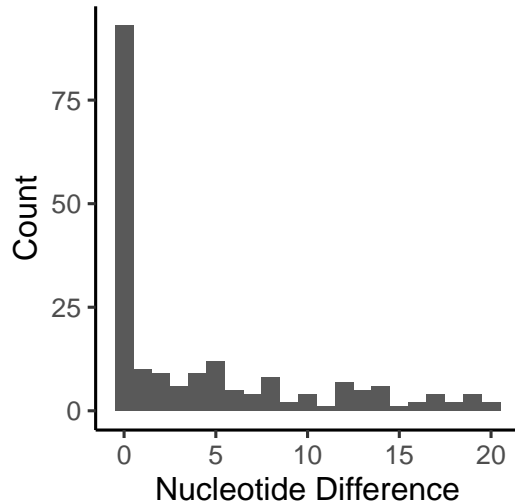
### IGHV4-59\*01\_07

1143 sequences assigned  
511 (44.7%) exact matches, in which:  
502 unique CDR3  
7 unique J

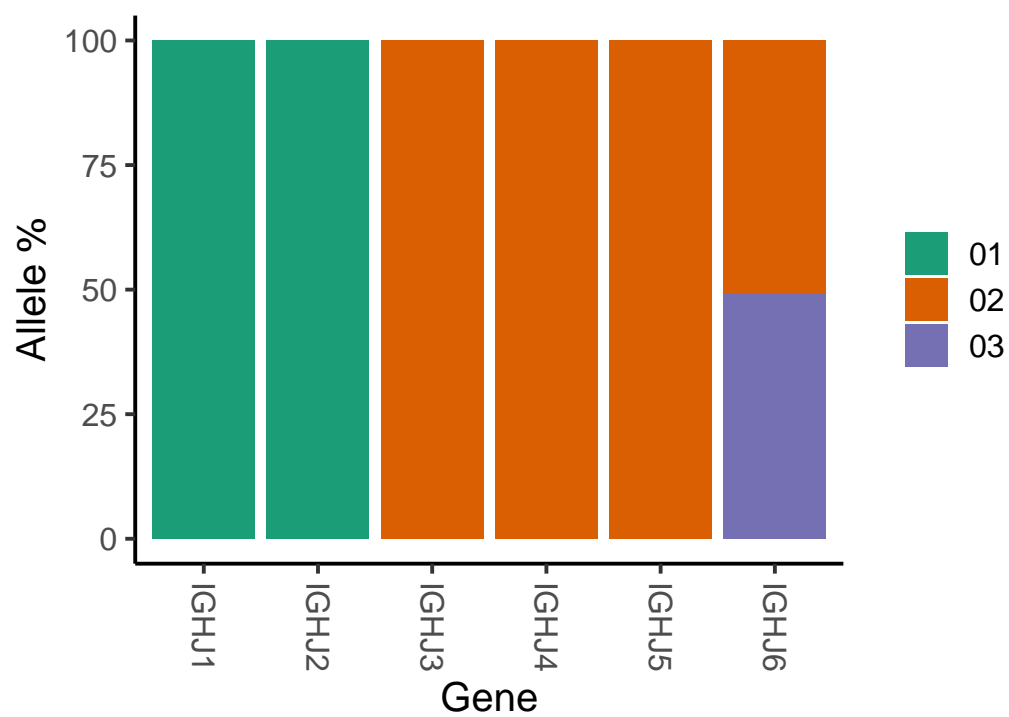


### IGHV5-51\*01\_03

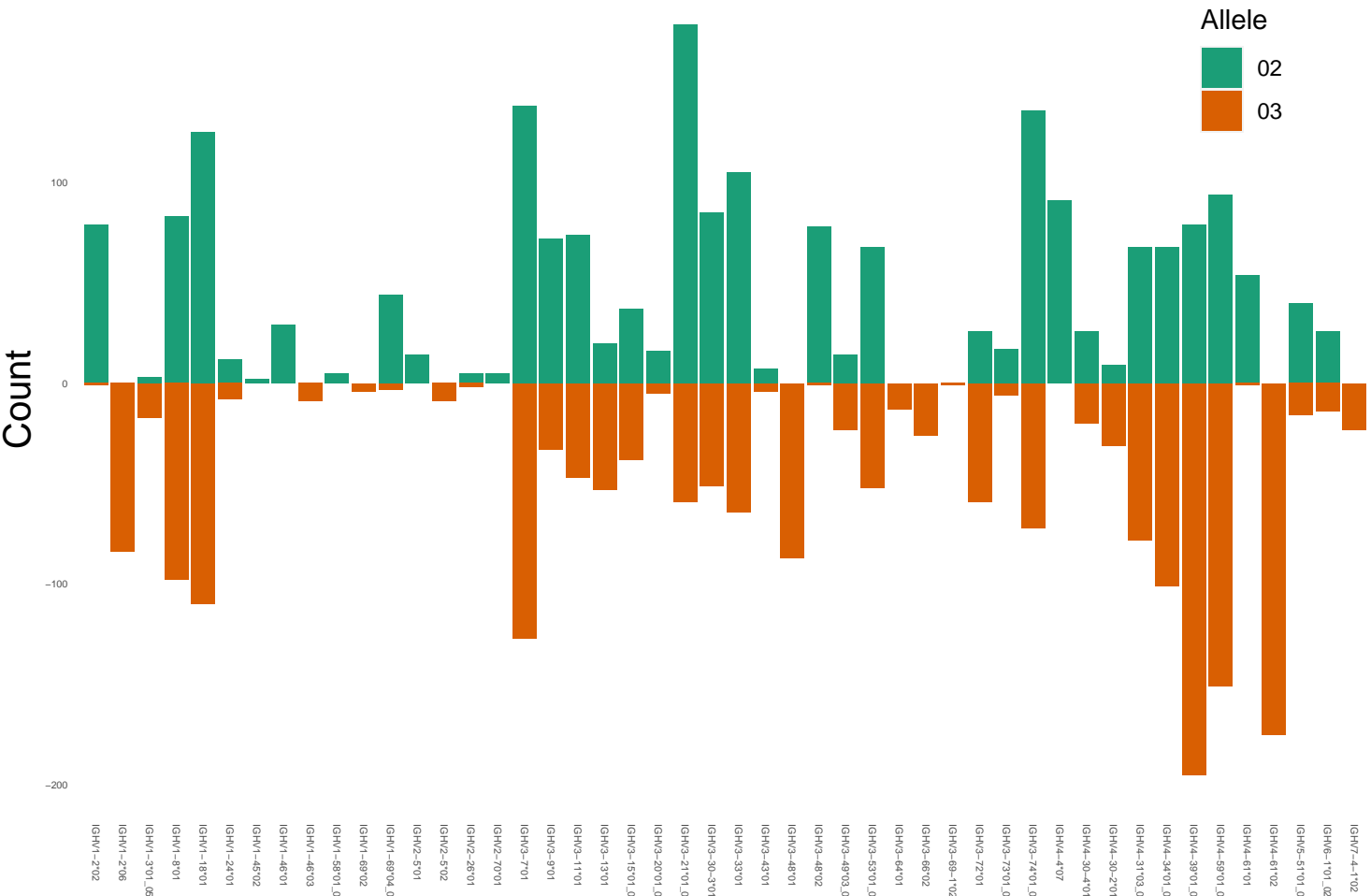
220 sequences assigned  
93 (42.3%) exact matches, in which:  
93 unique CDR3  
7 unique J



Allele Usage



Sequence Count by IGHJ6 allele usage





Novel sequence(s)IGHV4-59\_02\_G88AIGHV5-51\_07\_A128G are not listed in the genotype and will be ignored.