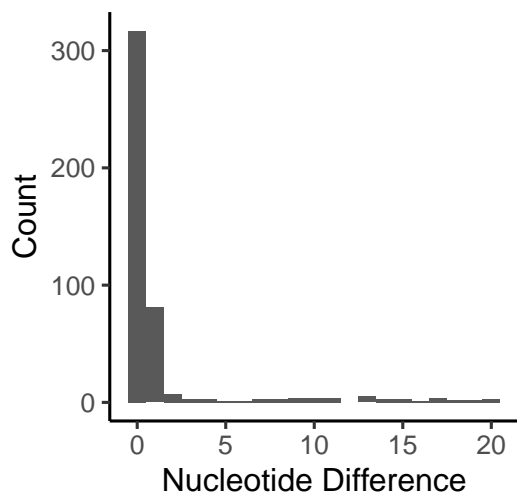


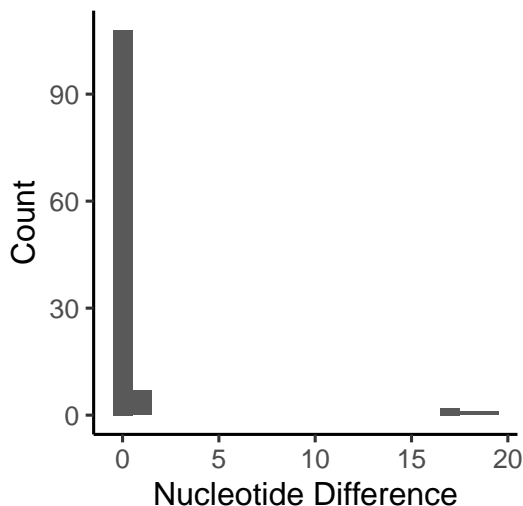
### IGHV1-2\*02

470 sequences assigned  
317 (67.4%) exact matches, in which:  
316 unique CDR3  
6 unique J



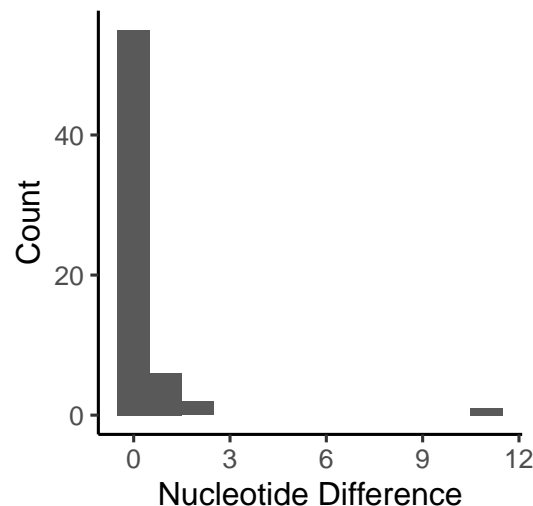
### IGHV1-24\*01

130 sequences assigned  
108 (83.1%) exact matches, in which:  
108 unique CDR3  
7 unique J



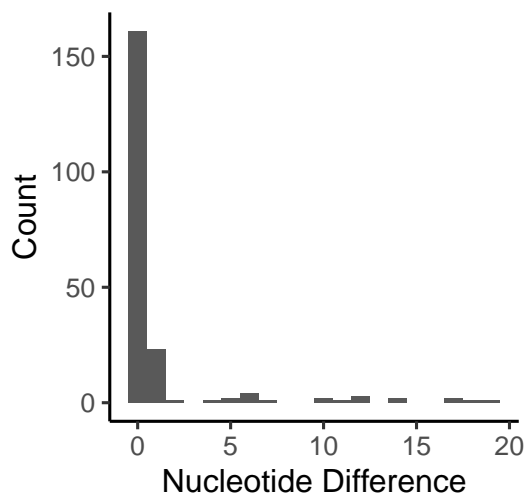
### IGHV1-58\*01

66 sequences assigned  
55 (83.3%) exact matches, in which:  
55 unique CDR3  
6 unique J



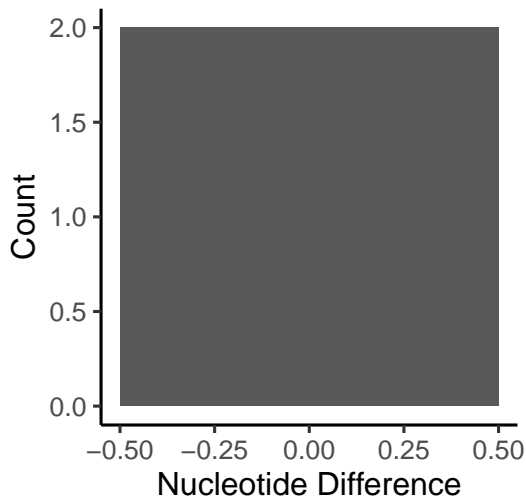
### IGHV1-3\*01

214 sequences assigned  
161 (75.2%) exact matches, in which:  
158 unique CDR3  
6 unique J



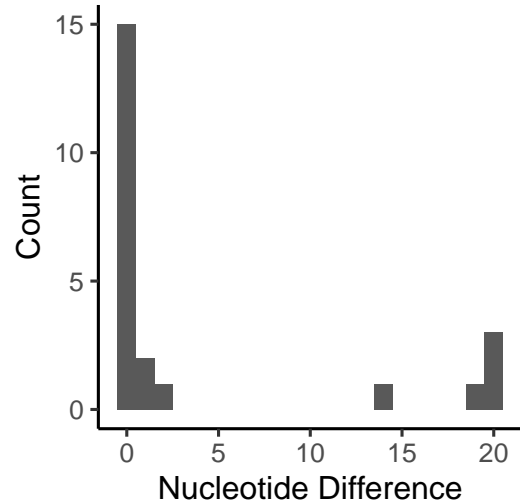
### IGHV1-45\*02

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



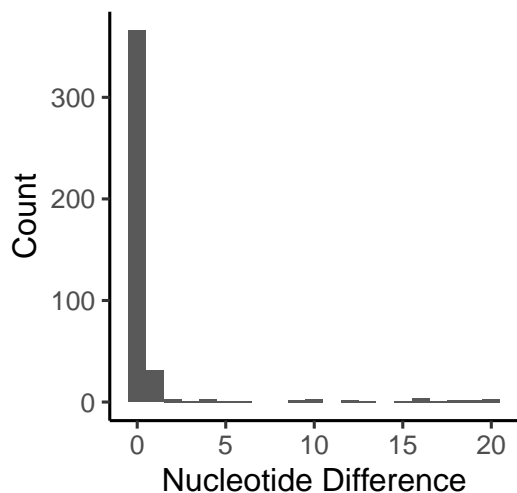
### IGHV1-69-2\*01

27 sequences assigned  
15 (55.6%) exact matches, in which:  
15 unique CDR3  
4 unique J



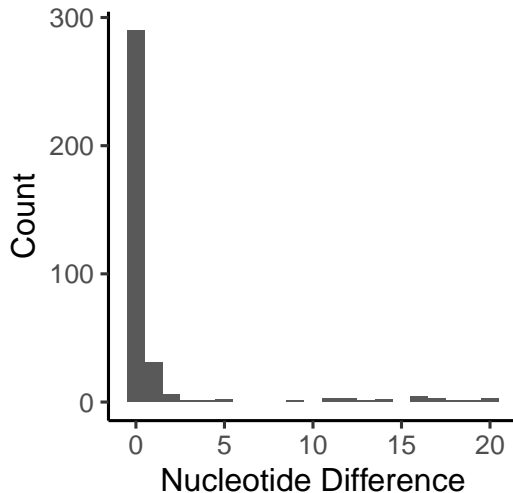
### IGHV1-18\*01

442 sequences assigned  
366 (82.8%) exact matches, in which:  
365 unique CDR3  
7 unique J



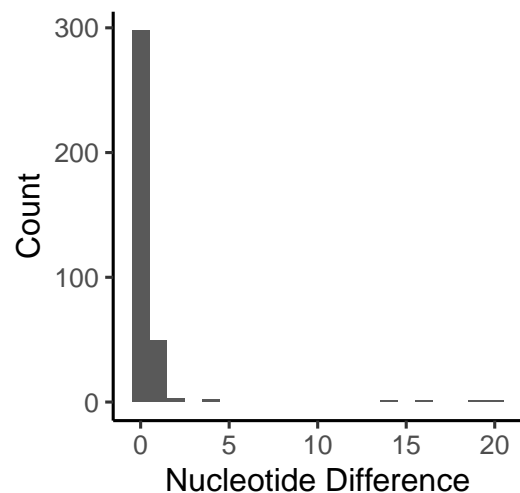
### IGHV1-46\*01

390 sequences assigned  
290 (74.4%) exact matches, in which:  
290 unique CDR3  
7 unique J



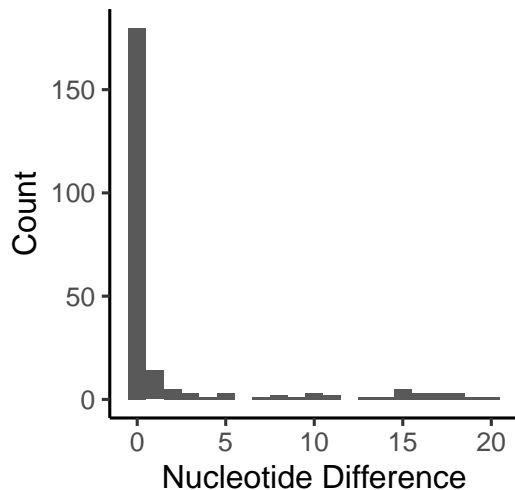
### IGHV1-69\*17

370 sequences assigned  
298 (80.5%) exact matches, in which:  
297 unique CDR3  
6 unique J



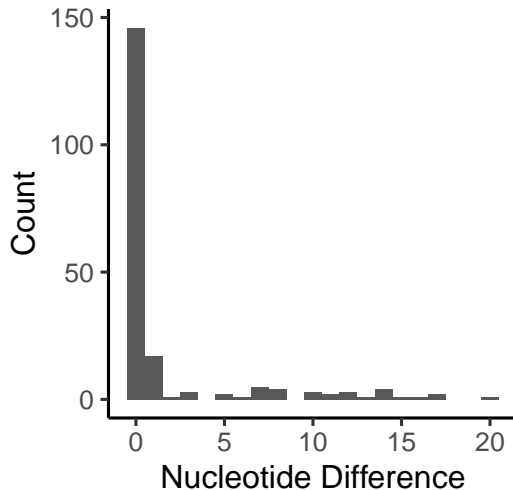
### IGHV2-5\*02

251 sequences assigned  
180 (71.7%) exact matches, in which:  
179 unique CDR3  
7 unique J



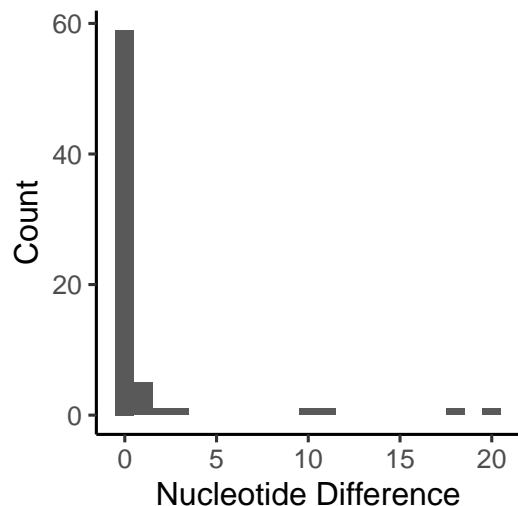
### IGHV3-7\*03

216 sequences assigned  
146 (67.6%) exact matches, in which:  
146 unique CDR3  
6 unique J



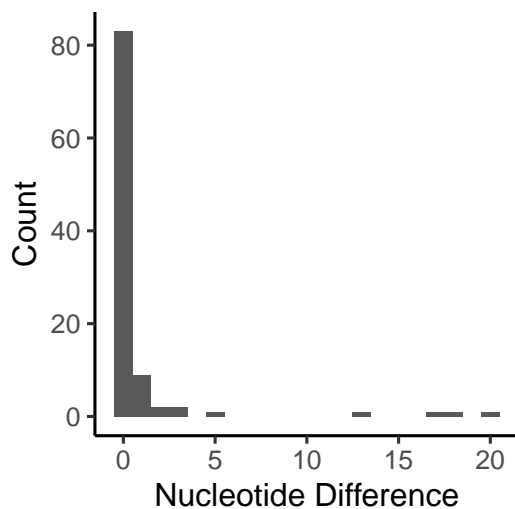
### IGHV3-11\*06

78 sequences assigned  
59 (75.6%) exact matches, in which:  
59 unique CDR3  
4 unique J



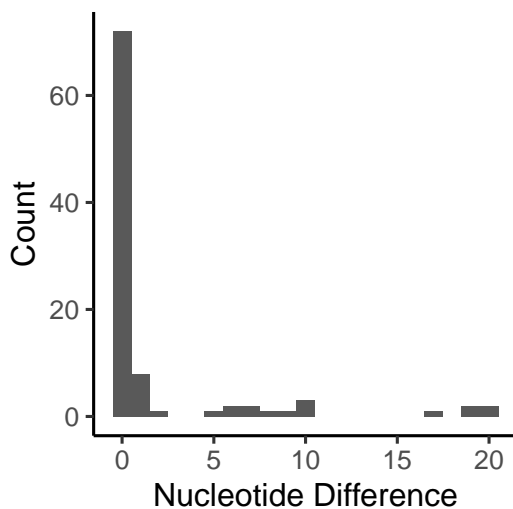
### IGHV2-26\*01

101 sequences assigned  
83 (82.2%) exact matches, in which:  
83 unique CDR3  
6 unique J



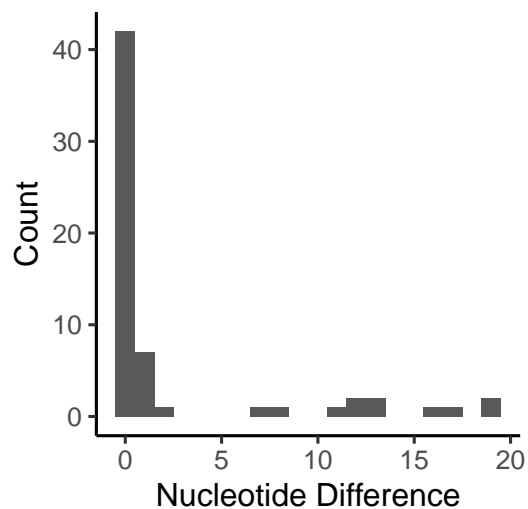
### IGHV3-7\*04

99 sequences assigned  
72 (72.7%) exact matches, in which:  
72 unique CDR3  
5 unique J



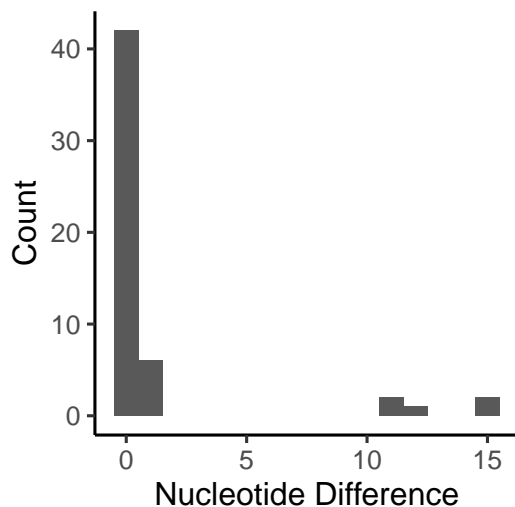
### IGHV3-13\*04

110 sequences assigned  
42 (38.2%) exact matches, in which:  
42 unique CDR3  
5 unique J



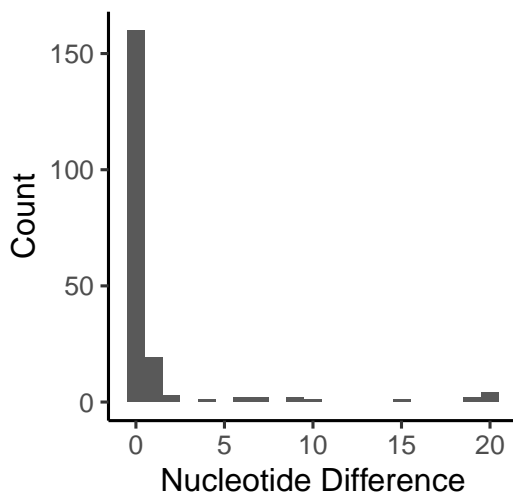
### IGHV2-70\*01

56 sequences assigned  
42 (75%) exact matches, in which:  
42 unique CDR3  
6 unique J



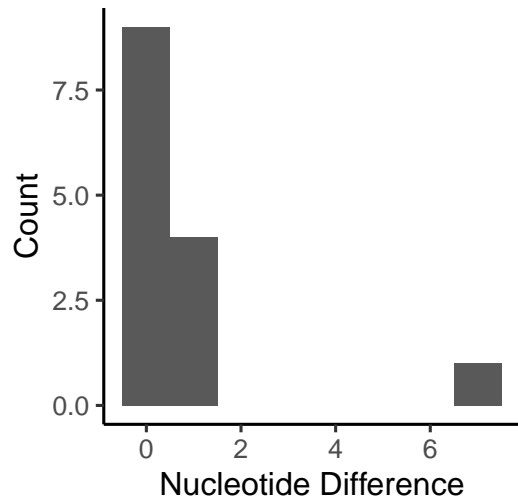
### IGHV3-11\*05

215 sequences assigned  
160 (74.4%) exact matches, in which:  
160 unique CDR3  
7 unique J



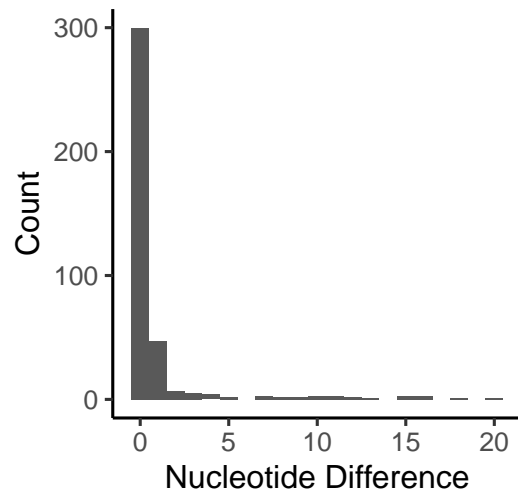
### IGHV3-13\*05

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



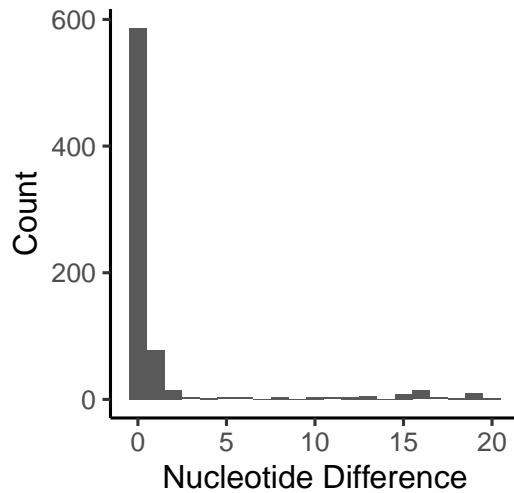
### IGHV3–15\*01

416 sequences assigned  
300 (72.1%) exact matches, in which:  
299 unique CDR3  
7 unique J



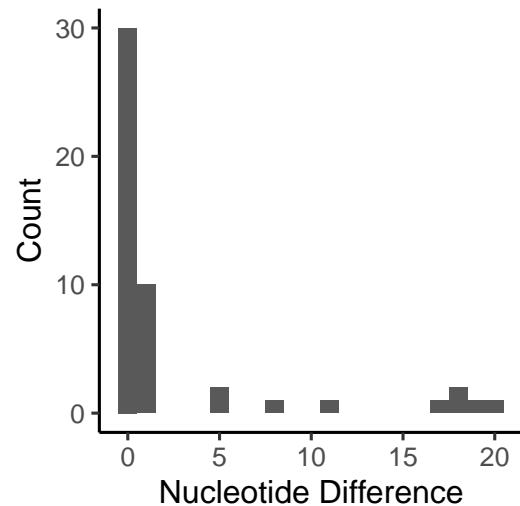
### IGHV3–21\*01

805 sequences assigned  
587 (72.9%) exact matches, in which:  
584 unique CDR3  
7 unique J



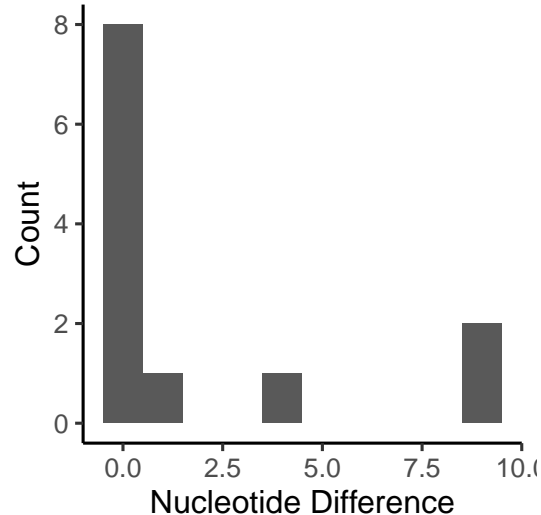
### IGHV3–43\*01

55 sequences assigned  
30 (54.5%) exact matches, in which:  
30 unique CDR3  
6 unique J



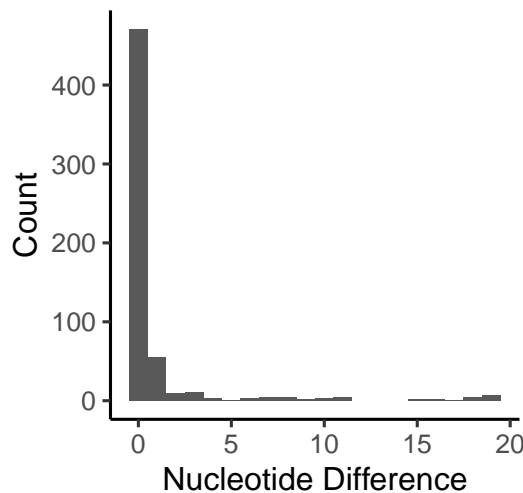
### IGHV3–20\*01

15 sequences assigned  
8 (53.3%) exact matches, in which:  
8 unique CDR3  
3 unique J



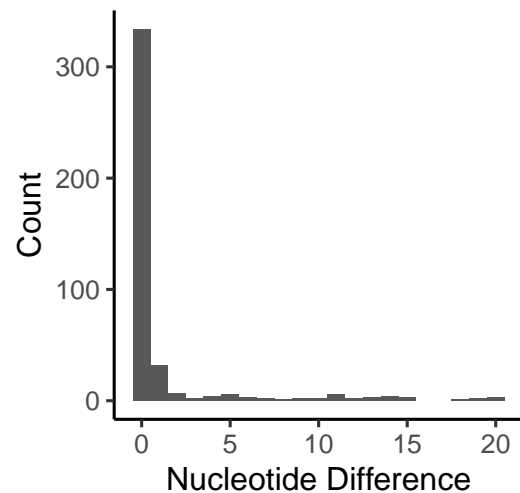
### IGHV3–33\*01

628 sequences assigned  
471 (75%) exact matches, in which:  
471 unique CDR3  
7 unique J



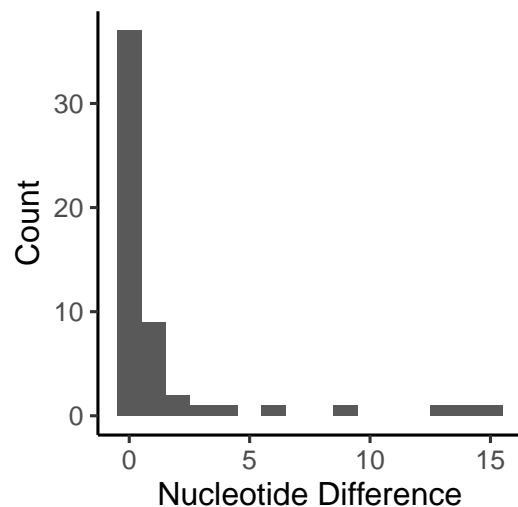
### IGHV3–48\*02

441 sequences assigned  
334 (75.7%) exact matches, in which:  
334 unique CDR3  
7 unique J



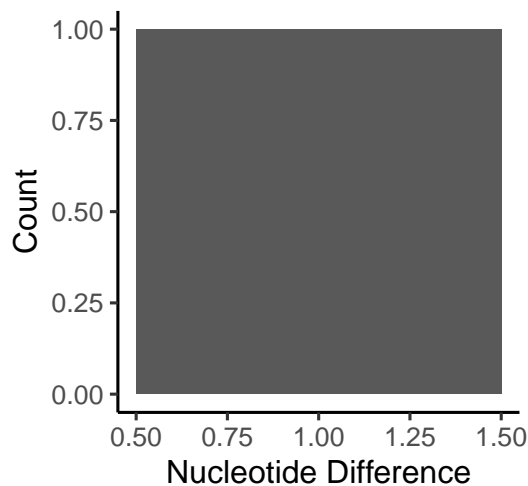
### IGHV3–20\*04

59 sequences assigned  
37 (62.7%) exact matches, in which:  
37 unique CDR3  
5 unique J



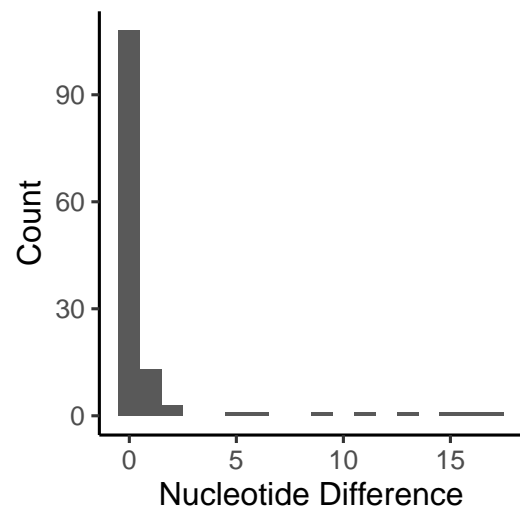
### IGHV3–35\*01

1 sequences assigned  
No exact matches.



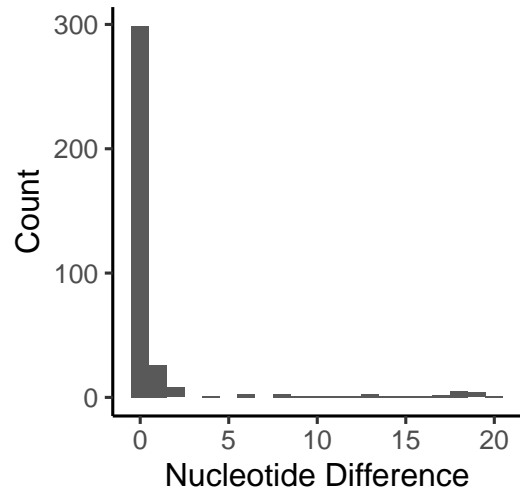
### IGHV3–49\*05

146 sequences assigned  
108 (74%) exact matches, in which:  
108 unique CDR3  
7 unique J



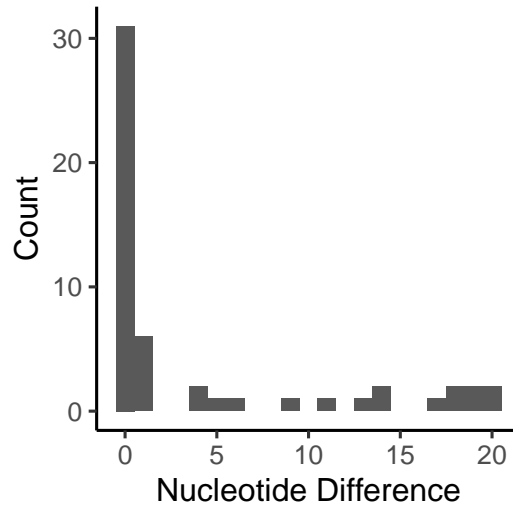
### IGHV3-53\*01

383 sequences assigned  
299 (78.1%) exact matches, in which:  
298 unique CDR3  
7 unique J



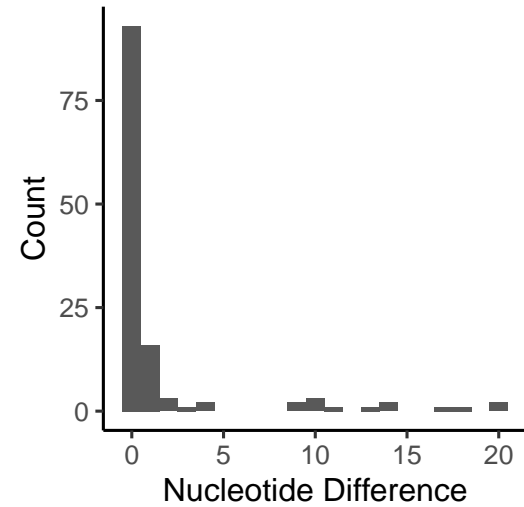
### IGHV3-72\*01

56 sequences assigned  
31 (55.4%) exact matches, in which:  
31 unique CDR3  
6 unique J



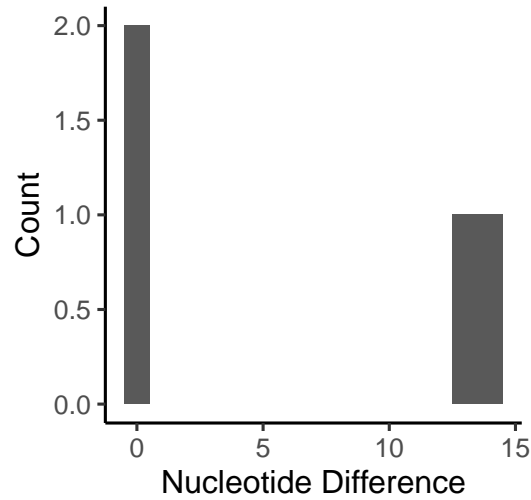
### IGHV3-64D\*06

137 sequences assigned  
93 (67.9%) exact matches, in which:  
93 unique CDR3  
7 unique J



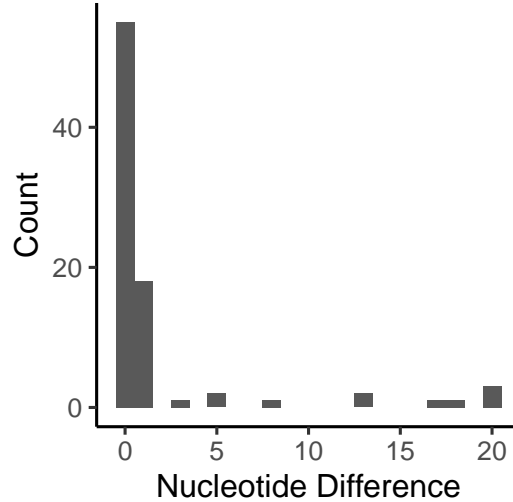
### IGHV3-64\*02

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



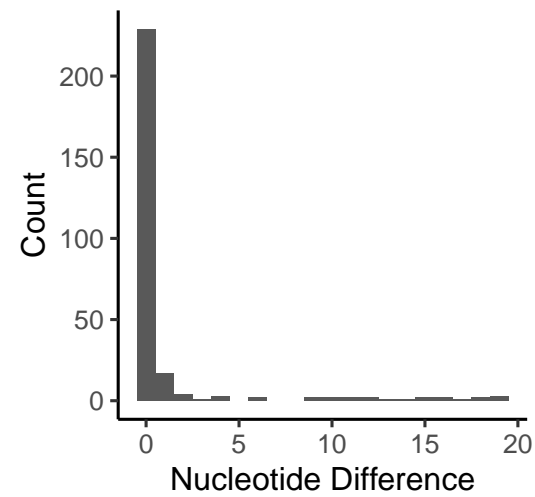
### IGHV3-73\*02

94 sequences assigned  
55 (58.5%) exact matches, in which:  
55 unique CDR3  
6 unique J



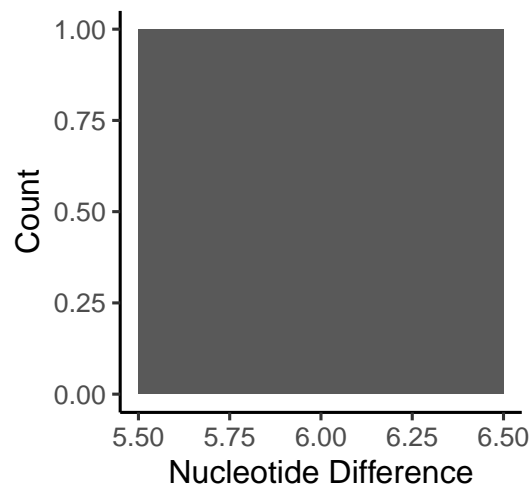
### IGHV4-4\*02

299 sequences assigned  
229 (76.6%) exact matches, in which:  
229 unique CDR3  
7 unique J



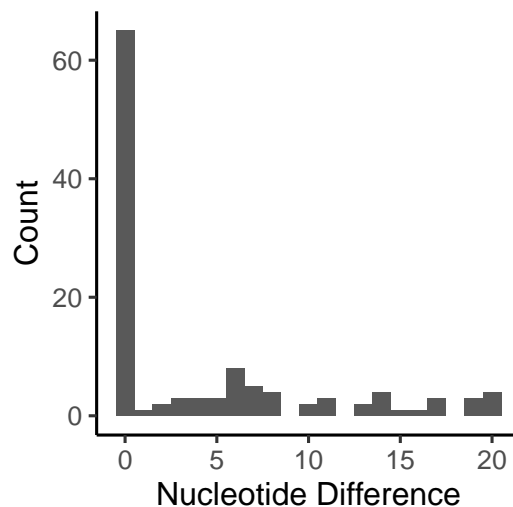
### IGHV3-69-1\*02

1 sequences assigned  
No exact matches.



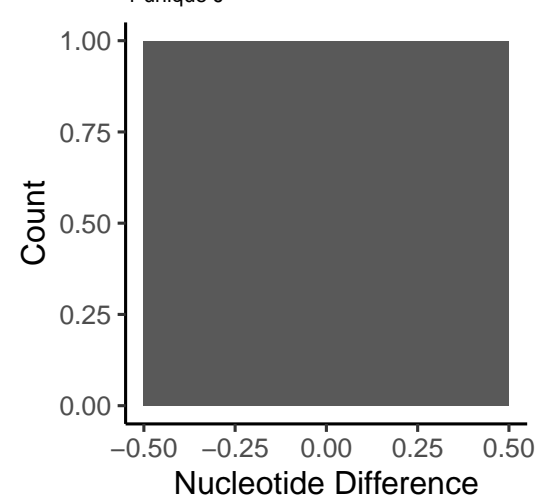
### IGHV3-74\*01

128 sequences assigned  
65 (50.8%) exact matches, in which:  
64 unique CDR3  
5 unique J



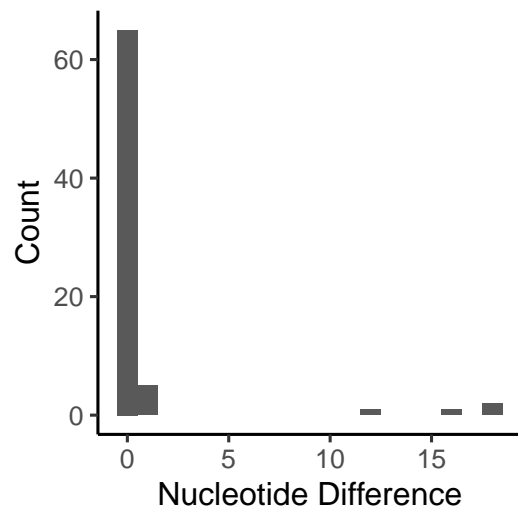
### IGHV4-28\*01

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



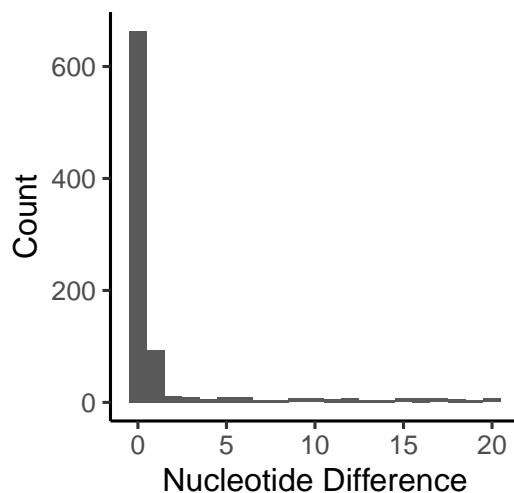
### IGHV4-30-2\*01

77 sequences assigned  
65 (84.4%) exact matches, in which:  
65 unique CDR3  
5 unique J



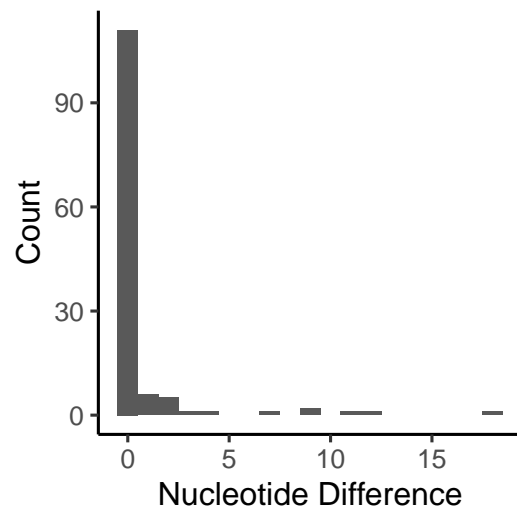
### IGHV4-39\*01

993 sequences assigned  
664 (66.9%) exact matches, in which:  
663 unique CDR3  
7 unique J



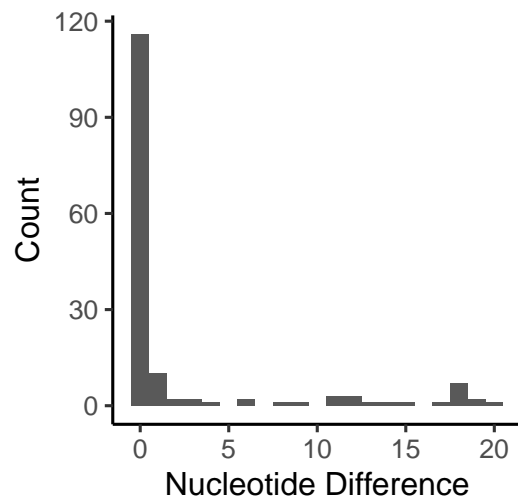
### IGHV5-10-1\*01

146 sequences assigned  
111 (76%) exact matches, in which:  
110 unique CDR3  
6 unique J



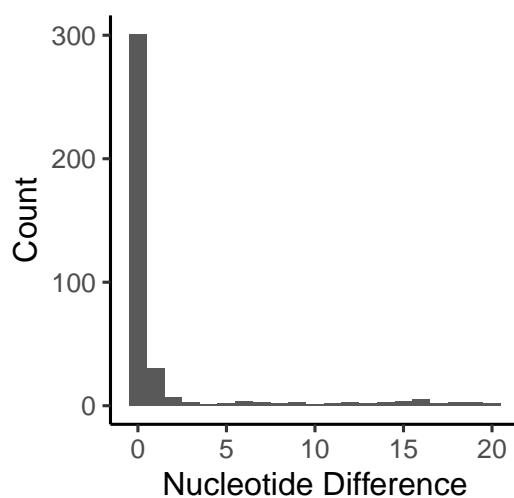
### IGHV4-31\*03

168 sequences assigned  
116 (69%) exact matches, in which:  
116 unique CDR3  
5 unique J



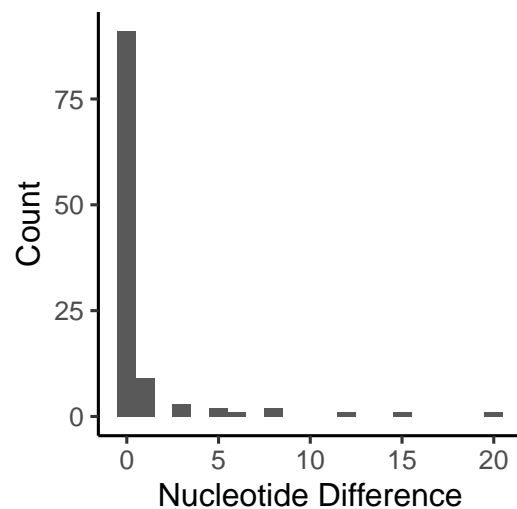
### IGHV4-59\*01

422 sequences assigned  
301 (71.3%) exact matches, in which:  
301 unique CDR3  
7 unique J



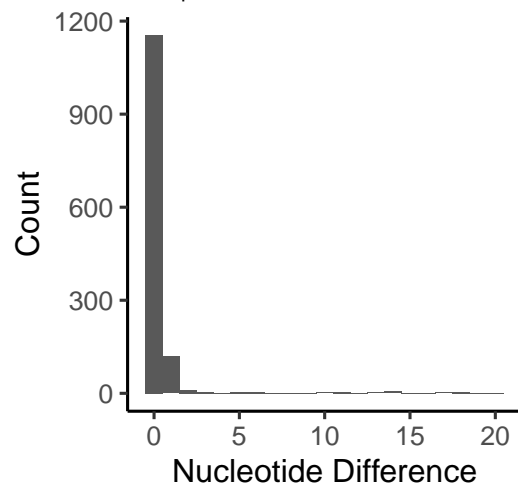
### IGHV5-10-1\*03

120 sequences assigned  
91 (75.8%) exact matches, in which:  
91 unique CDR3  
6 unique J



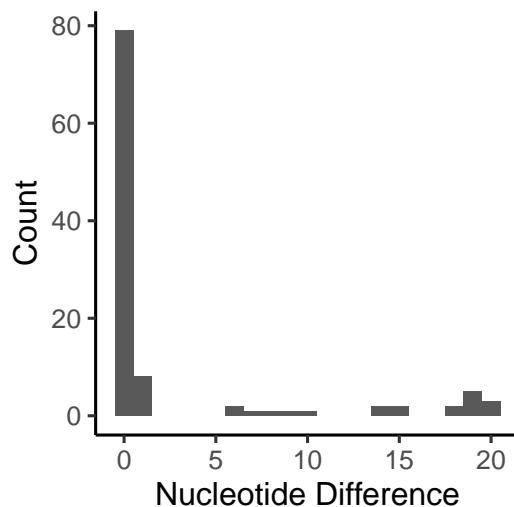
### IGHV4-34\*01

1384 sequences assigned  
1155 (83.5%) exact matches, in which:  
1153 unique CDR3  
7 unique J



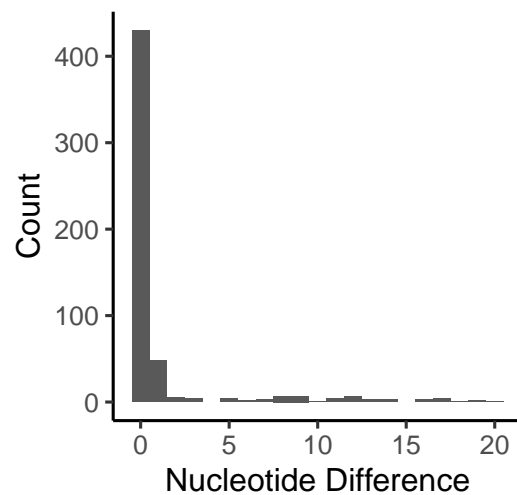
### IGHV4-61\*01

128 sequences assigned  
79 (61.7%) exact matches, in which:  
79 unique CDR3  
6 unique J



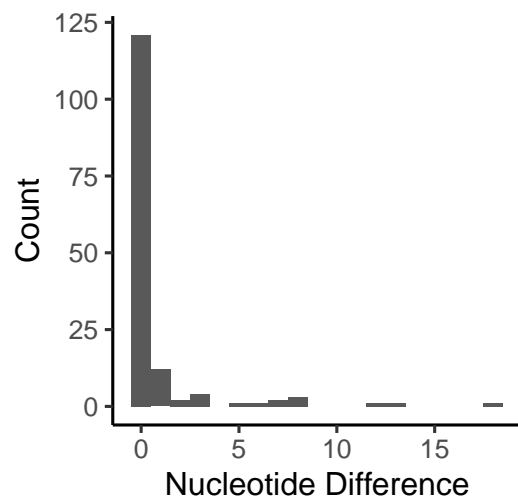
### IGHV5-51\*01

560 sequences assigned  
430 (76.8%) exact matches, in which:  
429 unique CDR3  
7 unique J



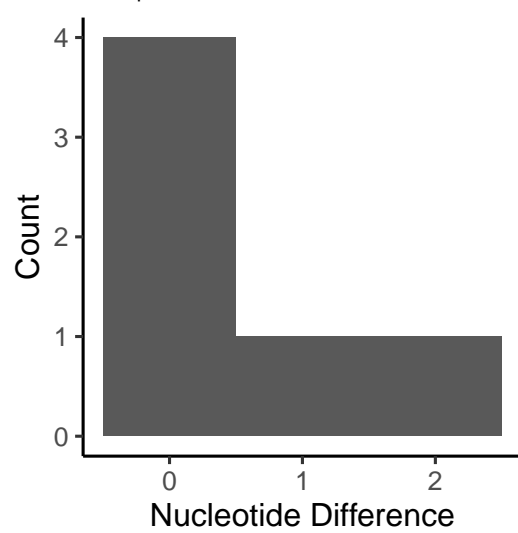
## IGHV6–1\*01

163 sequences assigned  
121 (74.2%) exact matches, in which:  
120 unique CDR3  
7 unique J

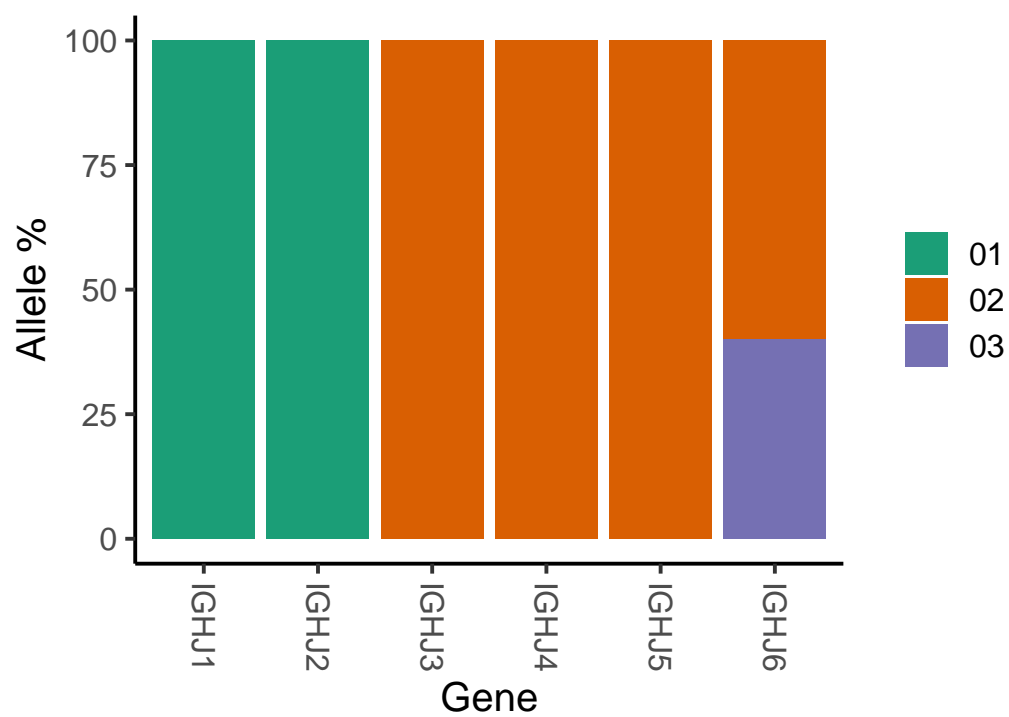


## IGHV7–4–1\*01

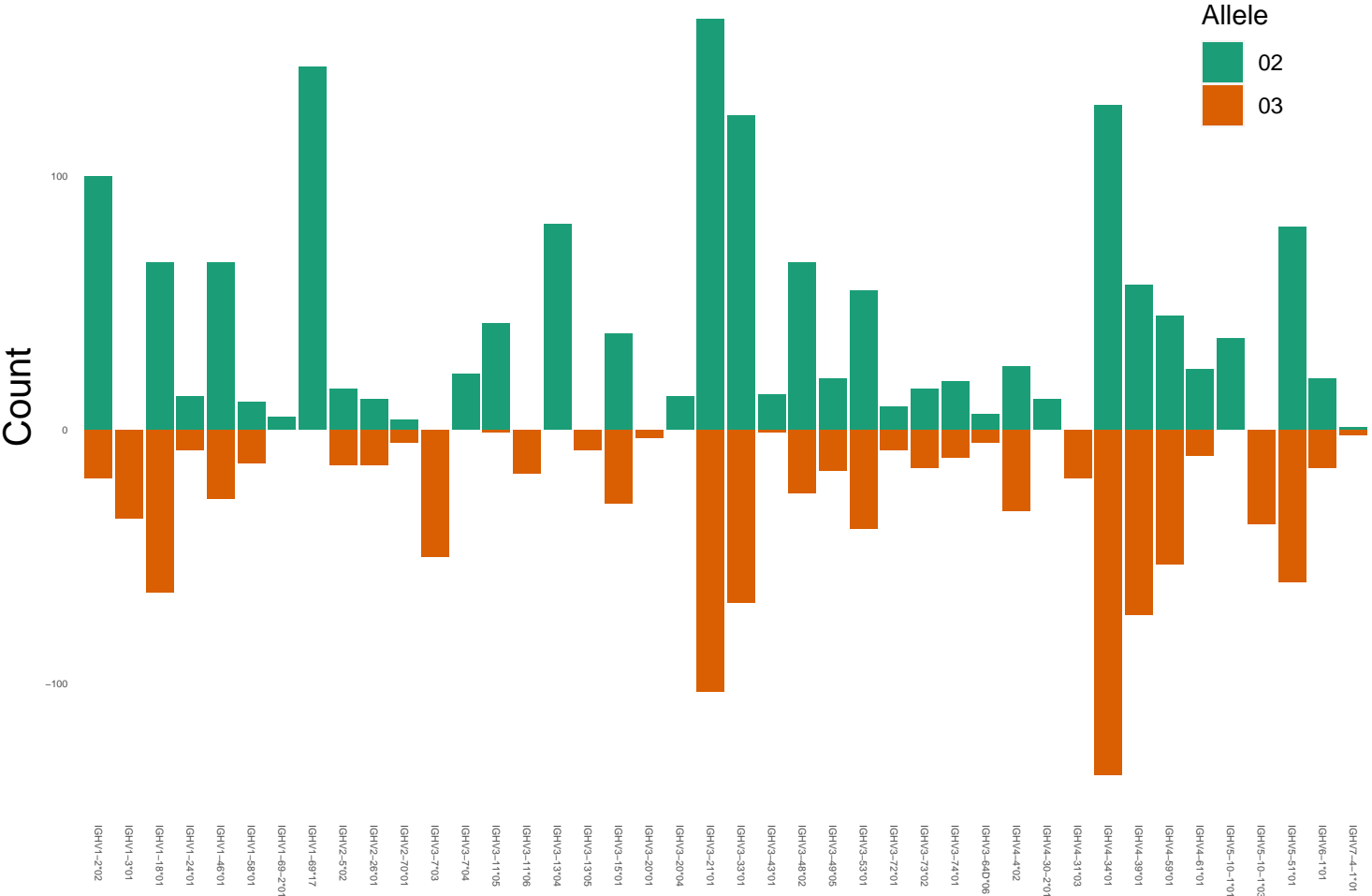
6 sequences assigned  
4 (66.7%) exact matches, in which:  
4 unique CDR3  
3 unique J



Allele Usage



Sequence Count by IGHJ6 allele usage





Warning – no inferred sequences found.

Warning – no inferred sequences found.

Warning – no inferred sequences found.

Warning – no inferred sequences found.

Warning – no inferred sequences found.

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