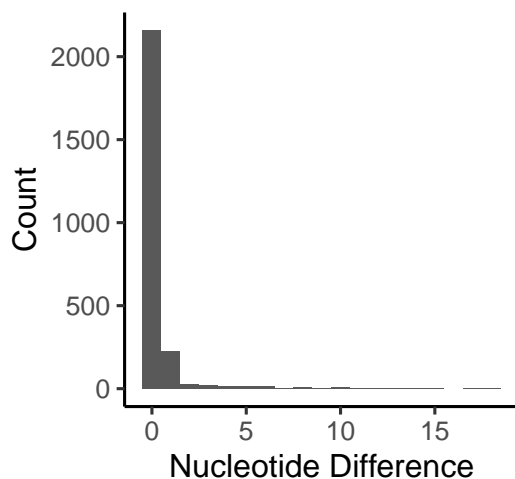


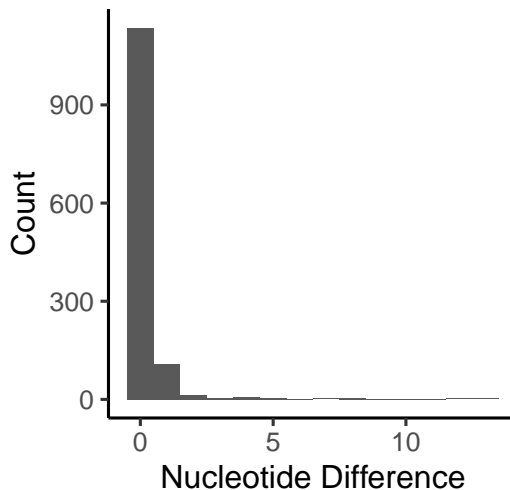
### IGHV1-2\*02

2517 sequences assigned  
2158 (85.7%) exact matches, in which:  
2149 unique CDR3  
7 unique J



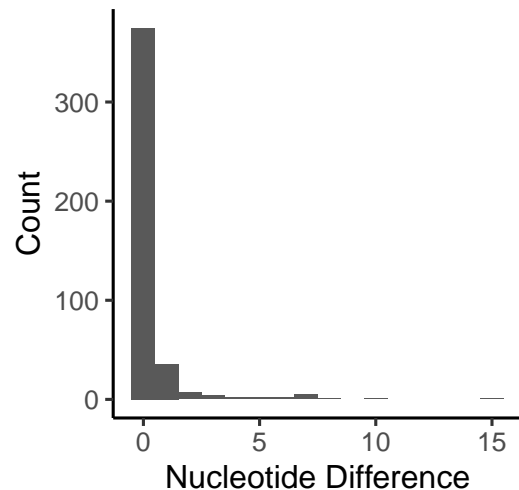
### IGHV1-18\*01

1291 sequences assigned  
1136 (88%) exact matches, in which:  
1133 unique CDR3  
7 unique J



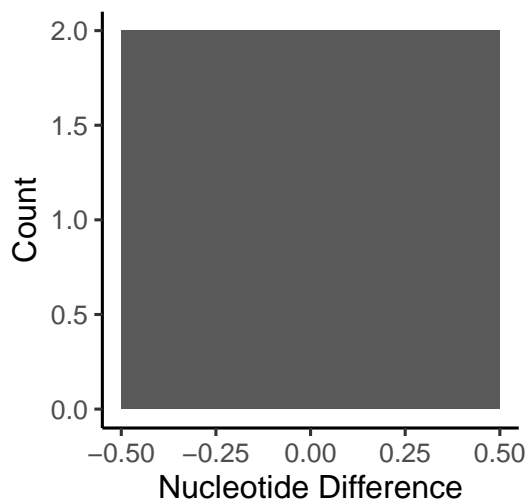
### IGHV1-46\*01

436 sequences assigned  
375 (86%) exact matches, in which:  
374 unique CDR3  
7 unique J



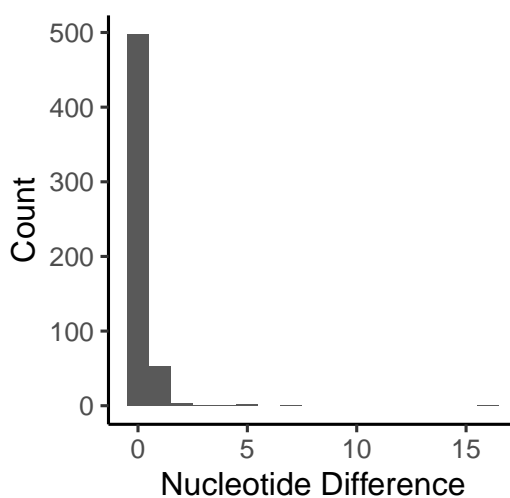
### IGHV1-3\*02

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



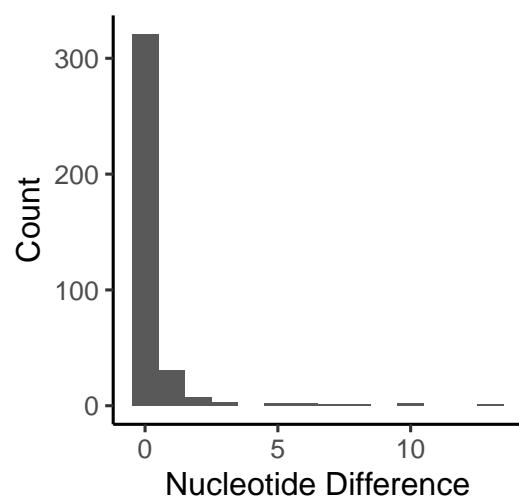
### IGHV1-24\*01

561 sequences assigned  
498 (88.8%) exact matches, in which:  
494 unique CDR3  
7 unique J



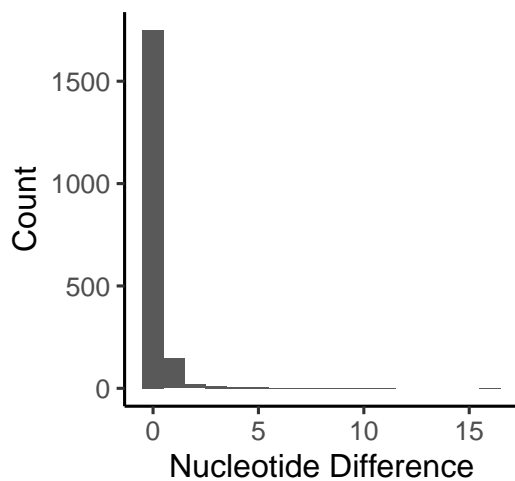
### IGHV1-46\*03

371 sequences assigned  
321 (86.5%) exact matches, in which:  
320 unique CDR3  
6 unique J



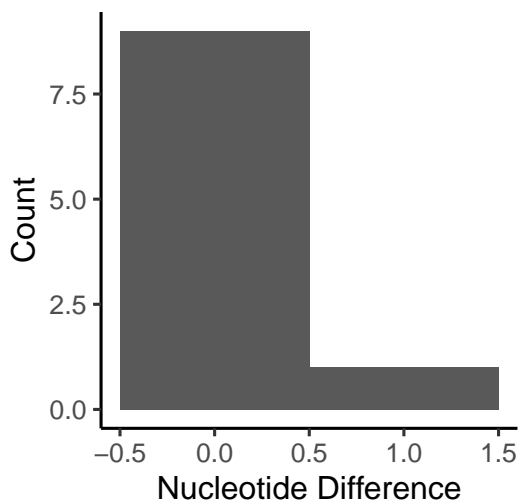
### IGHV1-8\*01

1954 sequences assigned  
1750 (89.6%) exact matches, in which:  
1743 unique CDR3  
7 unique J



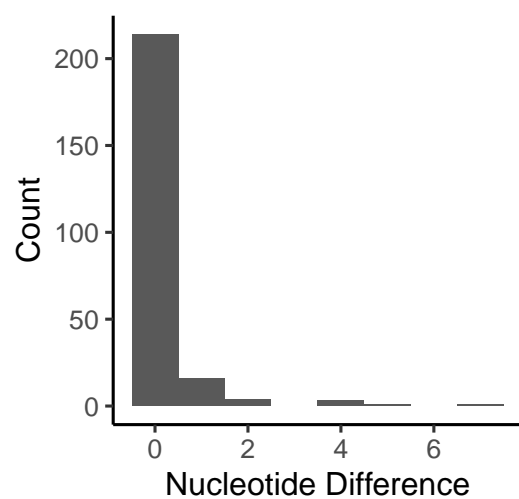
### IGHV1-45\*02

10 sequences assigned  
9 (90%) exact matches, in which:  
9 unique CDR3  
4 unique J



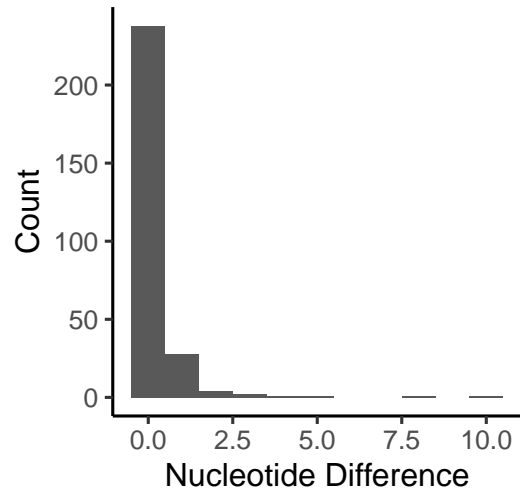
### IGHV1-58\*01

239 sequences assigned  
214 (89.5%) exact matches, in which:  
214 unique CDR3  
6 unique J



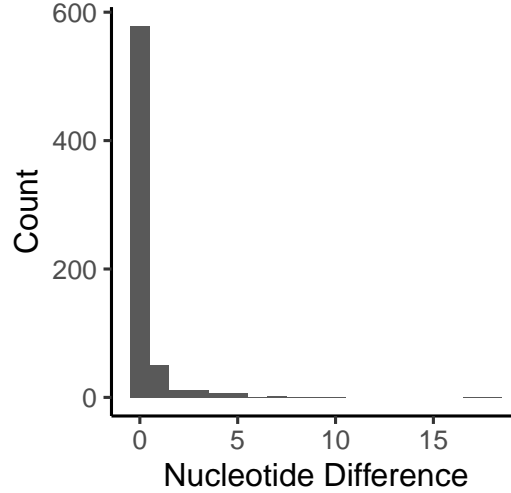
### IGHV1–69–2\*01

276 sequences assigned  
238 (86.2%) exact matches, in which:  
238 unique CDR3  
7 unique J



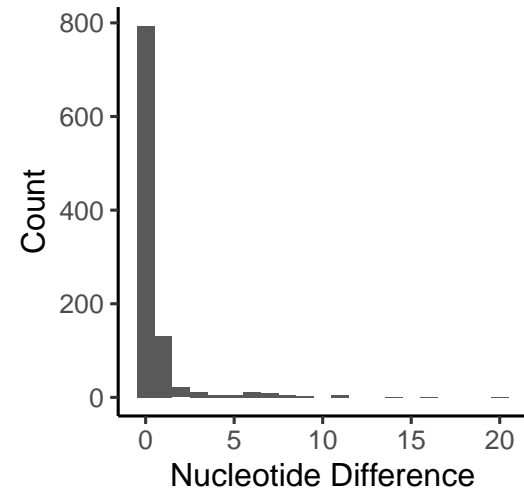
### IGHV2–5\*02

675 sequences assigned  
579 (85.8%) exact matches, in which:  
577 unique CDR3  
6 unique J



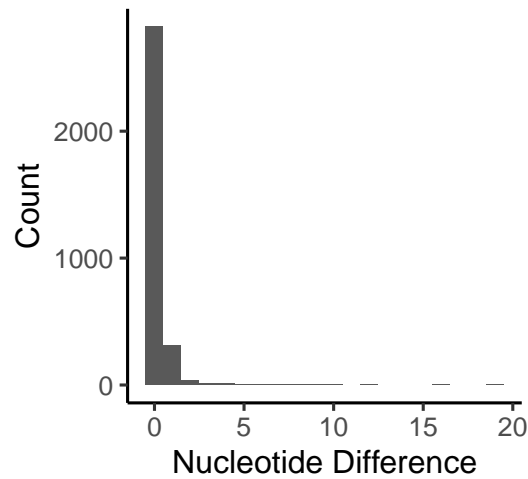
### IGHV3–7\*01

1008 sequences assigned  
794 (78.8%) exact matches, in which:  
793 unique CDR3  
7 unique J



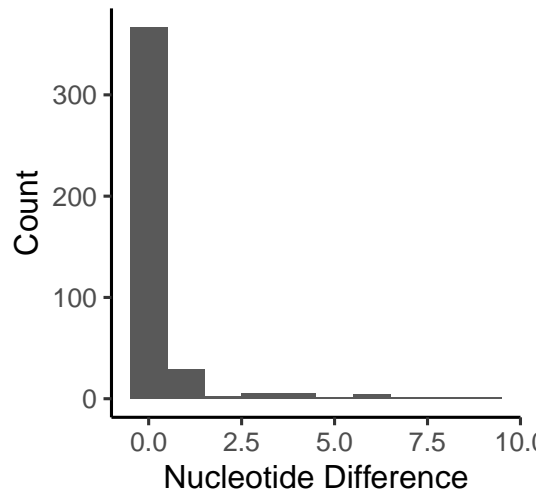
### IGHV1–69\*06

3227 sequences assigned  
2823 (87.5%) exact matches, in which:  
2811 unique CDR3  
7 unique J



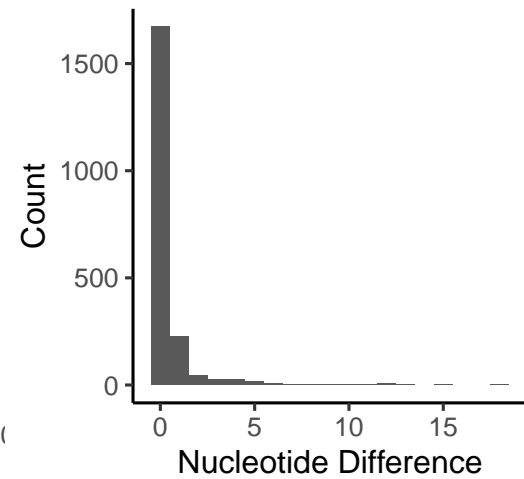
### IGHV2–26\*01

416 sequences assigned  
367 (88.2%) exact matches, in which:  
366 unique CDR3  
6 unique J



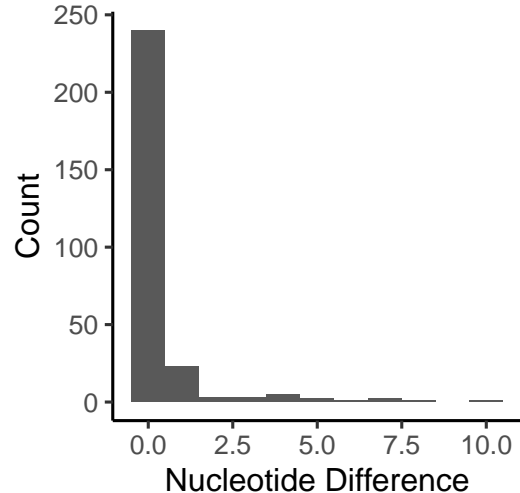
### IGHV3–9\*01

2034 sequences assigned  
1672 (82.2%) exact matches, in which:  
1667 unique CDR3  
7 unique J



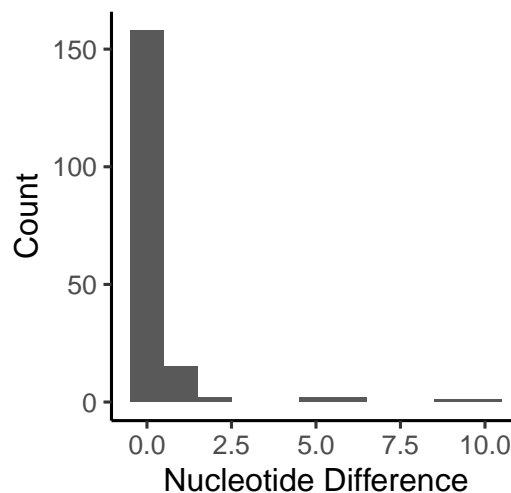
### IGHV2–5\*01

281 sequences assigned  
240 (85.4%) exact matches, in which:  
239 unique CDR3  
7 unique J



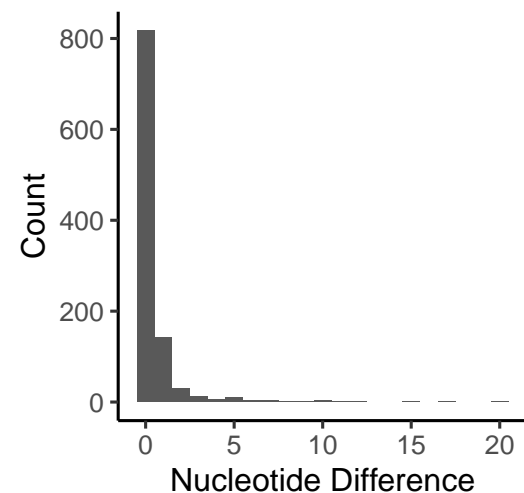
### IGHV2–70\*01

181 sequences assigned  
158 (87.3%) exact matches, in which:  
158 unique CDR3  
7 unique J



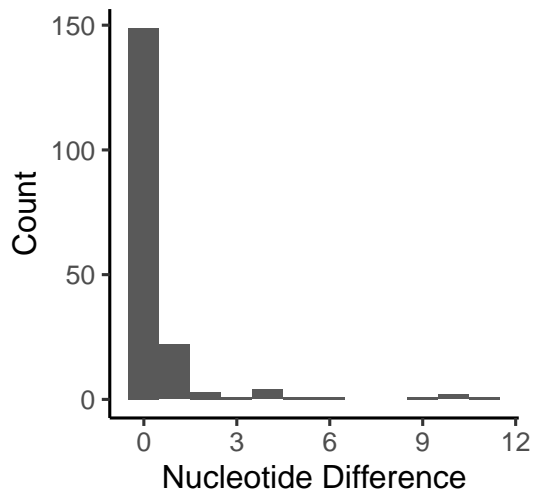
### IGHV3–11\*01

1038 sequences assigned  
818 (78.8%) exact matches, in which:  
816 unique CDR3  
7 unique J



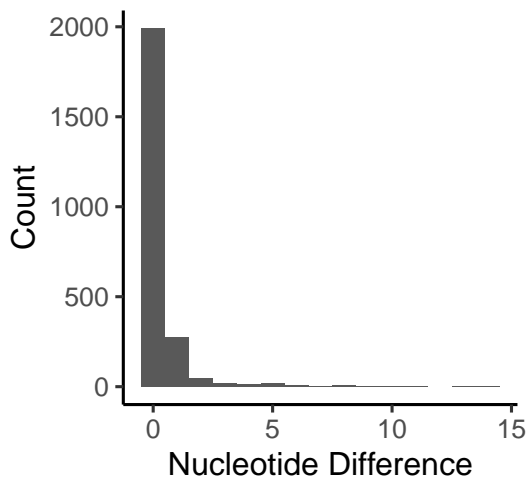
### IGHV3-13\*01

185 sequences assigned  
149 (80.5%) exact matches, in which:  
149 unique CDR3  
6 unique J



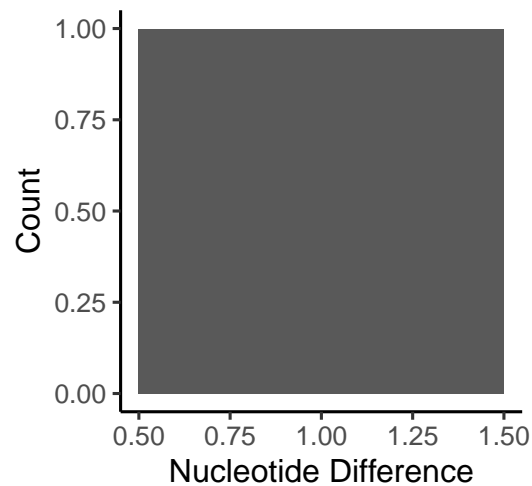
### IGHV3-21\*01

2396 sequences assigned  
1991 (83.1%) exact matches, in which:  
1978 unique CDR3  
7 unique J



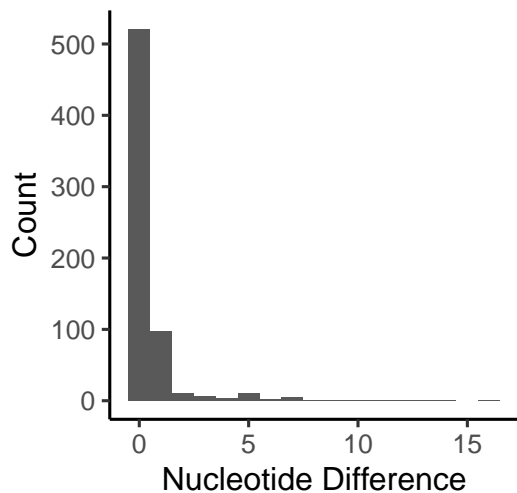
### IGHV3-35\*01

1 sequences assigned  
No exact matches.



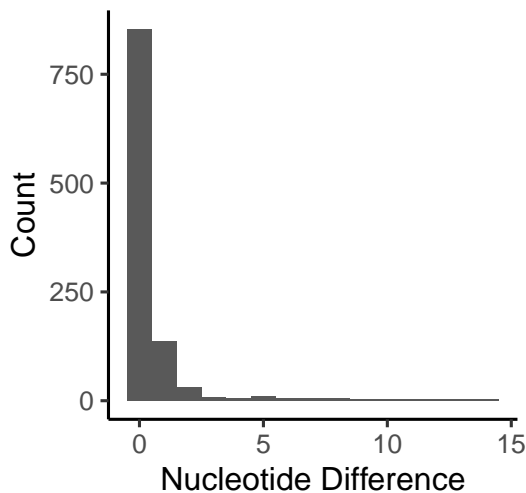
### IGHV3-15\*01

667 sequences assigned  
521 (78.1%) exact matches, in which:  
520 unique CDR3  
7 unique J



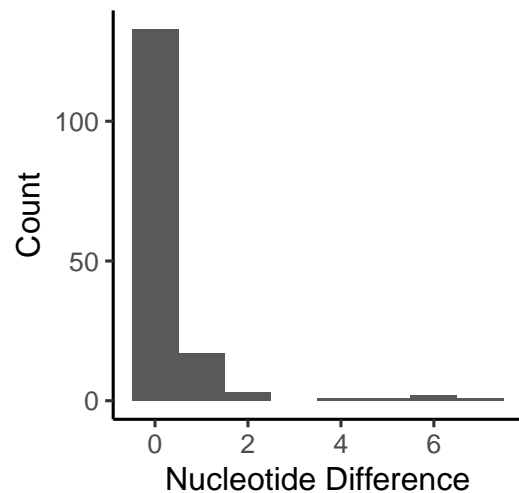
### IGHV3-30-3\*01

1085 sequences assigned  
854 (78.7%) exact matches, in which:  
850 unique CDR3  
7 unique J



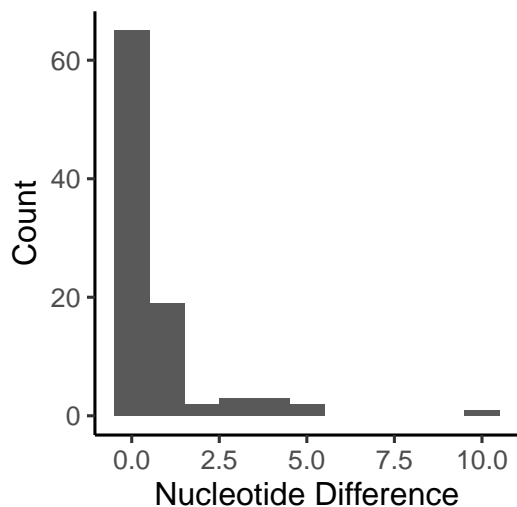
### IGHV3-43\*01

158 sequences assigned  
133 (84.2%) exact matches, in which:  
133 unique CDR3  
5 unique J



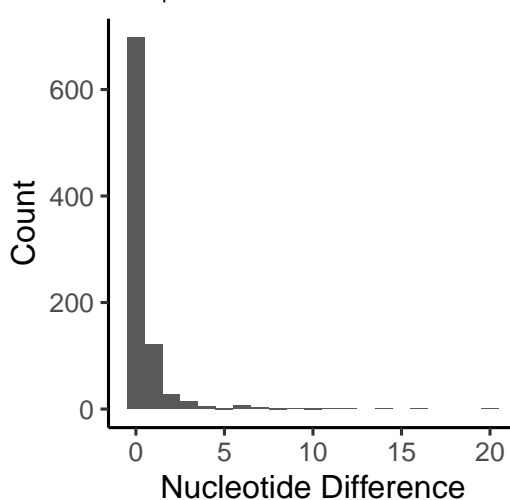
### IGHV3-20\*01

95 sequences assigned  
65 (68.4%) exact matches, in which:  
65 unique CDR3  
6 unique J



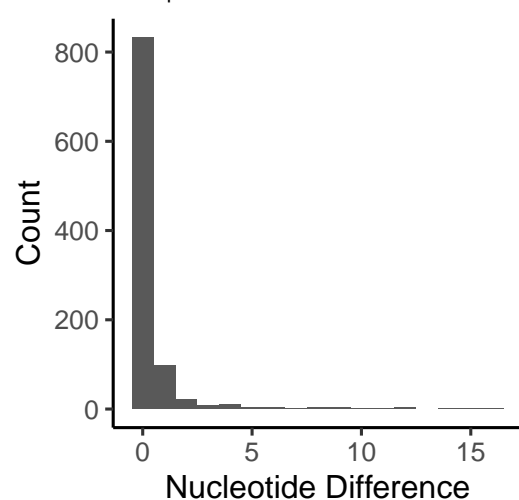
### IGHV3-33\*01

888 sequences assigned  
698 (78.6%) exact matches, in which:  
693 unique CDR3  
7 unique J



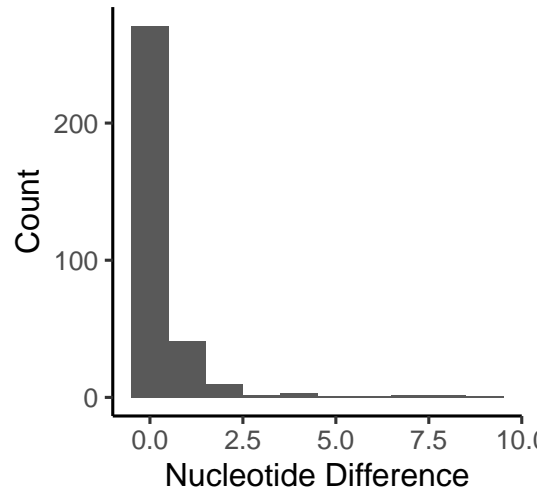
### IGHV3-48\*02

997 sequences assigned  
833 (83.6%) exact matches, in which:  
832 unique CDR3  
7 unique J



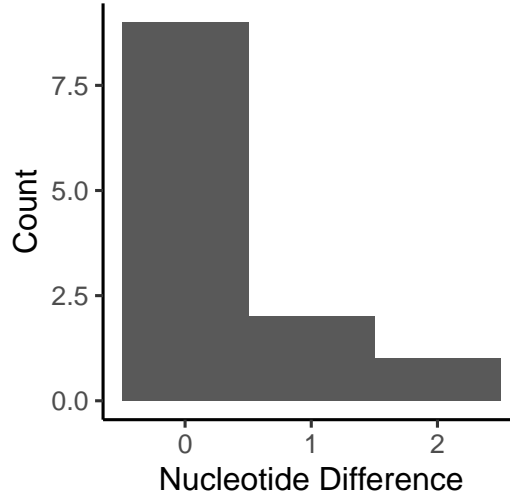
### IGHV3-49\*05

334 sequences assigned  
271 (81.1%) exact matches, in which:  
269 unique CDR3  
7 unique J



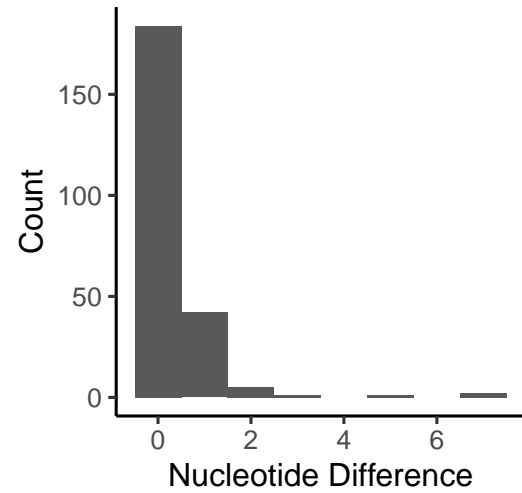
### IGHV3-64\*02

12 sequences assigned  
9 (75%) exact matches, in which:  
9 unique CDR3  
3 unique J



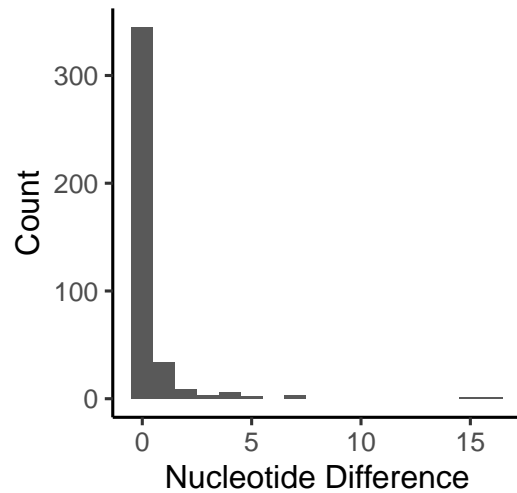
### IGHV3-73\*02

235 sequences assigned  
184 (78.3%) exact matches, in which:  
181 unique CDR3  
7 unique J



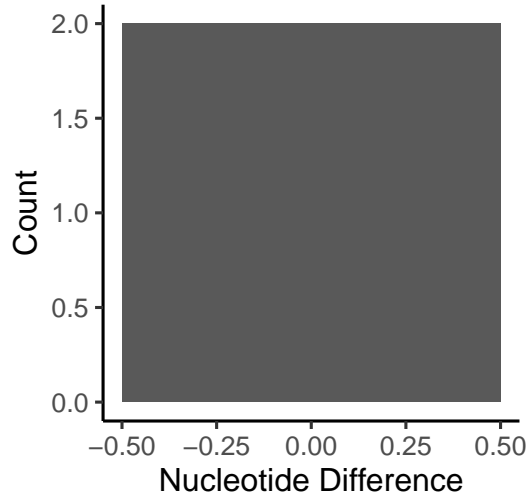
### IGHV3-53\*01

404 sequences assigned  
345 (85.4%) exact matches, in which:  
345 unique CDR3  
7 unique J



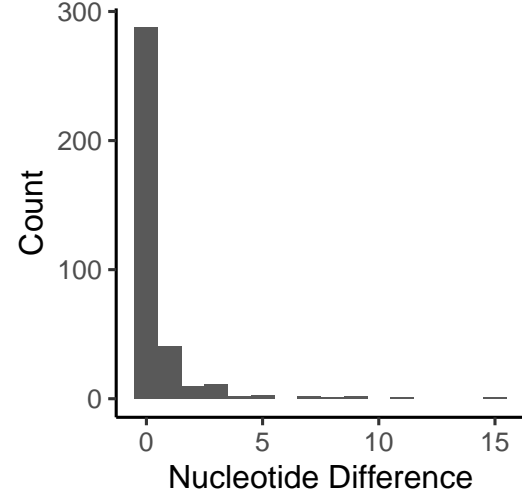
### IGHV3-66\*03

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



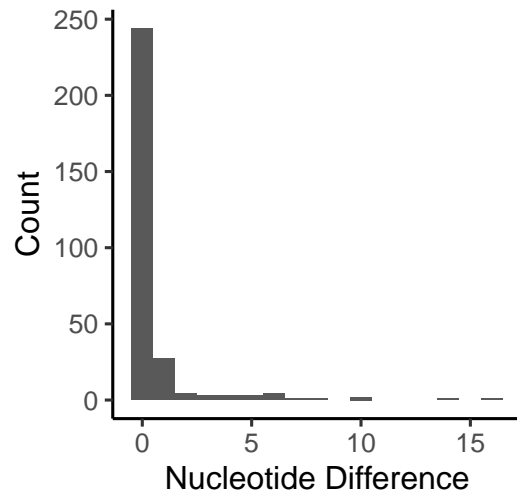
### IGHV3-74\*01

362 sequences assigned  
288 (79.6%) exact matches, in which:  
288 unique CDR3  
7 unique J



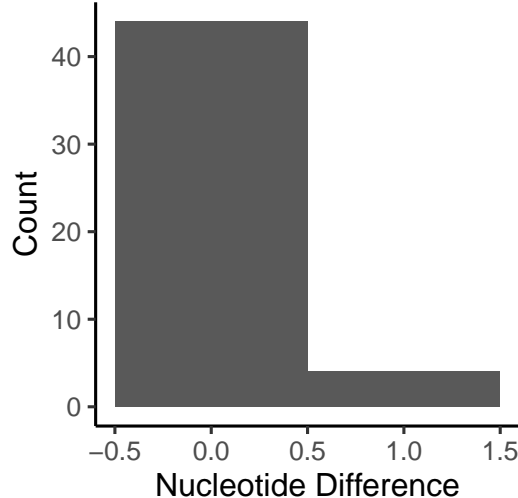
### IGHV3-53\*02

294 sequences assigned  
244 (83%) exact matches, in which:  
243 unique CDR3  
6 unique J



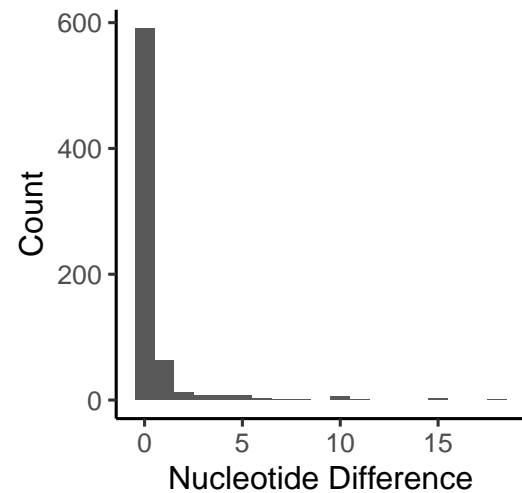
### IGHV3-72\*01

48 sequences assigned  
44 (91.7%) exact matches, in which:  
44 unique CDR3  
6 unique J



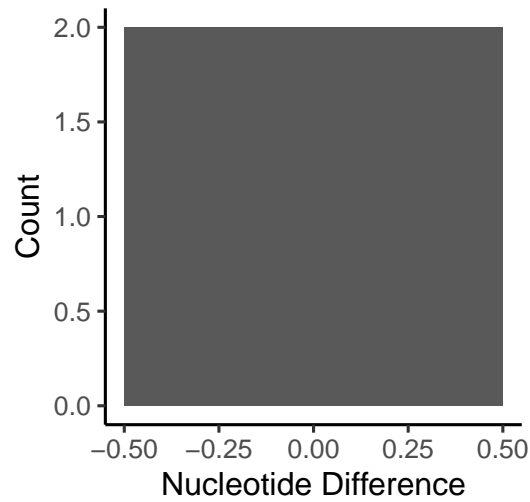
### IGHV4-4\*07

701 sequences assigned  
591 (84.3%) exact matches, in which:  
589 unique CDR3  
7 unique J



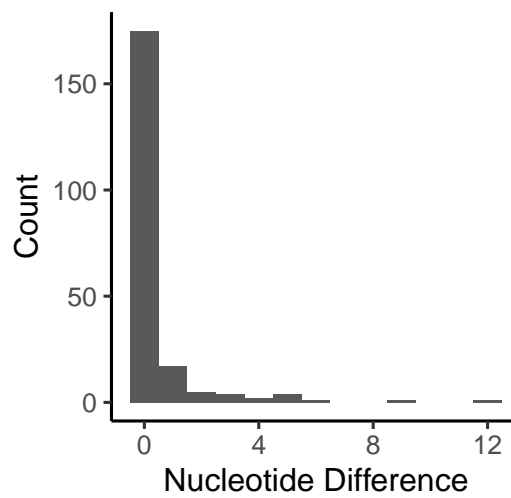
### IGHV4-28\*01

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



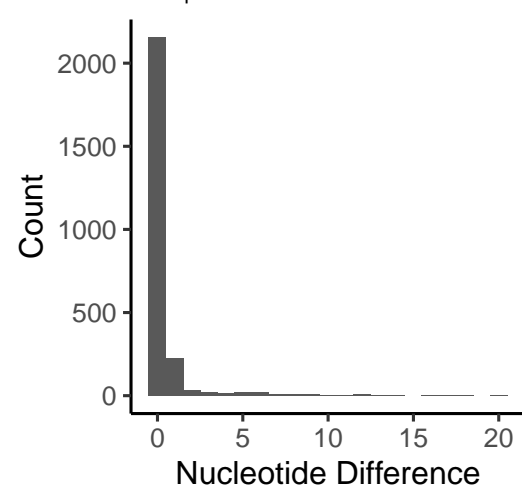
### IGHV4-30-4\*01

210 sequences assigned  
175 (83.3%) exact matches, in which:  
175 unique CDR3  
6 unique J



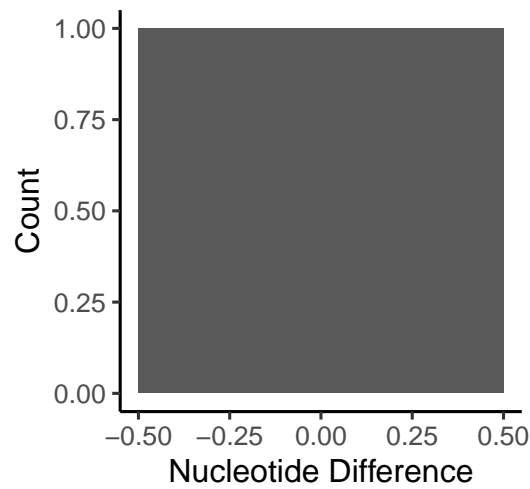
### IGHV4-39\*01

2545 sequences assigned  
2155 (84.7%) exact matches, in which:  
2139 unique CDR3  
7 unique J



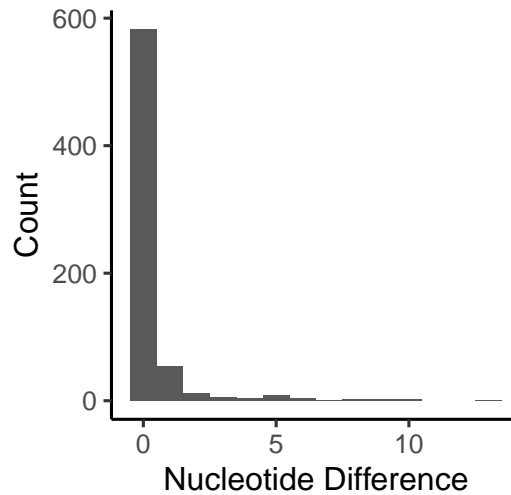
### IGHV4-28\*07

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



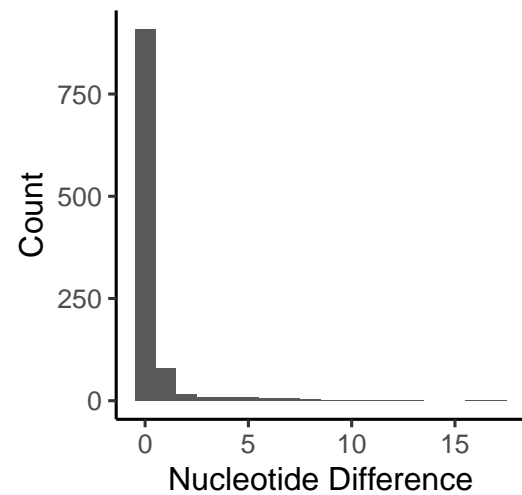
### IGHV4-31\*03

678 sequences assigned  
583 (86%) exact matches, in which:  
582 unique CDR3  
6 unique J



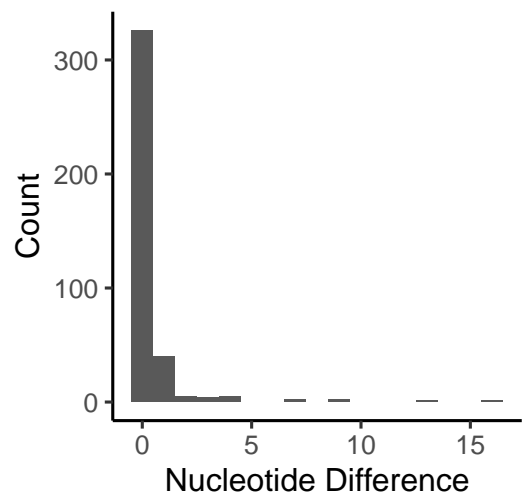
### IGHV4-59\*01

1056 sequences assigned  
909 (86.1%) exact matches, in which:  
906 unique CDR3  
7 unique J



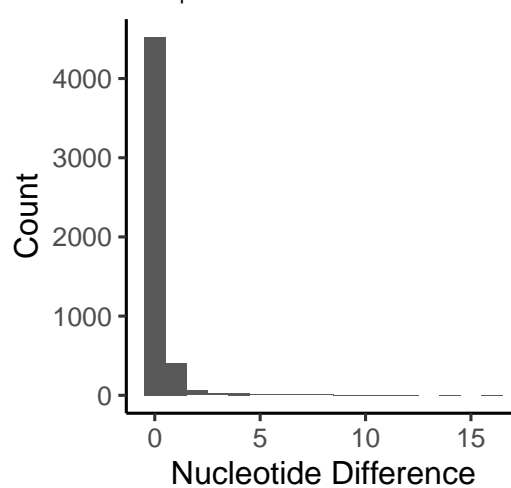
### IGHV4-30-2\*01

386 sequences assigned  
326 (84.5%) exact matches, in which:  
324 unique CDR3  
7 unique J



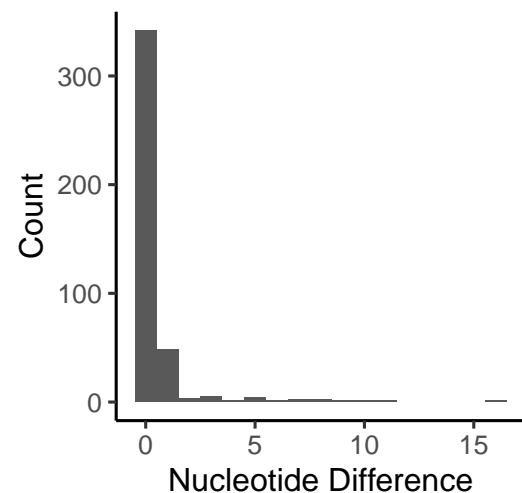
### IGHV4-34\*01

5093 sequences assigned  
4524 (88.8%) exact matches, in which:  
4499 unique CDR3  
7 unique J



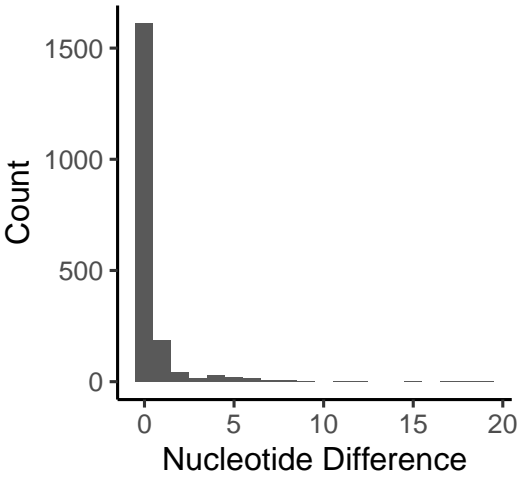
### IGHV4-61\*01

413 sequences assigned  
342 (82.8%) exact matches, in which:  
342 unique CDR3  
7 unique J



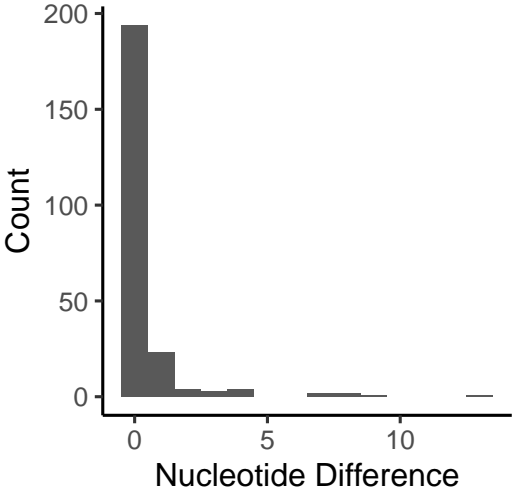
# IGHV5-51\*01

1948 sequences assigned  
1611 (82.7%) exact matches, in which:  
1598 unique CDR3  
7 unique J

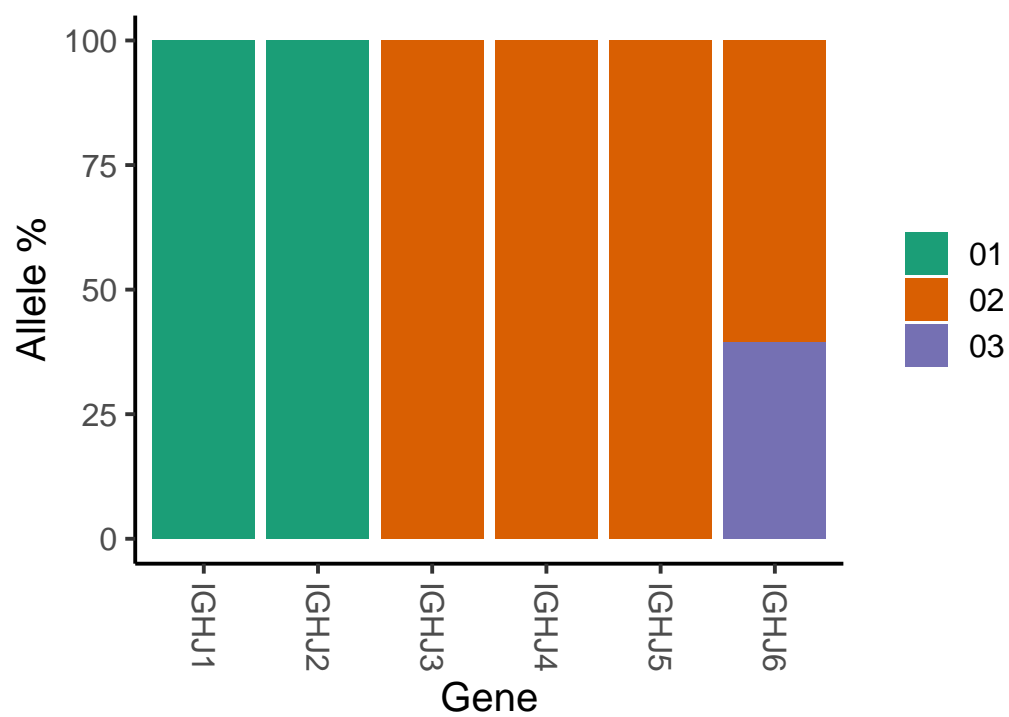


# IGHV6-1\*01

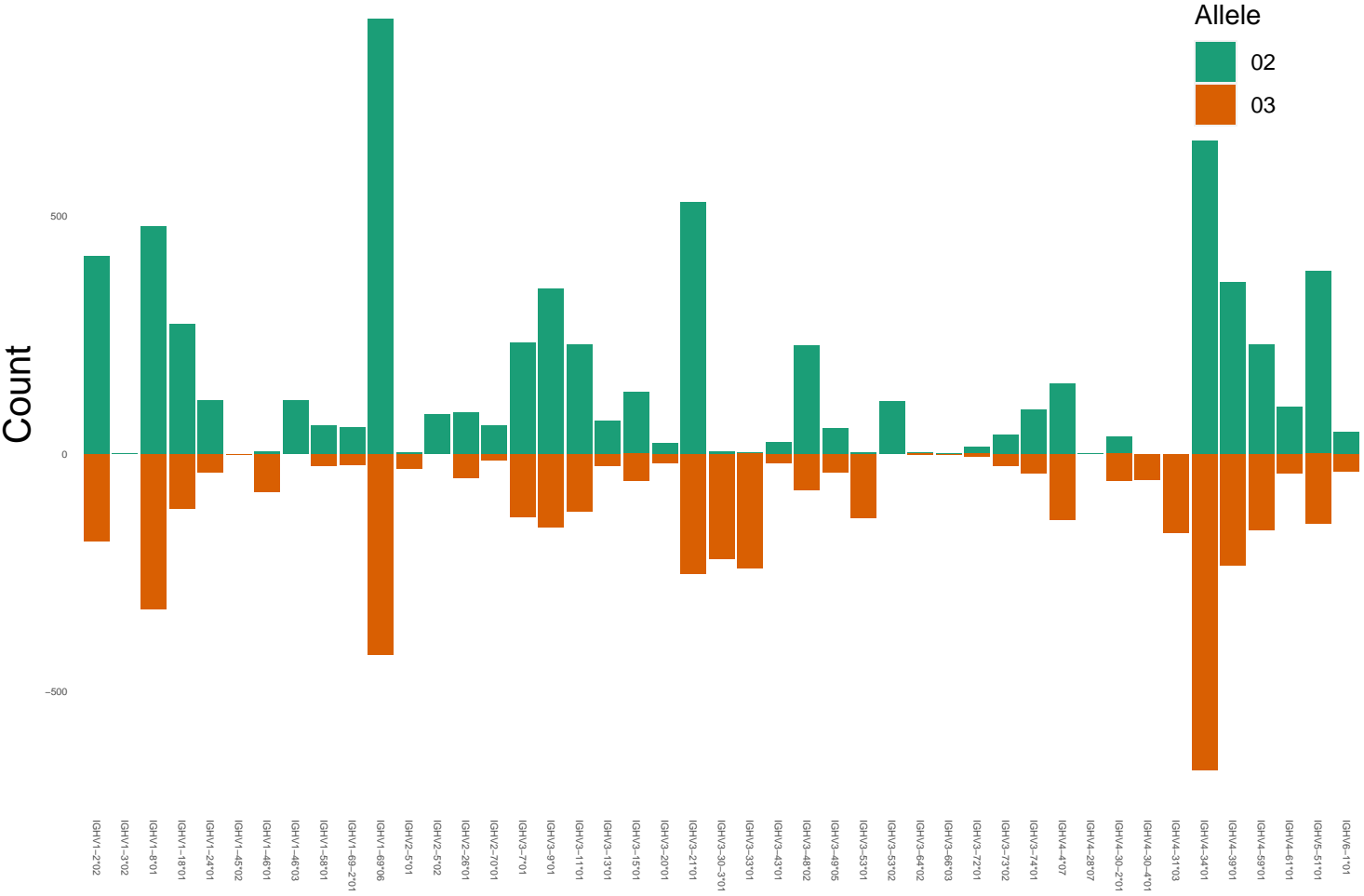
234 sequences assigned  
194 (82.9%) exact matches, in which:  
193 unique CDR3  
7 unique J



Allele Usage



Sequence Count by IGHJ6 allele usage





Warning – no inferred sequences found.