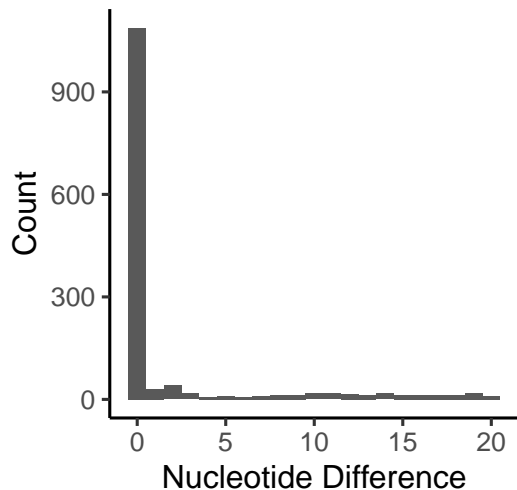


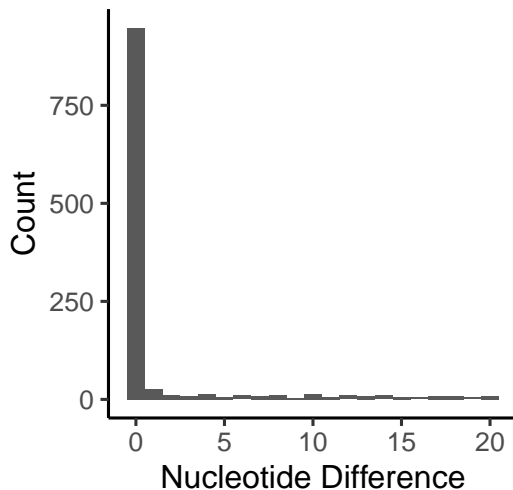
### IGHV1-2\*02

1470 sequences assigned  
1088 (74%) exact matches, in which:  
1083 unique CDR3  
6 unique J



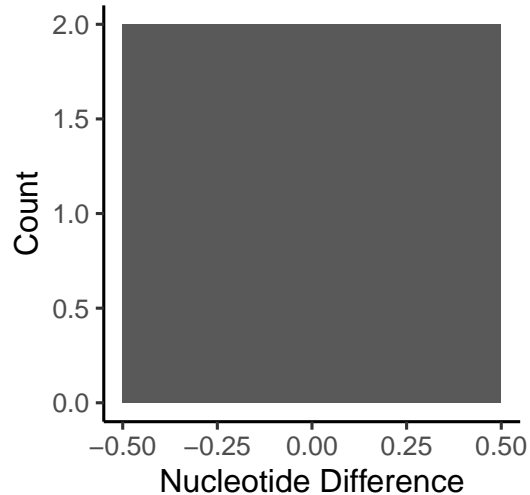
### IGHV1-18\*01

1197 sequences assigned  
948 (79.2%) exact matches, in which:  
932 unique CDR3  
7 unique J



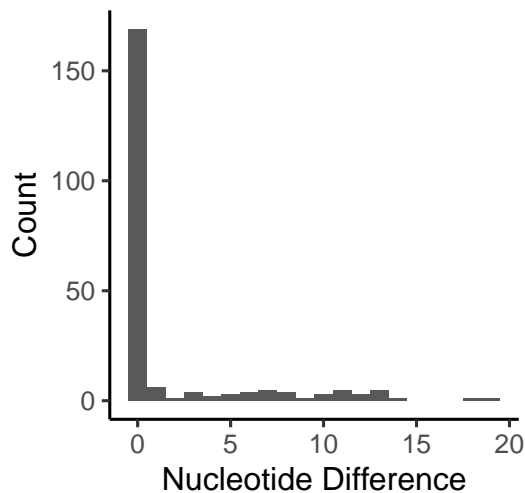
### IGHV1-45\*02

3 sequences assigned  
2 (66.7%) exact matches, in which:  
2 unique CDR3  
2 unique J



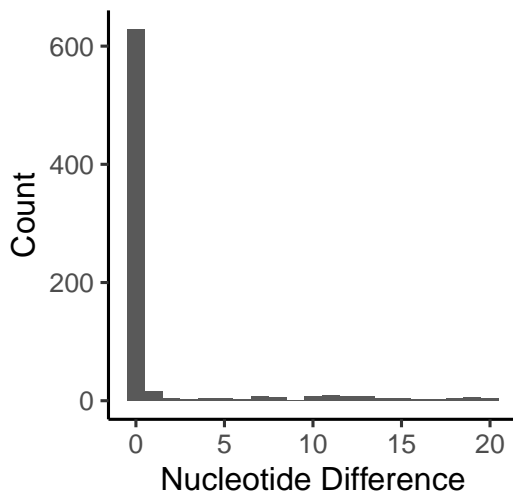
### IGHV1-3\*01\_05

239 sequences assigned  
169 (70.7%) exact matches, in which:  
169 unique CDR3  
6 unique J



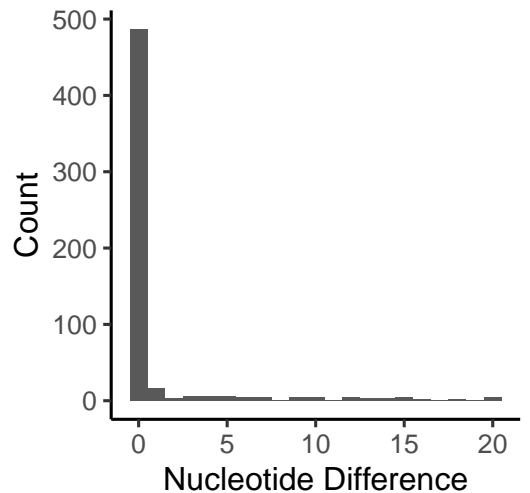
### IGHV1-18\*04

761 sequences assigned  
629 (82.7%) exact matches, in which:  
623 unique CDR3  
6 unique J



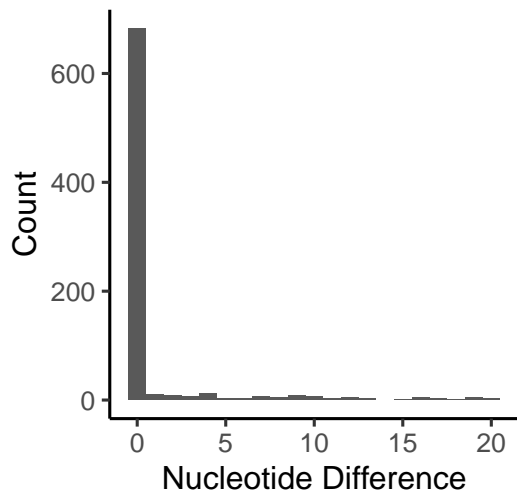
### IGHV1-46\*01

597 sequences assigned  
487 (81.6%) exact matches, in which:  
487 unique CDR3  
7 unique J



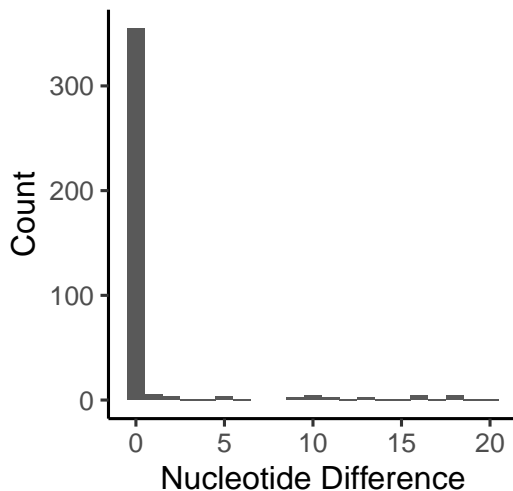
### IGHV1-8\*01

797 sequences assigned  
683 (85.7%) exact matches, in which:  
672 unique CDR3  
7 unique J



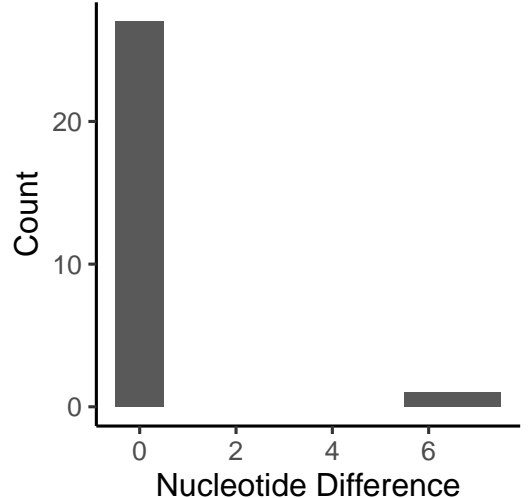
### IGHV1-24\*01

410 sequences assigned  
355 (86.6%) exact matches, in which:  
351 unique CDR3  
7 unique J



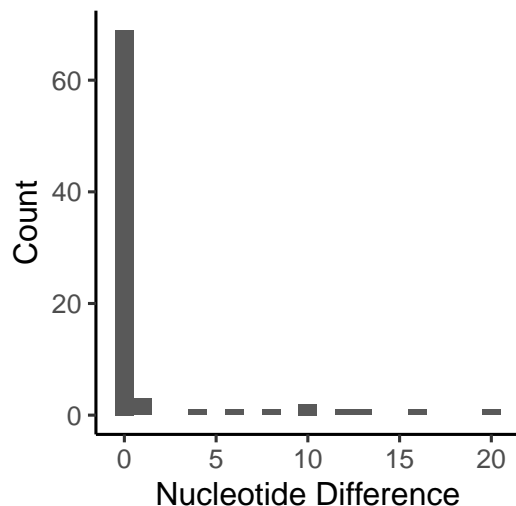
### IGHV1-58\*02

32 sequences assigned  
27 (84.4%) exact matches, in which:  
27 unique CDR3  
5 unique J



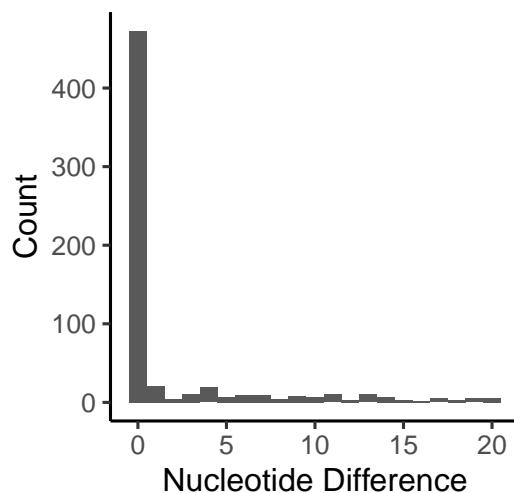
### IGHV1-58\*01\_03

85 sequences assigned  
69 (81.2%) exact matches, in which:  
69 unique CDR3  
5 unique J



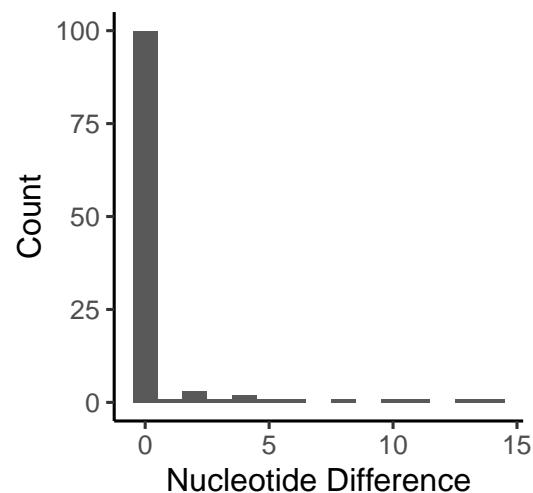
### IGHV2-5\*01

638 sequences assigned  
473 (74.1%) exact matches, in which:  
470 unique CDR3  
7 unique J



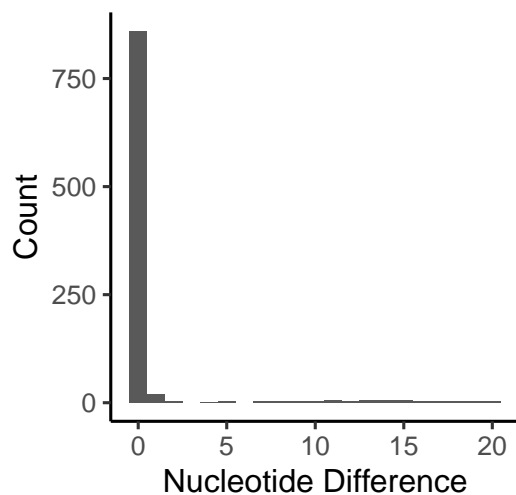
### IGHV2-70\*01

117 sequences assigned  
100 (85.5%) exact matches, in which:  
97 unique CDR3  
6 unique J



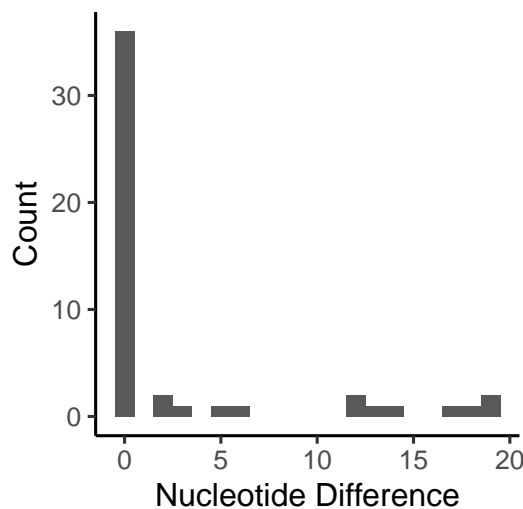
### IGHV1-69\*01\_12\_13

998 sequences assigned  
860 (86.2%) exact matches, in which:  
854 unique CDR3  
7 unique J



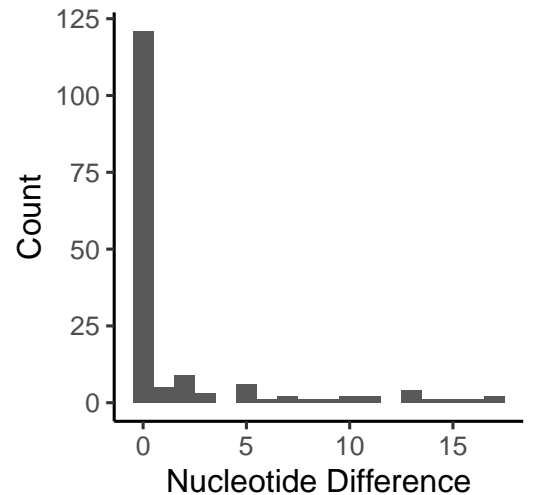
### IGHV2-26\*01

53 sequences assigned  
36 (67.9%) exact matches, in which:  
36 unique CDR3  
5 unique J



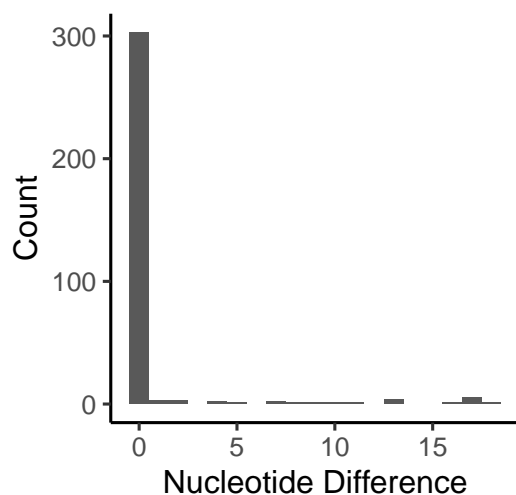
### IGHV2-70\*11\_15

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



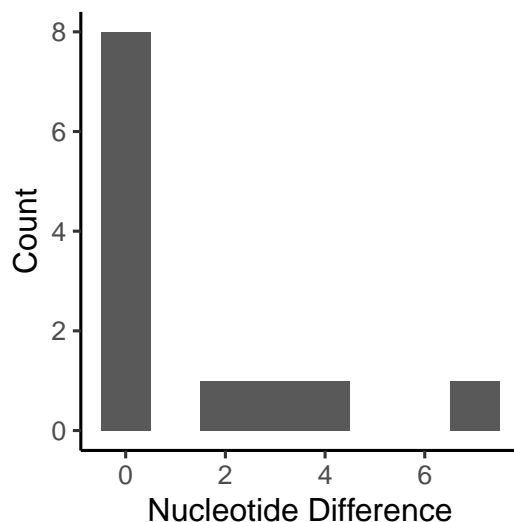
### IGHV1-69\*04\_09

337 sequences assigned  
303 (89.9%) exact matches, in which:  
301 unique CDR3  
6 unique J



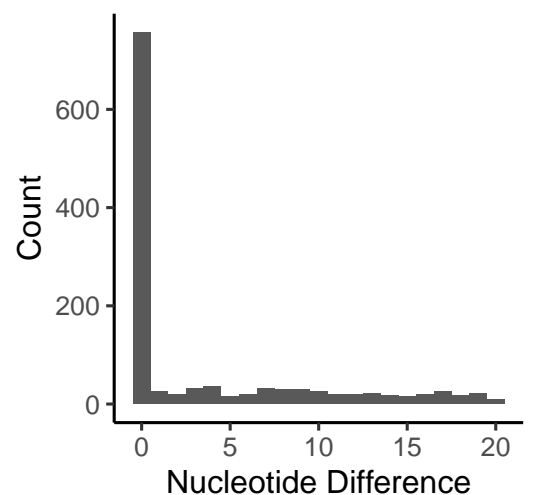
### IGHV2-26\*04

12 sequences assigned  
8 (66.7%) exact matches, in which:  
8 unique CDR3  
5 unique J



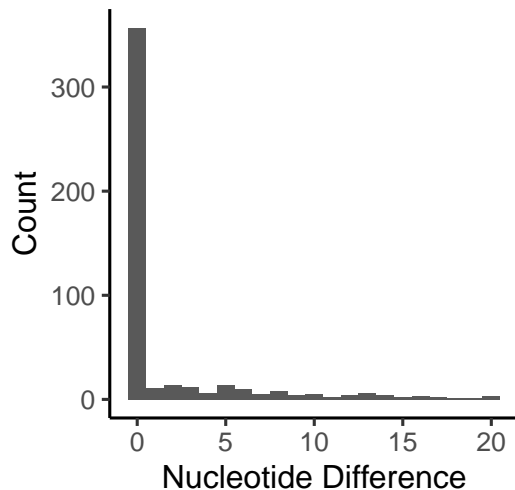
### IGHV3-7\*01

1279 sequences assigned  
757 (59.2%) exact matches, in which:  
743 unique CDR3  
7 unique J



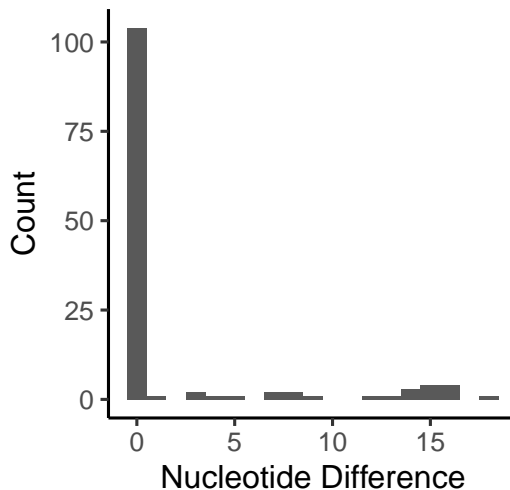
### IGHV3-9\*01

485 sequences assigned  
357 (73.6%) exact matches, in which:  
350 unique CDR3  
6 unique J



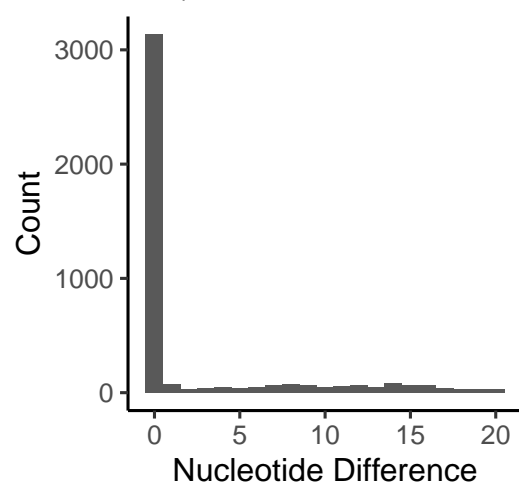
### IGHV3-13\*04

133 sequences assigned  
104 (78.2%) exact matches, in which:  
103 unique CDR3  
5 unique J



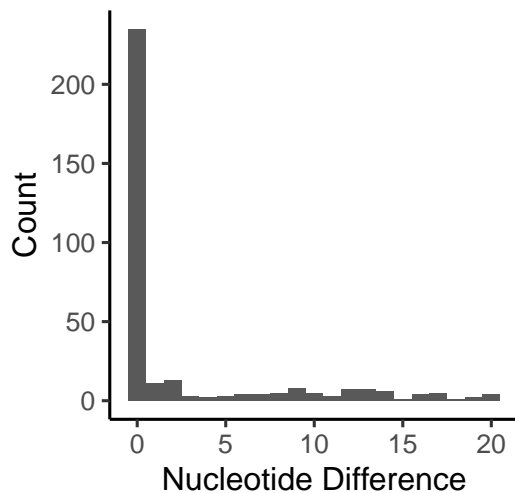
### IGHV3-23\*01\_04

4396 sequences assigned  
3135 (71.3%) exact matches, in which:  
3045 unique CDR3  
7 unique J



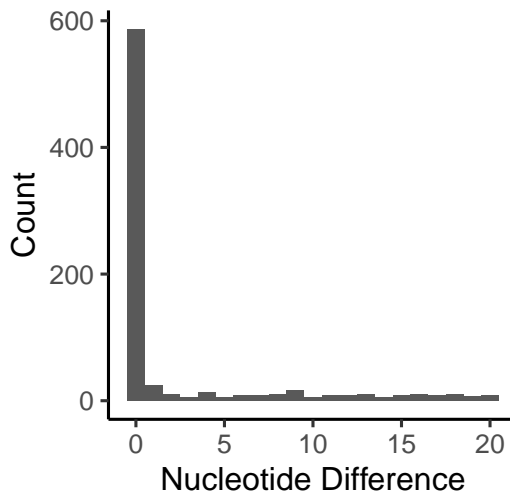
### IGHV3-11\*01

349 sequences assigned  
235 (67.3%) exact matches, in which:  
232 unique CDR3  
6 unique J



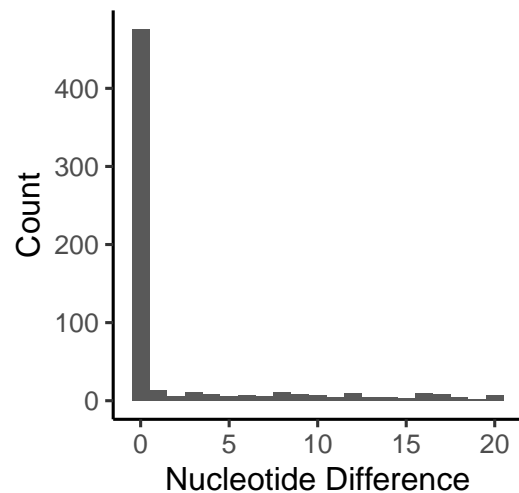
### IGHV3-15\*01\_02

819 sequences assigned  
587 (71.7%) exact matches, in which:  
582 unique CDR3  
7 unique J



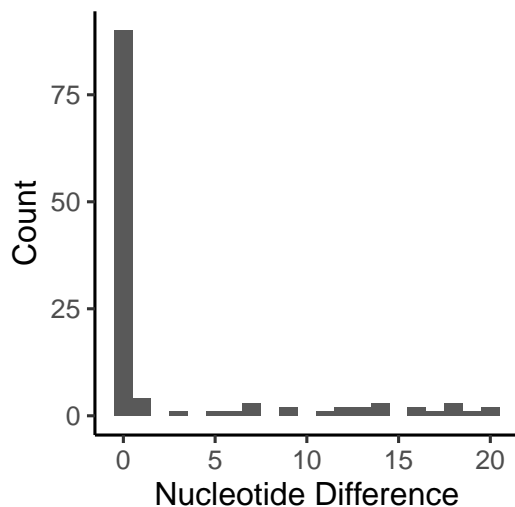
### IGHV3-30-3\*01

664 sequences assigned  
476 (71.7%) exact matches, in which:  
470 unique CDR3  
6 unique J



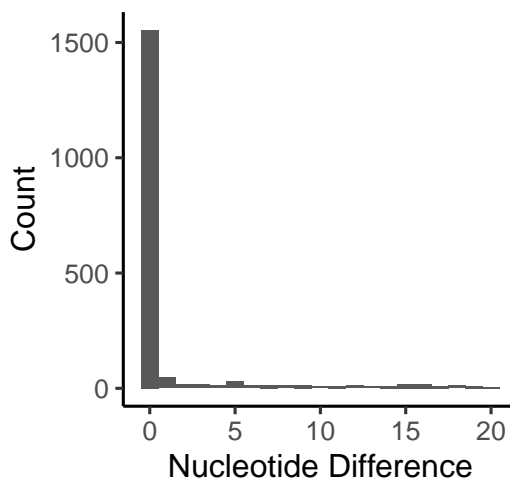
### IGHV3-13\*01

123 sequences assigned  
90 (73.2%) exact matches, in which:  
89 unique CDR3  
5 unique J



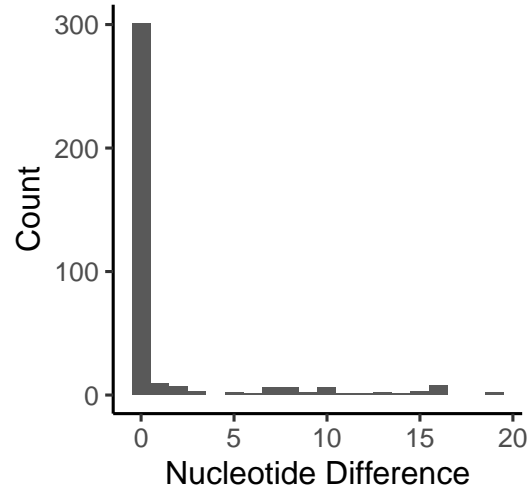
### IGHV3-21\*01\_02

1885 sequences assigned  
1554 (82.4%) exact matches, in which:  
1502 unique CDR3  
7 unique J



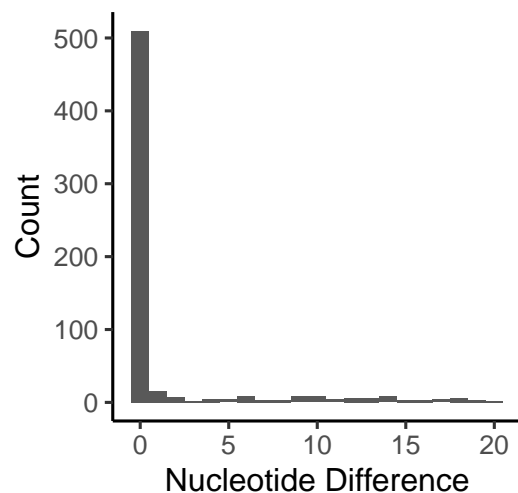
### IGHV3-33\*01

370 sequences assigned  
301 (81.4%) exact matches, in which:  
301 unique CDR3  
7 unique J



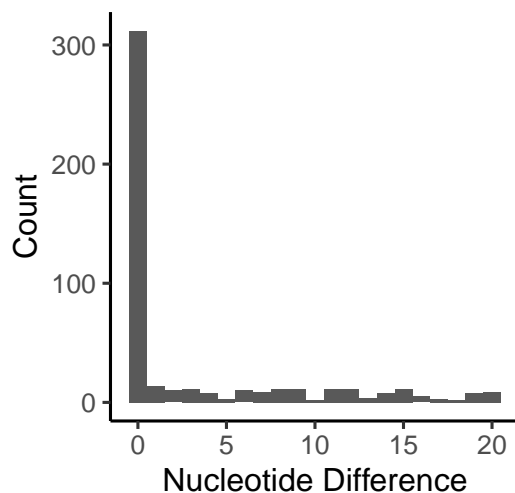
### IGHV3–33\*08

637 sequences assigned  
510 (80.1%) exact matches, in which:  
502 unique CDR3  
6 unique J



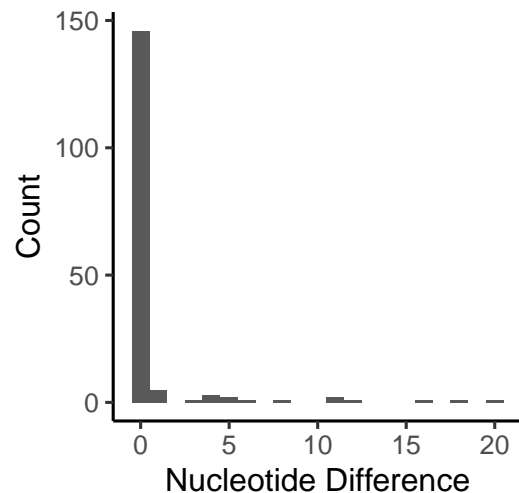
### IGHV3–48\*03

506 sequences assigned  
312 (61.7%) exact matches, in which:  
301 unique CDR3  
6 unique J



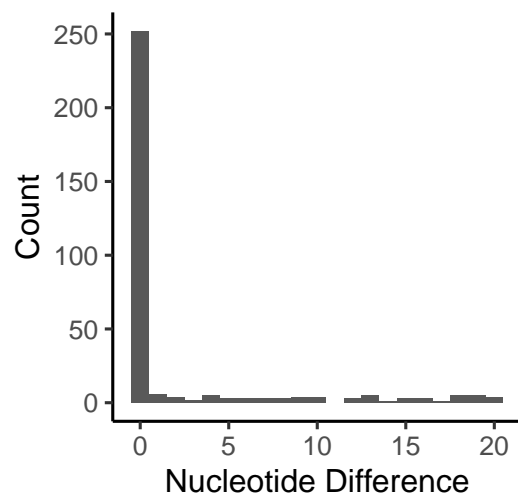
### IGHV3–53\*04

170 sequences assigned  
146 (85.9%) exact matches, in which:  
139 unique CDR3  
6 unique J



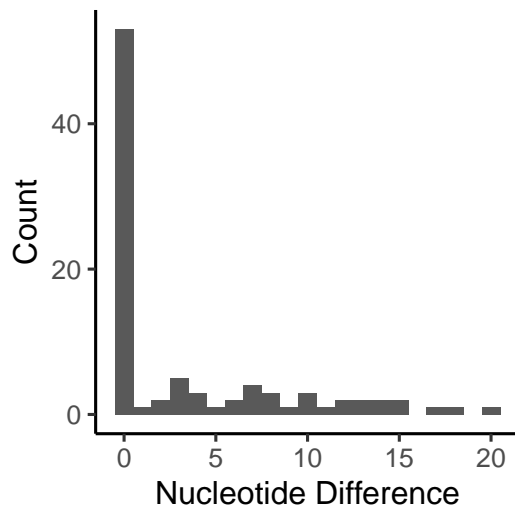
### IGHV3–43\*02

339 sequences assigned  
252 (74.3%) exact matches, in which:  
240 unique CDR3  
6 unique J



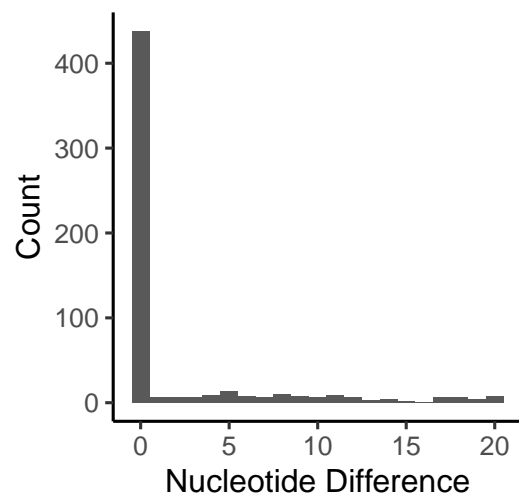
### IGHV3–49\*04

106 sequences assigned  
53 (50%) exact matches, in which:  
53 unique CDR3  
5 unique J



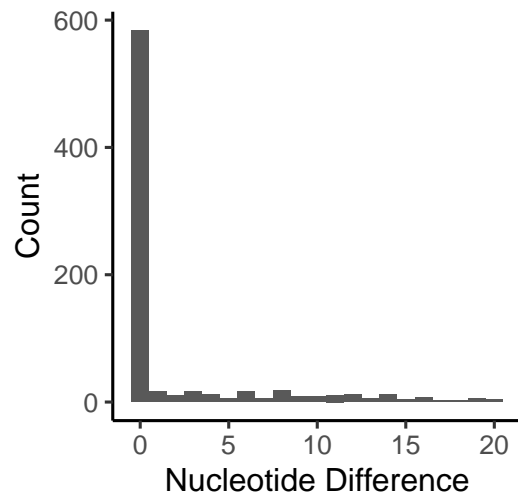
### IGHV3–53\*01\_02

595 sequences assigned  
438 (73.6%) exact matches, in which:  
424 unique CDR3  
6 unique J



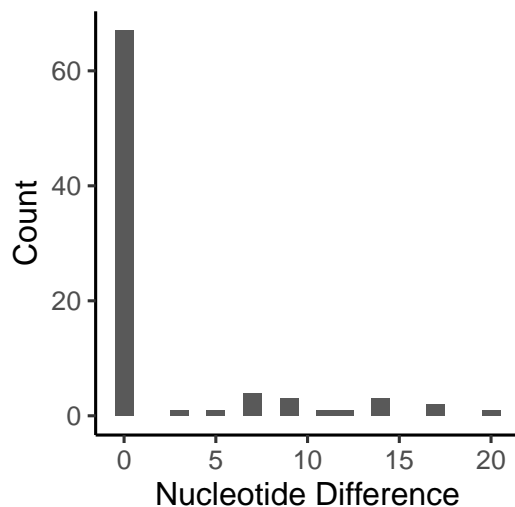
### IGHV3–48\*02

801 sequences assigned  
584 (72.9%) exact matches, in which:  
573 unique CDR3  
6 unique J



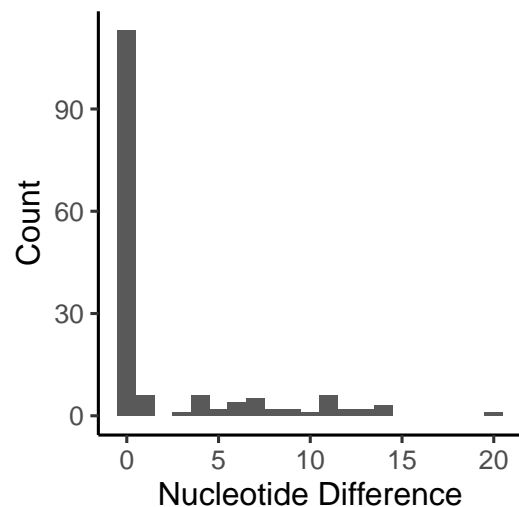
### IGHV3–49\*03\_05

90 sequences assigned  
67 (74.4%) exact matches, in which:  
66 unique CDR3  
5 unique J



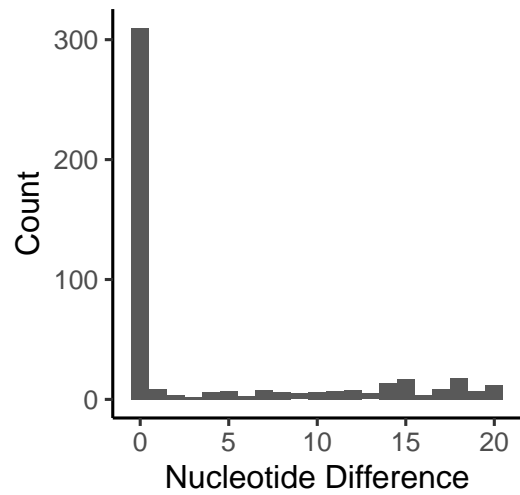
### IGHV3–64\*01

160 sequences assigned  
113 (70.6%) exact matches, in which:  
108 unique CDR3  
6 unique J



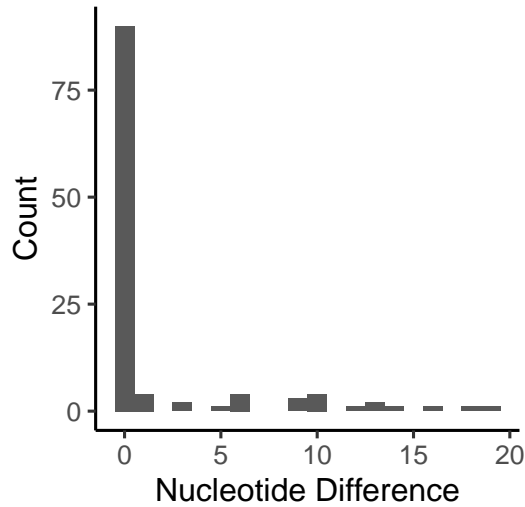
### IGHV3-66\*01

499 sequences assigned  
310 (62.1%) exact matches, in which:  
302 unique CDR3  
6 unique J



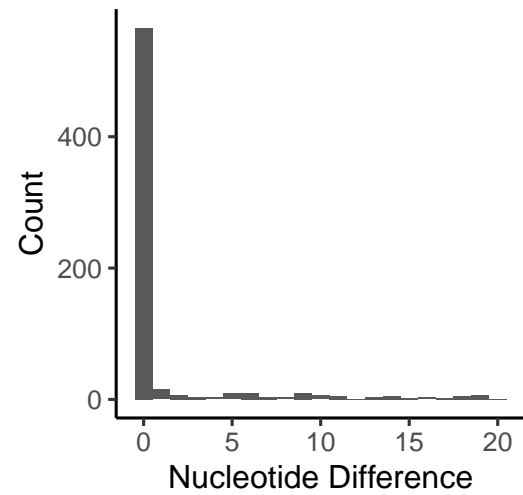
### IGHV3-73\*01\_02

121 sequences assigned  
90 (74.4%) exact matches, in which:  
89 unique CDR3  
6 unique J



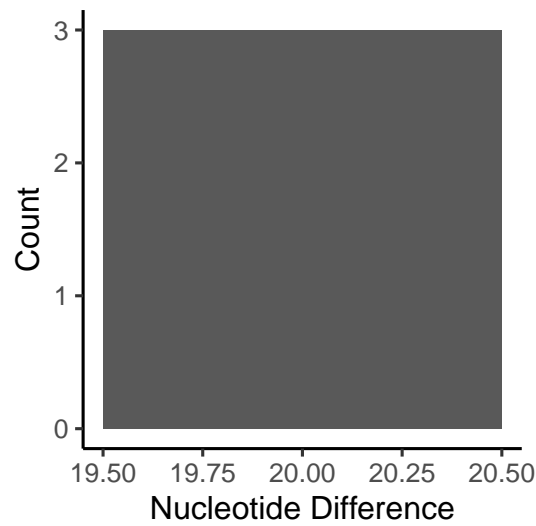
### IGHV4-4\*07

706 sequences assigned  
566 (80.2%) exact matches, in which:  
541 unique CDR3  
6 unique J



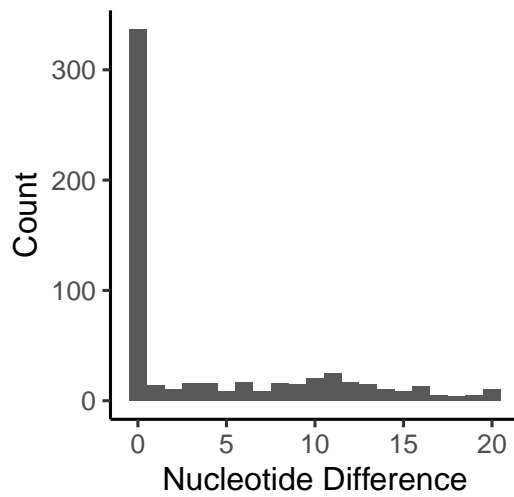
### IGHV3-69-1\*01

10 sequences assigned  
No exact matches.



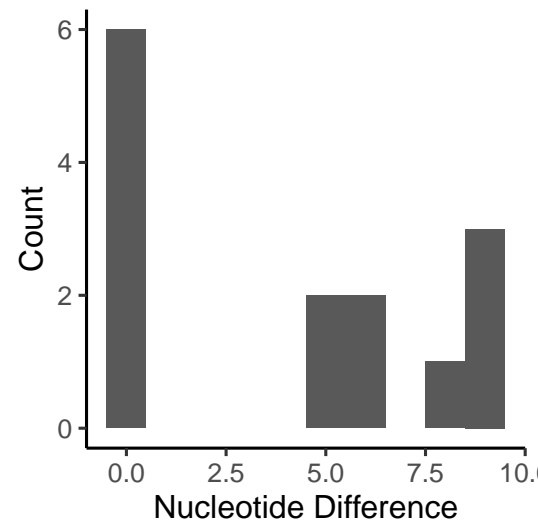
### IGHV3-74\*01\_02

645 sequences assigned  
337 (52.2%) exact matches, in which:  
329 unique CDR3  
7 unique J



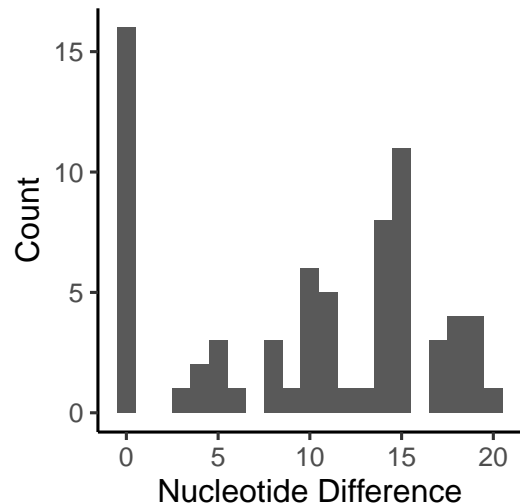
### IGHV4-28\*01\_07

14 sequences assigned  
6 (42.9%) exact matches, in which:  
6 unique CDR3  
4 unique J



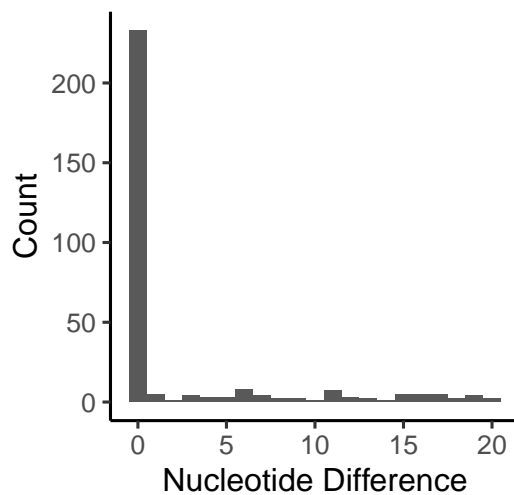
### IGHV3-72\*01

77 sequences assigned  
16 (20.8%) exact matches, in which:  
14 unique CDR3  
5 unique J



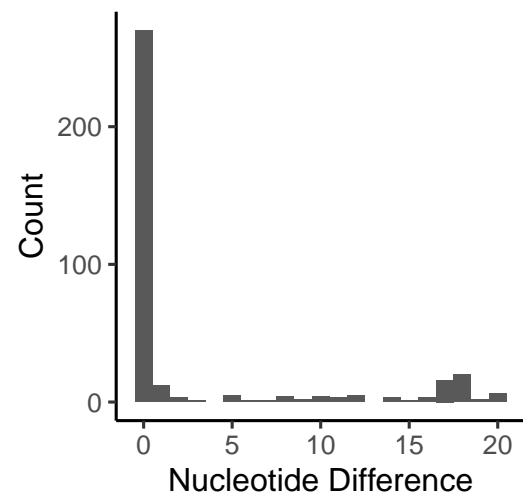
### IGHV3-64D\*09

322 sequences assigned  
233 (72.4%) exact matches, in which:  
231 unique CDR3  
6 unique J



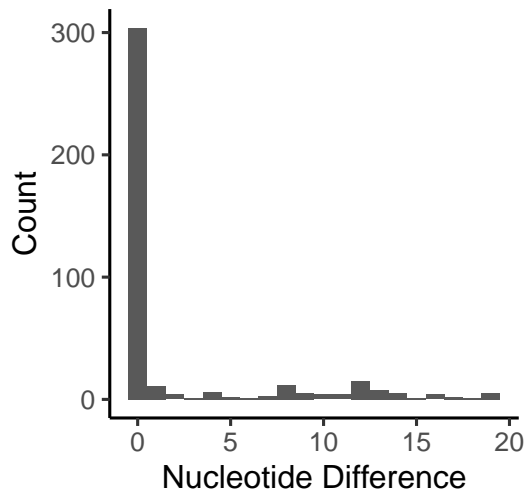
### IGHV4-30-2\*01

375 sequences assigned  
270 (72%) exact matches, in which:  
267 unique CDR3  
6 unique J



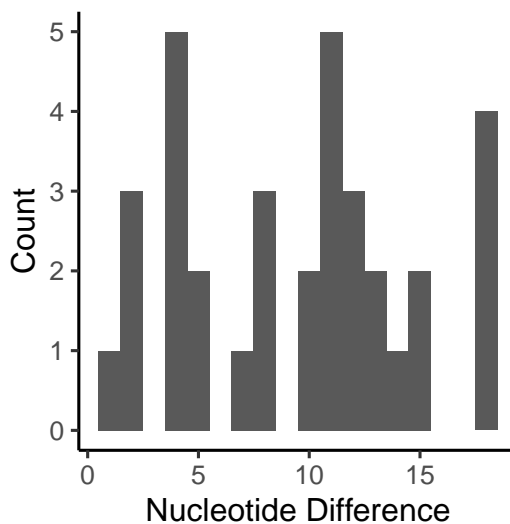
### IGHV4-30-4\*01

422 sequences assigned  
304 (72%) exact matches, in which:  
299 unique CDR3  
6 unique J



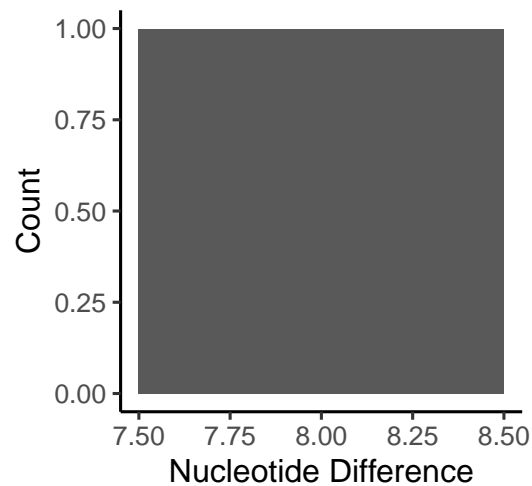
### IGHV4-39\*02

58 sequences assigned  
No exact matches.



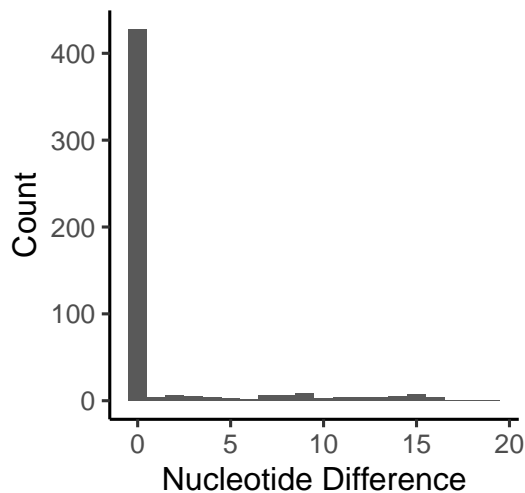
### IGHV4/OR15-8\*01

2 sequences assigned  
No exact matches.



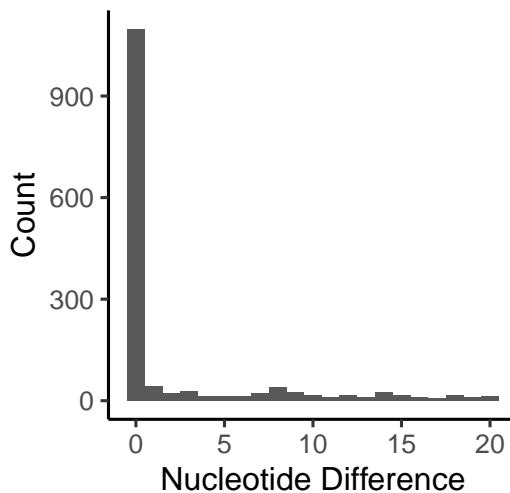
### IGHV4-31\*02

531 sequences assigned  
428 (80.6%) exact matches, in which:  
425 unique CDR3  
7 unique J



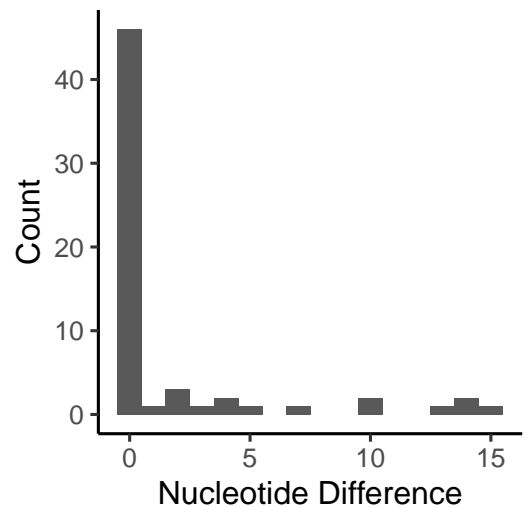
### IGHV4-59\*08

1536 sequences assigned  
1098 (71.5%) exact matches, in which:  
1068 unique CDR3  
6 unique J



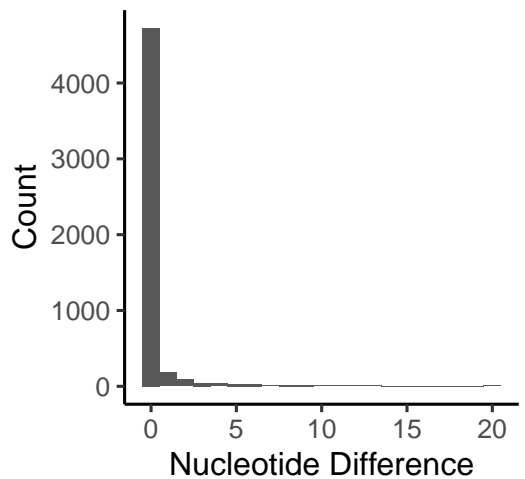
### IGHV5-10-1\*01\_03

68 sequences assigned  
46 (67.6%) exact matches, in which:  
45 unique CDR3  
5 unique J



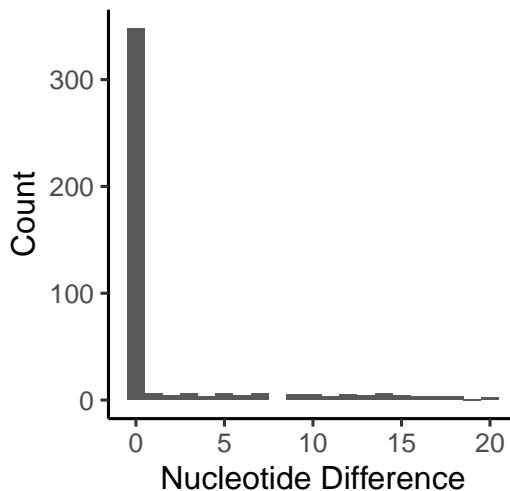
### IGHV4-34\*01\_02

5315 sequences assigned  
4725 (88.9%) exact matches, in which:  
4564 unique CDR3  
7 unique J



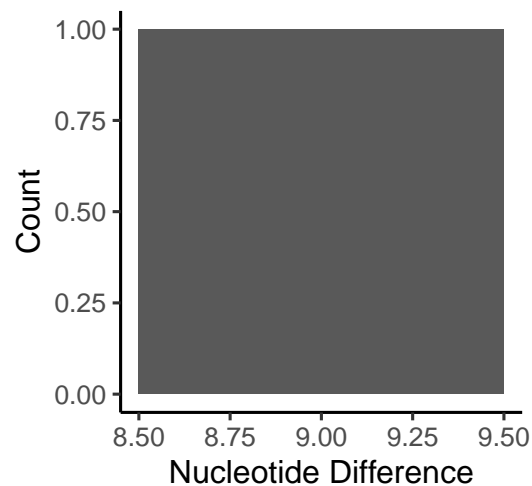
### IGHV4-61\*01

451 sequences assigned  
348 (77.2%) exact matches, in which:  
338 unique CDR3  
6 unique J



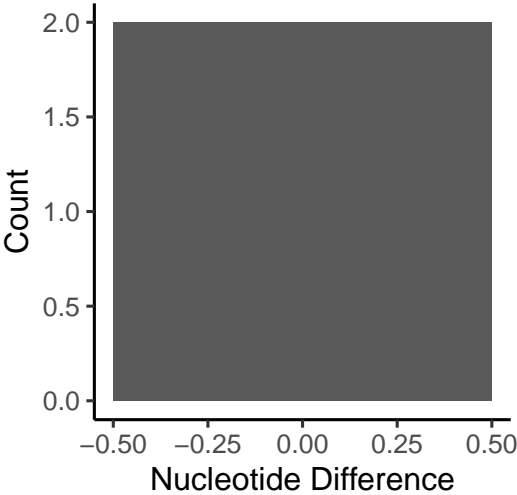
### IGHV5-51\*07

1 sequences assigned  
No exact matches.



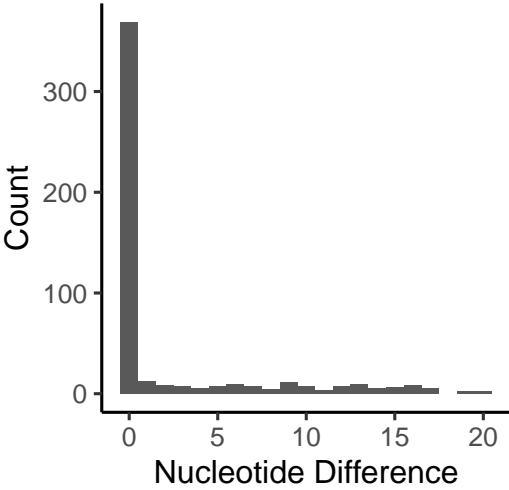
IGHV5-51\*01\_03

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

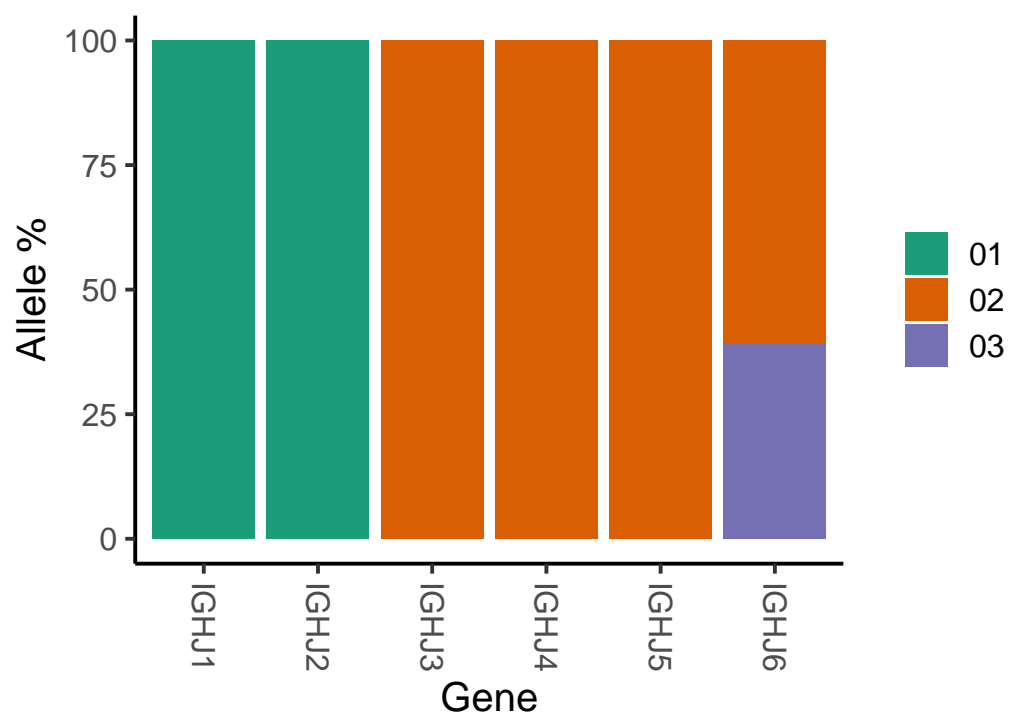


IGHV6-1\*01\_02

506 sequences assigned  
369 (72.9%) exact matches, in which:  
360 unique CDR3  
7 unique J

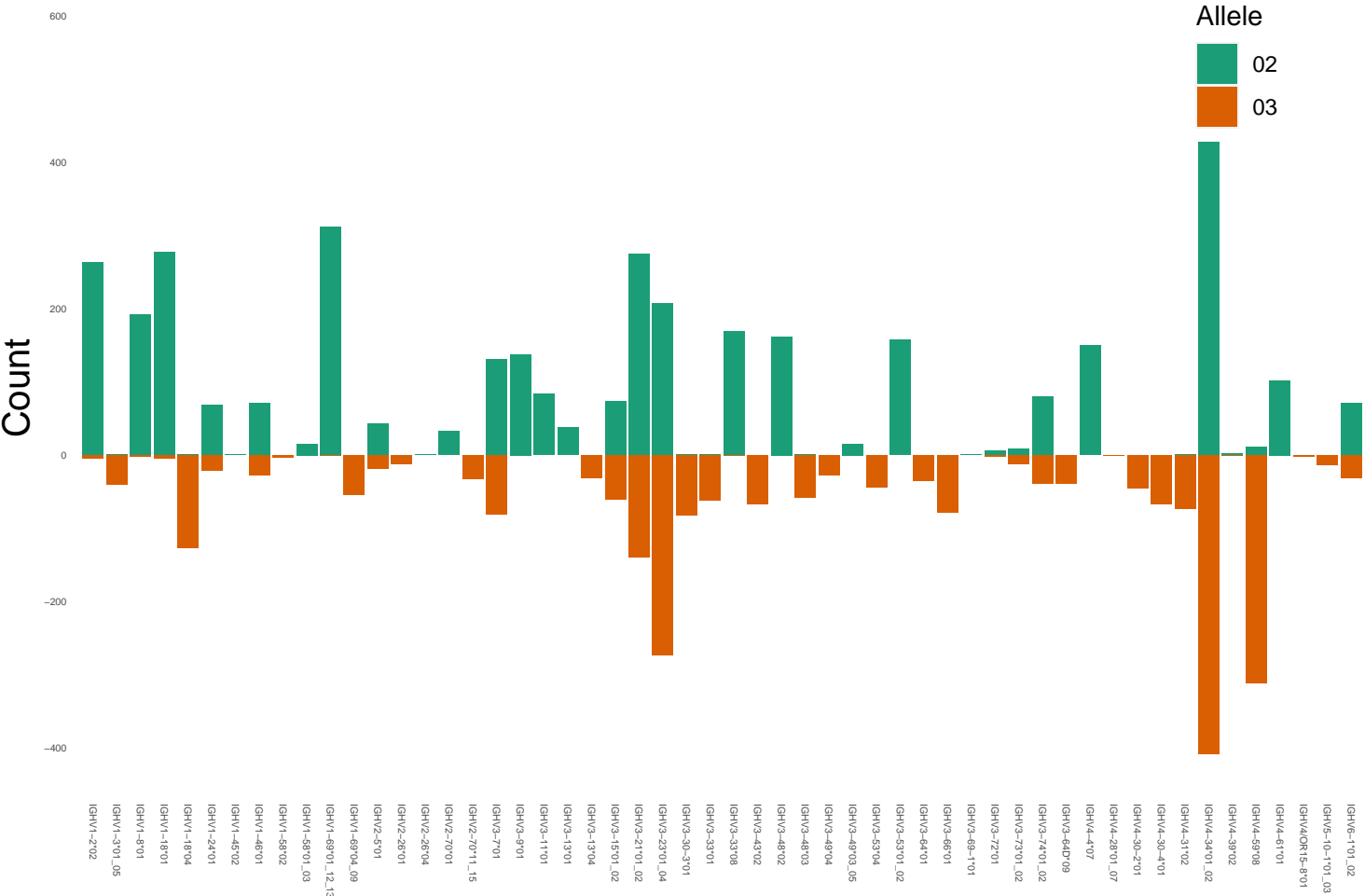


Allele Usage





Sequence Count byIGHJ6 allele usage



[illegible]