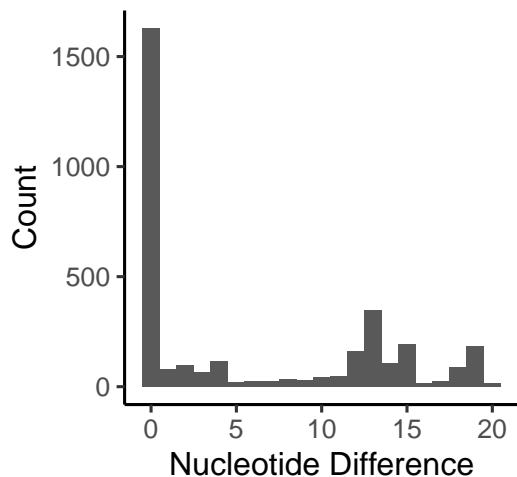


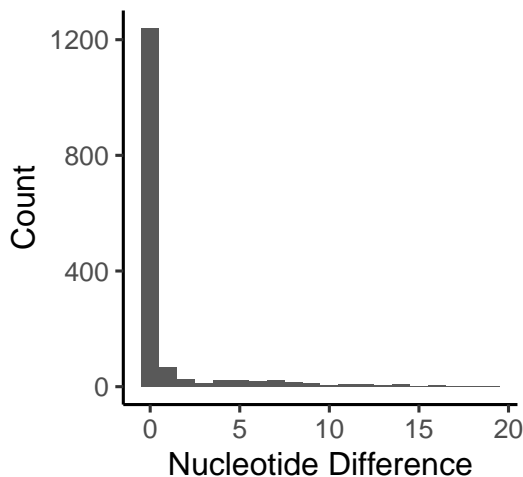
### IGHV1-2\*02

3608 sequences assigned  
1628 (45.1%) exact matches, in which:  
1612 unique CDR3  
7 unique J



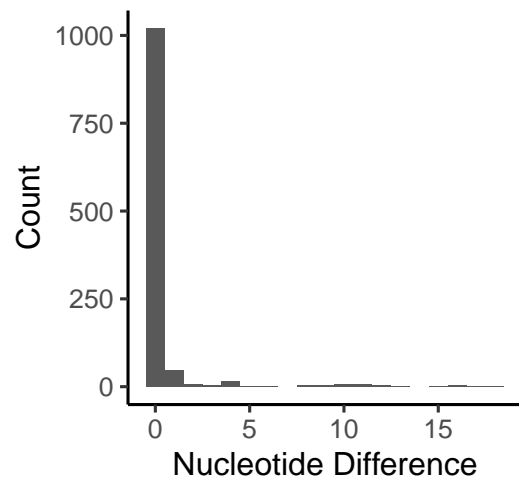
### IGHV1-8\*01

1510 sequences assigned  
1239 (82.1%) exact matches, in which:  
1222 unique CDR3  
7 unique J



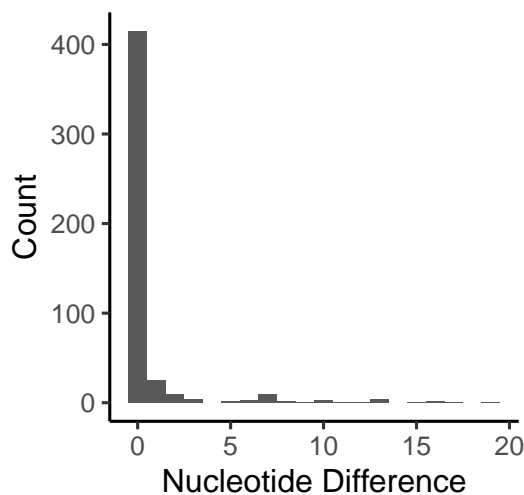
### IGHV1-24\*01

1138 sequences assigned  
1020 (89.6%) exact matches, in which:  
1015 unique CDR3  
7 unique J



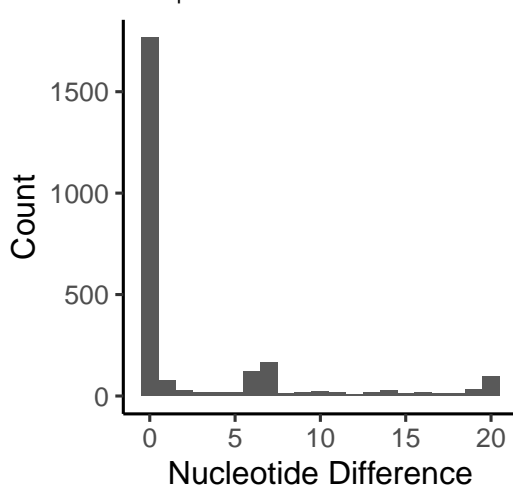
### IGHV1-2\*04

487 sequences assigned  
415 (85.2%) exact matches, in which:  
412 unique CDR3  
7 unique J



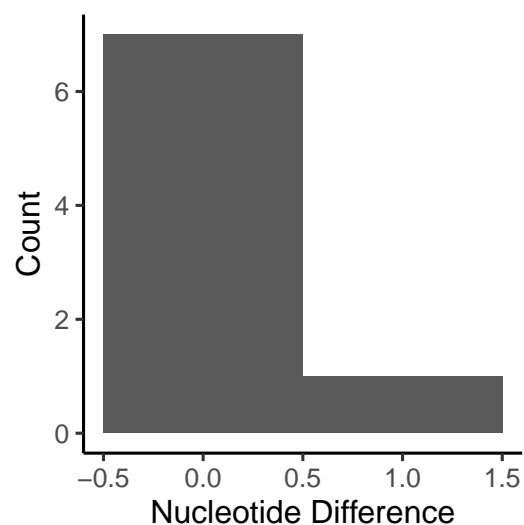
### IGHV1-18\*01

2763 sequences assigned  
1766 (63.9%) exact matches, in which:  
1748 unique CDR3  
7 unique J



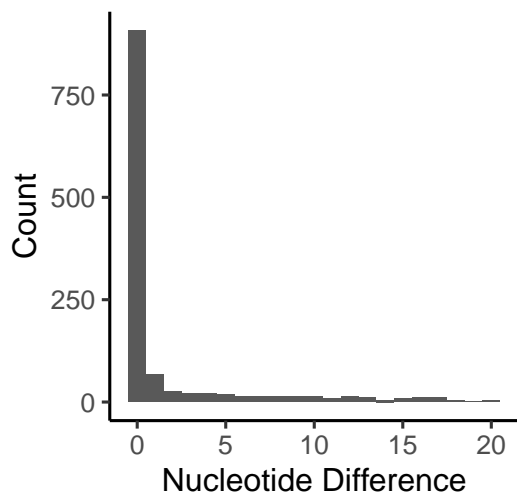
### IGHV1-45\*02

8 sequences assigned  
7 (87.5%) exact matches, in which:  
7 unique CDR3  
3 unique J



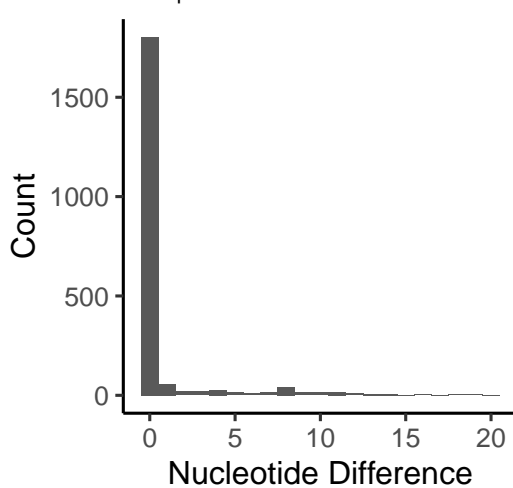
### IGHV1-3\*01\_05

1223 sequences assigned  
908 (74.2%) exact matches, in which:  
882 unique CDR3  
7 unique J



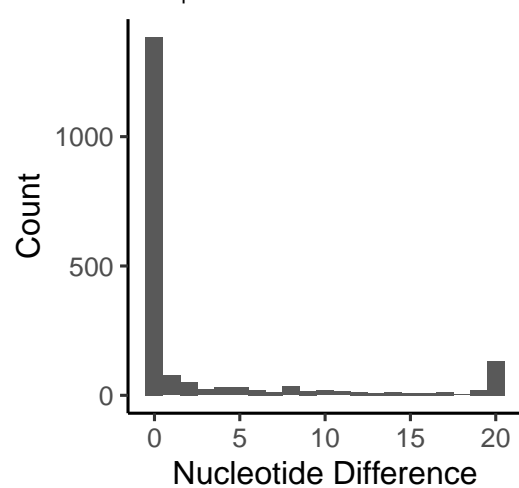
### IGHV1-18\*04

2102 sequences assigned  
1803 (85.8%) exact matches, in which:  
1790 unique CDR3  
7 unique J



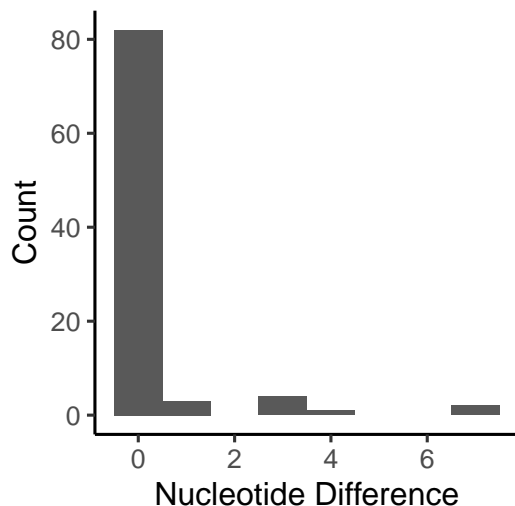
### IGHV1-46\*01

2284 sequences assigned  
1385 (60.6%) exact matches, in which:  
1377 unique CDR3  
7 unique J



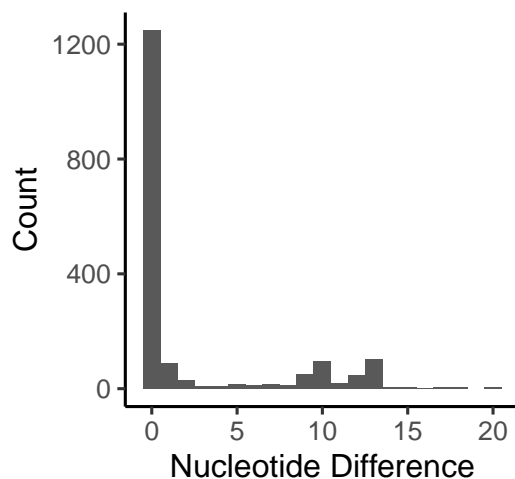
### IGHV1-58\*02

110 sequences assigned  
82 (74.5%) exact matches, in which:  
82 unique CDR3  
6 unique J



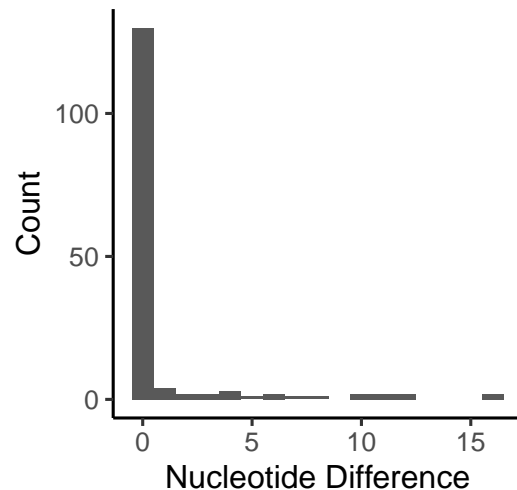
### IGHV1-69\*04\_09

1802 sequences assigned  
1248 (69.3%) exact matches, in which:  
1240 unique CDR3  
7 unique J



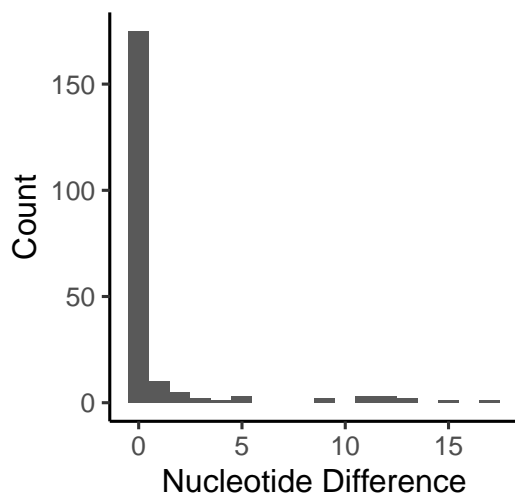
### IGHV2-26\*01

154 sequences assigned  
130 (84.4%) exact matches, in which:  
128 unique CDR3  
5 unique J



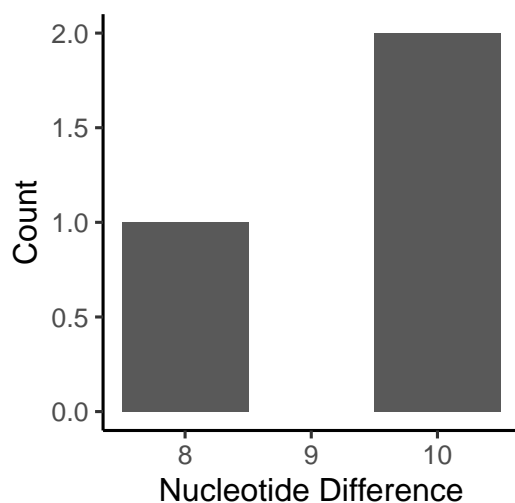
### IGHV1-58\*01\_03

208 sequences assigned  
175 (84.1%) exact matches, in which:  
174 unique CDR3  
6 unique J



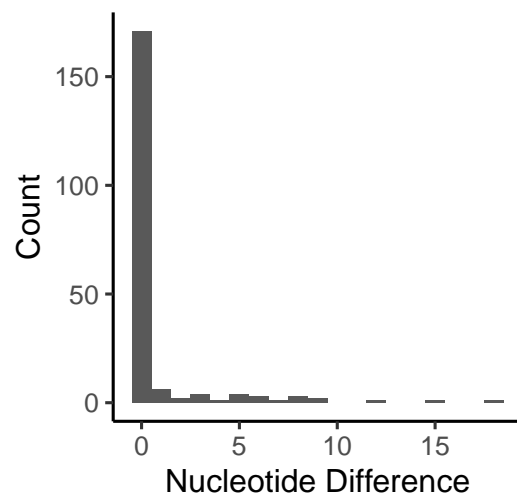
### IGHV1-NL1\*01

3 sequences assigned  
No exact matches.



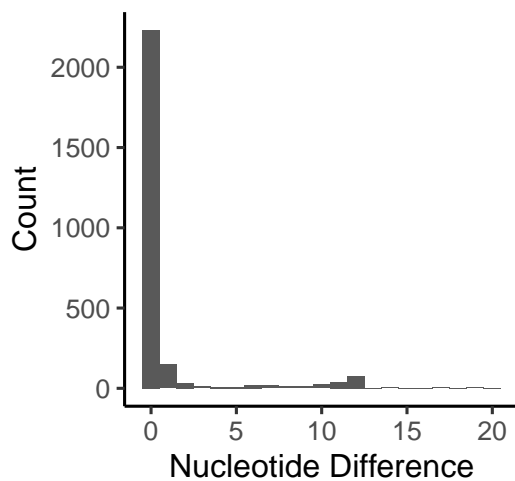
### IGHV2-70\*01

200 sequences assigned  
171 (85.5%) exact matches, in which:  
170 unique CDR3  
6 unique J



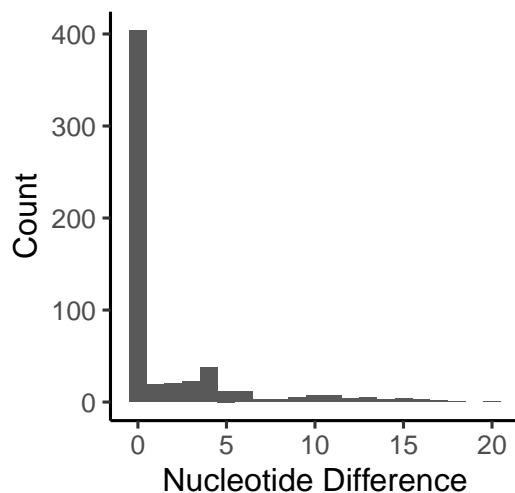
### IGHV1-69\*01\_12\_13

2677 sequences assigned  
2232 (83.4%) exact matches, in which:  
2207 unique CDR3  
7 unique J



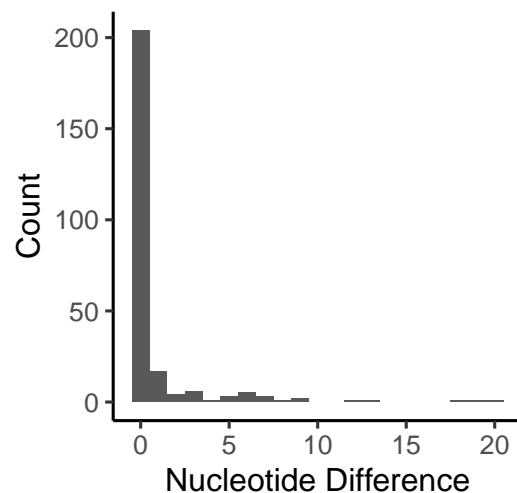
### IGHV2-5\*02

582 sequences assigned  
404 (69.4%) exact matches, in which:  
399 unique CDR3  
7 unique J



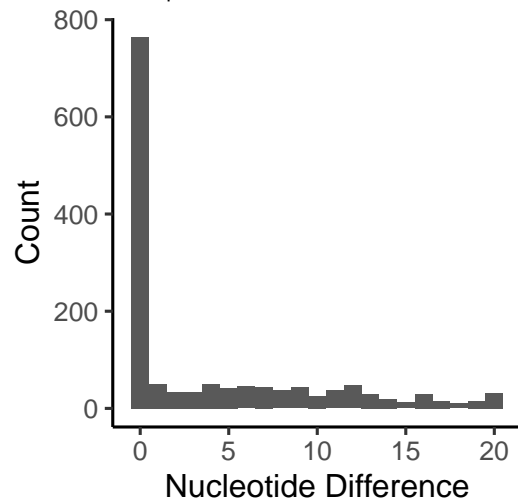
### IGHV2-70\*11\_15

251 sequences assigned  
204 (81.3%) exact matches, in which:  
203 unique CDR3  
6 unique J



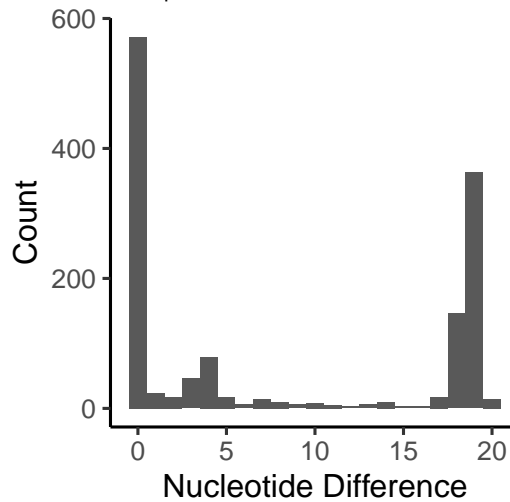
### IGHV3-7\*01

1454 sequences assigned  
765 (52.6%) exact matches, in which:  
567 unique CDR3  
7 unique J



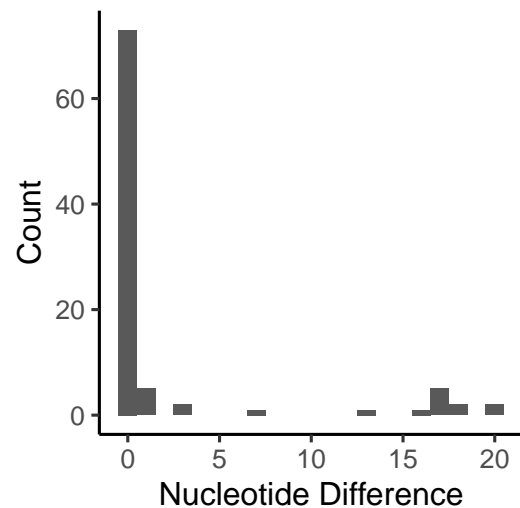
### IGHV3-11\*01

1381 sequences assigned  
572 (41.4%) exact matches, in which:  
423 unique CDR3  
7 unique J



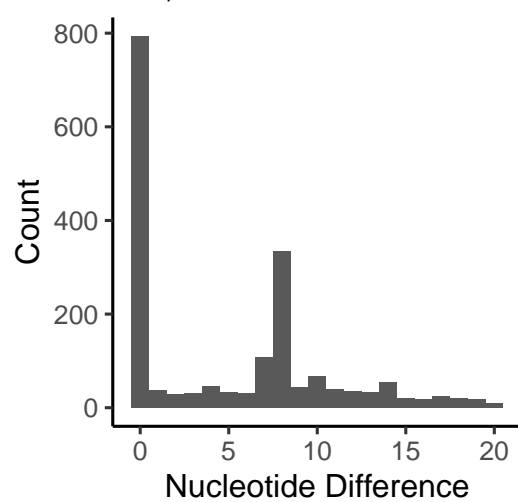
### IGHV3-13\*05

93 sequences assigned  
73 (78.5%) exact matches, in which:  
52 unique CDR3  
4 unique J



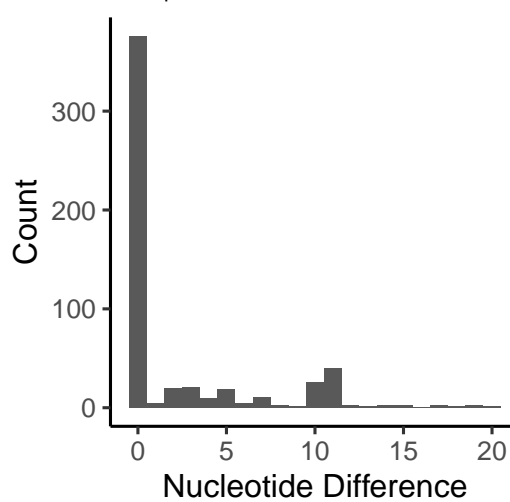
### IGHV3-7\*03

1861 sequences assigned  
794 (42.7%) exact matches, in which:  
583 unique CDR3  
7 unique J



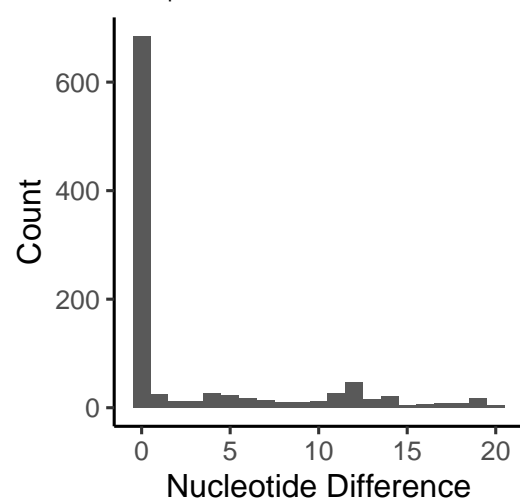
### IGHV3-11\*06

571 sequences assigned  
376 (65.8%) exact matches, in which:  
296 unique CDR3  
7 unique J



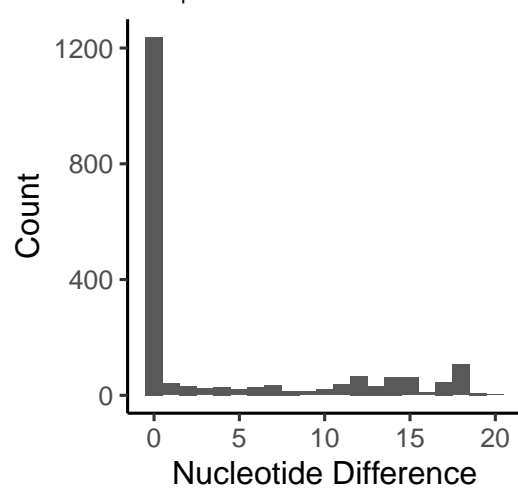
### IGHV3-15\*01\_02

1111 sequences assigned  
685 (61.7%) exact matches, in which:  
563 unique CDR3  
7 unique J



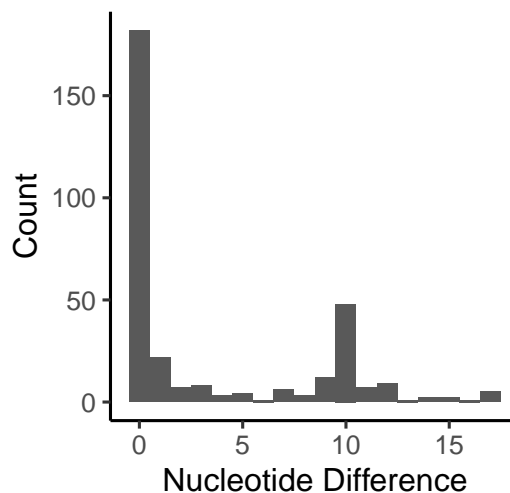
### IGHV3-9\*01

1942 sequences assigned  
1238 (63.7%) exact matches, in which:  
925 unique CDR3  
6 unique J



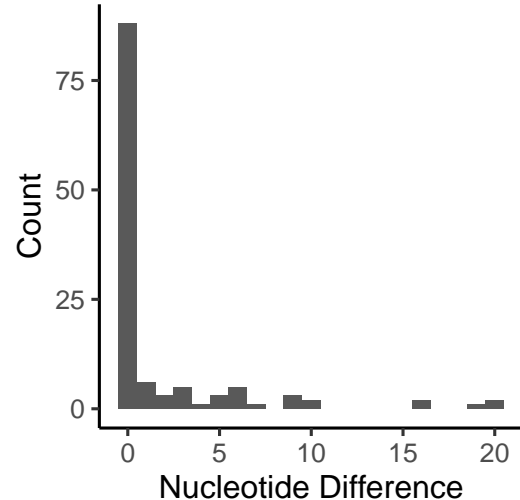
### IGHV3-13\*01

323 sequences assigned  
182 (56.3%) exact matches, in which:  
123 unique CDR3  
6 unique J



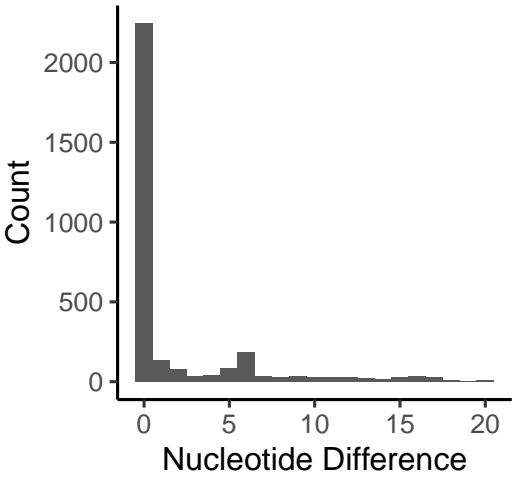
### IGHV3-20\*01\_02

124 sequences assigned  
88 (71%) exact matches, in which:  
69 unique CDR3  
5 unique J



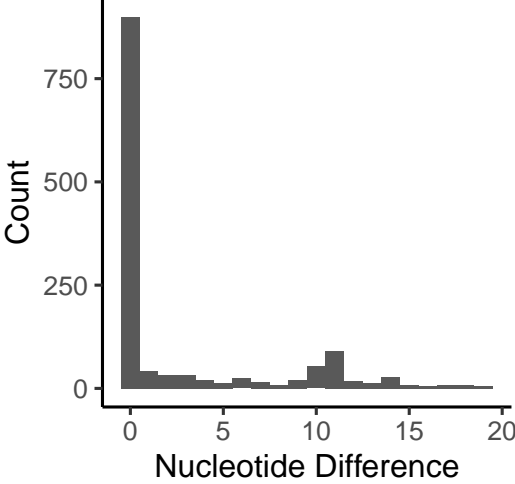
IGHV3-21\*01\_02

3235 sequences assigned  
2245 (69.4%) exact matches, in which:  
1663 unique CDR3  
7 unique J



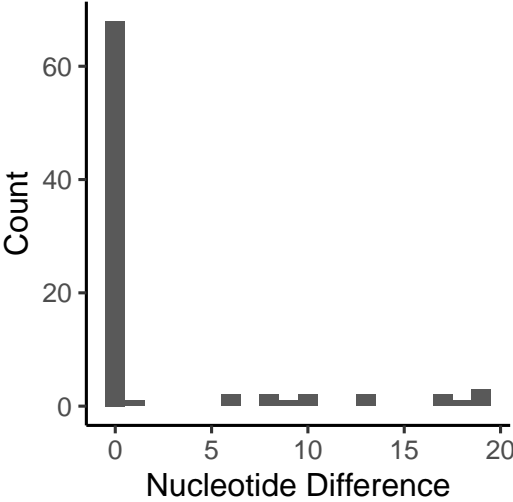
IGHV3-33\*01

1558 sequences assigned  
900 (57.8%) exact matches, in which:  
708 unique CDR3  
7 unique J



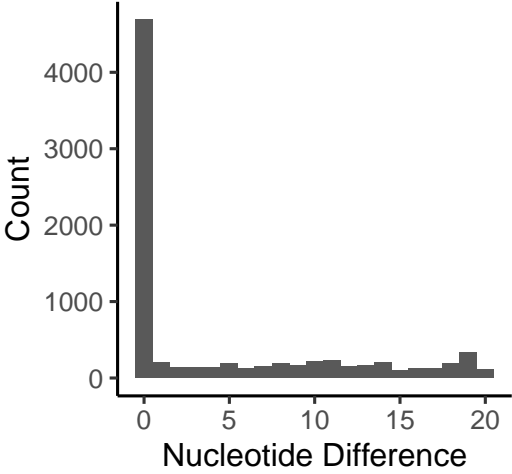
IGHV3-43\*01

87 sequences assigned  
68 (78.2%) exact matches, in which:  
56 unique CDR3  
5 unique J



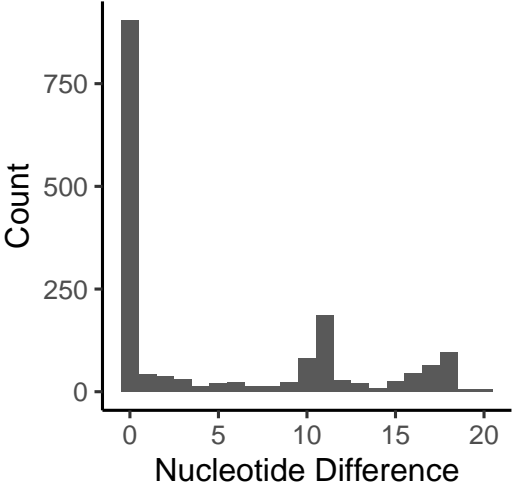
IGHV3-23\*01\_04

8781 sequences assigned  
4688 (53.4%) exact matches, in which:  
3504 unique CDR3  
7 unique J



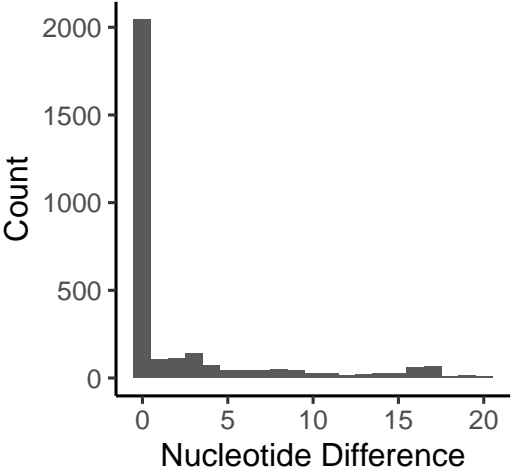
IGHV3-33\*08

1729 sequences assigned  
905 (52.3%) exact matches, in which:  
696 unique CDR3  
7 unique J



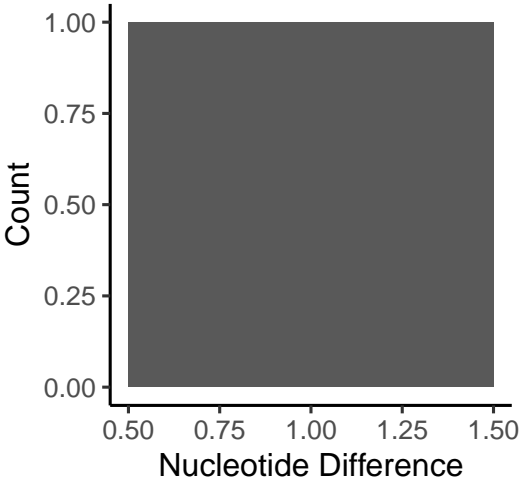
IGHV3-48\*03

3160 sequences assigned  
2043 (64.7%) exact matches, in which:  
1568 unique CDR3  
7 unique J



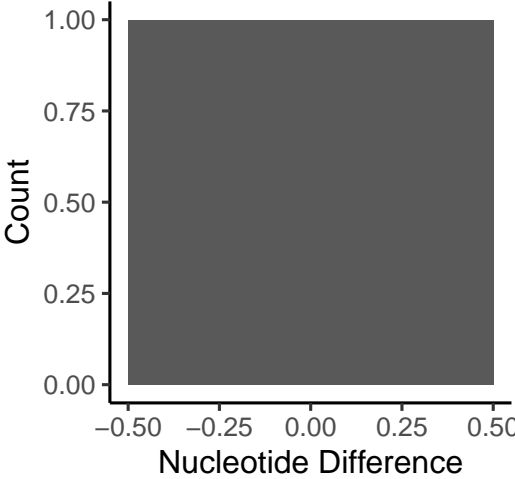
IGHV3-30-3\*03

2 sequences assigned  
No exact matches.



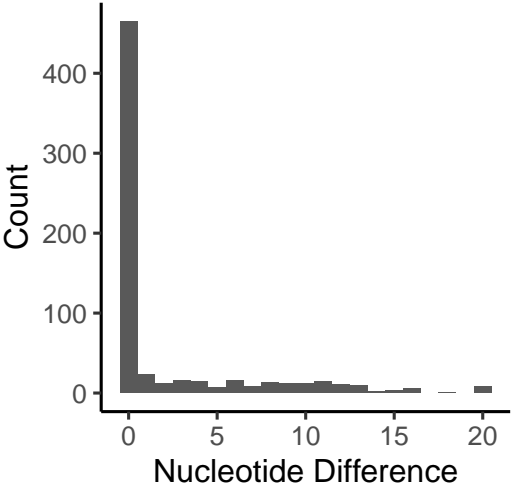
IGHV3-35\*01

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



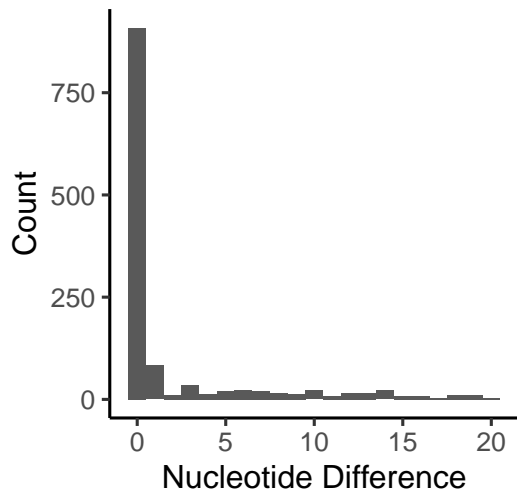
IGHV3-49\*04

668 sequences assigned  
465 (69.6%) exact matches, in which:  
372 unique CDR3  
7 unique J



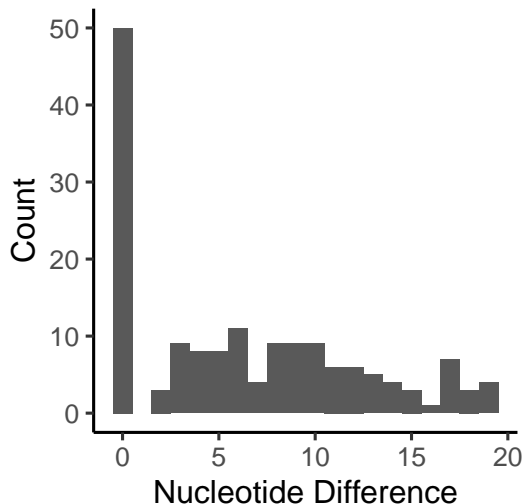
### IGHV3-53\*01\_02

1315 sequences assigned  
909 (69.1%) exact matches, in which:  
695 unique CDR3  
7 unique J



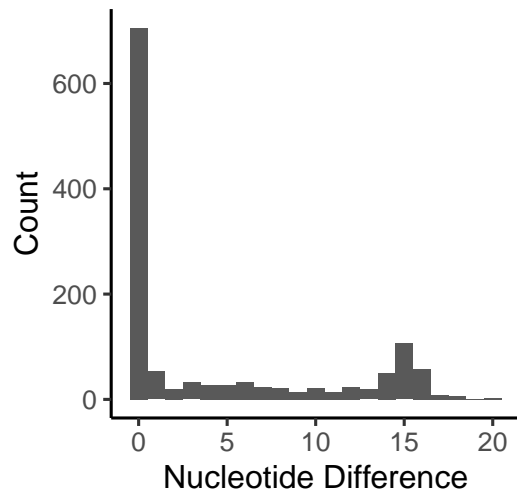
### IGHV3-72\*01

165 sequences assigned  
50 (30.3%) exact matches, in which:  
37 unique CDR3  
6 unique J



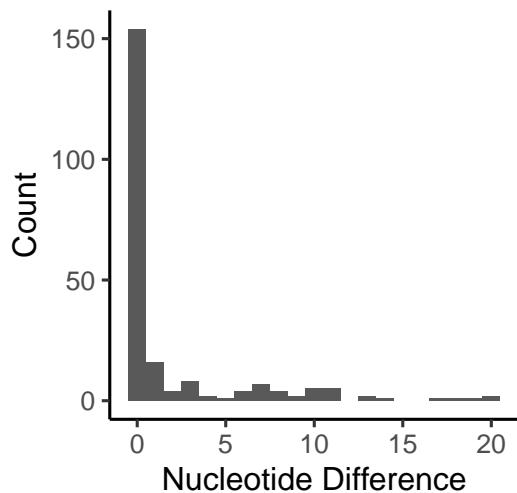
### IGHV3-74\*01\_02

1278 sequences assigned  
706 (55.2%) exact matches, in which:  
496 unique CDR3  
7 unique J



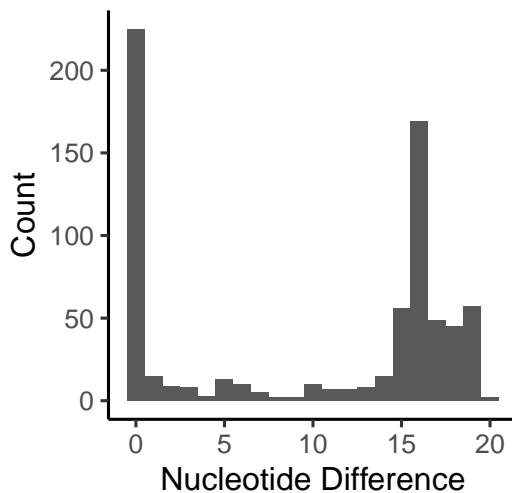
### IGHV3-64\*01

229 sequences assigned  
154 (67.2%) exact matches, in which:  
112 unique CDR3  
6 unique J



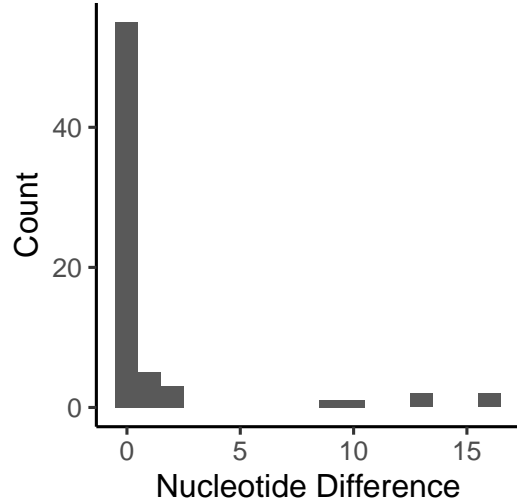
### IGHV3-73\*01\_02

729 sequences assigned  
225 (30.9%) exact matches, in which:  
182 unique CDR3  
7 unique J



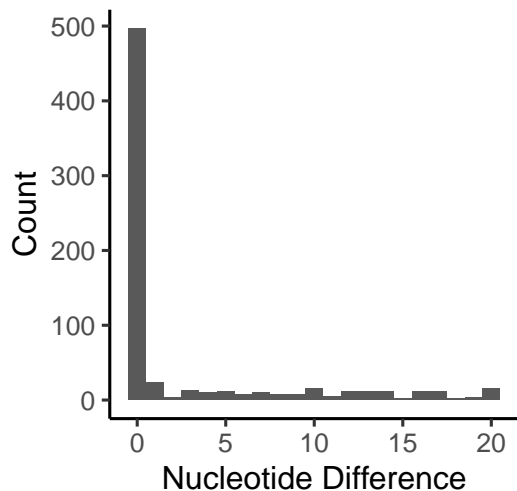
### IGHV3-43D\*04

73 sequences assigned  
55 (75.3%) exact matches, in which:  
43 unique CDR3  
5 unique J



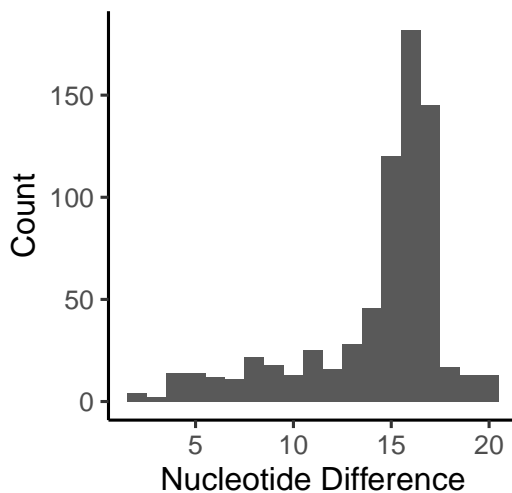
### IGHV3-66\*01

812 sequences assigned  
497 (61.2%) exact matches, in which:  
383 unique CDR3  
6 unique J



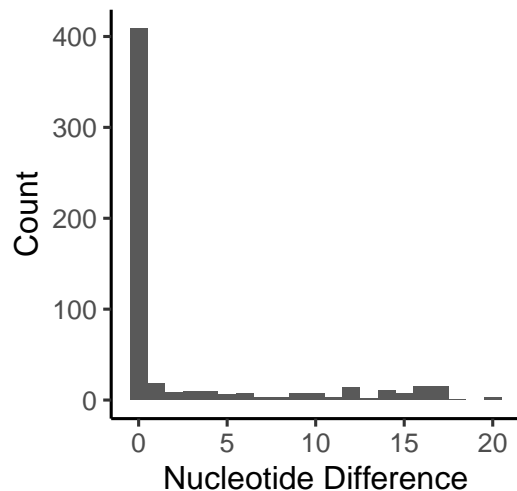
### IGHV3-74\*03

747 sequences assigned  
No exact matches.



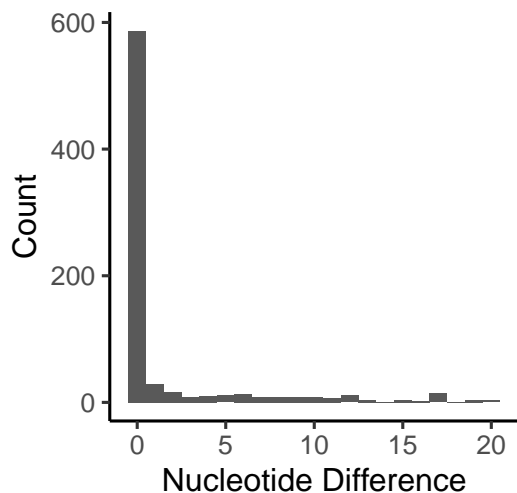
### IGHV3-64D\*06

600 sequences assigned  
409 (68.2%) exact matches, in which:  
294 unique CDR3  
7 unique J



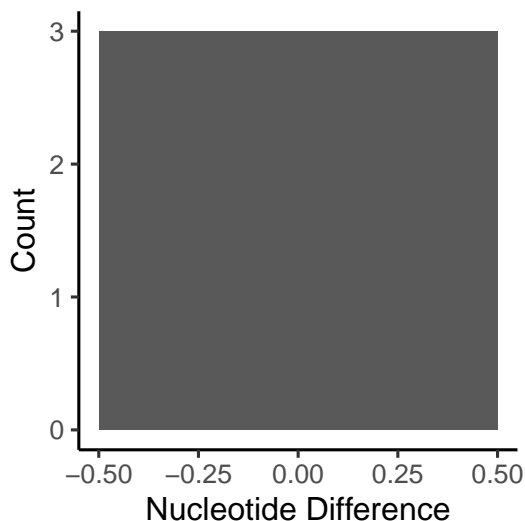
### IGHV4-4\*07

772 sequences assigned  
587 (76%) exact matches, in which:  
578 unique CDR3  
6 unique J



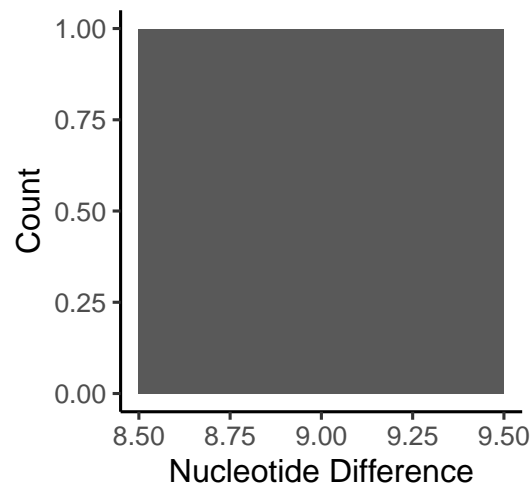
### IGHV4-28\*01\_07

3 sequences assigned  
3 (100%) exact matches, in which:  
3 unique CDR3  
2 unique J



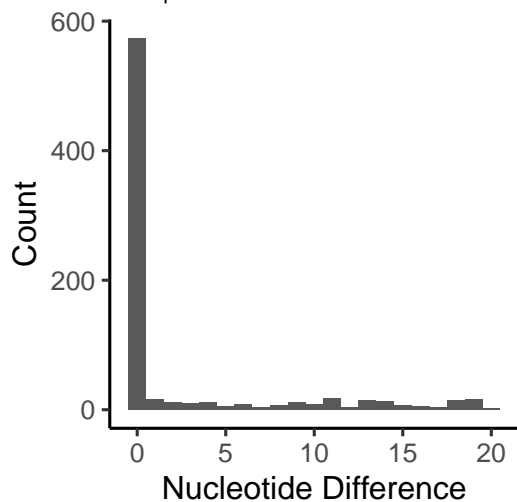
### IGHV4-30-4\*07

1 sequences assigned  
No exact matches.



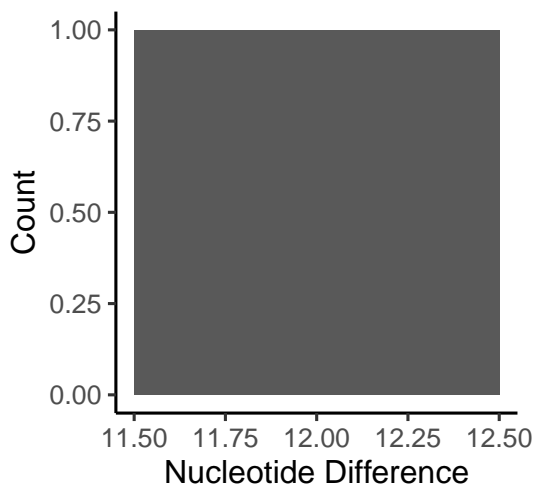
### IGHV4-4\*02\_03

793 sequences assigned  
574 (72.4%) exact matches, in which:  
566 unique CDR3  
7 unique J



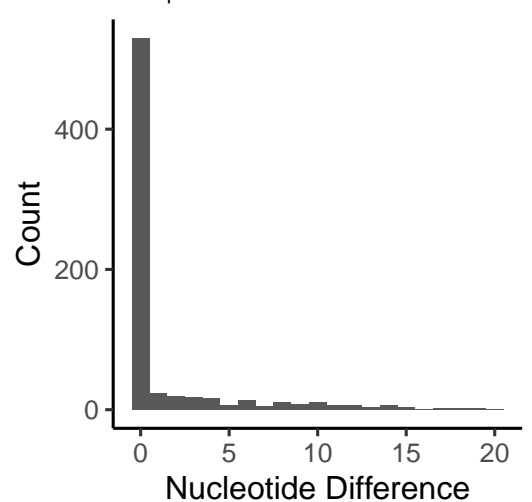
### IGHV4-30-4\*01

1 sequences assigned  
No exact matches.



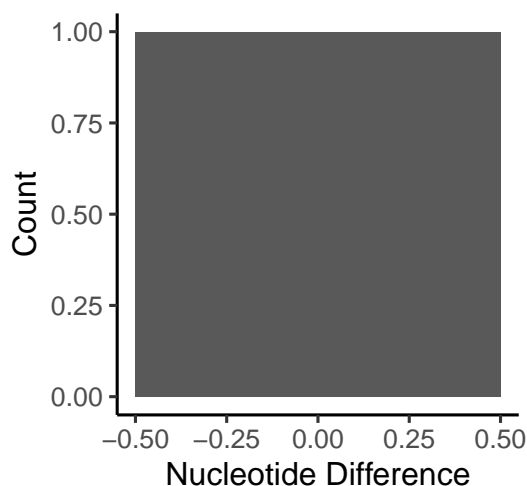
### IGHV4-31\*02

736 sequences assigned  
530 (72%) exact matches, in which:  
526 unique CDR3  
7 unique J



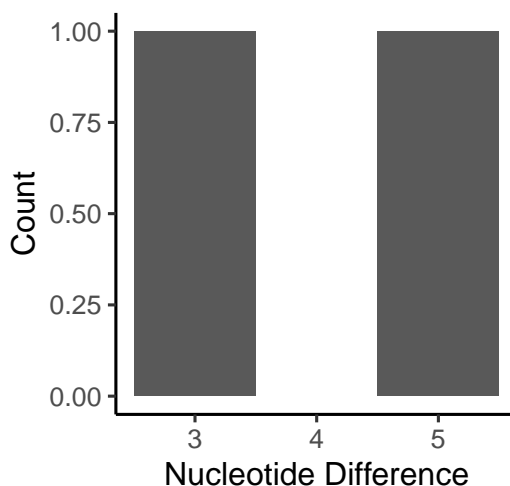
### IGHV4-28\*03

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



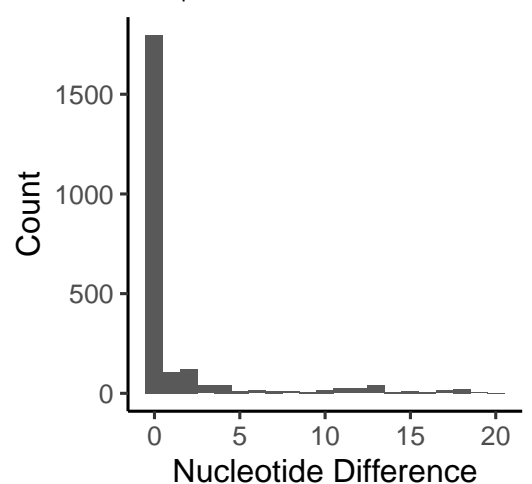
### IGHV4-30-2\*03

2 sequences assigned  
No exact matches.



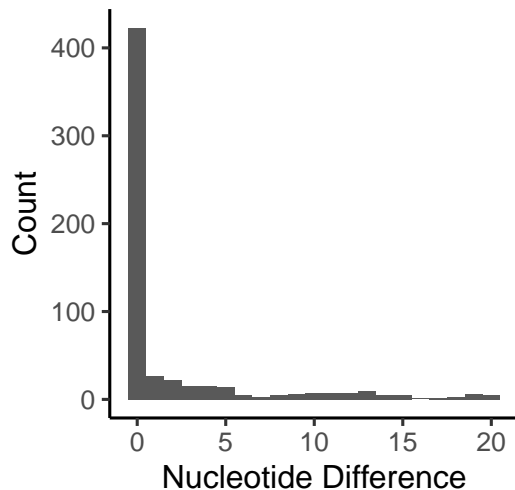
### IGHV4-34\*01\_02

2372 sequences assigned  
1797 (75.8%) exact matches, in which:  
1757 unique CDR3  
7 unique J



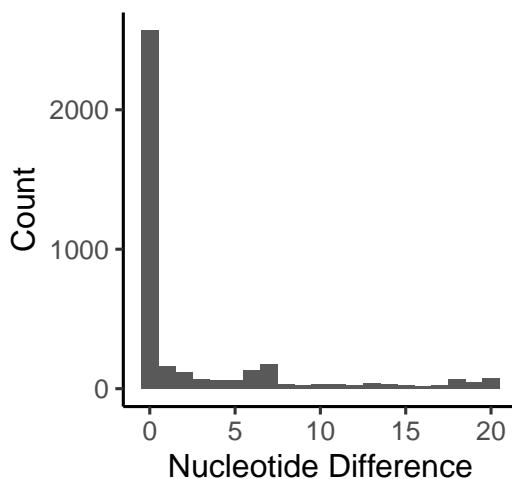
### IGHV4-38-2\*02\_A70G

614 sequences assigned  
423 (68.9%) exact matches, in which:  
414 unique CDR3  
6 unique J



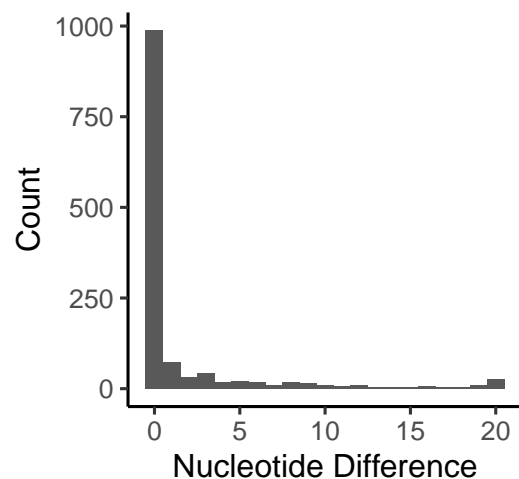
### IGHV4-59\*02\_G88A

3889 sequences assigned  
2569 (66.1%) exact matches, in which:  
2530 unique CDR3  
7 unique J



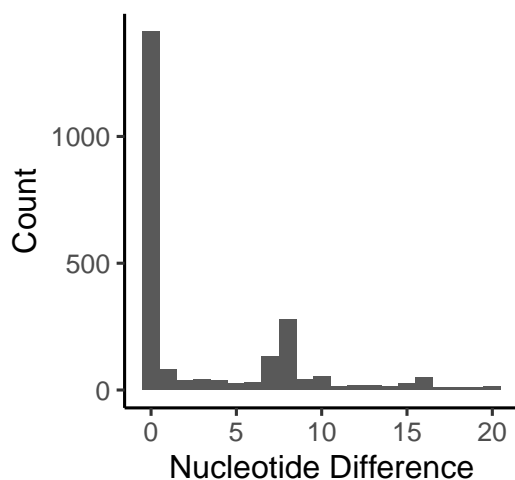
### IGHV5-10-1\*01\_03

1334 sequences assigned  
988 (74.1%) exact matches, in which:  
908 unique CDR3  
7 unique J



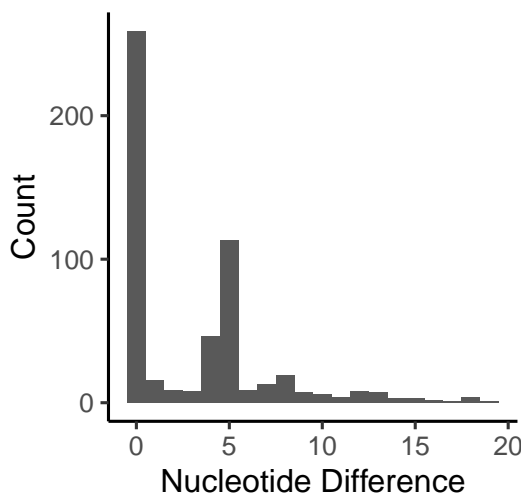
### IGHV4-39\*02\_C258G

2433 sequences assigned  
1413 (58.1%) exact matches, in which:  
1384 unique CDR3  
7 unique J



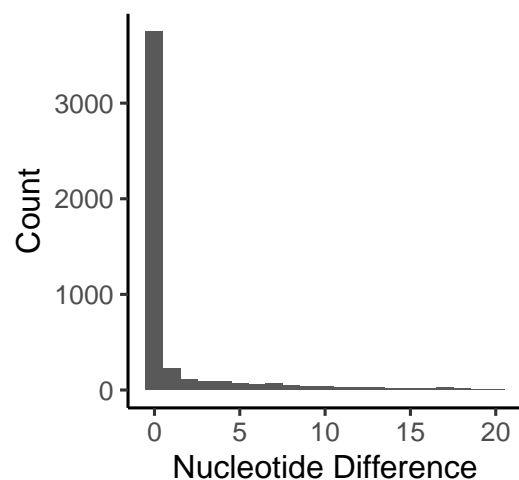
### IGHV4-61\*01

542 sequences assigned  
259 (47.8%) exact matches, in which:  
258 unique CDR3  
7 unique J



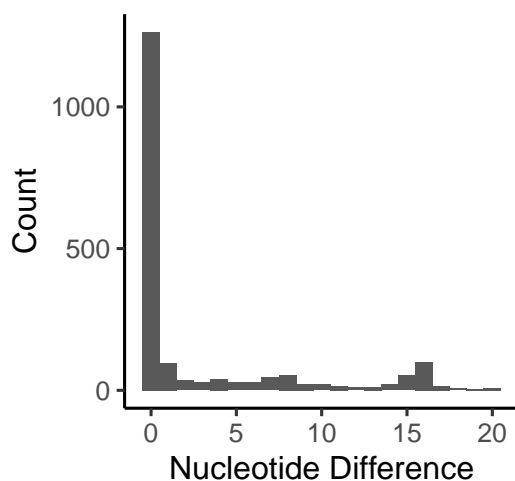
### IGHV5-51\*07\_A128G

4778 sequences assigned  
3747 (78.4%) exact matches, in which:  
3335 unique CDR3  
7 unique J



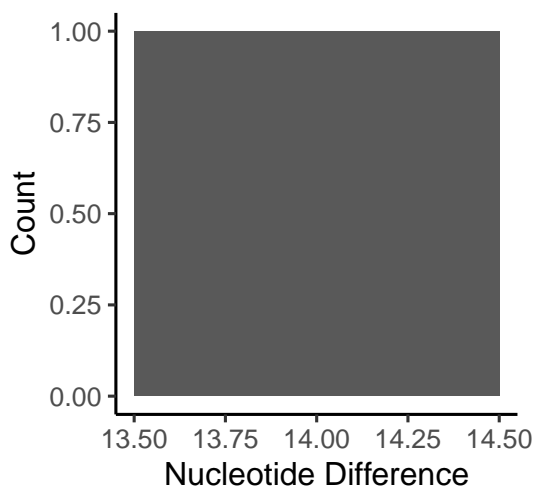
### IGHV4-59\*08

1979 sequences assigned  
1264 (63.9%) exact matches, in which:  
1252 unique CDR3  
7 unique J



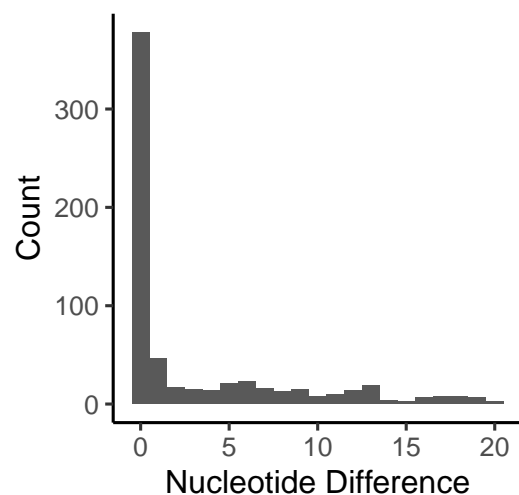
### IGHV4/OR15-8\*02

1 sequences assigned  
No exact matches.



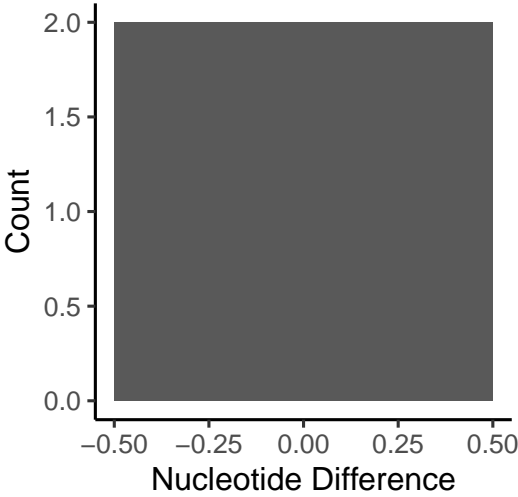
### IGHV6-1\*01\_02

709 sequences assigned  
378 (53.3%) exact matches, in which:  
371 unique CDR3  
7 unique J



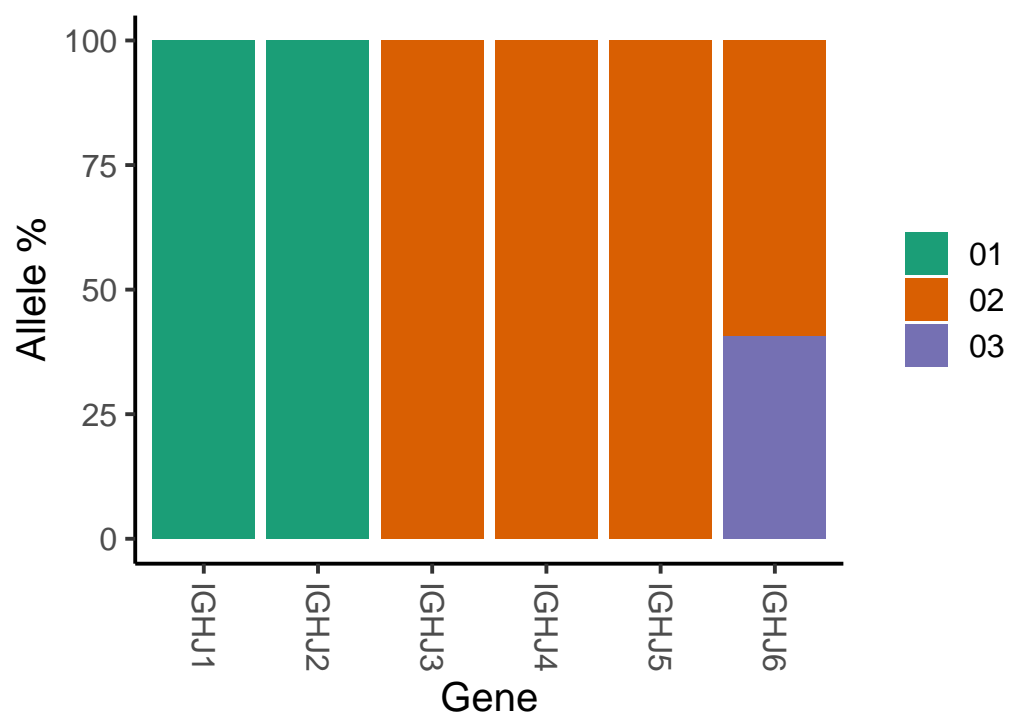
# IGHV7-4-1\*01

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

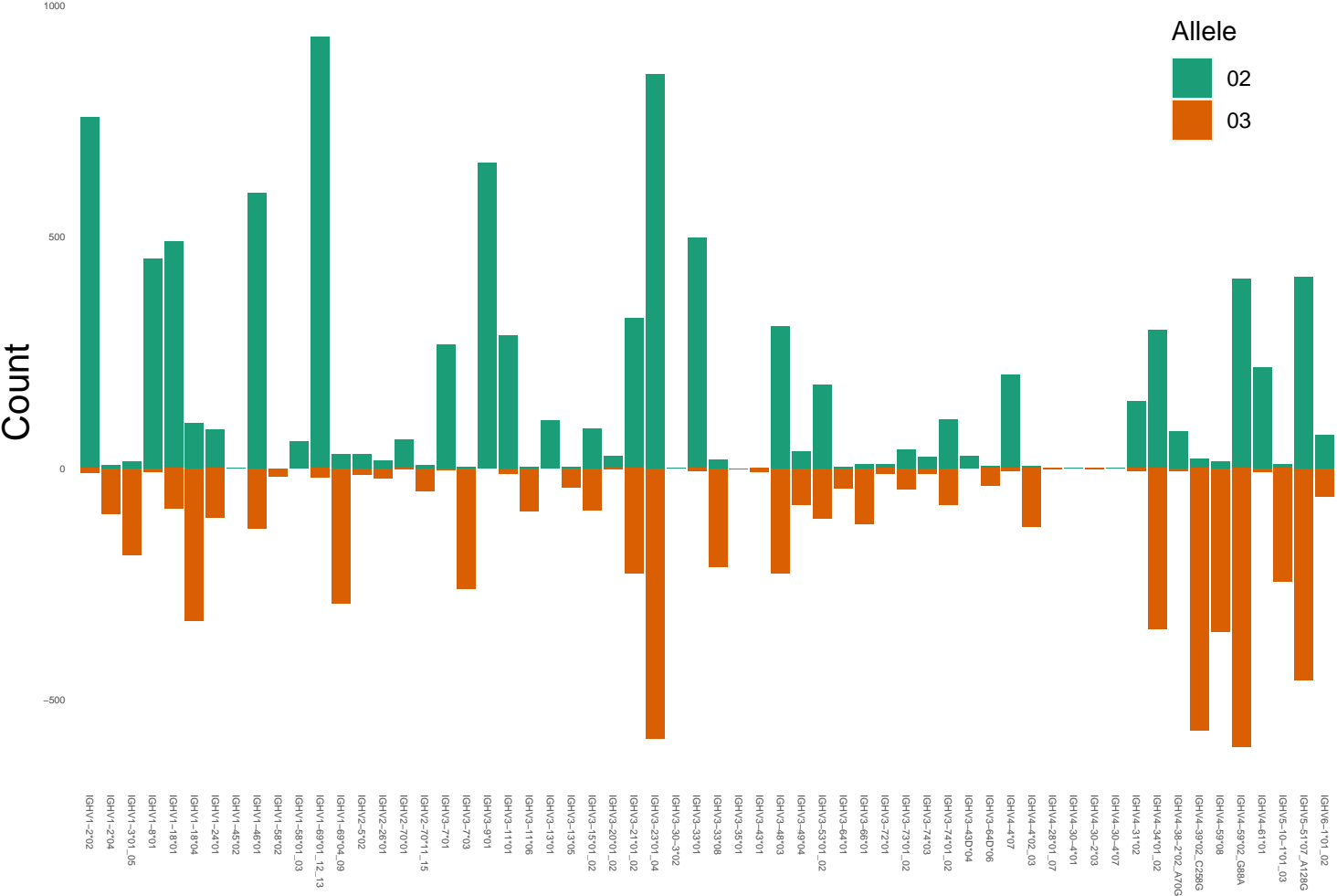




Allele Usage



Sequence Count by IGHJ6 allele usage



Warning – no inferred sequences found.