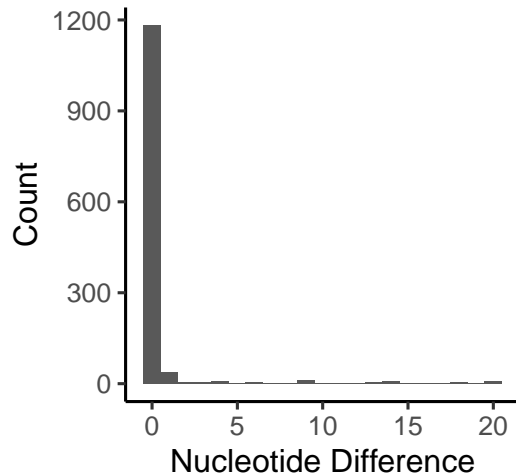


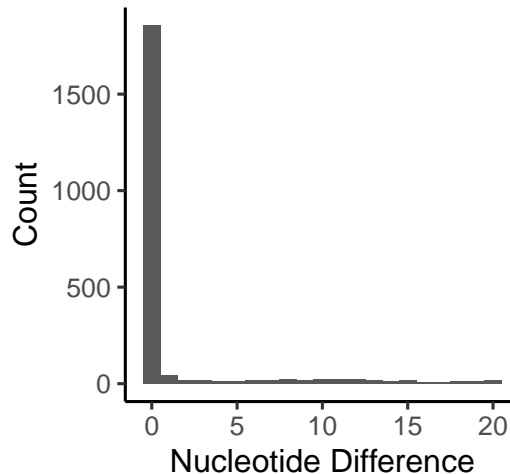
### IGHV1-2\*04

1322 sequences assigned  
1182 (89.4%) exact matches, in which:  
1176 unique CDR3  
7 unique J



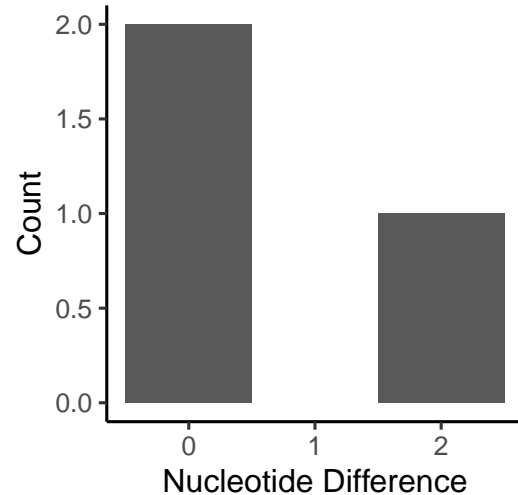
### IGHV1-18\*01

2360 sequences assigned  
1856 (78.6%) exact matches, in which:  
1843 unique CDR3  
7 unique J



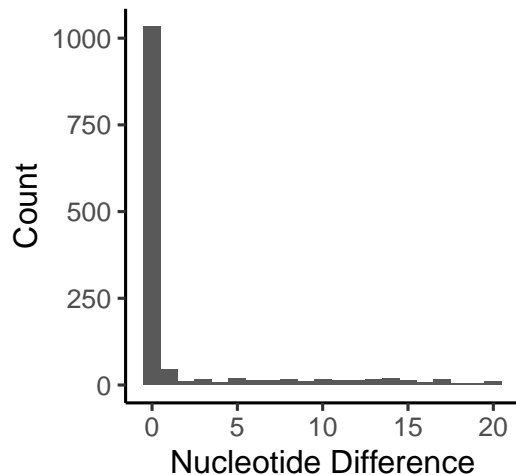
### IGHV1-45\*02

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



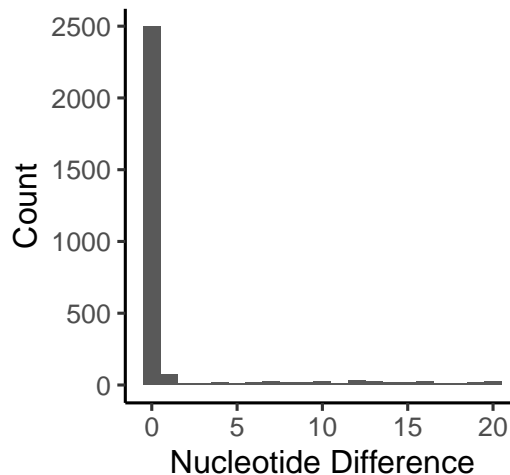
### IGHV1-3\*01\_05

1384 sequences assigned  
1033 (74.6%) exact matches, in which:  
1028 unique CDR3  
7 unique J



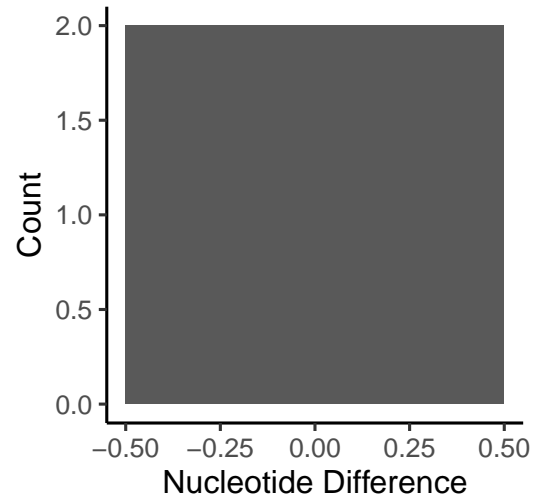
### IGHV1-18\*04

3058 sequences assigned  
2496 (81.6%) exact matches, in which:  
2475 unique CDR3  
7 unique J



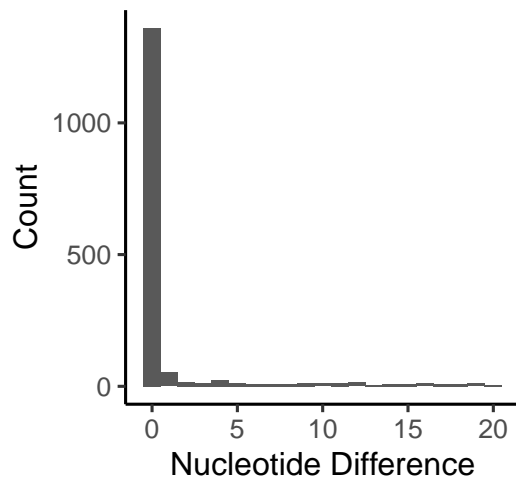
### IGHV1-45\*03

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



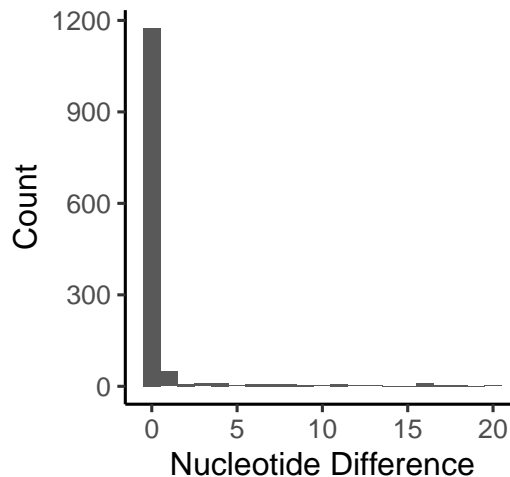
### IGHV1-8\*01

1689 sequences assigned  
1360 (80.5%) exact matches, in which:  
1353 unique CDR3  
7 unique J



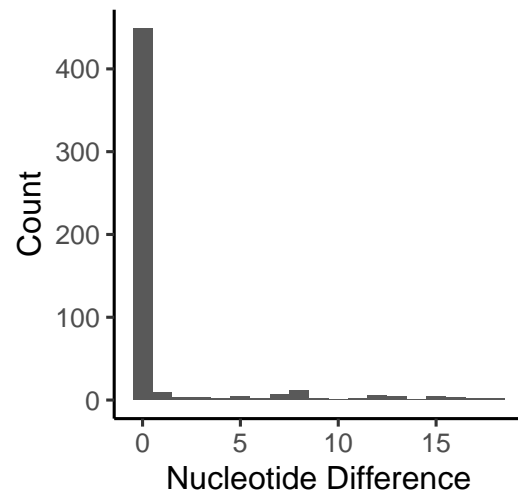
### IGHV1-24\*01

1370 sequences assigned  
1175 (85.8%) exact matches, in which:  
1160 unique CDR3  
7 unique J



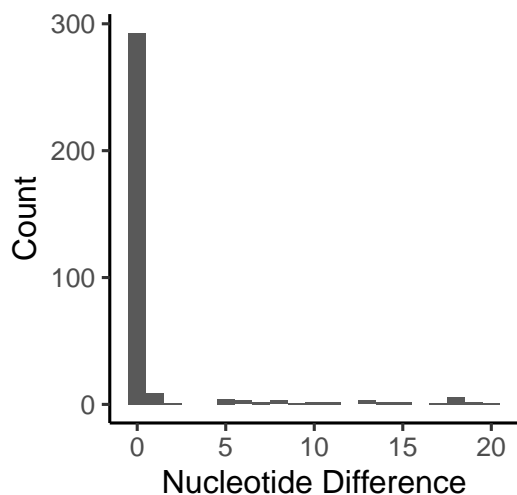
### IGHV1-46\*01

544 sequences assigned  
449 (82.5%) exact matches, in which:  
445 unique CDR3  
7 unique J



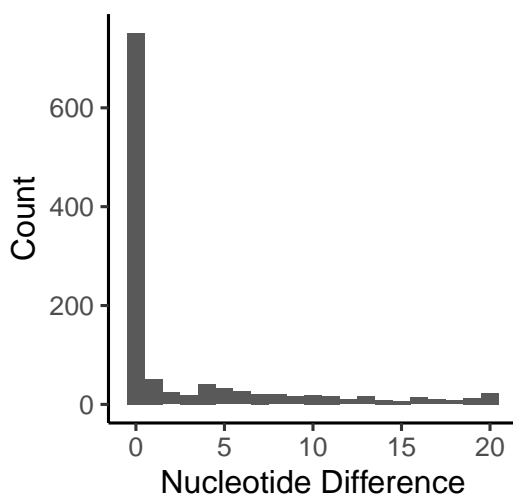
### IGHV1–46\*03

354 sequences assigned  
293 (82.8%) exact matches, in which:  
292 unique CDR3  
5 unique J



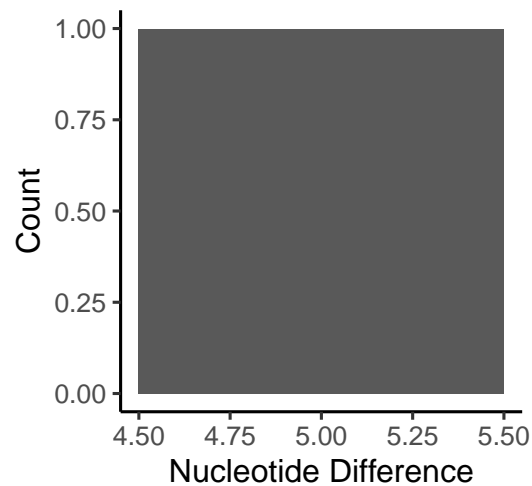
### IGHV2–5\*02

1228 sequences assigned  
752 (61.2%) exact matches, in which:  
746 unique CDR3  
7 unique J



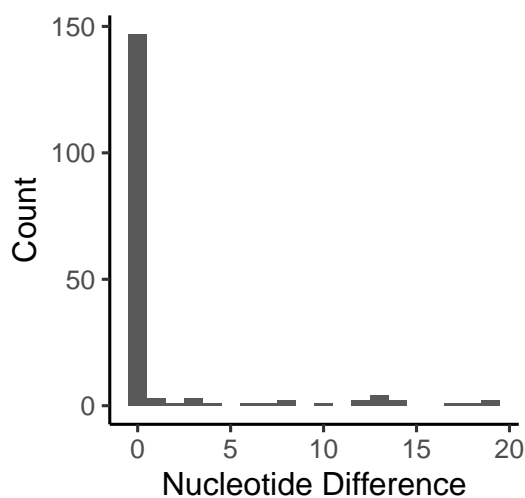
### IGHV2–70D\*14

1 sequences assigned  
No exact matches.



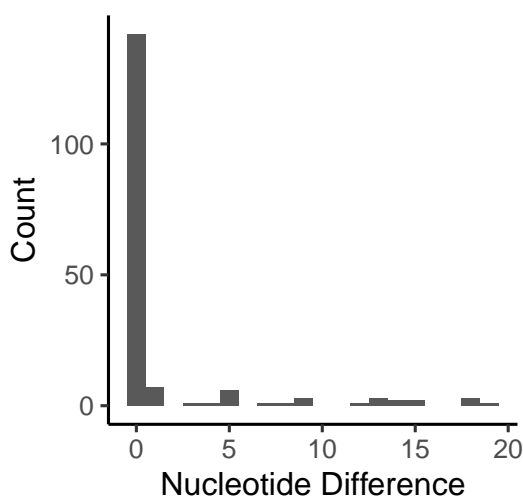
### IGHV1–58\*02

178 sequences assigned  
147 (82.6%) exact matches, in which:  
146 unique CDR3  
6 unique J



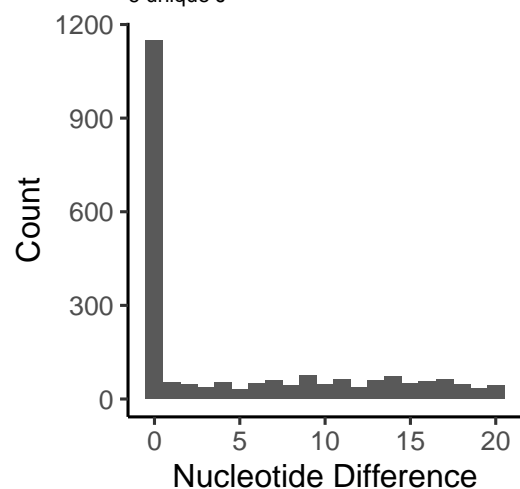
### IGHV2–26\*01

180 sequences assigned  
142 (78.9%) exact matches, in which:  
141 unique CDR3  
7 unique J



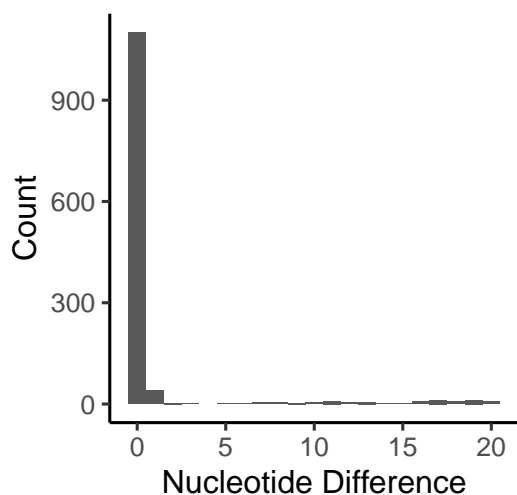
### IGHV3–7\*01

2486 sequences assigned  
1148 (46.2%) exact matches, in which:  
1119 unique CDR3  
6 unique J



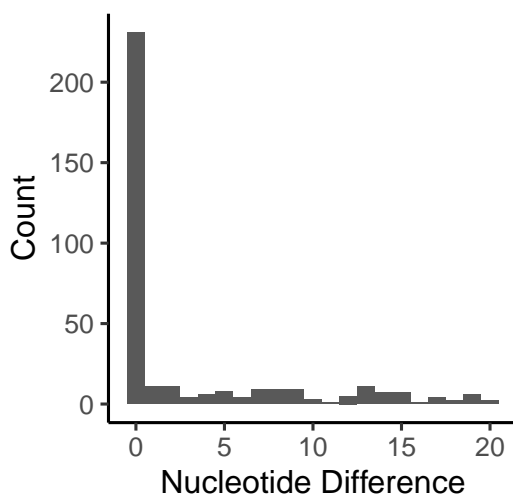
### IGHV1–69\*04\_09

1305 sequences assigned  
1101 (84.4%) exact matches, in which:  
1092 unique CDR3  
7 unique J



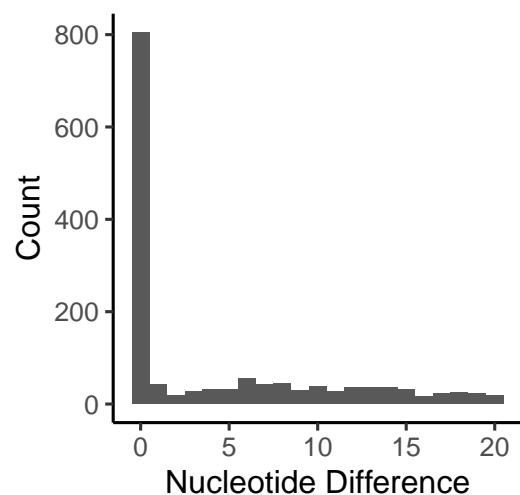
### IGHV2–70\*11\_15

363 sequences assigned  
231 (63.6%) exact matches, in which:  
228 unique CDR3  
6 unique J



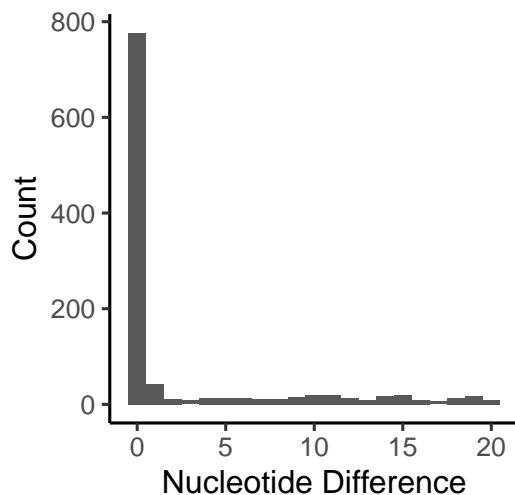
### IGHV3–7\*03

1642 sequences assigned  
805 (49%) exact matches, in which:  
786 unique CDR3  
7 unique J



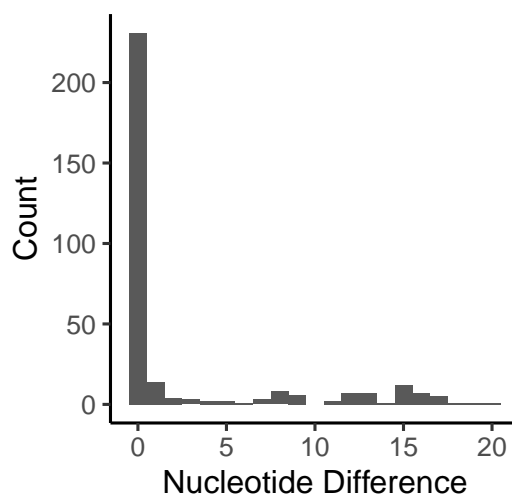
### IGHV3-9\*01

1179 sequences assigned  
777 (65.9%) exact matches, in which:  
766 unique CDR3  
6 unique J



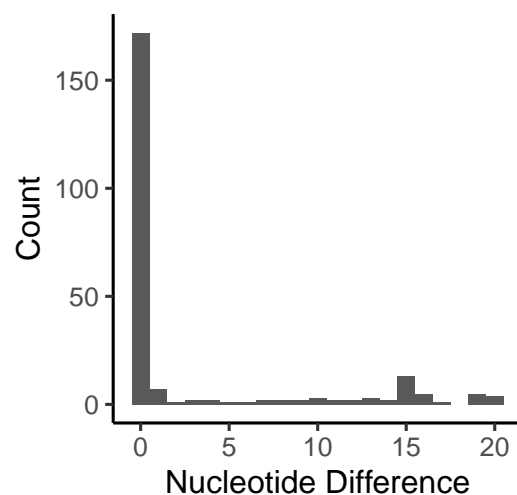
### IGHV3-13\*01

329 sequences assigned  
231 (70.2%) exact matches, in which:  
228 unique CDR3  
6 unique J



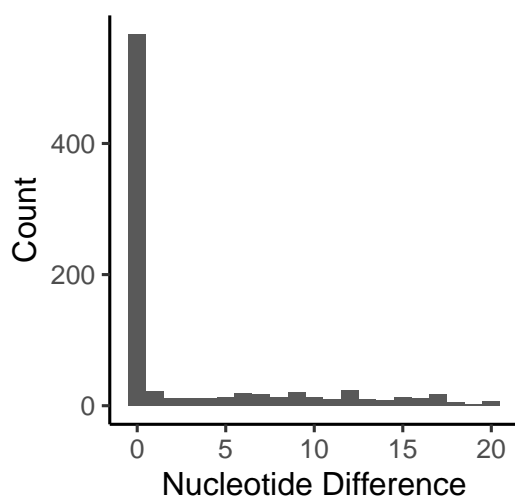
### IGHV3-20\*01\_02

266 sequences assigned  
172 (64.7%) exact matches, in which:  
170 unique CDR3  
6 unique J



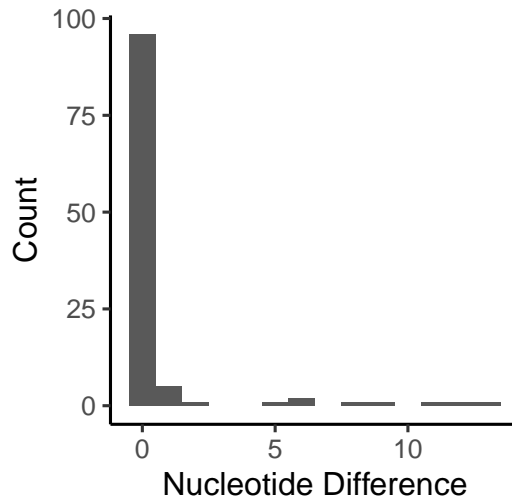
### IGHV3-11\*01

921 sequences assigned  
567 (61.6%) exact matches, in which:  
561 unique CDR3  
7 unique J



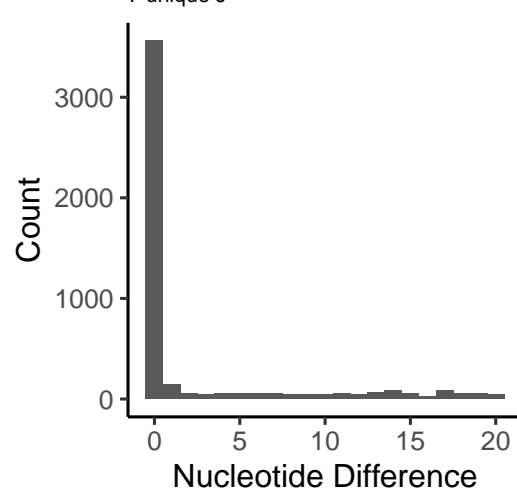
### IGHV3-13\*05

115 sequences assigned  
96 (83.5%) exact matches, in which:  
95 unique CDR3  
5 unique J



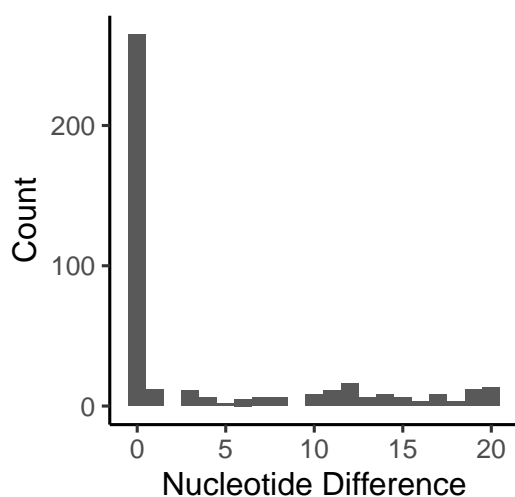
### IGHV3-21\*01\_02

5099 sequences assigned  
3562 (69.9%) exact matches, in which:  
3500 unique CDR3  
7 unique J



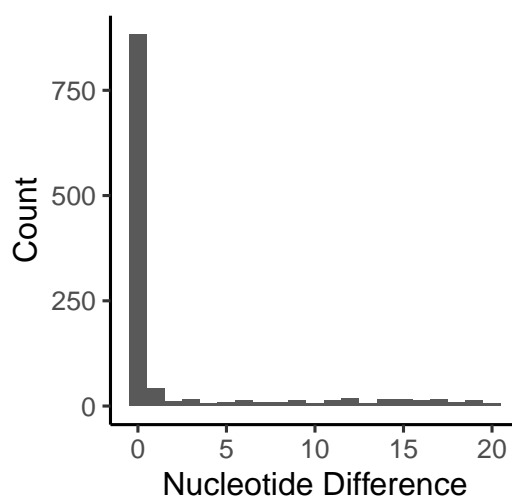
### IGHV3-11\*06

464 sequences assigned  
265 (57.1%) exact matches, in which:  
254 unique CDR3  
7 unique J



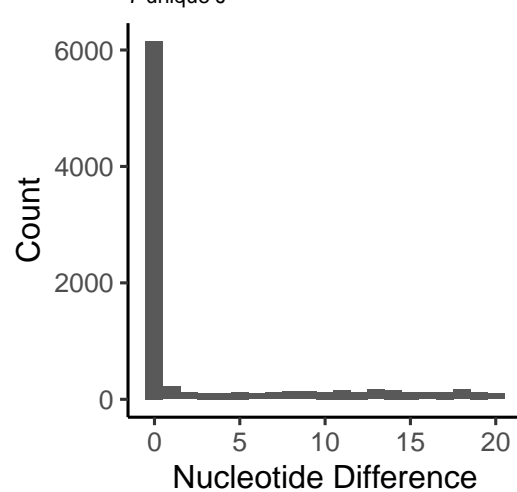
### IGHV3-15\*01\_02

1221 sequences assigned  
883 (72.3%) exact matches, in which:  
869 unique CDR3  
7 unique J



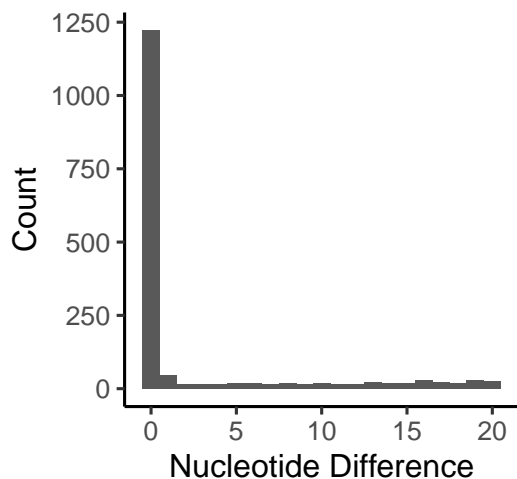
### IGHV3-23\*01\_04

9769 sequences assigned  
6154 (63%) exact matches, in which:  
6042 unique CDR3  
7 unique J



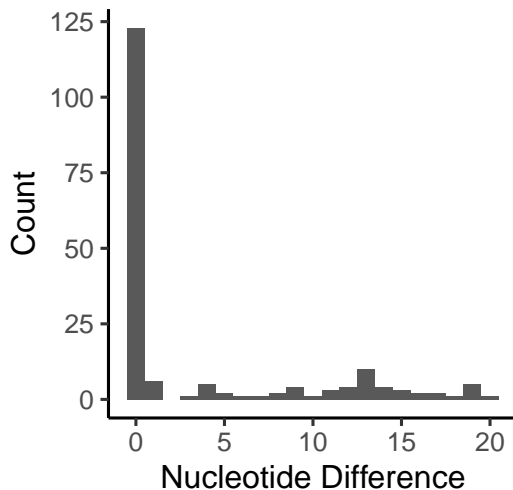
### IGHV3–30–3\*01

1886 sequences assigned  
1222 (64.8%) exact matches, in which:  
1201 unique CDR3  
7 unique J



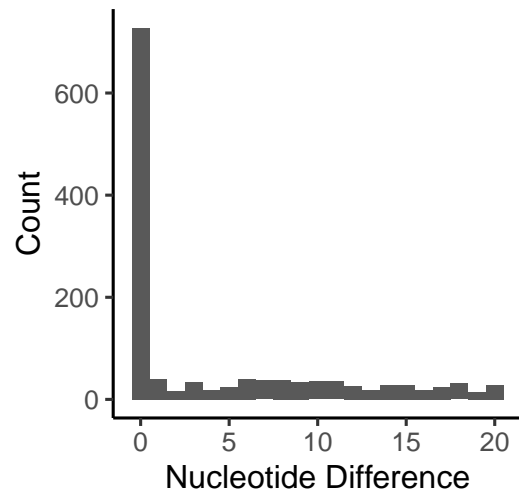
### IGHV3–43\*01

192 sequences assigned  
123 (64.1%) exact matches, in which:  
118 unique CDR3  
5 unique J



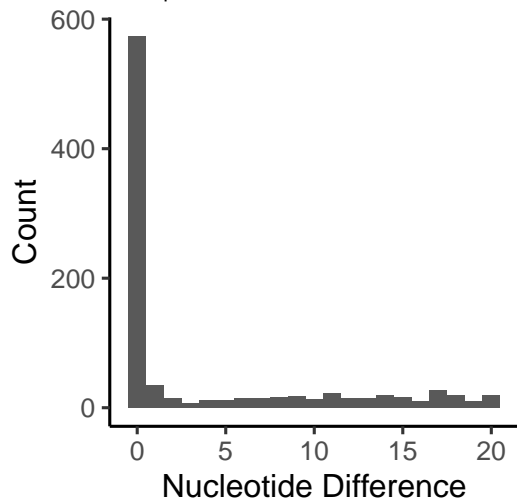
### IGHV3–48\*03

1466 sequences assigned  
728 (49.7%) exact matches, in which:  
717 unique CDR3  
7 unique J



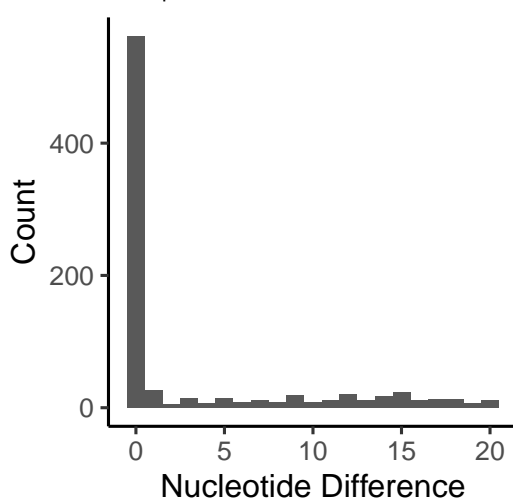
### IGHV3–30\*18

1058 sequences assigned  
574 (54.3%) exact matches, in which:  
562 unique CDR3  
6 unique J



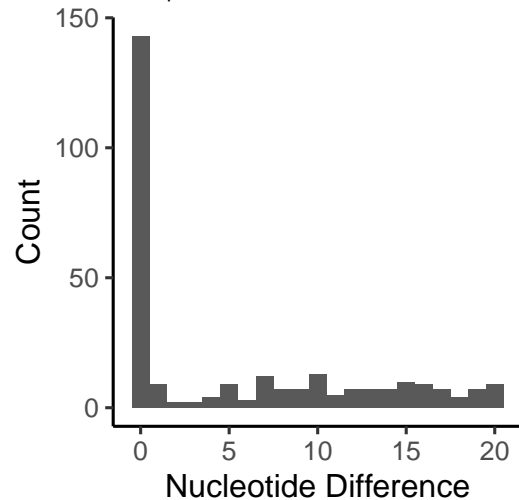
### IGHV3–43\*02

894 sequences assigned  
562 (62.9%) exact matches, in which:  
548 unique CDR3  
6 unique J



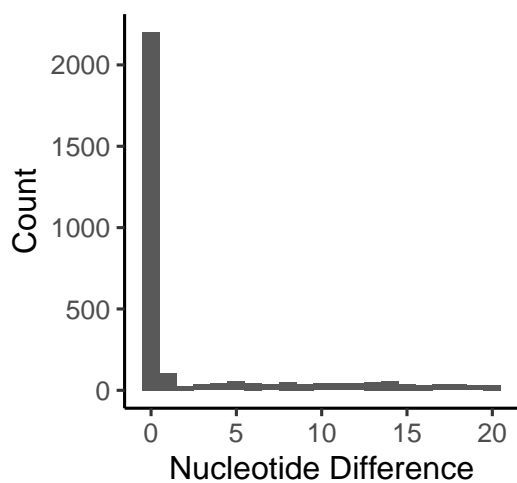
### IGHV3–49\*04

383 sequences assigned  
143 (37.3%) exact matches, in which:  
141 unique CDR3  
5 unique J



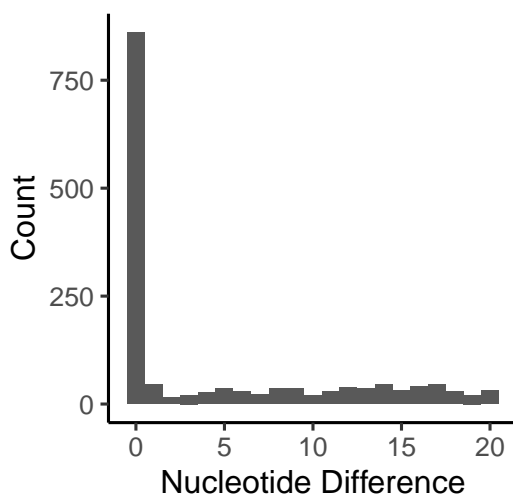
### IGHV3–33\*01

3280 sequences assigned  
2202 (67.1%) exact matches, in which:  
2149 unique CDR3  
7 unique J



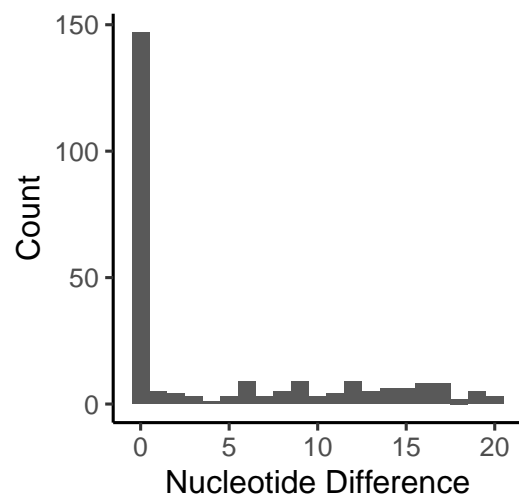
### IGHV3–48\*01

1669 sequences assigned  
861 (51.6%) exact matches, in which:  
846 unique CDR3  
7 unique J



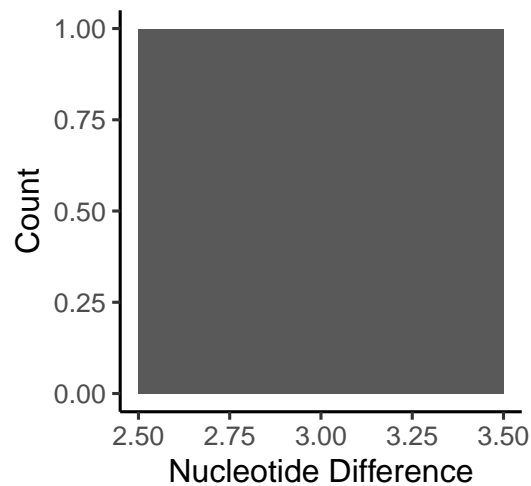
### IGHV3–49\*03\_05

275 sequences assigned  
147 (53.5%) exact matches, in which:  
144 unique CDR3  
4 unique J



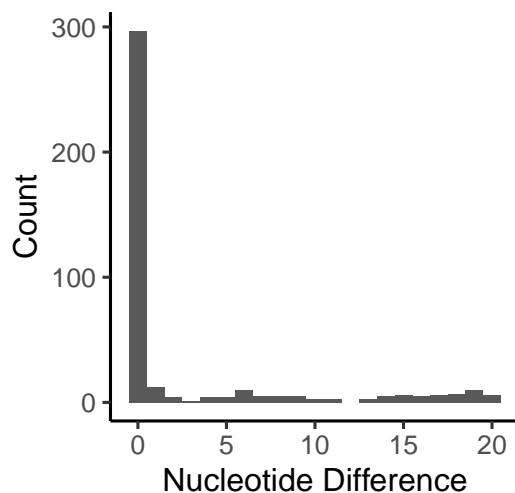
### IGHV3-52\*01\_03

1 sequences assigned  
No exact matches.



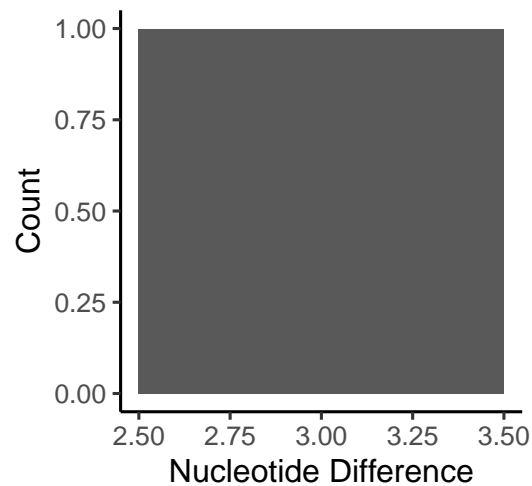
### IGHV3-64\*01

451 sequences assigned  
297 (65.9%) exact matches, in which:  
292 unique CDR3  
7 unique J



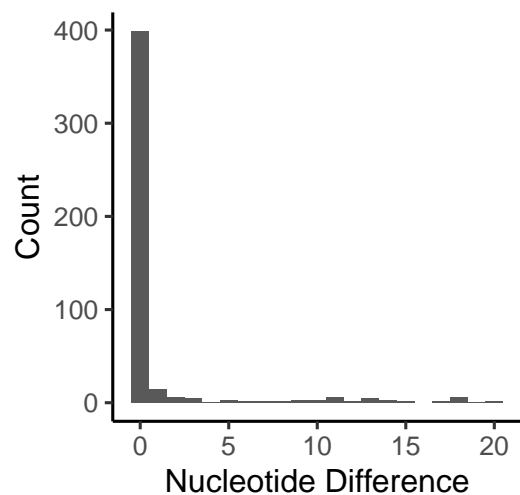
### IGHV3-69-1\*01

5 sequences assigned  
No exact matches.



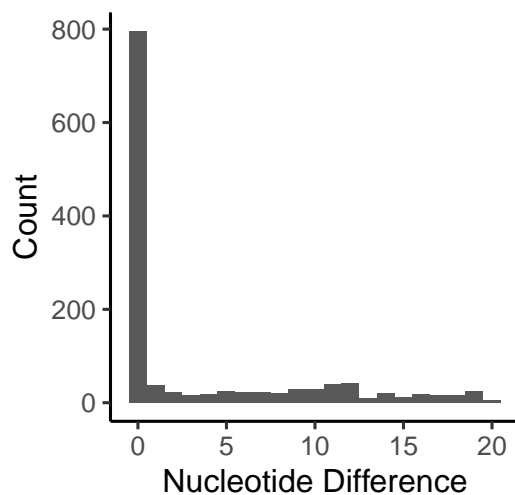
### IGHV3-53\*04

485 sequences assigned  
399 (82.3%) exact matches, in which:  
394 unique CDR3  
7 unique J



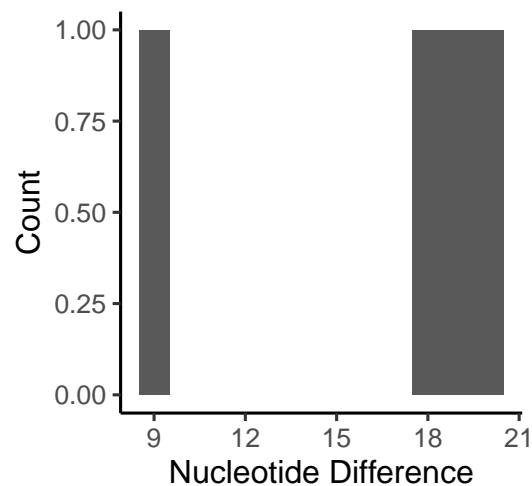
### IGHV3-66\*01

1315 sequences assigned  
796 (60.5%) exact matches, in which:  
773 unique CDR3  
7 unique J



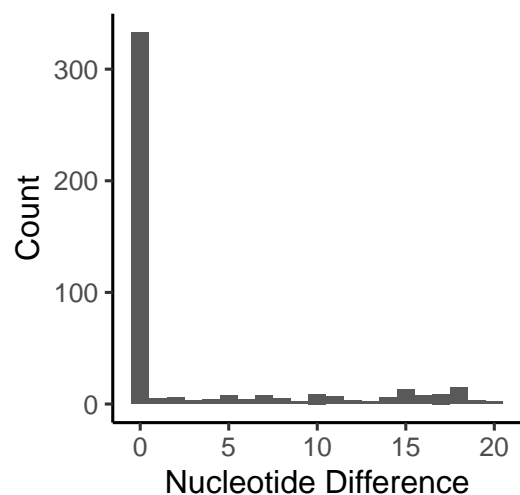
### IGHV3-69-1\*02

5 sequences assigned  
No exact matches.



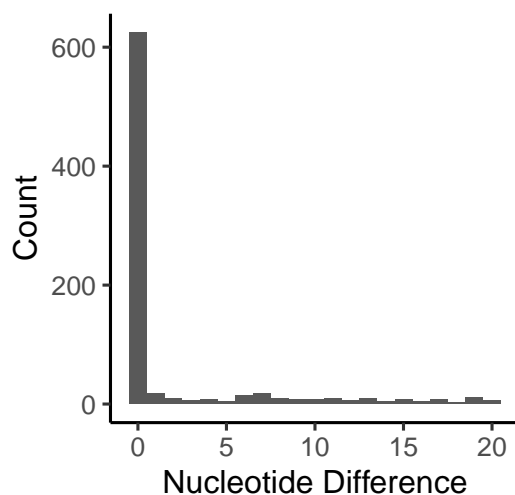
### IGHV3-53\*01\_02

522 sequences assigned  
333 (63.8%) exact matches, in which:  
328 unique CDR3  
6 unique J



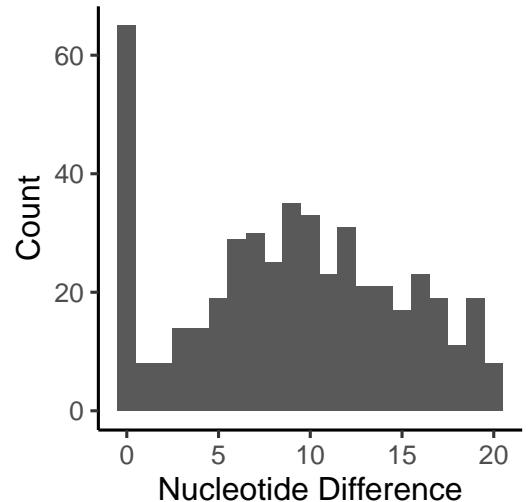
### IGHV3-66\*02

891 sequences assigned  
625 (70.1%) exact matches, in which:  
619 unique CDR3  
7 unique J



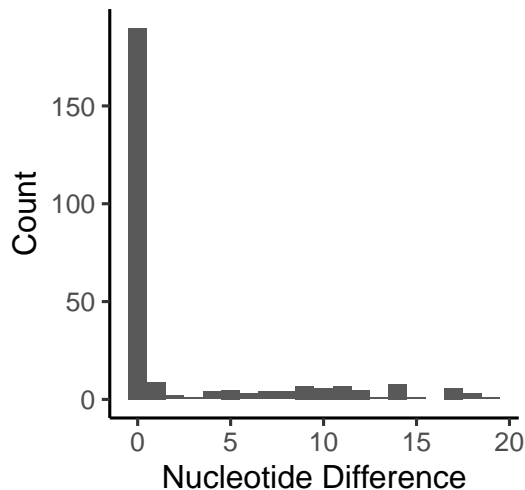
### IGHV3-72\*01

529 sequences assigned  
65 (12.3%) exact matches, in which:  
63 unique CDR3  
7 unique J



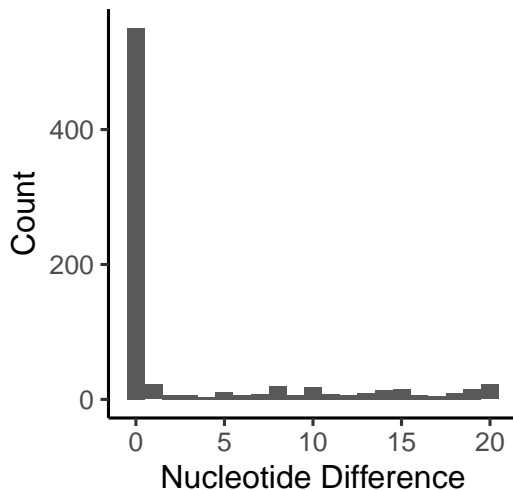
### IGHV3–73\*01\_02

291 sequences assigned  
190 (65.3%) exact matches, in which:  
188 unique CDR3  
6 unique J



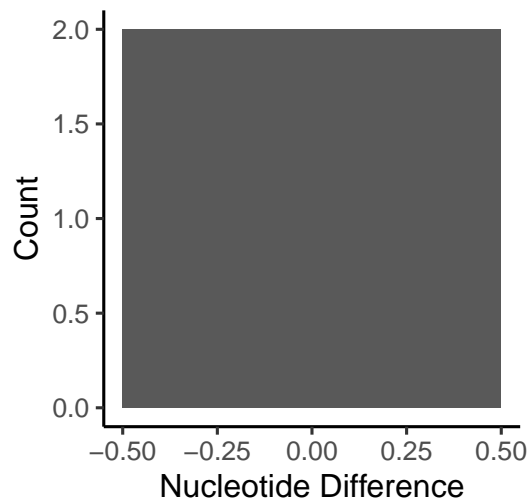
### IGHV3–64D\*09

913 sequences assigned  
551 (60.4%) exact matches, in which:  
539 unique CDR3  
6 unique J



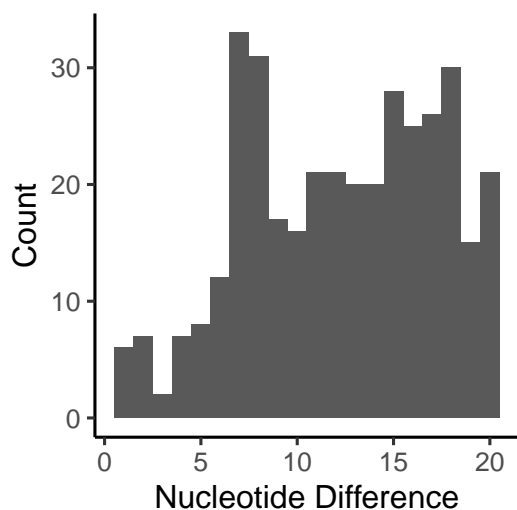
### IGHV4–28\*03

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



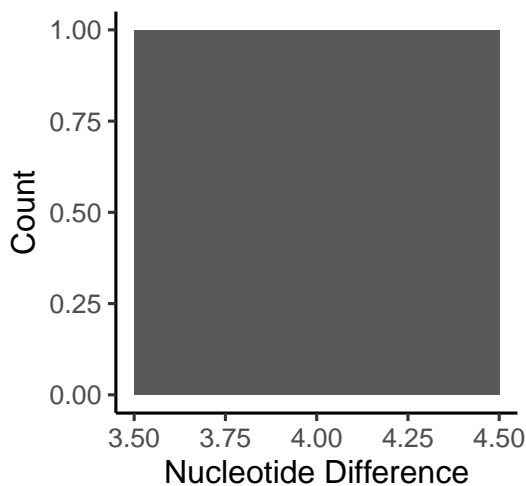
### IGHV3–74\*03

593 sequences assigned  
No exact matches.



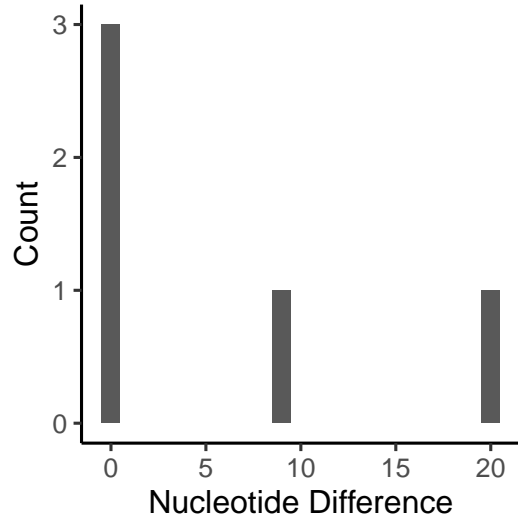
### IGHV3–NL1\*01

1 sequences assigned  
No exact matches.



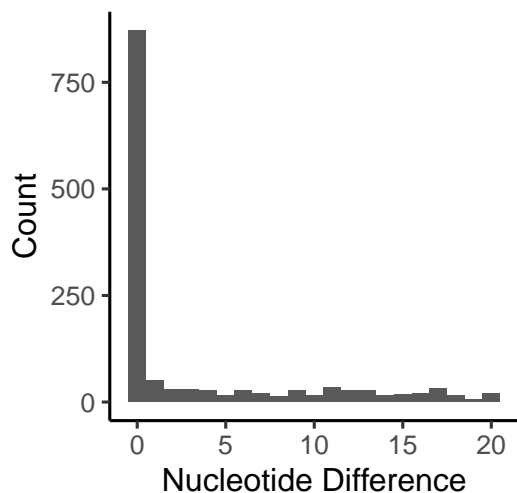
### IGHV4–28\*01\_07

5 sequences assigned  
3 (60%) exact matches, in which:  
3 unique CDR3  
3 unique J



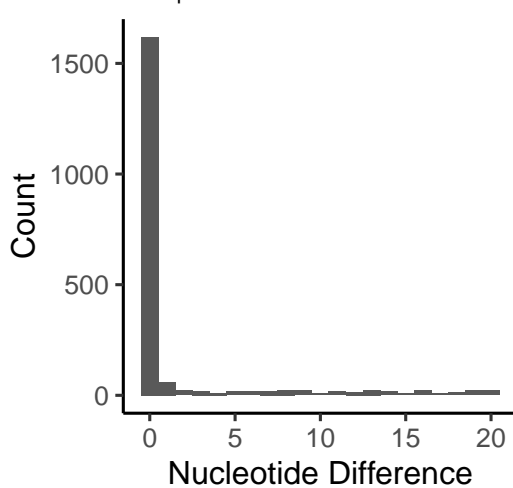
### IGHV3–74\*01\_02

1437 sequences assigned  
872 (60.7%) exact matches, in which:  
840 unique CDR3  
7 unique J



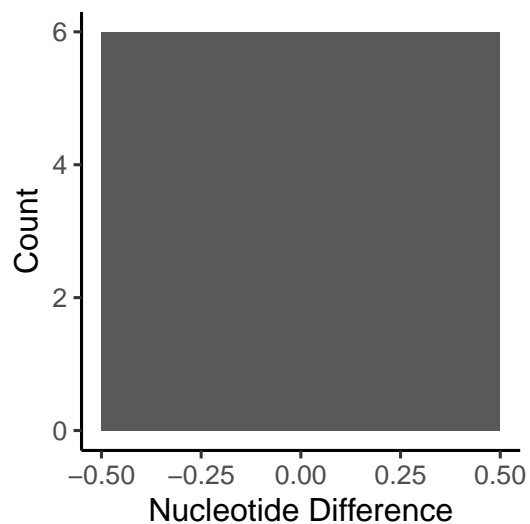
### IGHV4–4\*02\_03

2243 sequences assigned  
1619 (72.2%) exact matches, in which:  
1590 unique CDR3  
7 unique J



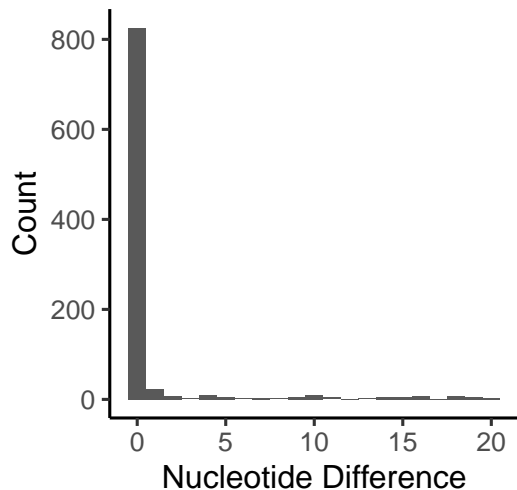
### IGHV4–28\*02\_05

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



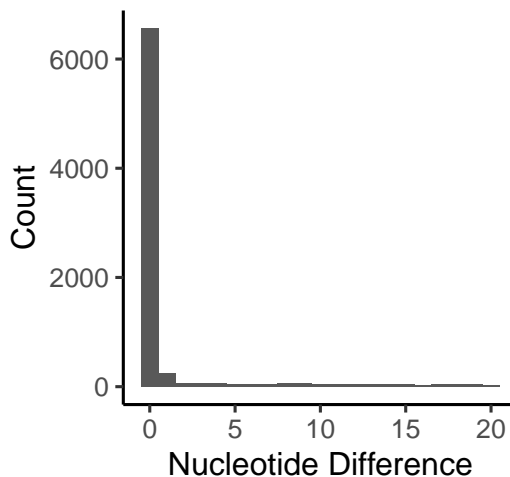
### IGHV4-30-2\*01

974 sequences assigned  
826 (84.8%) exact matches, in which:  
804 unique CDR3  
6 unique J



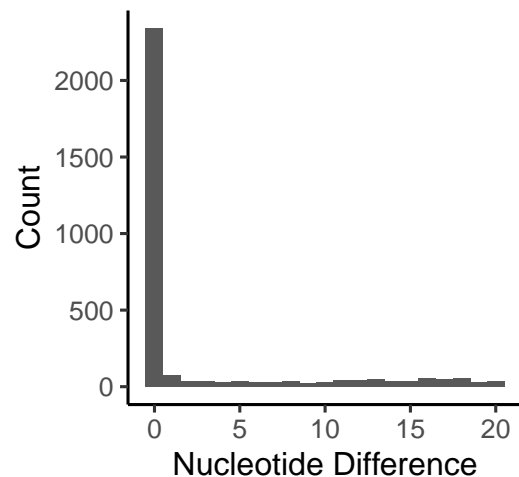
### IGHV4-34\*01\_02

8054 sequences assigned  
6561 (81.5%) exact matches, in which:  
6415 unique CDR3  
7 unique J



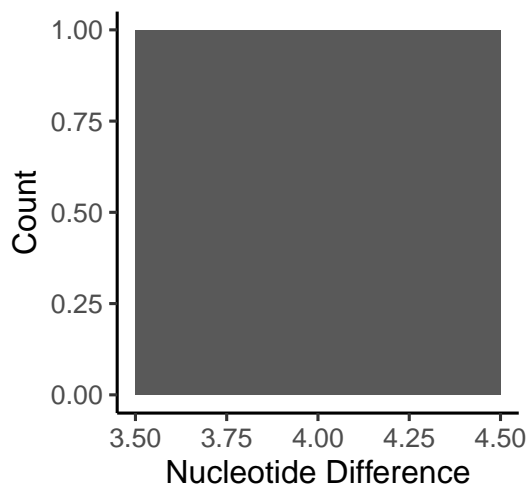
### IGHV4-61\*02

3516 sequences assigned  
2340 (66.6%) exact matches, in which:  
2315 unique CDR3  
7 unique J



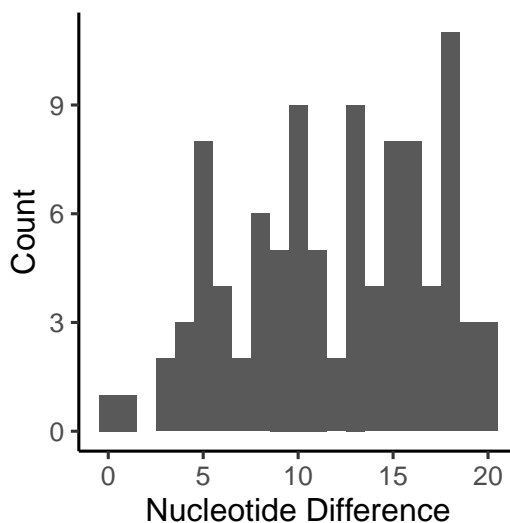
### IGHV4-30-4\*08

1 sequences assigned  
No exact matches.



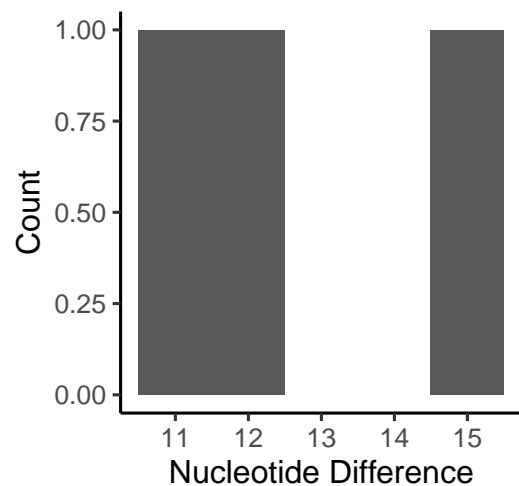
### IGHV4-39\*02

148 sequences assigned  
1 (0.7%) exact matches, in which:  
1 unique CDR3  
1 unique J



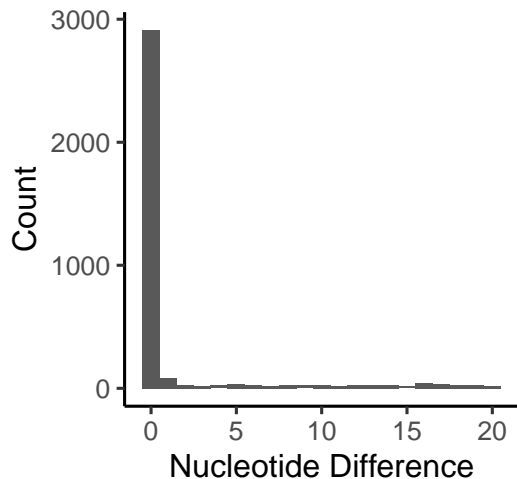
### IGHV4/OR15-8\*01

6 sequences assigned  
No exact matches.



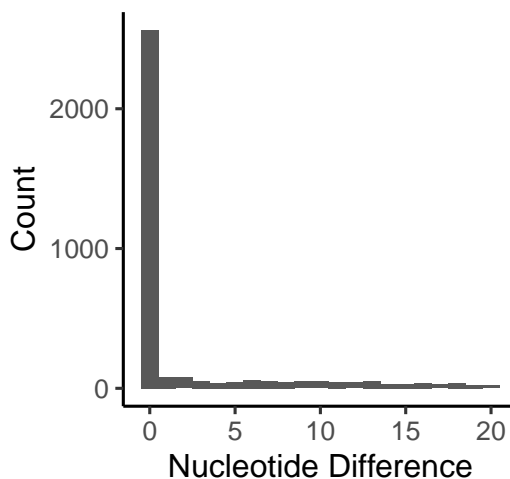
### IGHV4-31\*02

3740 sequences assigned  
2912 (77.9%) exact matches, in which:  
2883 unique CDR3  
7 unique J



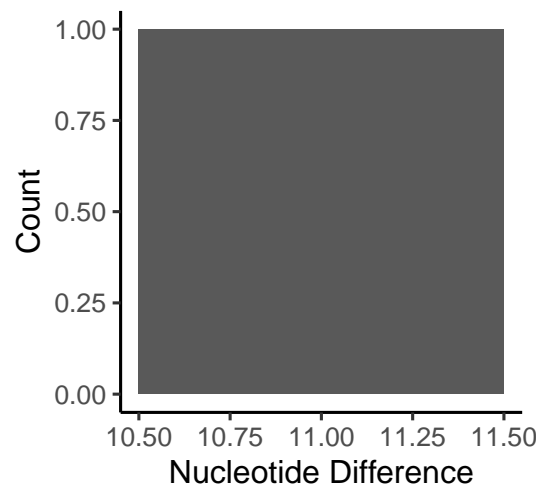
### IGHV4-59\*08

3824 sequences assigned  
2563 (67%) exact matches, in which:  
2519 unique CDR3  
7 unique J



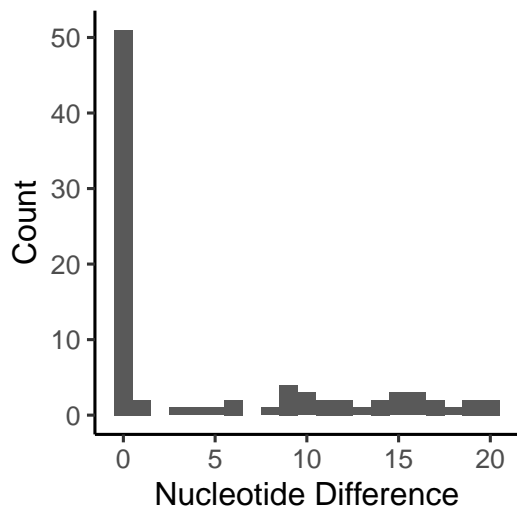
### IGHV4/OR15-8\*02

11 sequences assigned  
No exact matches.



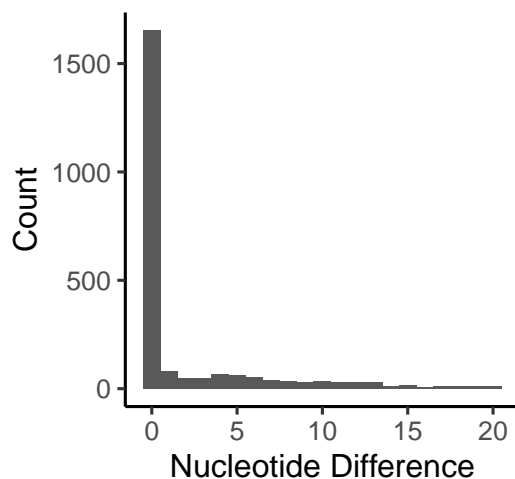
## IGHV5-10-1\*01\_03

102 sequences assigned  
51 (50%) exact matches, in which:  
50 unique CDR3  
4 unique J



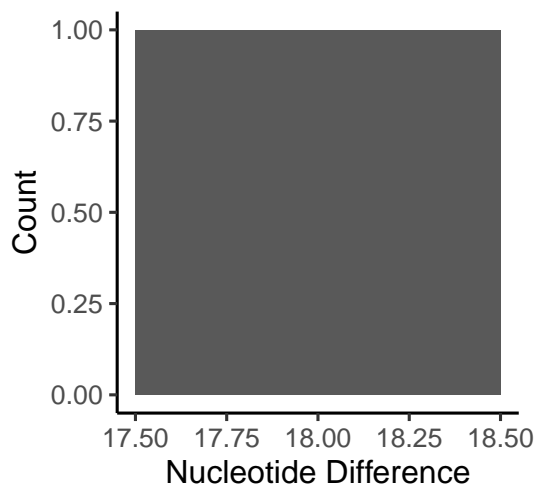
## IGHV6-1\*01\_02

2361 sequences assigned  
1653 (70%) exact matches, in which:  
1632 unique CDR3  
7 unique J



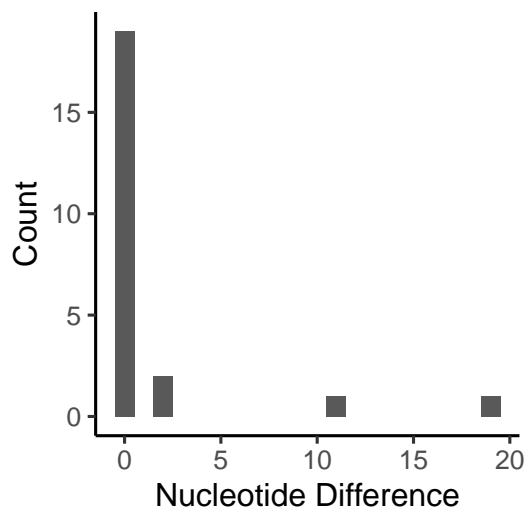
## IGHV5-51\*04

1 sequences assigned  
No exact matches.



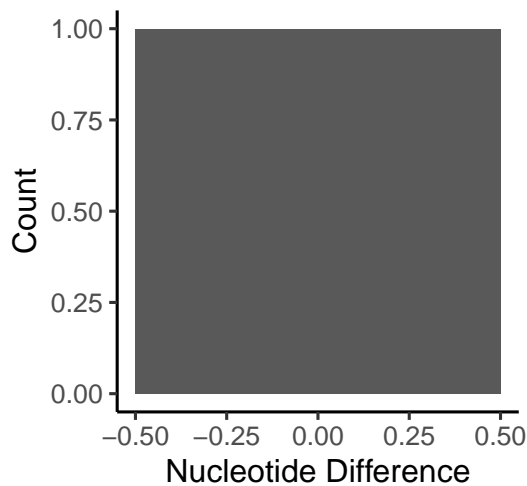
## IGHV7-4-1\*01

24 sequences assigned  
19 (79.2%) exact matches, in which:  
19 unique CDR3  
5 unique J



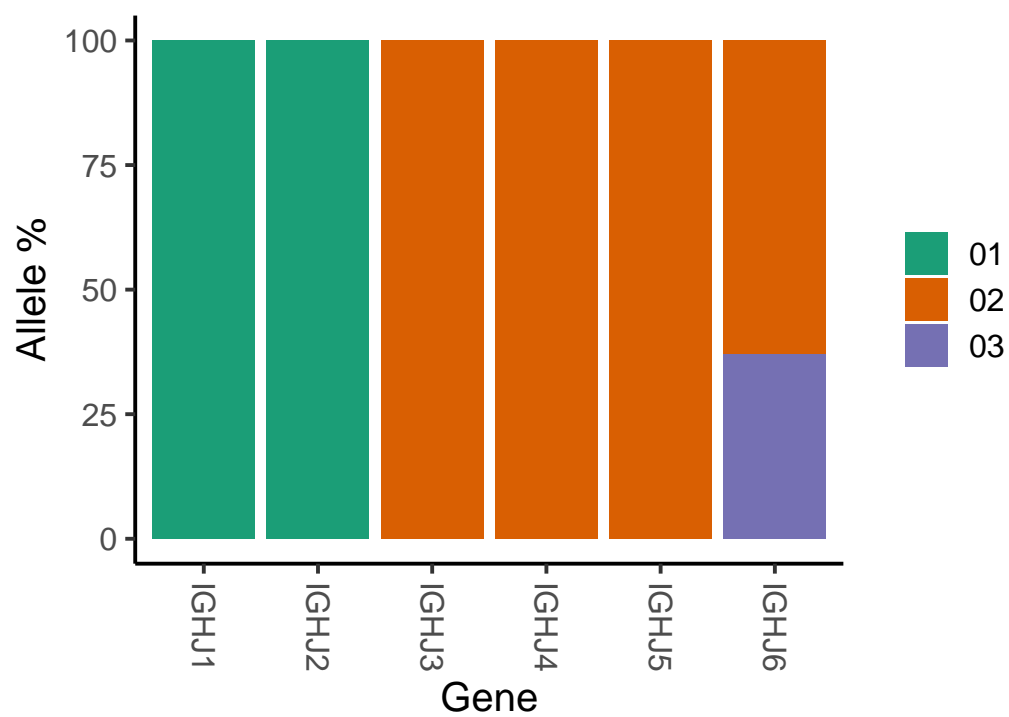
## IGHV5-51\*01\_03

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

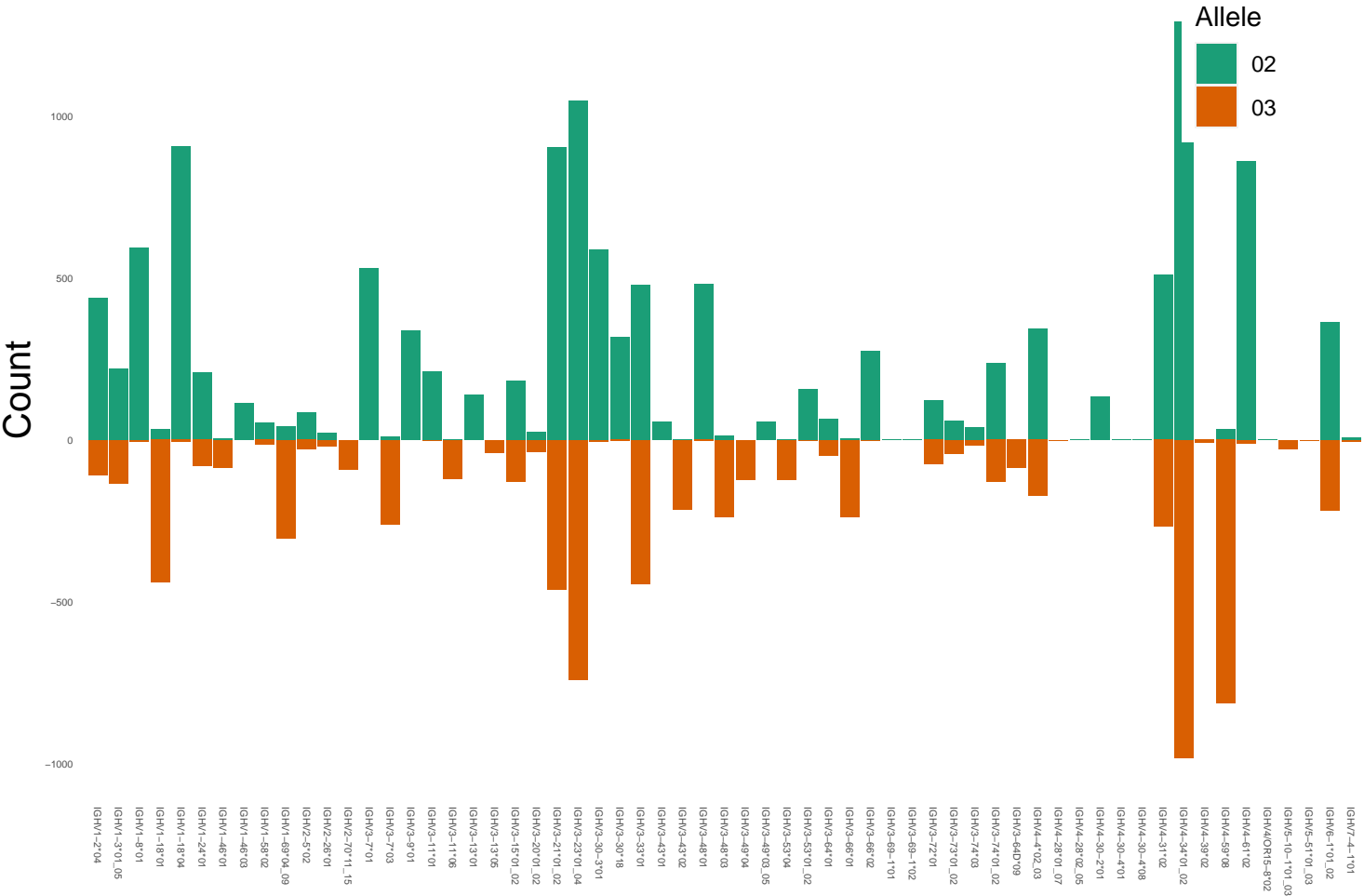




Allele Usage



Sequence Count by IGHJ6 allele usage



Warning – no inferred sequences found.