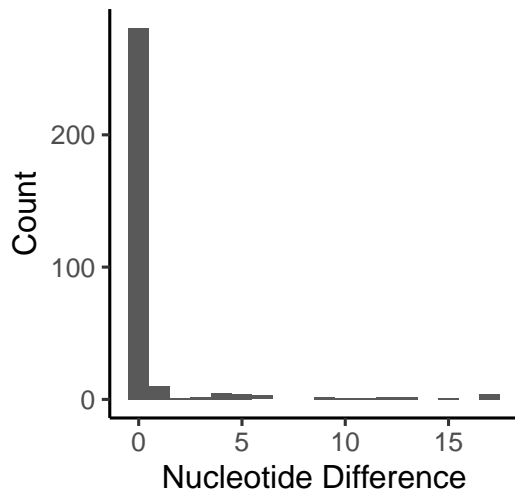


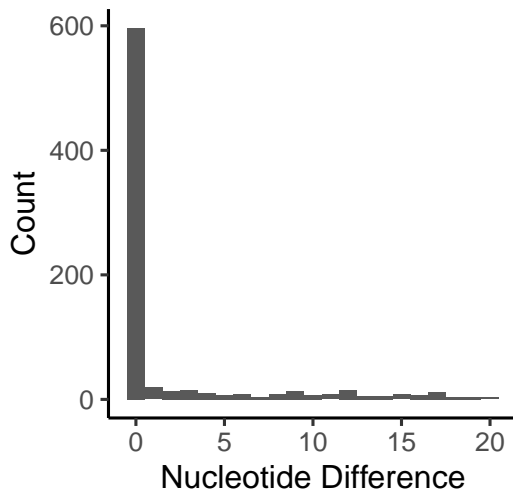
### IGHV1–2\*04

321 sequences assigned  
281 (87.5%) exact matches, in which:  
280 unique CDR3  
7 unique J



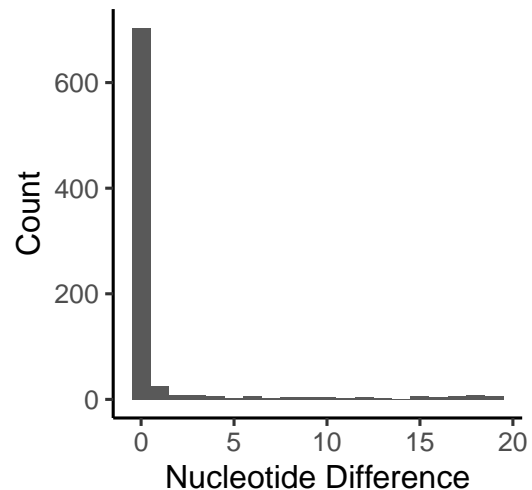
### IGHV1–8\*01

795 sequences assigned  
597 (75.1%) exact matches, in which:  
597 unique CDR3  
6 unique J



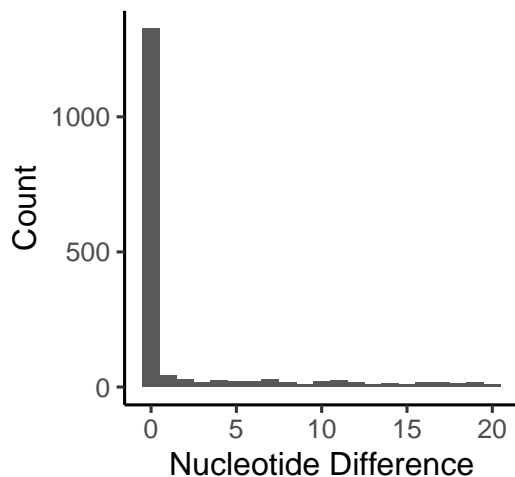
### IGHV1–24\*01

839 sequences assigned  
704 (83.9%) exact matches, in which:  
700 unique CDR3  
7 unique J



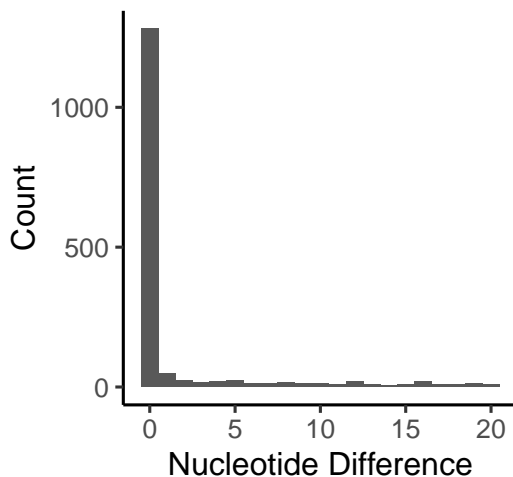
### IGHV1–2\*06

1799 sequences assigned  
1326 (73.7%) exact matches, in which:  
1323 unique CDR3  
7 unique J



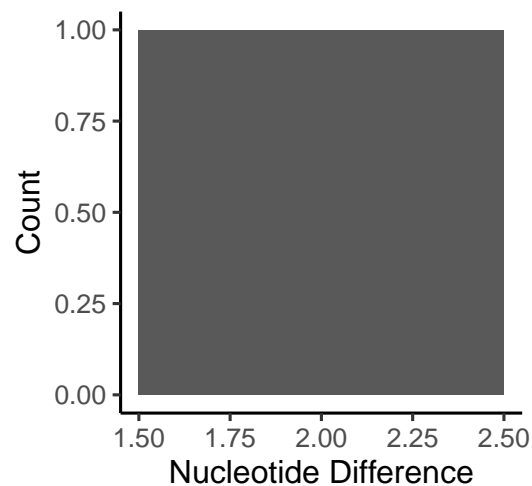
### IGHV1–18\*01

1667 sequences assigned  
1281 (76.8%) exact matches, in which:  
1275 unique CDR3  
7 unique J



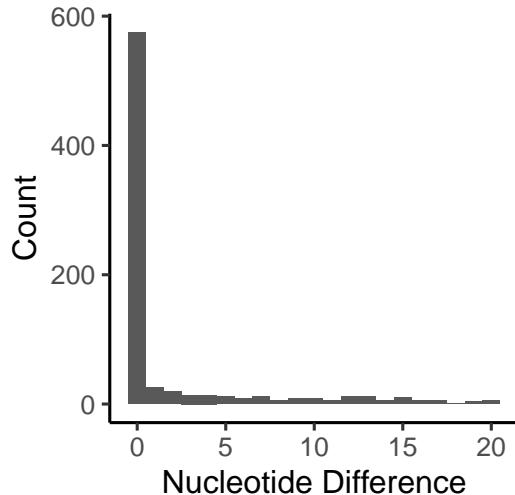
### IGHV1–38–4\*01

1 sequences assigned  
No exact matches.



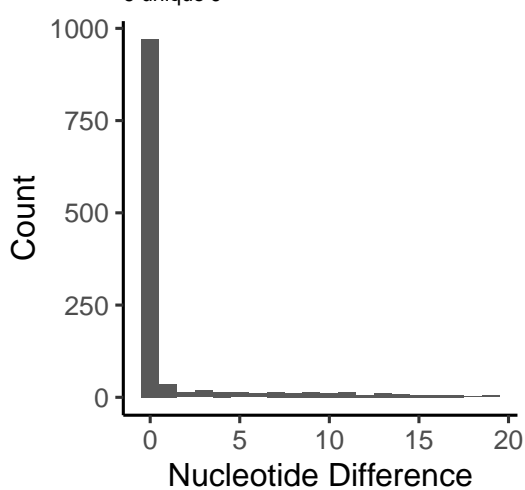
### IGHV1–3\*01\_05

821 sequences assigned  
575 (70%) exact matches, in which:  
574 unique CDR3  
7 unique J



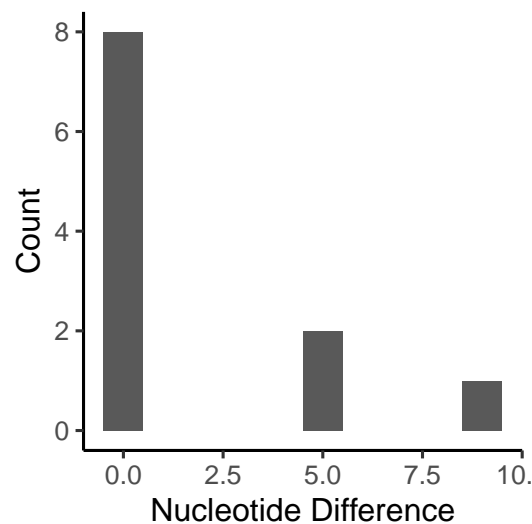
### IGHV1–18\*04

1256 sequences assigned  
971 (77.3%) exact matches, in which:  
968 unique CDR3  
6 unique J



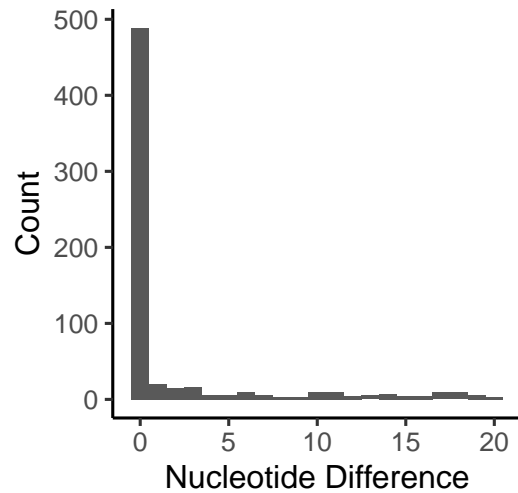
### IGHV1–45\*02

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



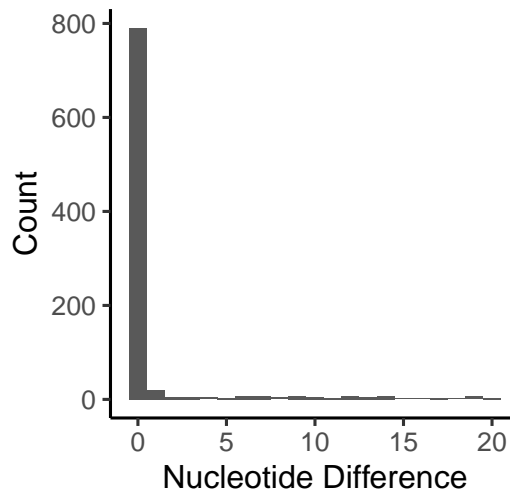
### IGHV1–46\*03

687 sequences assigned  
489 (71.2%) exact matches, in which:  
488 unique CDR3  
7 unique J



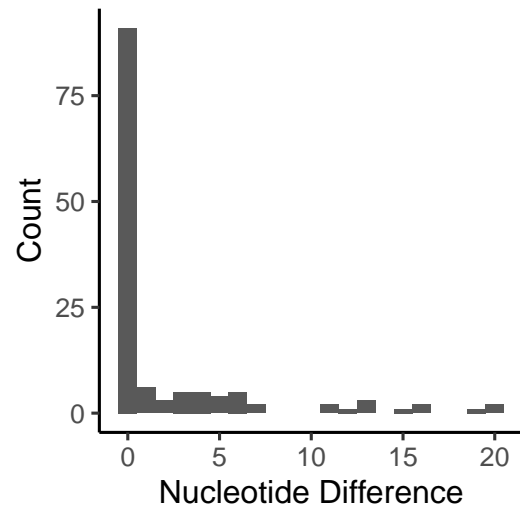
### IGHV1–69\*04\_09

937 sequences assigned  
791 (84.4%) exact matches, in which:  
791 unique CDR3  
7 unique J



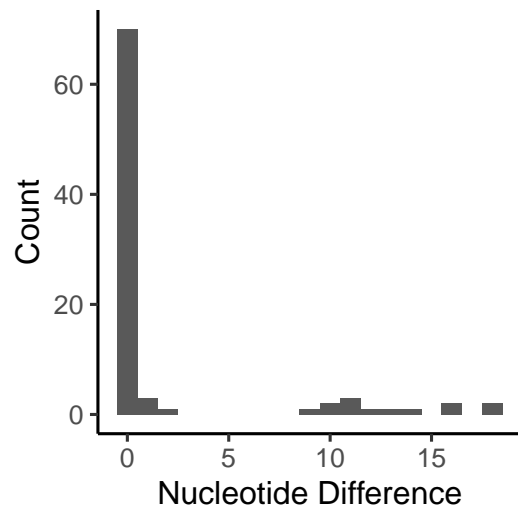
### IGHV2–70\*01

137 sequences assigned  
91 (66.4%) exact matches, in which:  
91 unique CDR3  
5 unique J



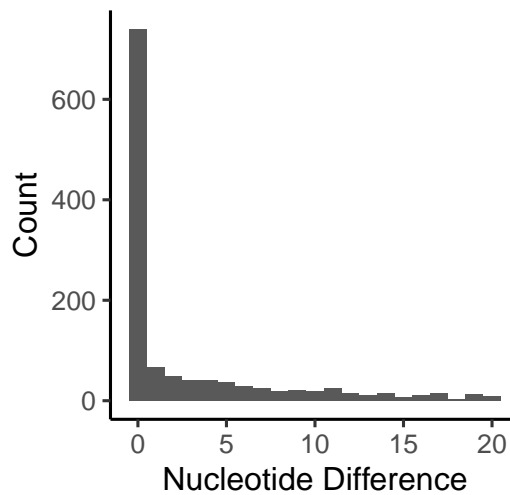
### IGHV1–58\*02

90 sequences assigned  
70 (77.8%) exact matches, in which:  
70 unique CDR3  
6 unique J



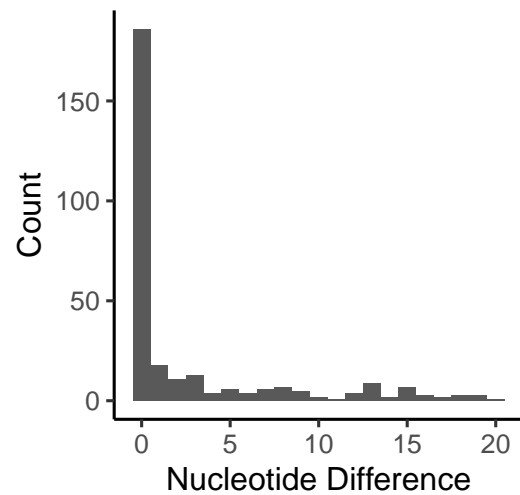
### IGHV2–5\*02

1256 sequences assigned  
740 (58.9%) exact matches, in which:  
737 unique CDR3  
7 unique J



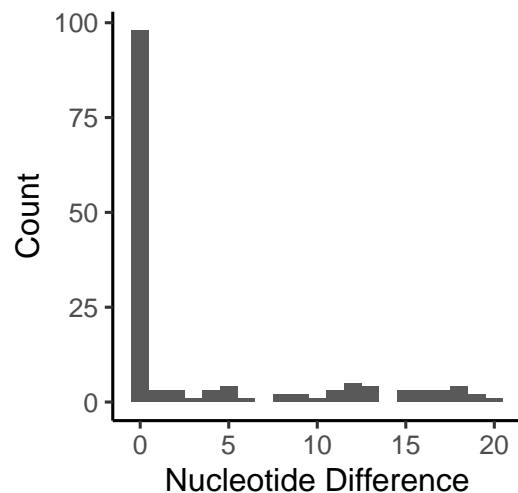
### IGHV2–70\*11\_15

310 sequences assigned  
186 (60%) exact matches, in which:  
185 unique CDR3  
6 unique J



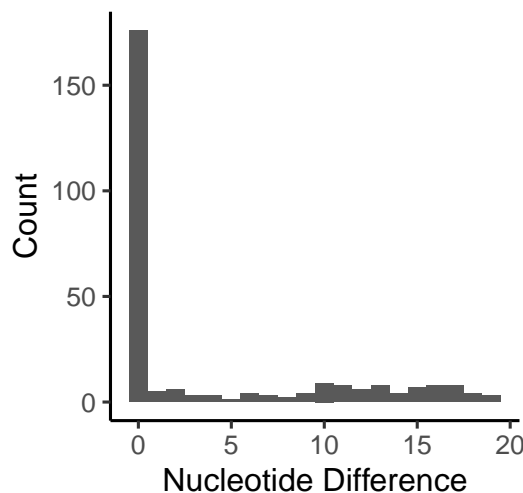
### IGHV1–58\*01\_03

182 sequences assigned  
98 (53.8%) exact matches, in which:  
98 unique CDR3  
6 unique J



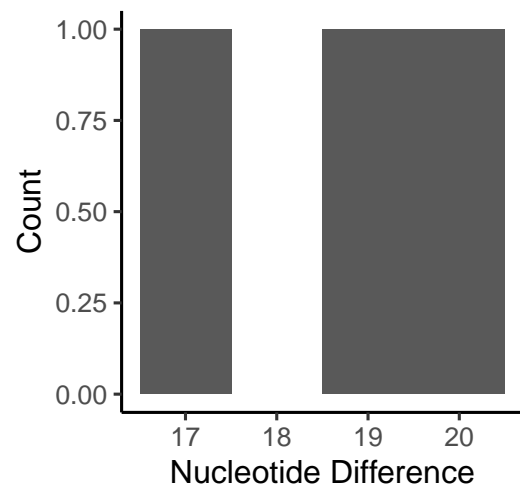
### IGHV2–26\*01

286 sequences assigned  
176 (61.5%) exact matches, in which:  
176 unique CDR3  
7 unique J



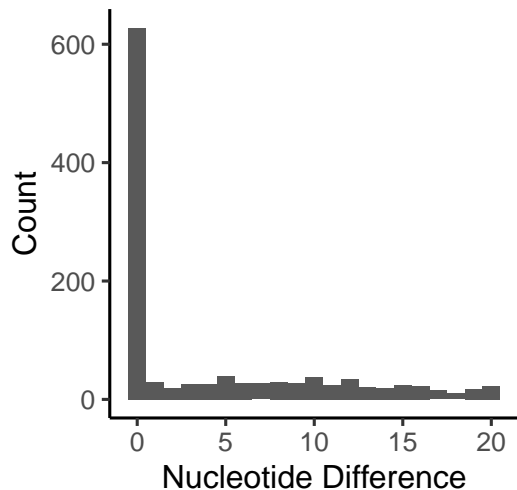
### IGHV2–70D\*04

3 sequences assigned  
No exact matches.



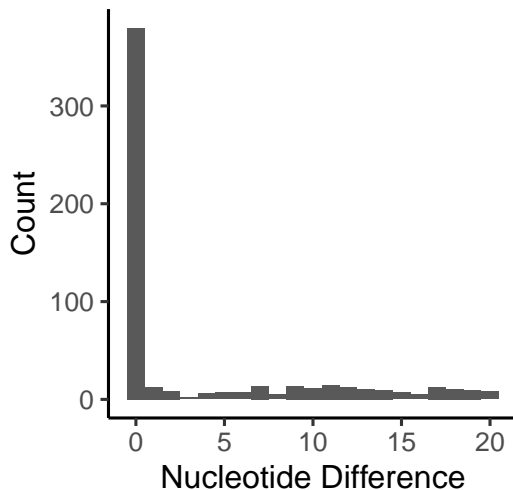
### IGHV3-7\*01

1246 sequences assigned  
628 (50.4%) exact matches, in which:  
598 unique CDR3  
7 unique J



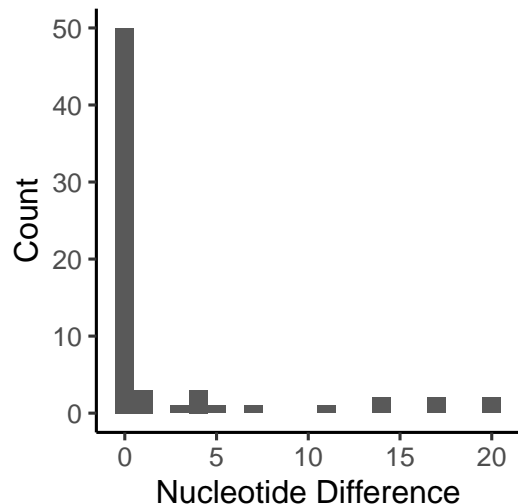
### IGHV3-11\*01

622 sequences assigned  
380 (61.1%) exact matches, in which:  
371 unique CDR3  
6 unique J



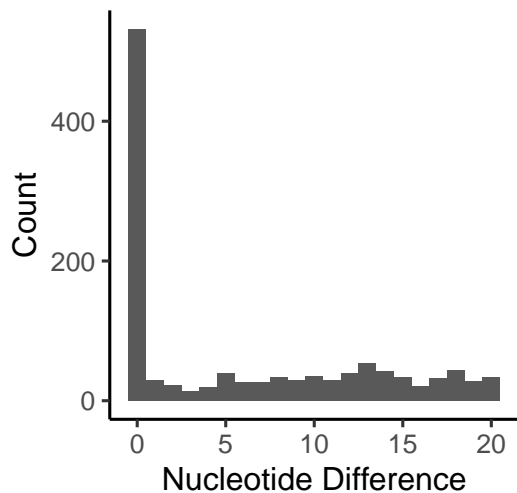
### IGHV3-13\*05

75 sequences assigned  
50 (66.7%) exact matches, in which:  
49 unique CDR3  
4 unique J



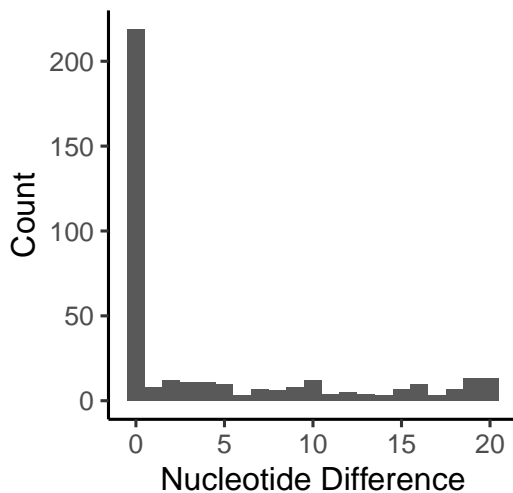
### IGHV3-7\*03

1333 sequences assigned  
532 (39.9%) exact matches, in which:  
513 unique CDR3  
7 unique J



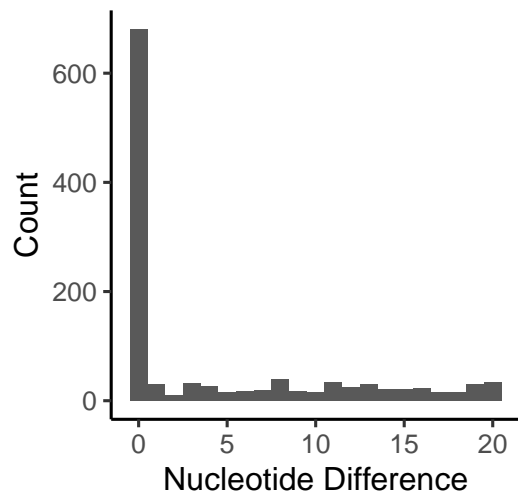
### IGHV3-11\*06

419 sequences assigned  
219 (52.3%) exact matches, in which:  
213 unique CDR3  
7 unique J



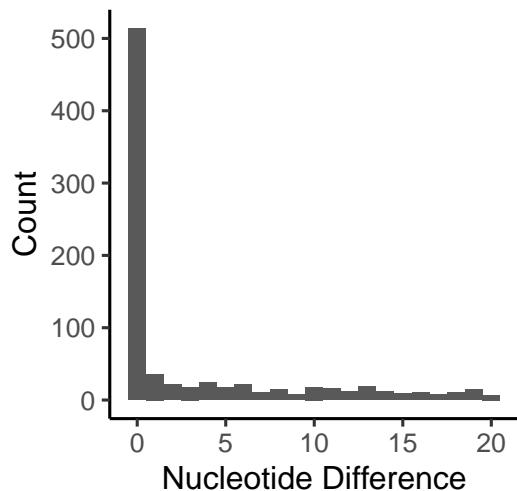
### IGHV3-15\*01\_02

1283 sequences assigned  
681 (53.1%) exact matches, in which:  
666 unique CDR3  
7 unique J



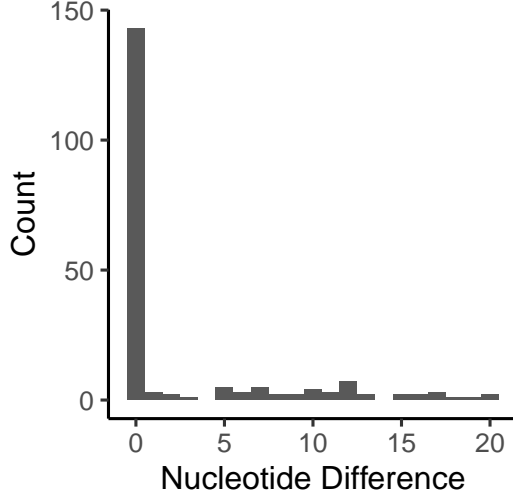
### IGHV3-9\*01

866 sequences assigned  
514 (59.4%) exact matches, in which:  
505 unique CDR3  
7 unique J



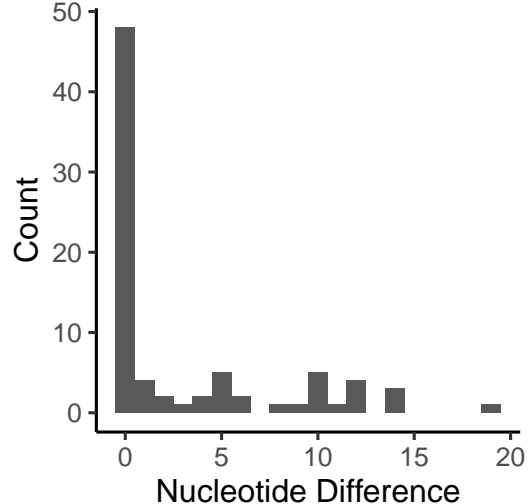
### IGHV3-13\*01

200 sequences assigned  
143 (71.5%) exact matches, in which:  
140 unique CDR3  
7 unique J



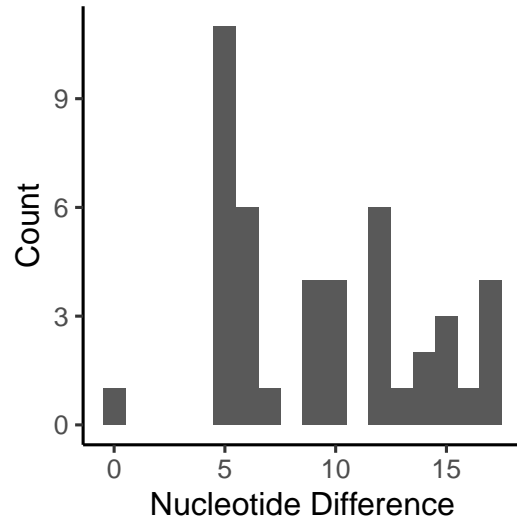
### IGHV3-20\*01\_02

81 sequences assigned  
48 (59.3%) exact matches, in which:  
48 unique CDR3  
5 unique J



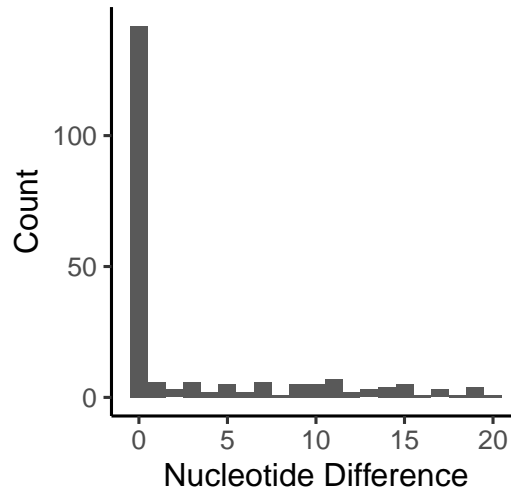
### IGHV3–20\*03\_04

61 sequences assigned  
1 (1.6%) exact matches, in which:  
1 unique CDR3  
1 unique J



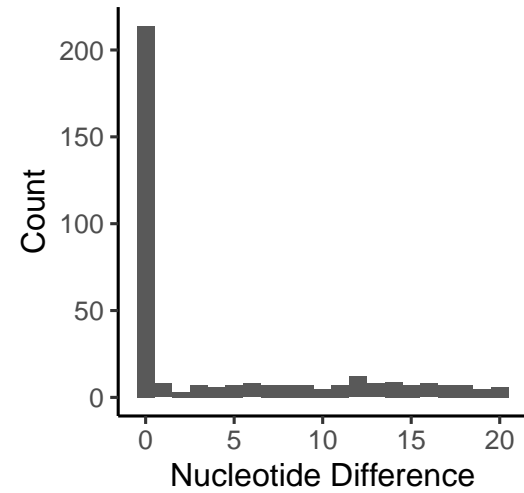
### IGHV3–43\*01

231 sequences assigned  
142 (61.5%) exact matches, in which:  
137 unique CDR3  
7 unique J



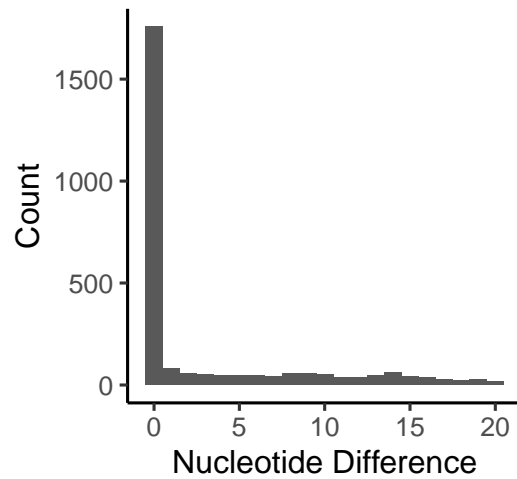
### IGHV3–49\*03\_05

387 sequences assigned  
214 (55.3%) exact matches, in which:  
207 unique CDR3  
7 unique J



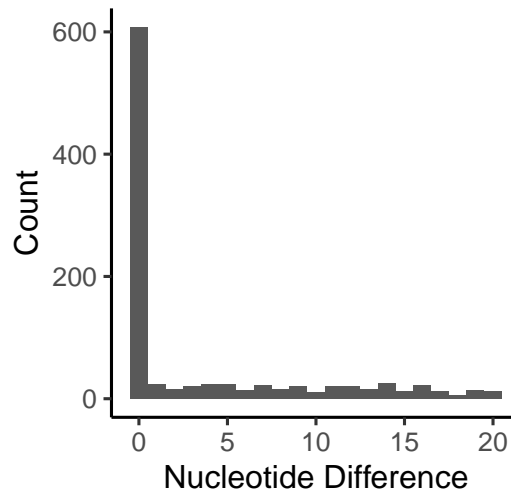
### IGHV3–21\*01\_02

2779 sequences assigned  
1757 (63.2%) exact matches, in which:  
1673 unique CDR3  
7 unique J



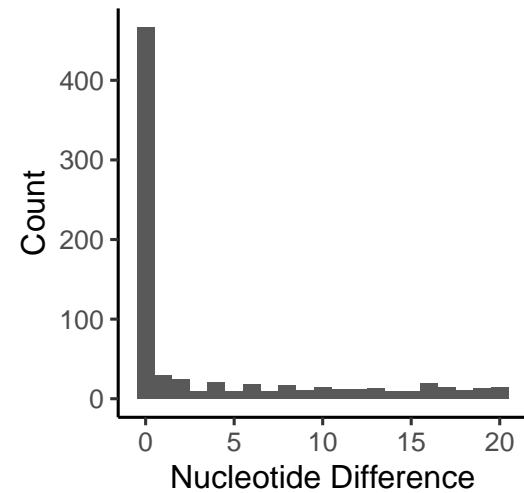
### IGHV3–48\*01

1032 sequences assigned  
608 (58.9%) exact matches, in which:  
579 unique CDR3  
6 unique J



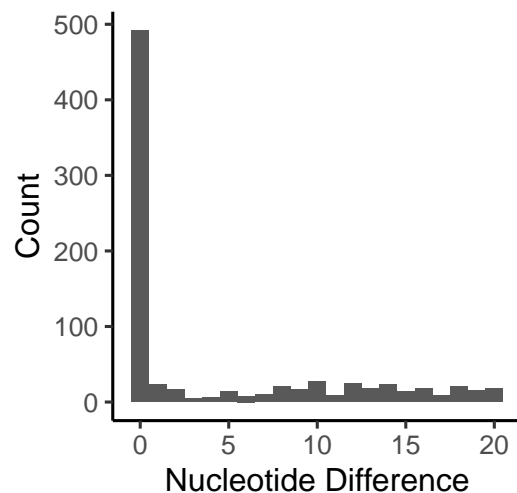
### IGHV3–53\*01\_02

809 sequences assigned  
467 (57.7%) exact matches, in which:  
442 unique CDR3  
7 unique J



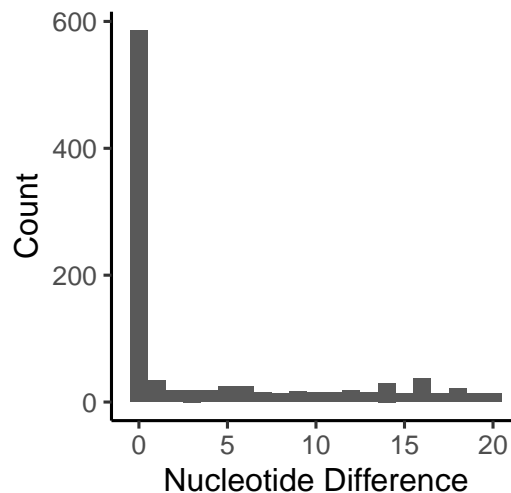
### IGHV3–33\*01

902 sequences assigned  
492 (54.5%) exact matches, in which:  
475 unique CDR3  
6 unique J



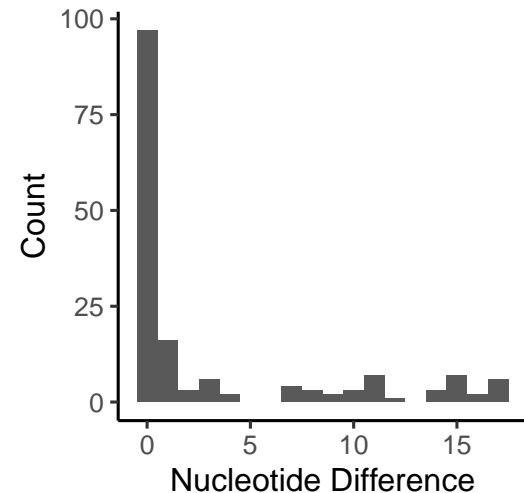
### IGHV3–48\*02

1074 sequences assigned  
586 (54.6%) exact matches, in which:  
559 unique CDR3  
7 unique J



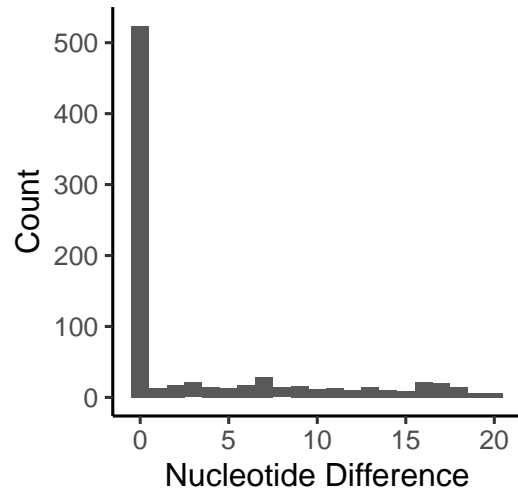
### IGHV3–64\*01

249 sequences assigned  
97 (39%) exact matches, in which:  
94 unique CDR3  
6 unique J



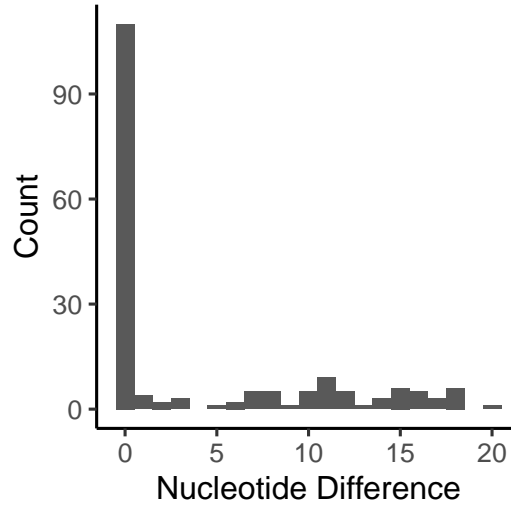
### IGHV3-66\*01

895 sequences assigned  
524 (58.5%) exact matches, in which:  
501 unique CDR3  
6 unique J



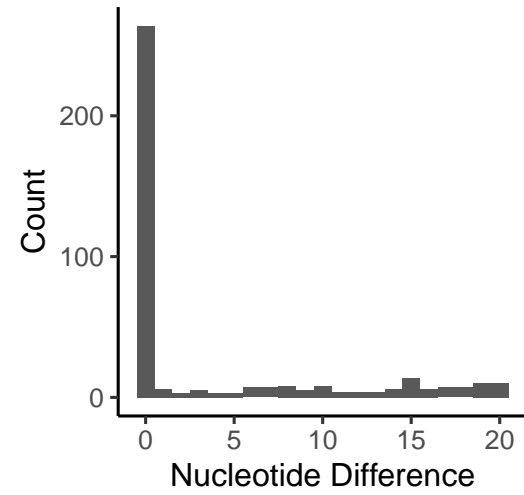
### IGHV3-73\*01\_02

212 sequences assigned  
110 (51.9%) exact matches, in which:  
108 unique CDR3  
6 unique J



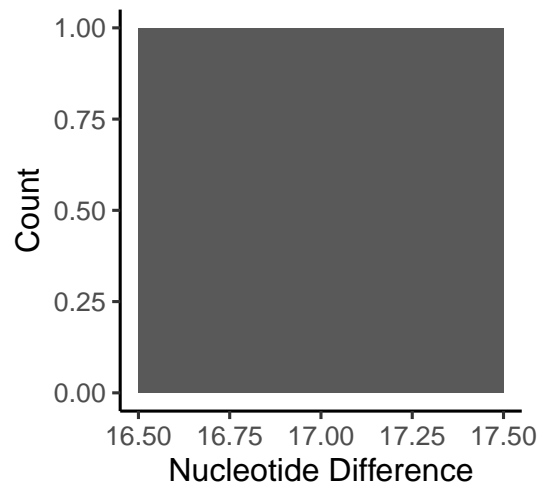
### IGHV3-64D\*06

436 sequences assigned  
264 (60.6%) exact matches, in which:  
258 unique CDR3  
7 unique J



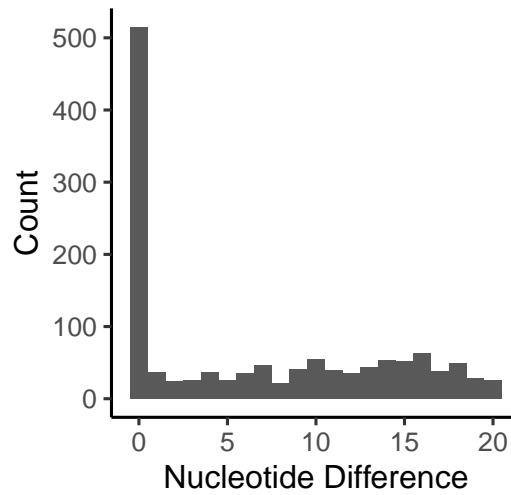
### IGHV3-69-1\*02

2 sequences assigned  
No exact matches.



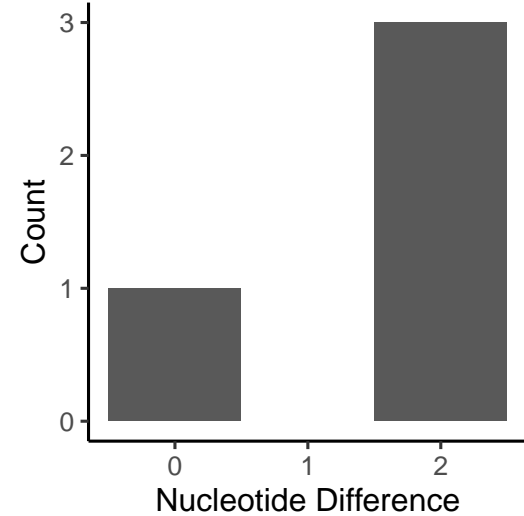
### IGHV3-74\*01\_02

1425 sequences assigned  
515 (36.1%) exact matches, in which:  
491 unique CDR3  
7 unique J



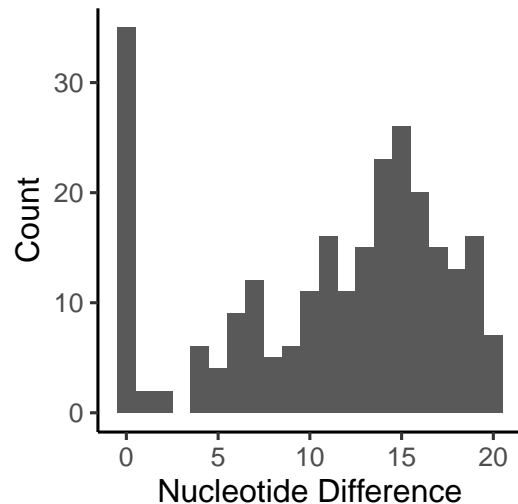
### IGHV4-28\*01\_07

5 sequences assigned  
1 (20%) exact matches, in which:  
1 unique CDR3  
1 unique J



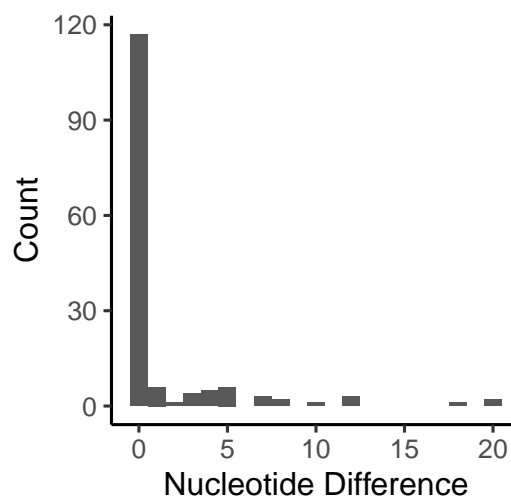
### IGHV3-72\*01

310 sequences assigned  
35 (11.3%) exact matches, in which:  
35 unique CDR3  
6 unique J



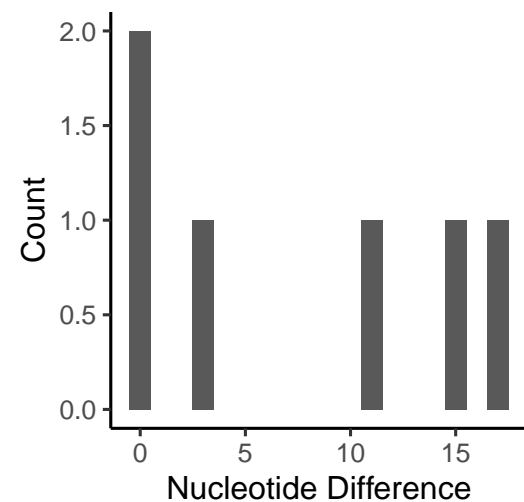
### IGHV3-43D\*03

160 sequences assigned  
117 (73.1%) exact matches, in which:  
108 unique CDR3  
6 unique J



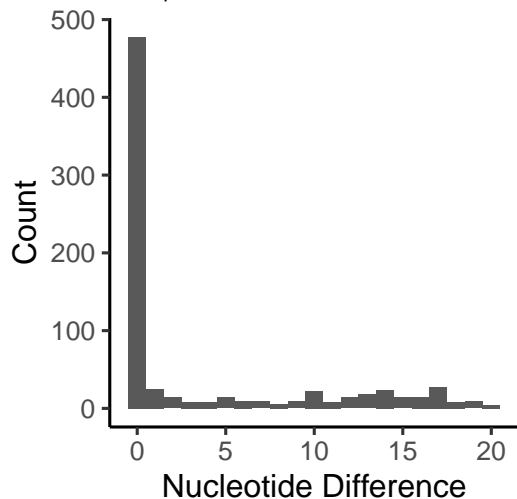
### IGHV4-28\*02\_05

8 sequences assigned  
2 (25%) exact matches, in which:  
2 unique CDR3  
2 unique J



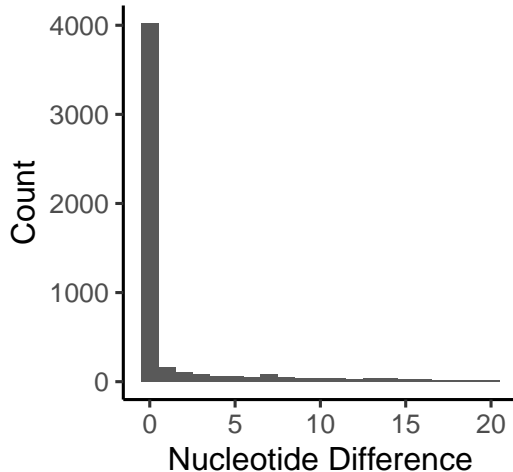
### IGHV4-30-2\*01

782 sequences assigned  
478 (61.1%) exact matches, in which:  
457 unique CDR3  
6 unique J



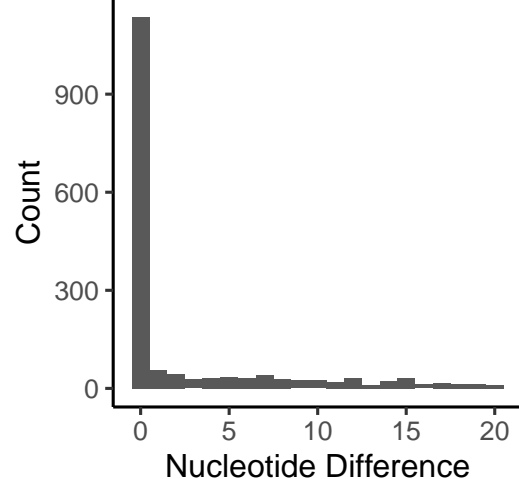
### IGHV4-34\*01\_02

5239 sequences assigned  
4021 (76.8%) exact matches, in which:  
3860 unique CDR3  
7 unique J



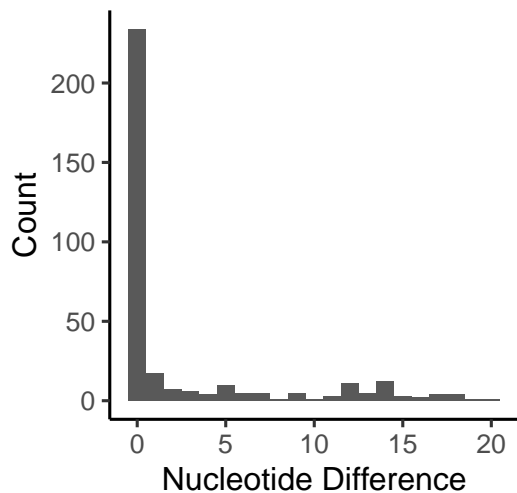
### IGHV4-59\*08

1747 sequences assigned  
1137 (65.1%) exact matches, in which:  
1093 unique CDR3  
7 unique J



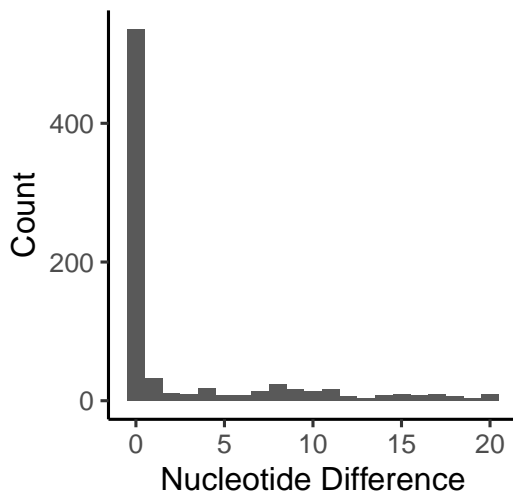
### IGHV4-30-4\*07

362 sequences assigned  
234 (64.6%) exact matches, in which:  
232 unique CDR3  
5 unique J



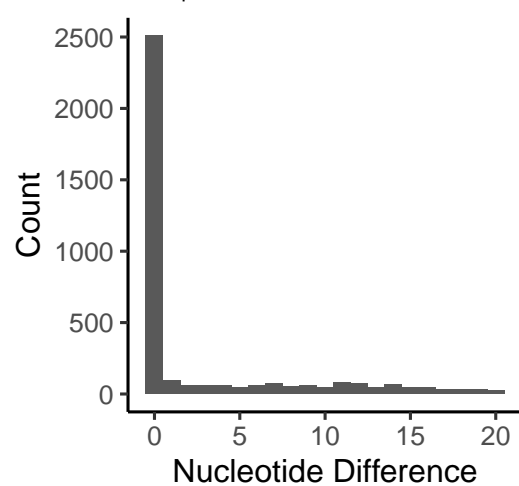
### IGHV4-38-2\*02

845 sequences assigned  
536 (63.4%) exact matches, in which:  
522 unique CDR3  
6 unique J



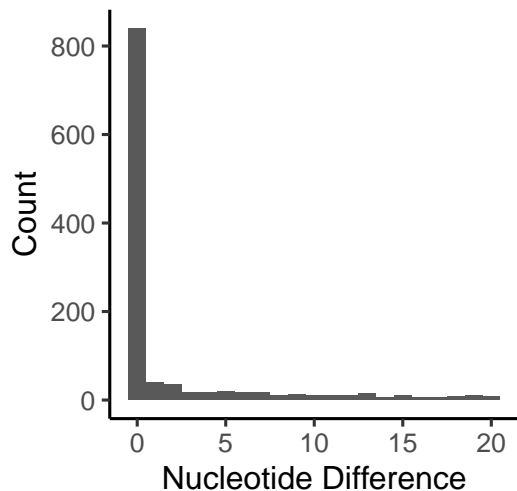
### IGHV4-59\*01\_07

3793 sequences assigned  
2509 (66.1%) exact matches, in which:  
2427 unique CDR3  
7 unique J



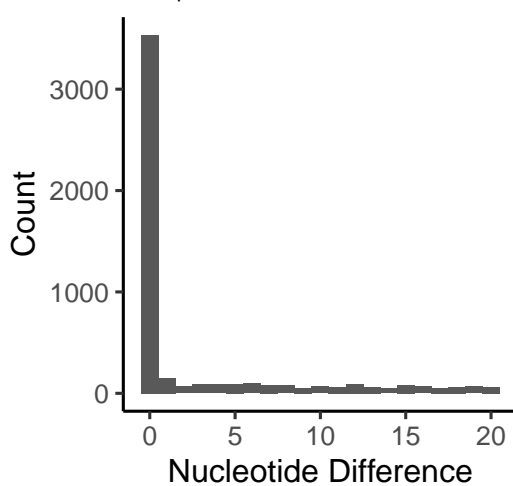
### IGHV4-31\*03\_04

1208 sequences assigned  
840 (69.5%) exact matches, in which:  
810 unique CDR3  
7 unique J



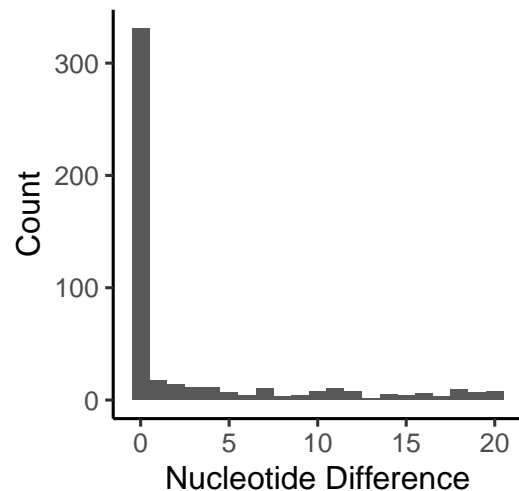
### IGHV4-39\*01\_05

5488 sequences assigned  
3534 (64.4%) exact matches, in which:  
3425 unique CDR3  
7 unique J



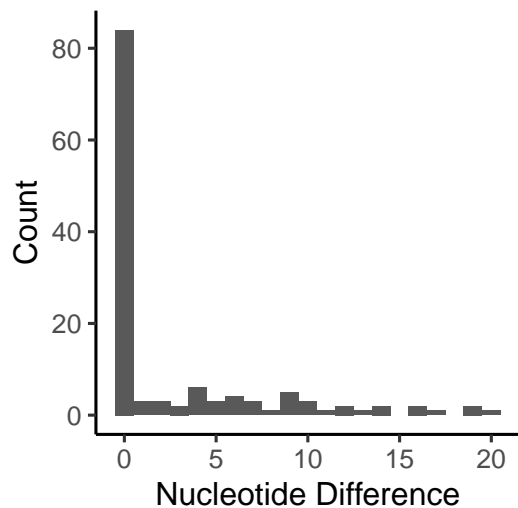
### IGHV4-61\*01

510 sequences assigned  
331 (64.9%) exact matches, in which:  
317 unique CDR3  
7 unique J



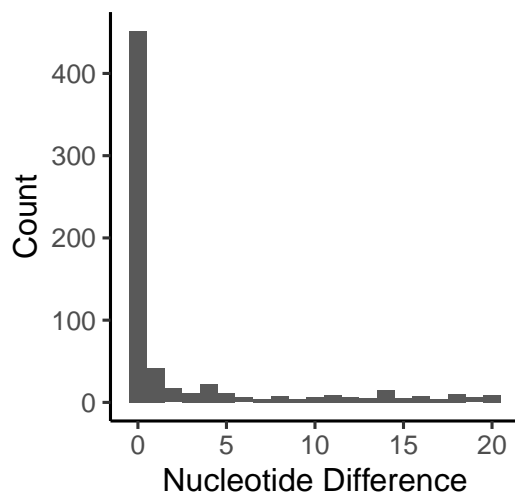
## IGHV5-10-1\*01\_03

136 sequences assigned  
84 (61.8%) exact matches, in which:  
84 unique CDR3  
5 unique J



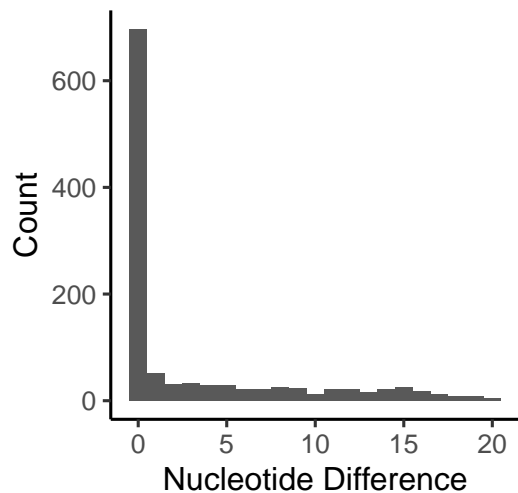
## IGHV7-4-1\*02

700 sequences assigned  
452 (64.6%) exact matches, in which:  
450 unique CDR3  
7 unique J



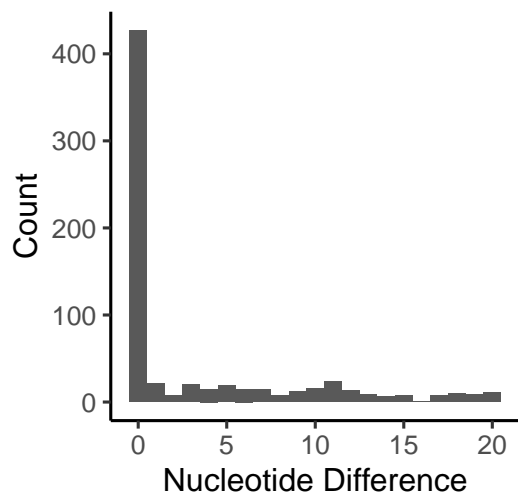
## IGHV5-51\*01\_03

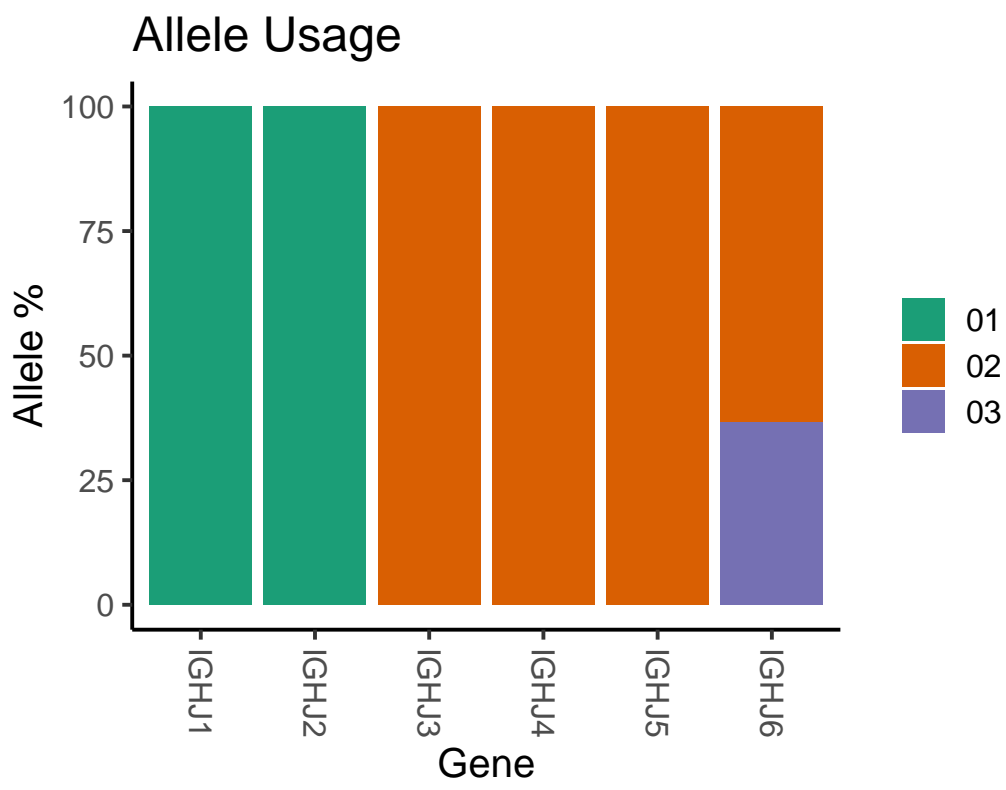
1173 sequences assigned  
697 (59.4%) exact matches, in which:  
695 unique CDR3  
7 unique J



## IGHV6-1\*01\_02

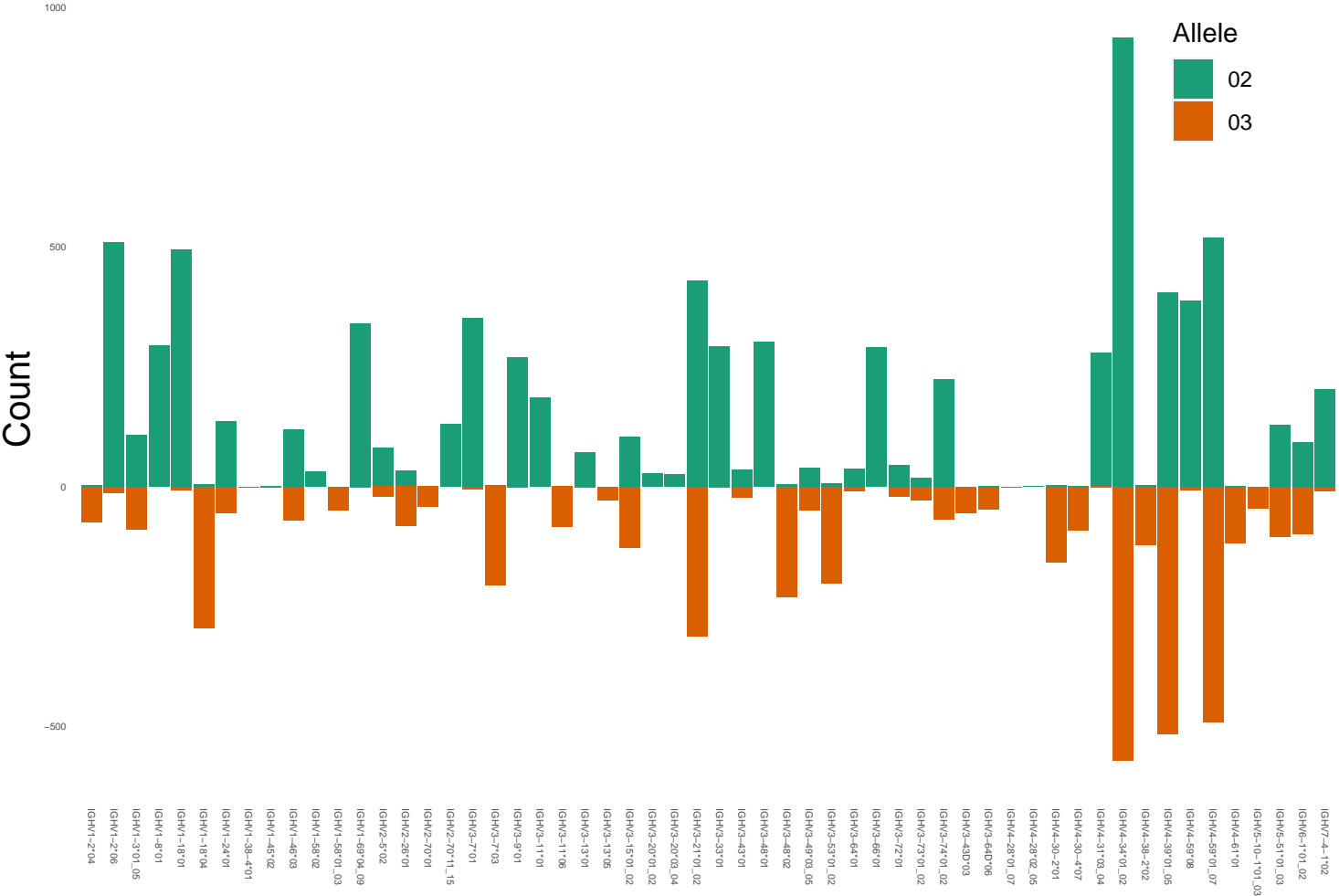
736 sequences assigned  
427 (58%) exact matches, in which:  
424 unique CDR3  
7 unique J







Sequence Count by IGHJ6 allele usage



Novel sequence(s)IGHV4-59\*02\_G88A IGHV5-51\*07\_A128G are not listed in the genotype and will be ignored.