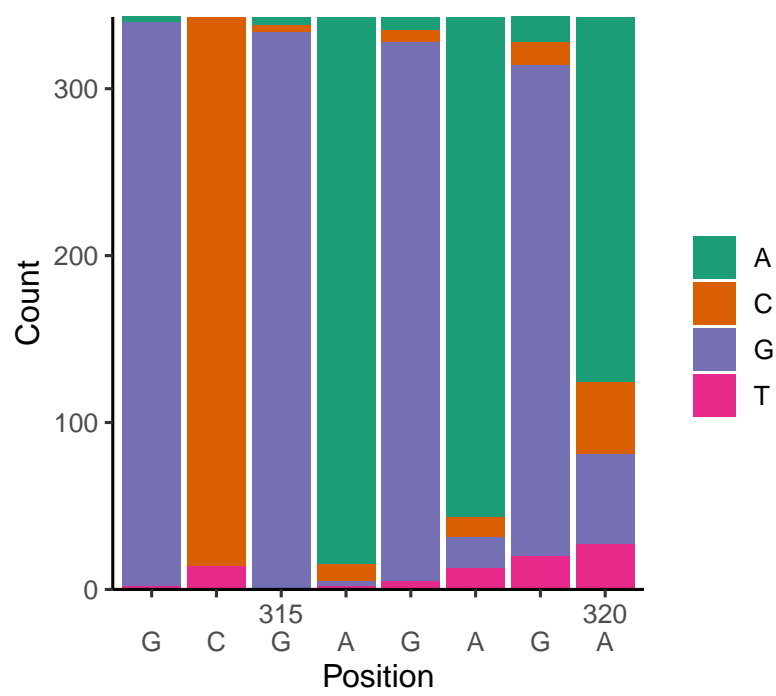
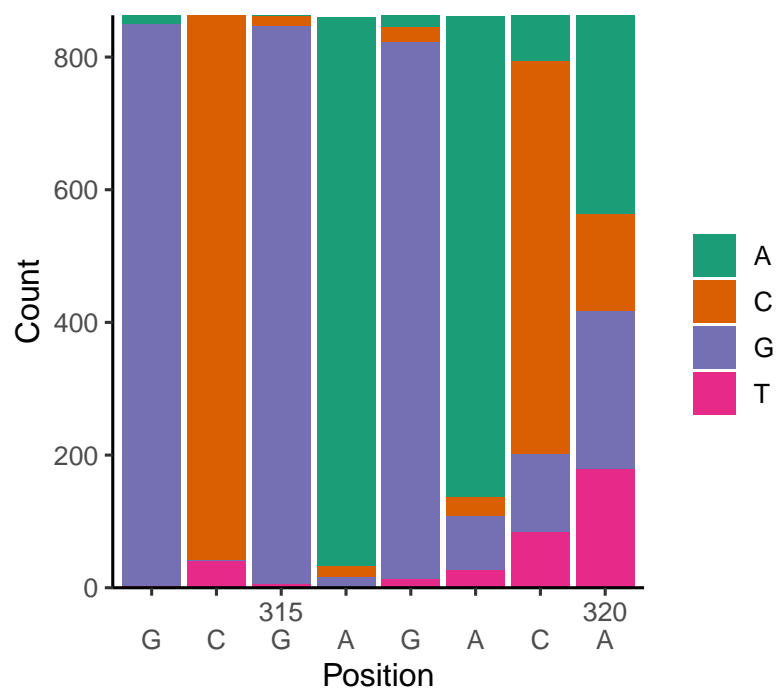


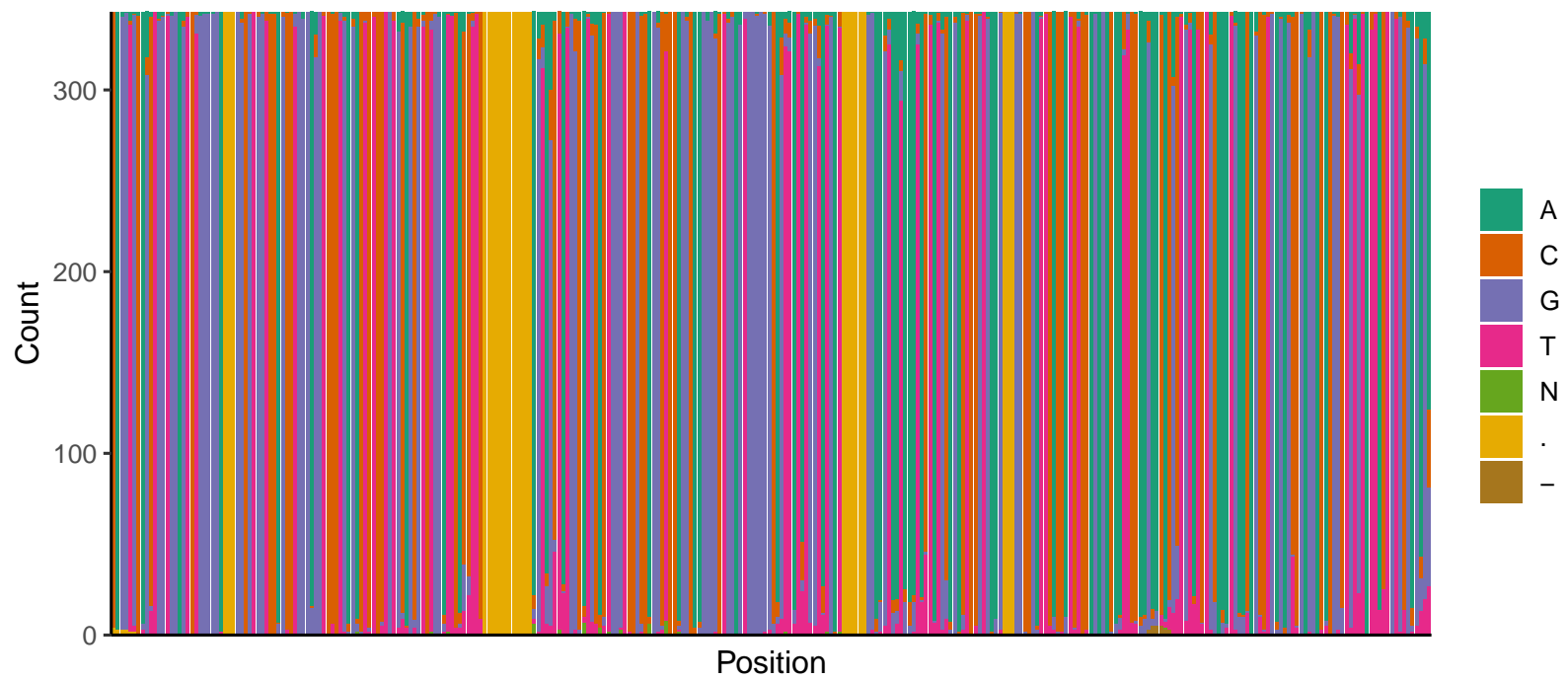
Gene IGHV3-33\*01\_T158G



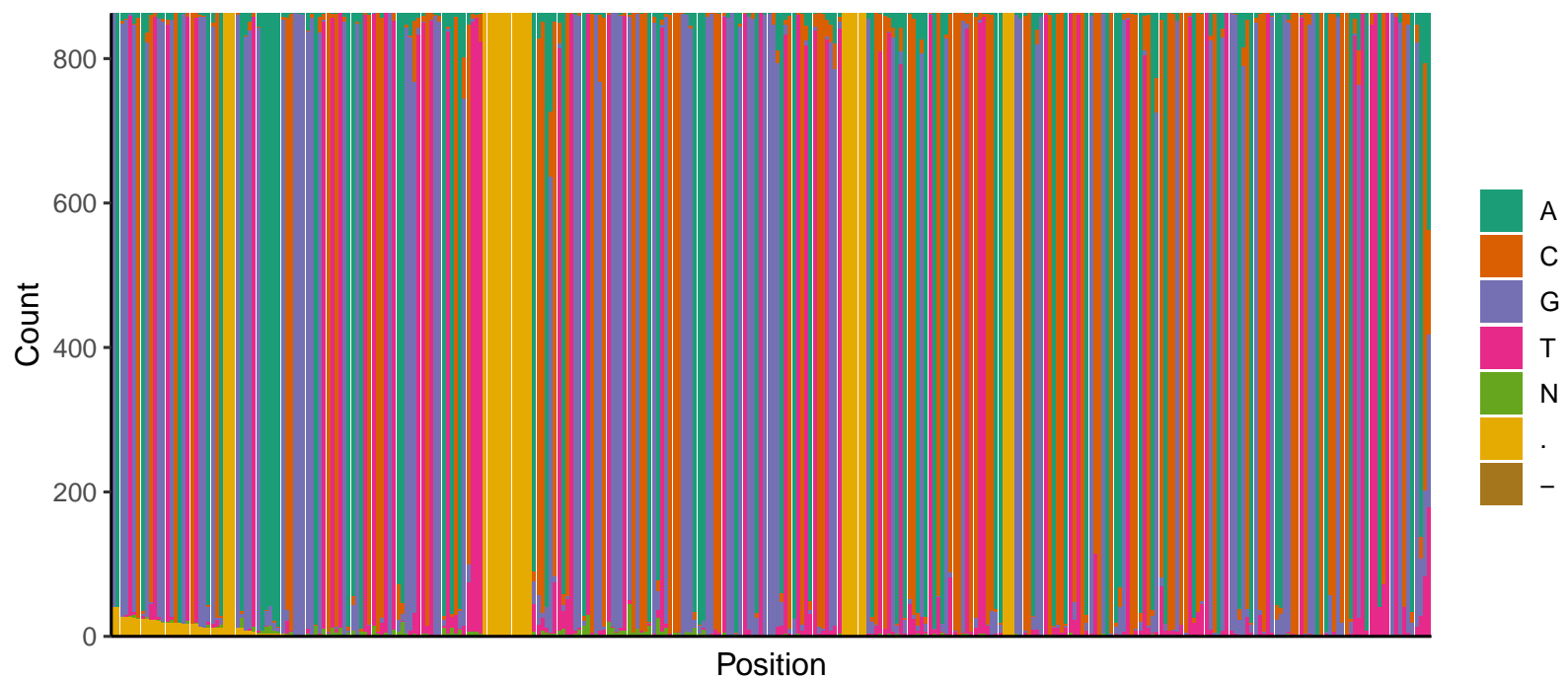
Gene IGHV5-51\*01\_C45G



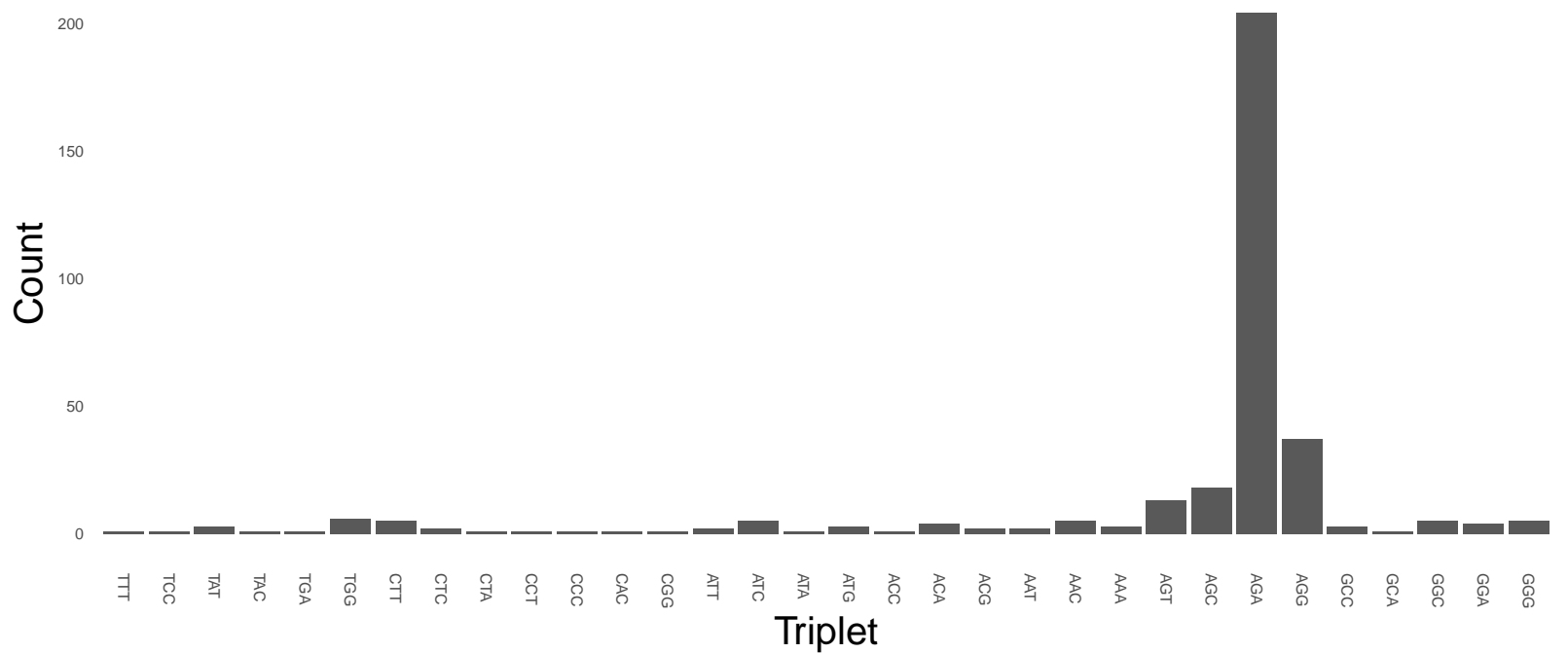
Gene IGHV3-33\*01\_T158G



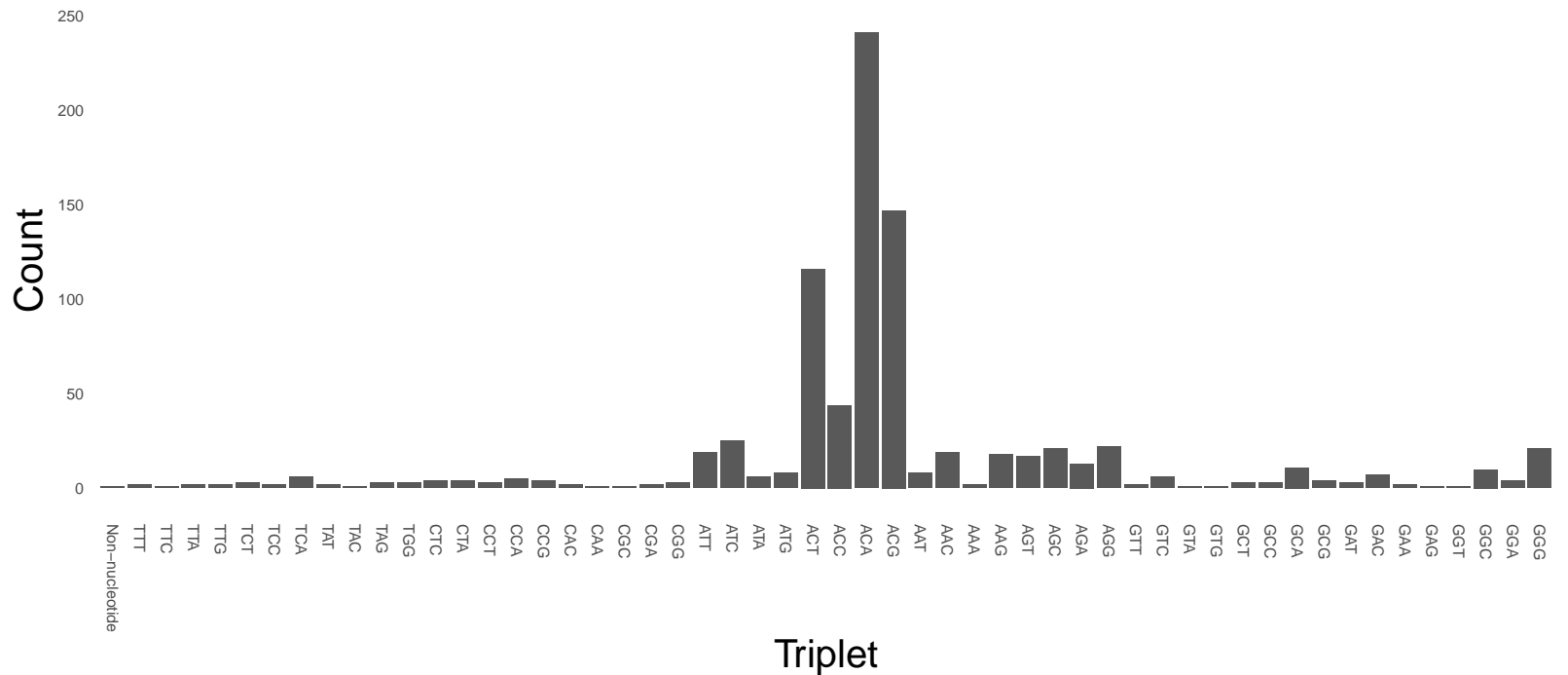
Gene IGHV5-51\*01\_C45G



IGHV3–33\*01\_T158G– Final 3 nucleotides as a triplet

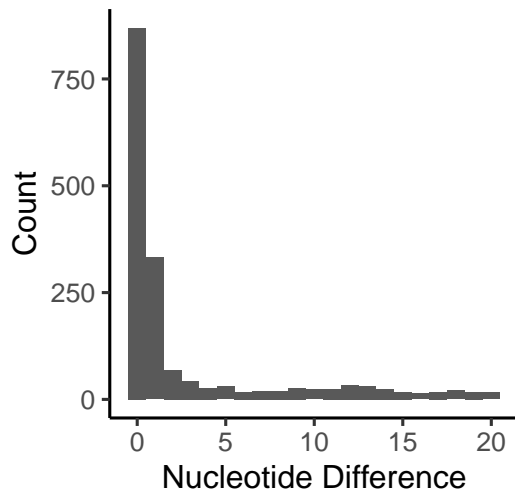


IGHV5–51\*01\_C45G– Final 3 nucleotides as a triplet



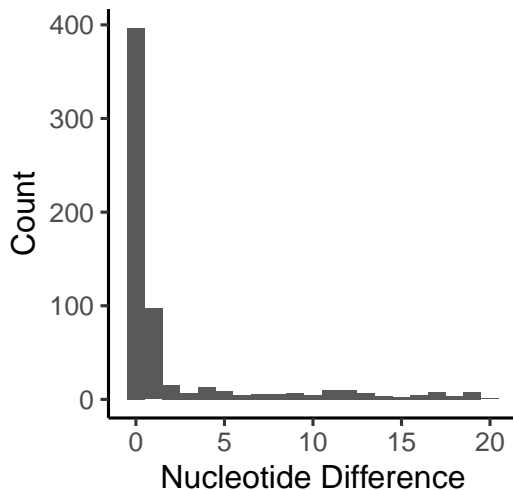
### IGHV1-2\*02

1966 sequences assigned  
870 (44.3%) exact matches, in which:  
867 unique CDR3  
6 unique J



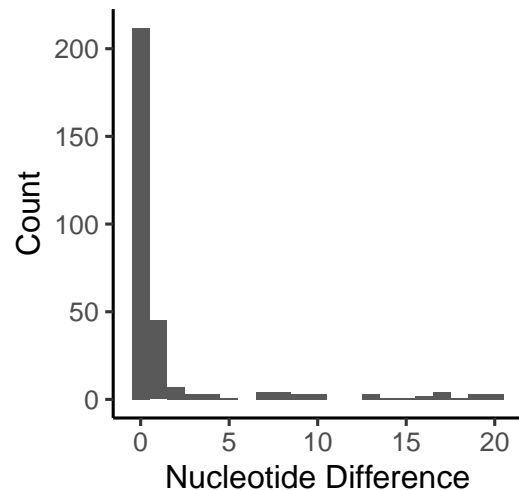
### IGHV1-8\*01

674 sequences assigned  
397 (58.9%) exact matches, in which:  
395 unique CDR3  
6 unique J



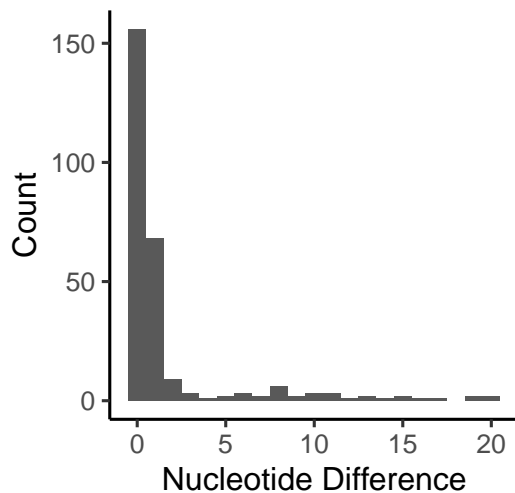
### IGHV1-24\*01

351 sequences assigned  
212 (60.4%) exact matches, in which:  
211 unique CDR3  
6 unique J



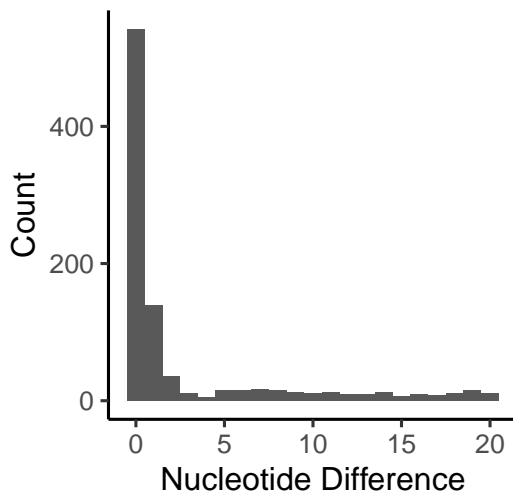
### IGHV1-2\*04

280 sequences assigned  
156 (55.7%) exact matches, in which:  
156 unique CDR3  
4 unique J



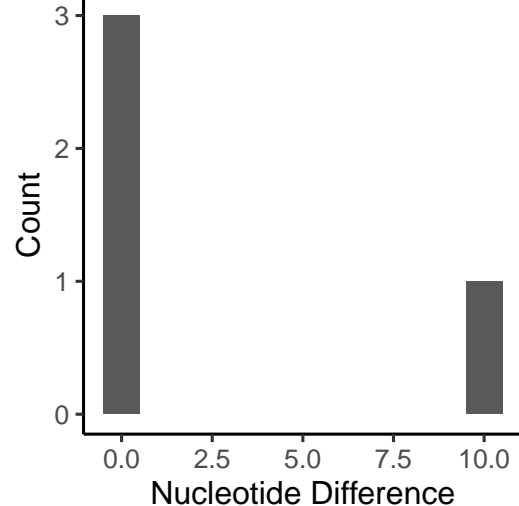
### IGHV1-18\*01

1192 sequences assigned  
542 (45.5%) exact matches, in which:  
542 unique CDR3  
6 unique J



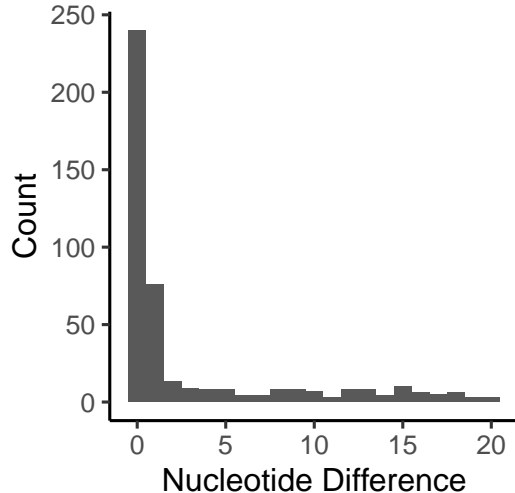
### IGHV1-45\*02

18 sequences assigned  
3 (16.7%) exact matches, in which:  
3 unique CDR3  
3 unique J



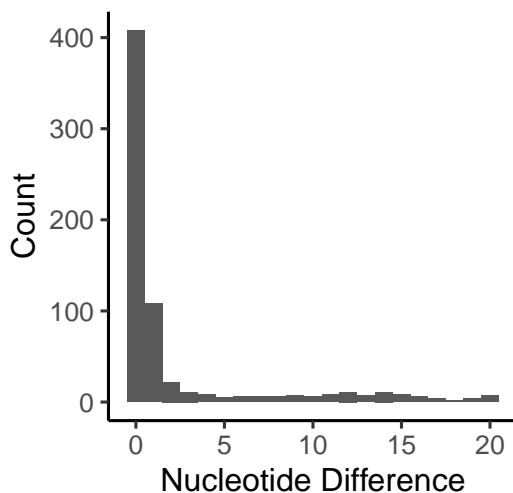
### IGHV1-3\*01

553 sequences assigned  
240 (43.4%) exact matches, in which:  
239 unique CDR3  
6 unique J



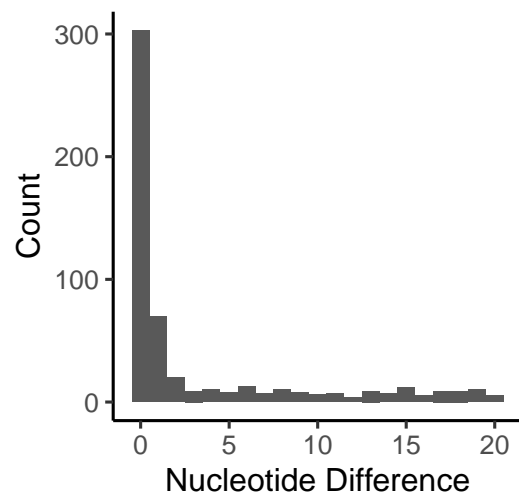
### IGHV1-18\*04

791 sequences assigned  
408 (51.6%) exact matches, in which:  
406 unique CDR3  
6 unique J



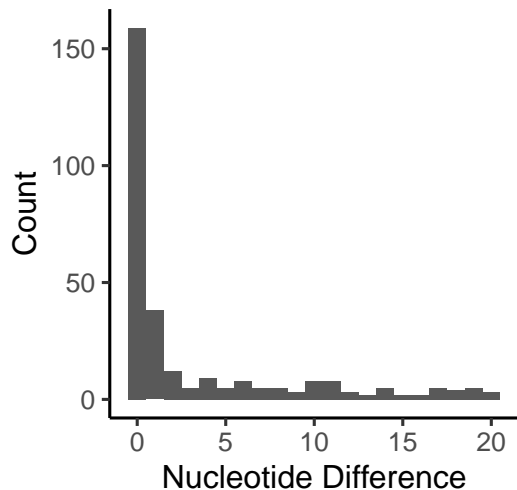
### IGHV1-46\*01

658 sequences assigned  
303 (46%) exact matches, in which:  
303 unique CDR3  
6 unique J



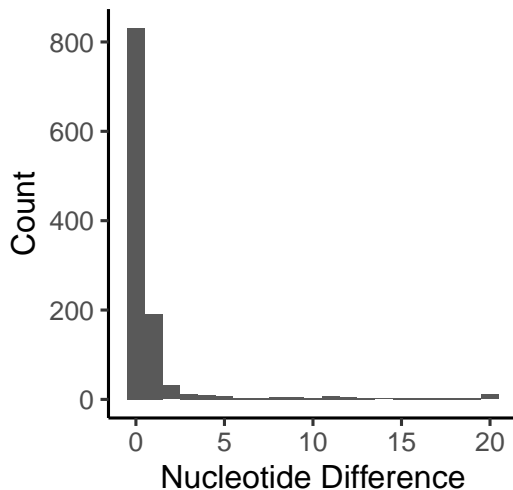
### IGHV1-46\*03

329 sequences assigned  
159 (48.3%) exact matches, in which:  
158 unique CDR3  
6 unique J



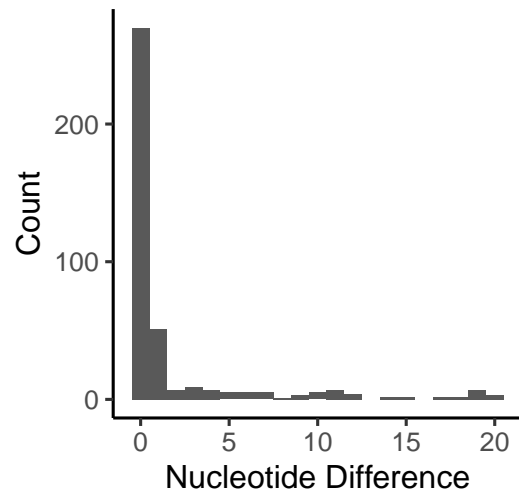
### IGHV1-69\*10

1334 sequences assigned  
832 (62.4%) exact matches, in which:  
831 unique CDR3  
6 unique J



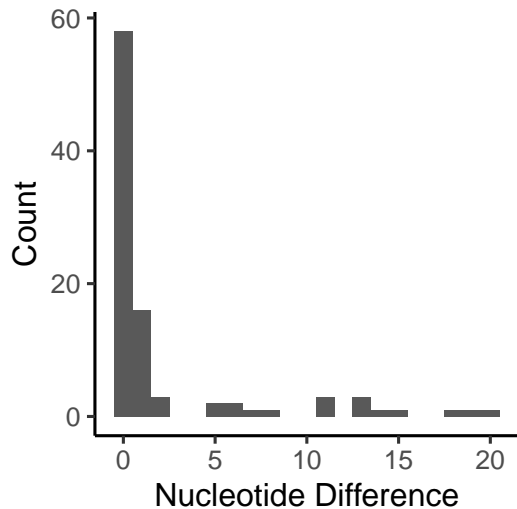
### IGHV2-26\*01

438 sequences assigned  
270 (61.6%) exact matches, in which:  
270 unique CDR3  
5 unique J



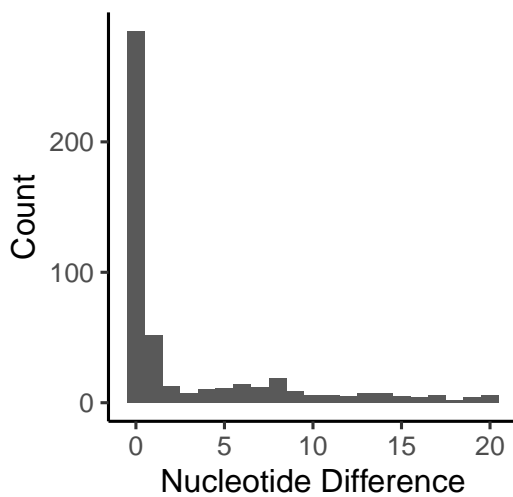
### IGHV1-58\*01

104 sequences assigned  
58 (55.8%) exact matches, in which:  
58 unique CDR3  
6 unique J



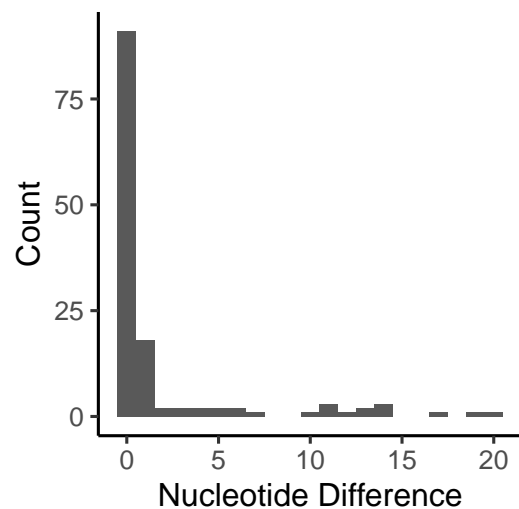
### IGHV2-5\*01

522 sequences assigned  
285 (54.6%) exact matches, in which:  
285 unique CDR3  
6 unique J



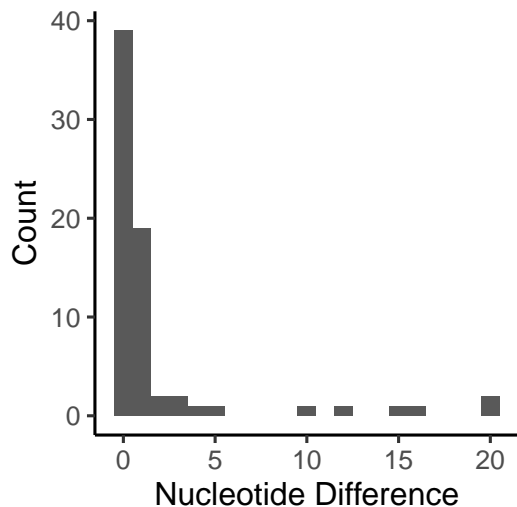
### IGHV2-70\*01

145 sequences assigned  
91 (62.8%) exact matches, in which:  
91 unique CDR3  
5 unique J



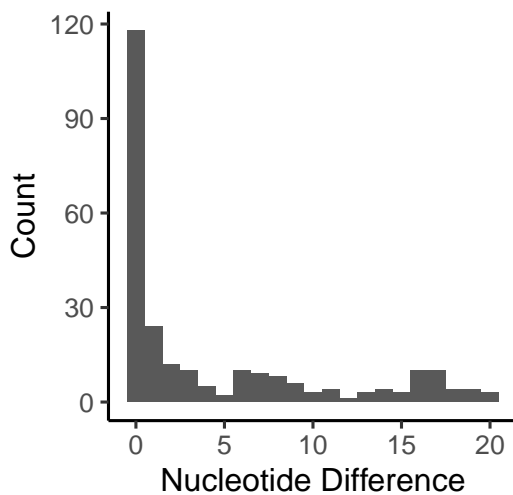
### IGHV1-58\*02

76 sequences assigned  
39 (51.3%) exact matches, in which:  
38 unique CDR3  
5 unique J



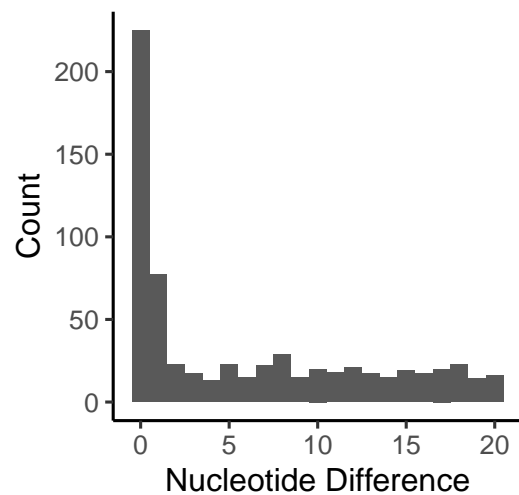
### IGHV2-5\*02

321 sequences assigned  
118 (36.8%) exact matches, in which:  
118 unique CDR3  
6 unique J



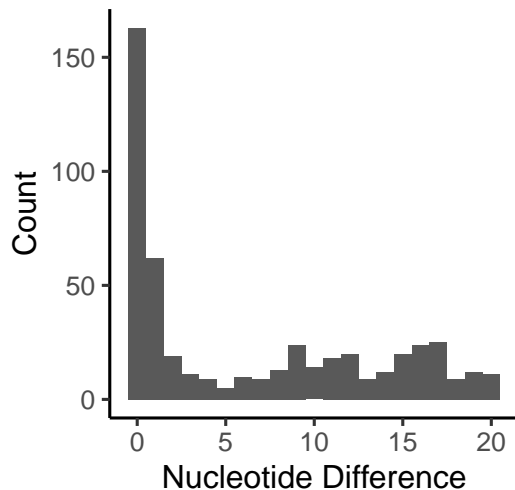
### IGHV3-7\*01

782 sequences assigned  
225 (28.8%) exact matches, in which:  
223 unique CDR3  
6 unique J



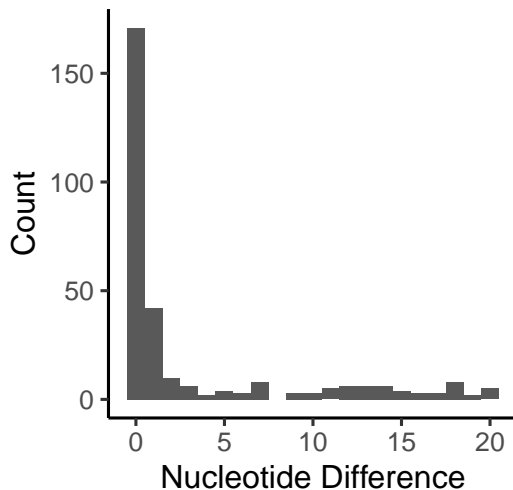
### IGHV3-7\*03

628 sequences assigned  
163 (26%) exact matches, in which:  
162 unique CDR3  
5 unique J



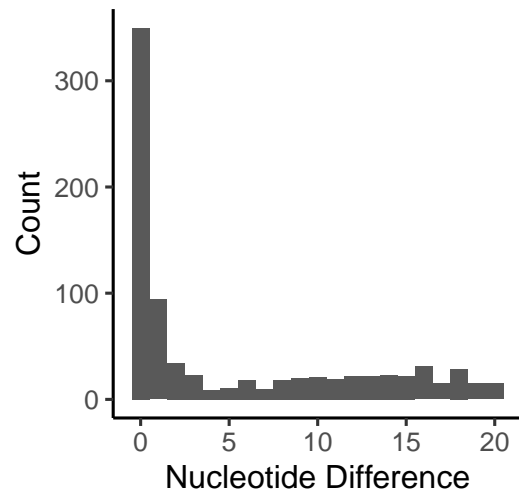
### IGHV3-11\*06

526 sequences assigned  
171 (32.5%) exact matches, in which:  
171 unique CDR3  
6 unique J



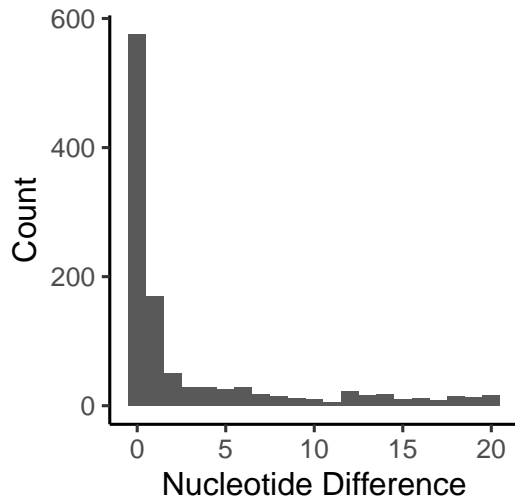
### IGHV3-15\*01

1017 sequences assigned  
350 (34.4%) exact matches, in which:  
349 unique CDR3  
6 unique J



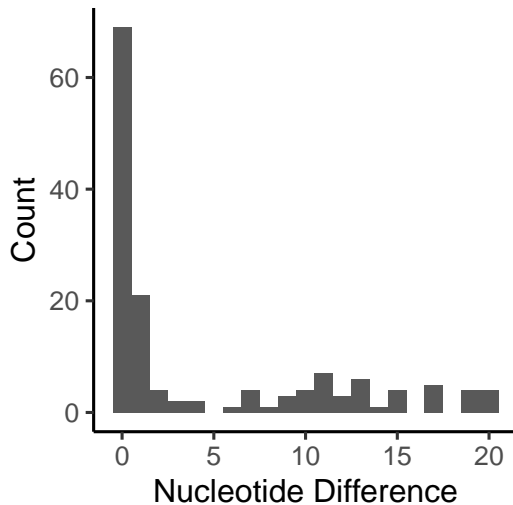
### IGHV3-9\*01

1299 sequences assigned  
576 (44.3%) exact matches, in which:  
574 unique CDR3  
6 unique J



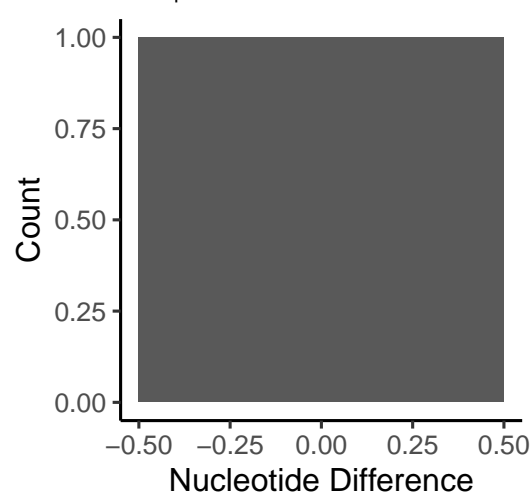
### IGHV3-13\*01

168 sequences assigned  
69 (41.1%) exact matches, in which:  
69 unique CDR3  
5 unique J



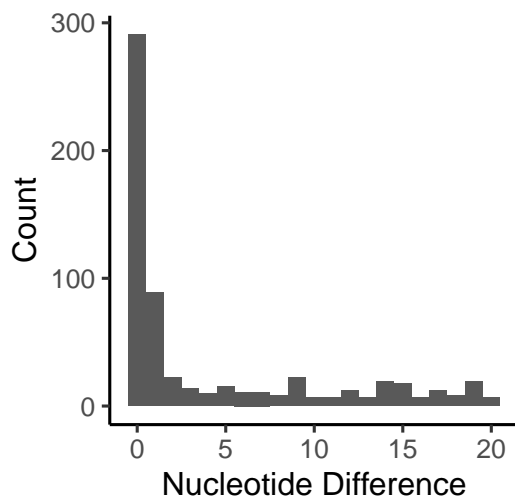
### IGHV3-20\*02

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



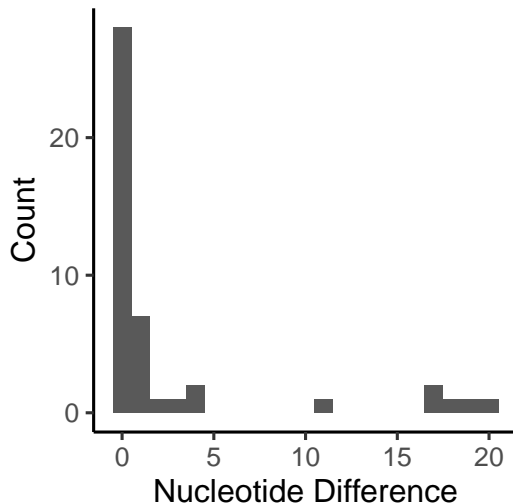
### IGHV3-11\*01

727 sequences assigned  
291 (40%) exact matches, in which:  
290 unique CDR3  
6 unique J



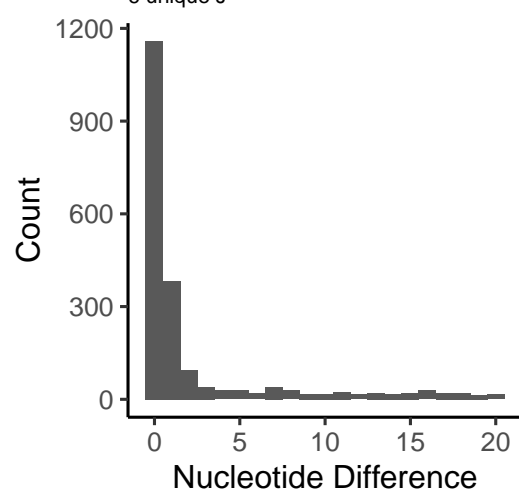
### IGHV3-13\*05

46 sequences assigned  
28 (60.9%) exact matches, in which:  
28 unique CDR3  
4 unique J



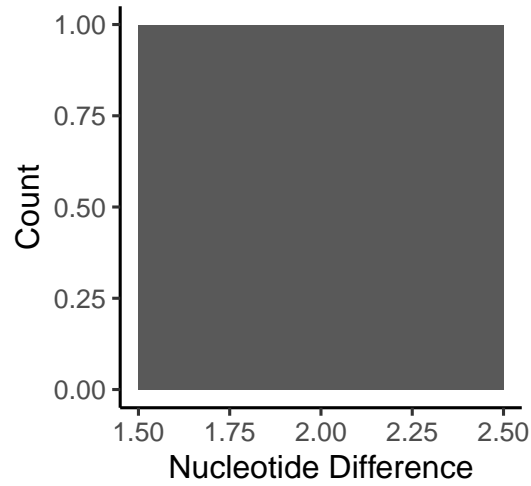
### IGHV3-21\*01

2364 sequences assigned  
1159 (49%) exact matches, in which:  
1156 unique CDR3  
6 unique J



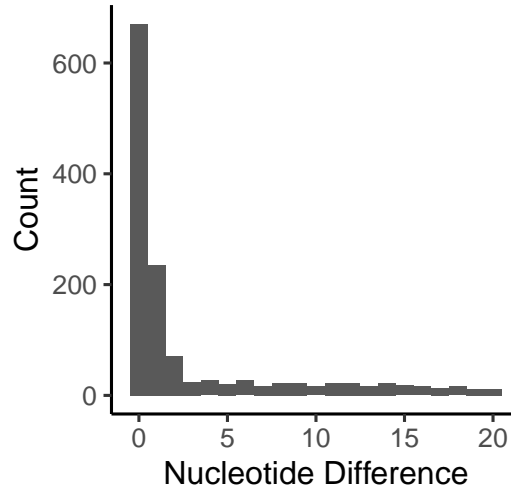
### IGHV3-22\*02

1 sequences assigned  
No exact matches.



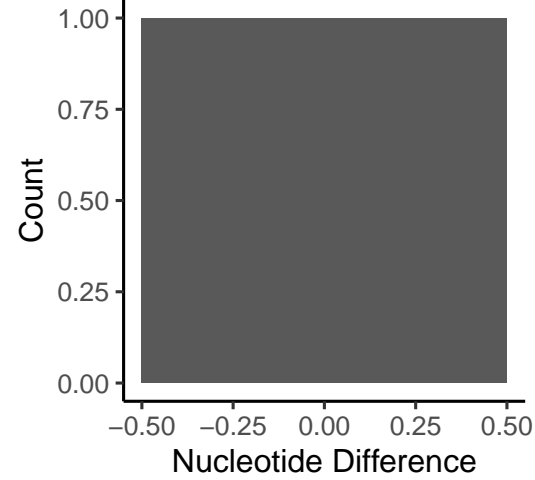
### IGHV3-33\*01

1474 sequences assigned  
671 (45.5%) exact matches, in which:  
671 unique CDR3  
6 unique J



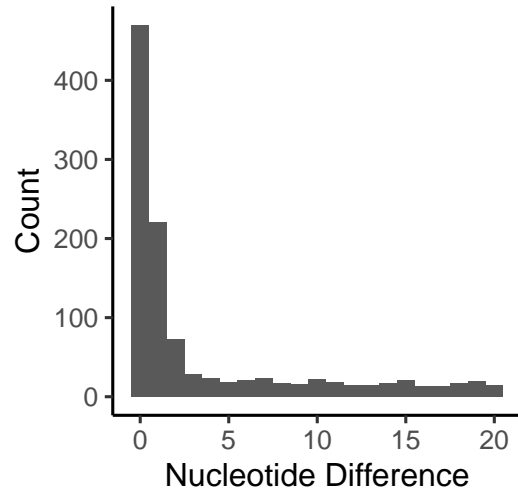
### IGHV3-47\*02

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



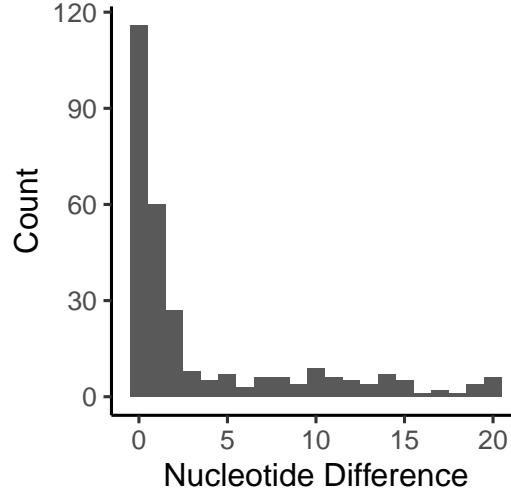
### IGHV3-30\*01

1267 sequences assigned  
470 (37.1%) exact matches, in which:  
470 unique CDR3  
6 unique J



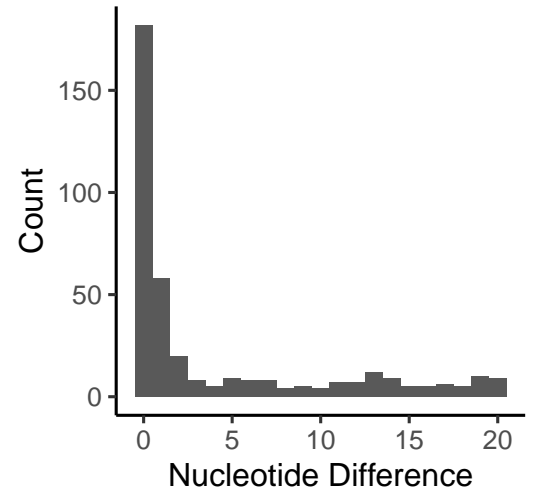
### IGHV3-33\*01\_T158G

343 sequences assigned  
116 (33.8%) exact matches, in which:  
116 unique CDR3  
5 unique J



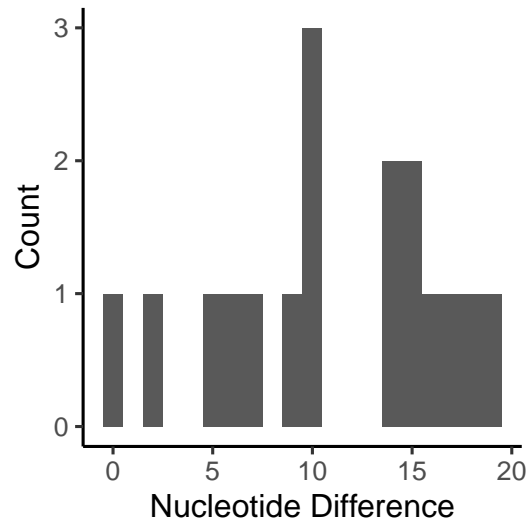
### IGHV3-48\*02

476 sequences assigned  
182 (38.2%) exact matches, in which:  
181 unique CDR3  
6 unique J



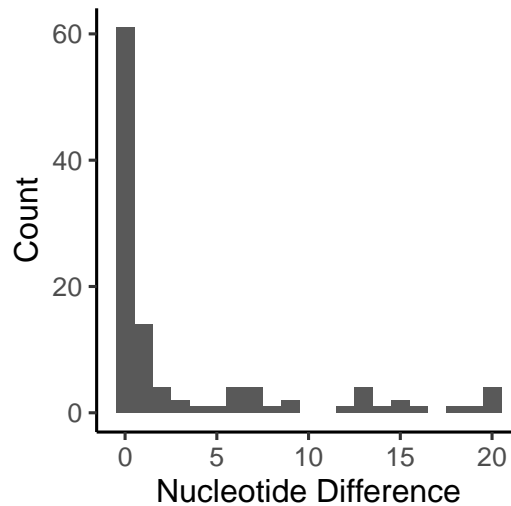
### IGHV3-30-3\*03

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



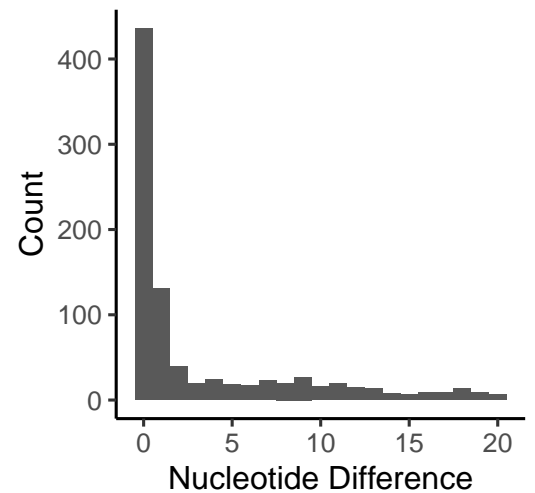
### IGHV3-43\*01

136 sequences assigned  
61 (44.9%) exact matches, in which:  
61 unique CDR3  
4 unique J



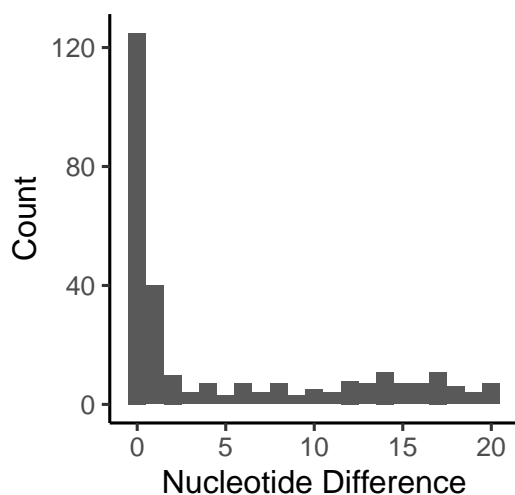
### IGHV3-48\*03

1012 sequences assigned  
436 (43.1%) exact matches, in which:  
436 unique CDR3  
6 unique J



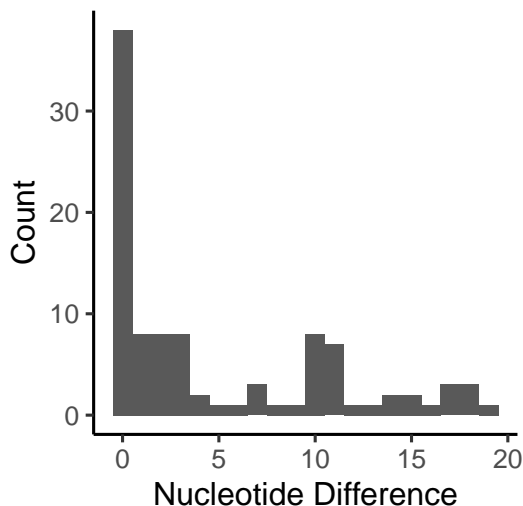
### IGHV3-49\*04

367 sequences assigned  
125 (34.1%) exact matches, in which:  
125 unique CDR3  
6 unique J



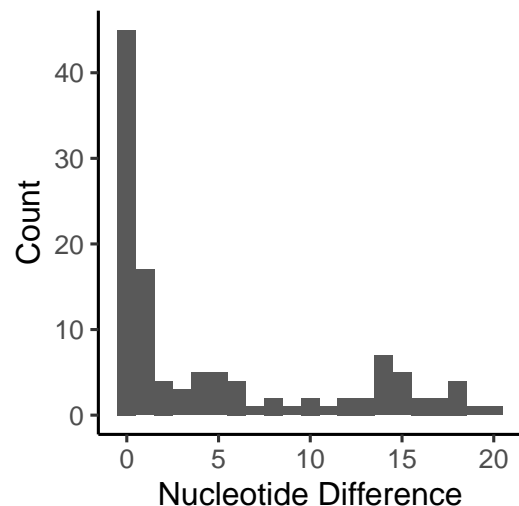
### IGHV3-64\*01

117 sequences assigned  
38 (32.5%) exact matches, in which:  
38 unique CDR3  
6 unique J



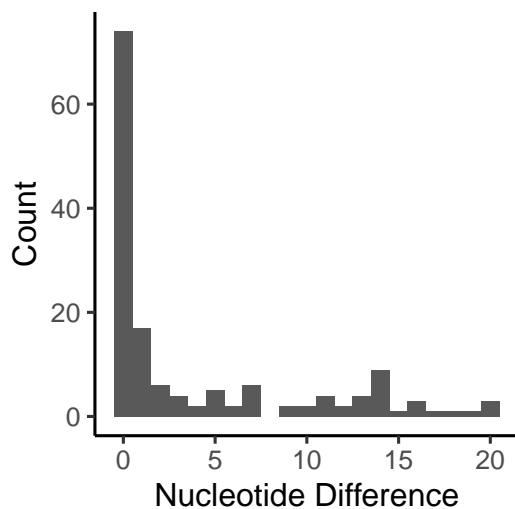
### IGHV3-73\*01

132 sequences assigned  
45 (34.1%) exact matches, in which:  
45 unique CDR3  
5 unique J



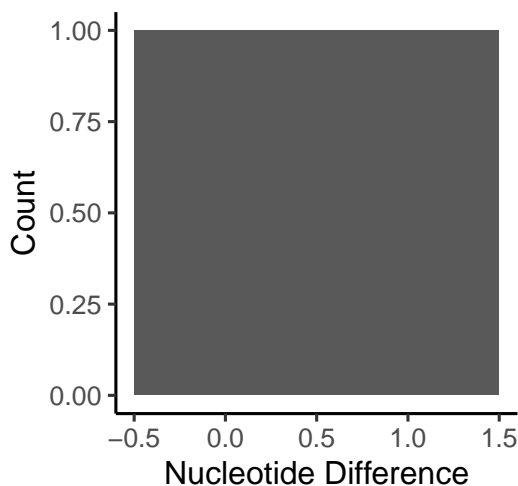
### IGHV3-49\*05

179 sequences assigned  
74 (41.3%) exact matches, in which:  
74 unique CDR3  
6 unique J



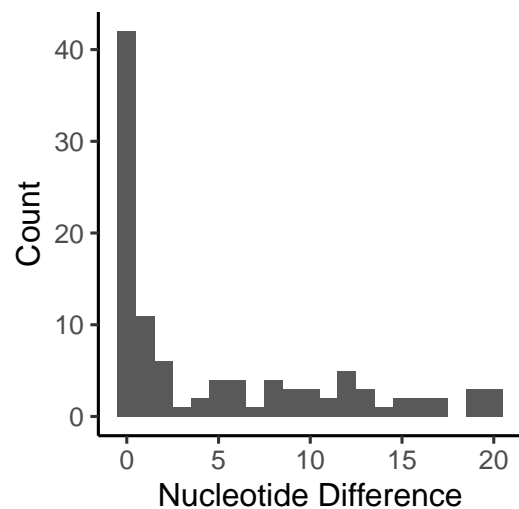
### IGHV3-66\*03

2 sequences assigned  
1 (50%) exact matches, in which:  
1 unique CDR3  
1 unique J



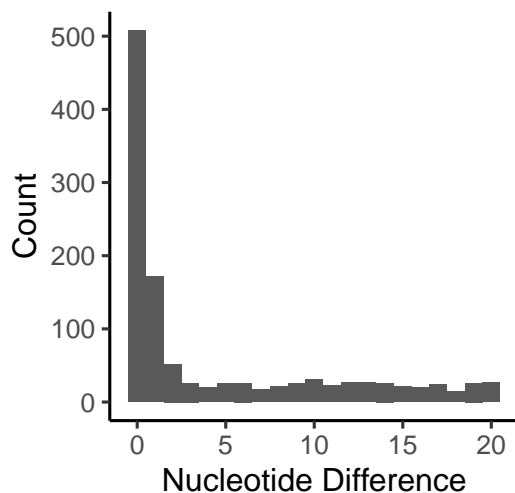
### IGHV3-73\*02

119 sequences assigned  
42 (35.3%) exact matches, in which:  
42 unique CDR3  
4 unique J



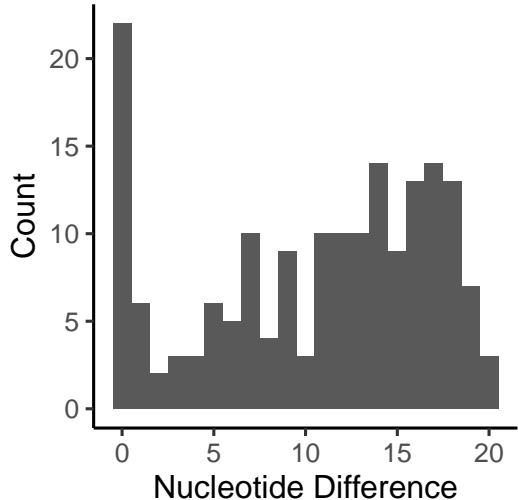
### IGHV3-53\*01

1374 sequences assigned  
508 (37%) exact matches, in which:  
506 unique CDR3  
6 unique J



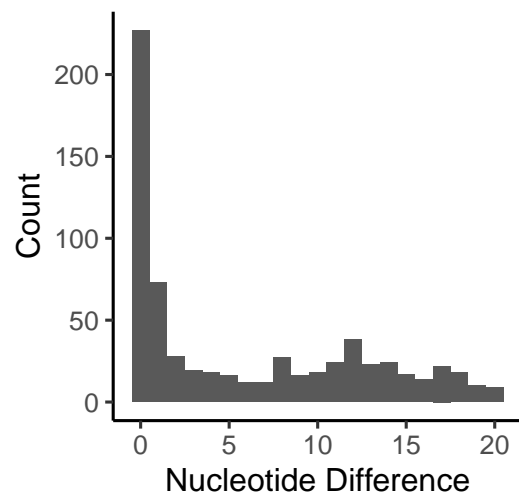
### IGHV3-72\*01

223 sequences assigned  
22 (9.9%) exact matches, in which:  
22 unique CDR3  
5 unique J



### IGHV3-74\*01

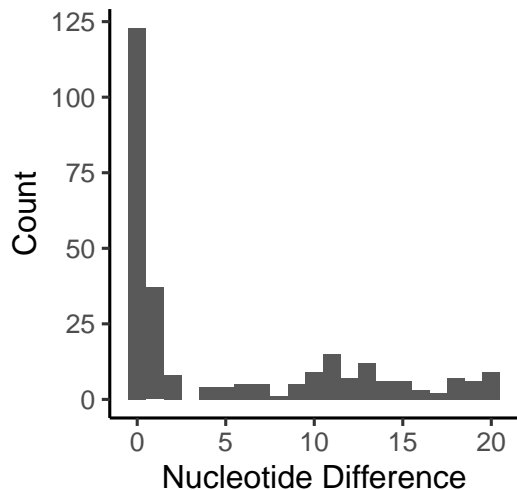
766 sequences assigned  
227 (29.6%) exact matches, in which:  
225 unique CDR3  
6 unique J





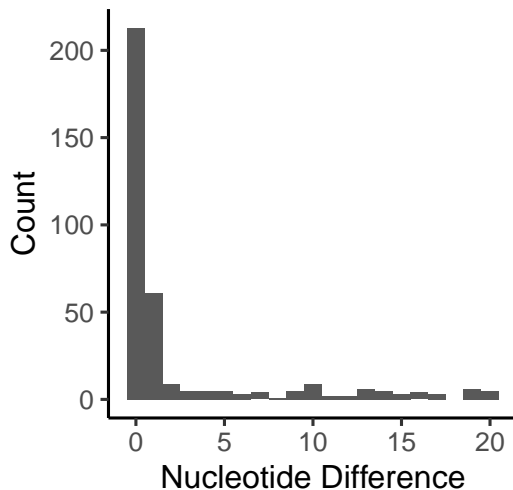
### IGHV3–64D\*06

385 sequences assigned  
123 (31.9%) exact matches, in which:  
123 unique CDR3  
6 unique J



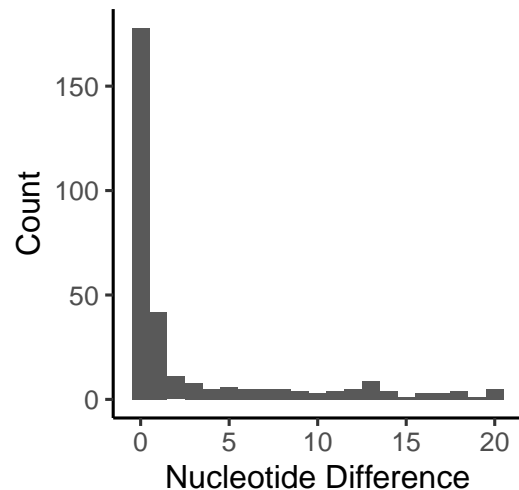
### IGHV4–4\*07

422 sequences assigned  
213 (50.5%) exact matches, in which:  
213 unique CDR3  
6 unique J



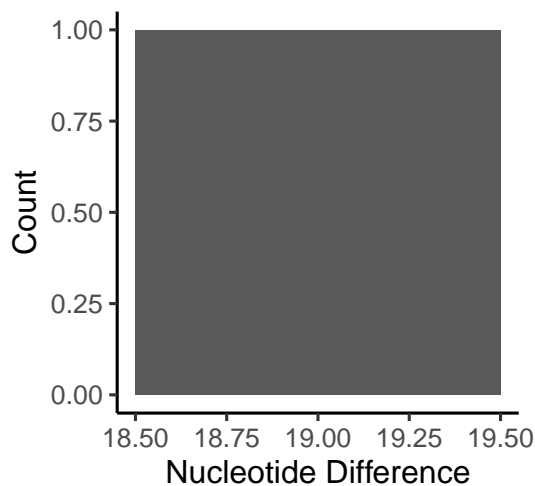
### IGHV4–31\*03

384 sequences assigned  
178 (46.4%) exact matches, in which:  
178 unique CDR3  
5 unique J



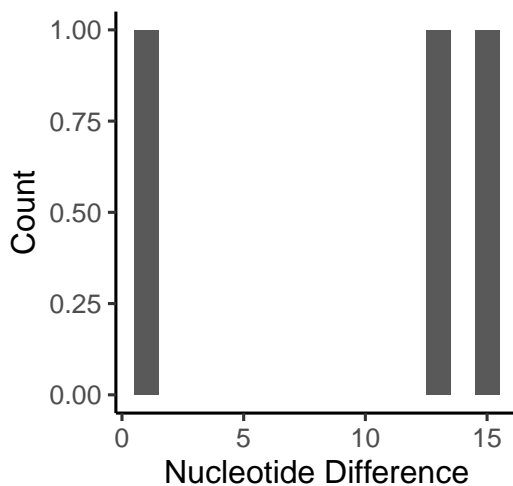
### IGHV3–NL1\*01

1 sequences assigned  
No exact matches.



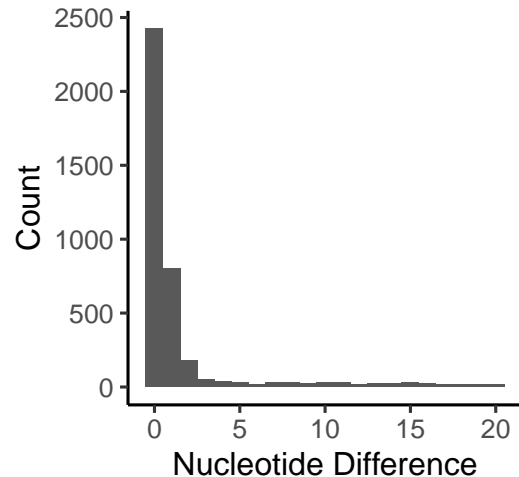
### IGHV4–28\*07

3 sequences assigned  
No exact matches.



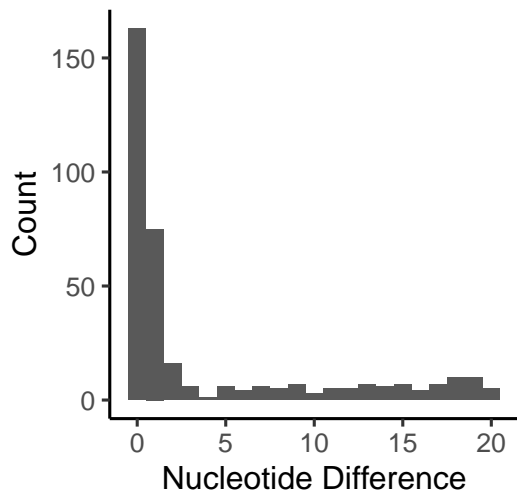
### IGHV4–34\*01

4174 sequences assigned  
2424 (58.1%) exact matches, in which:  
2418 unique CDR3  
6 unique J



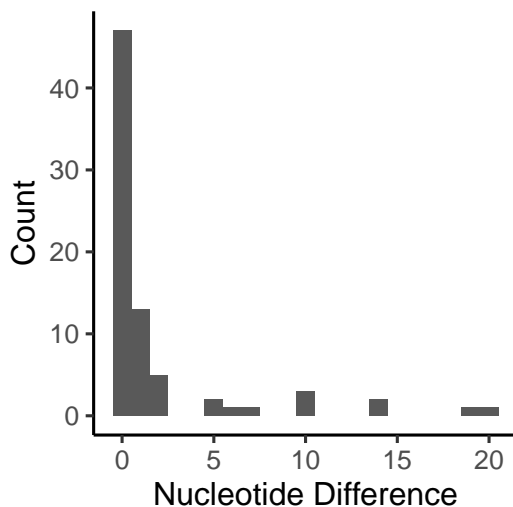
### IGHV4–4\*02

455 sequences assigned  
163 (35.8%) exact matches, in which:  
162 unique CDR3  
6 unique J



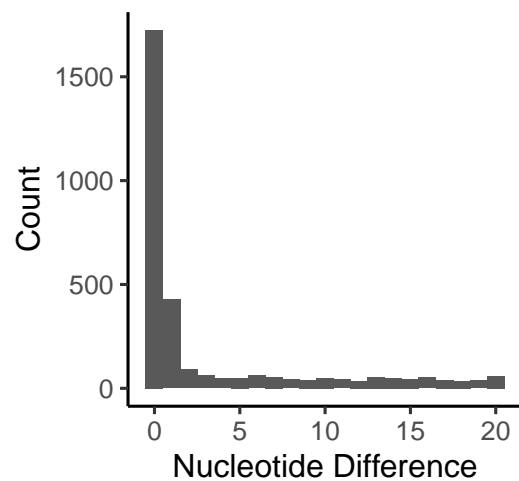
### IGHV4–31\*01

77 sequences assigned  
47 (61%) exact matches, in which:  
47 unique CDR3  
6 unique J



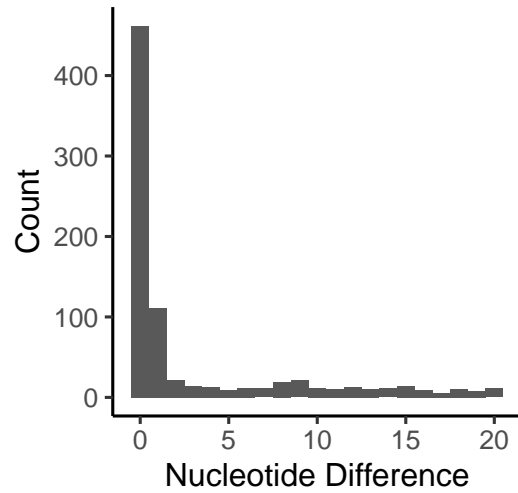
### IGHV4–39\*01

3654 sequences assigned  
1725 (47.2%) exact matches, in which:  
1724 unique CDR3  
6 unique J



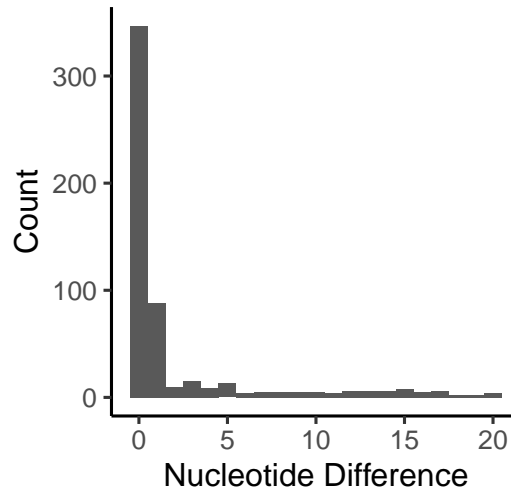
### IGHV4–59\*01

957 sequences assigned  
462 (48.3%) exact matches, in which:  
460 unique CDR3  
6 unique J



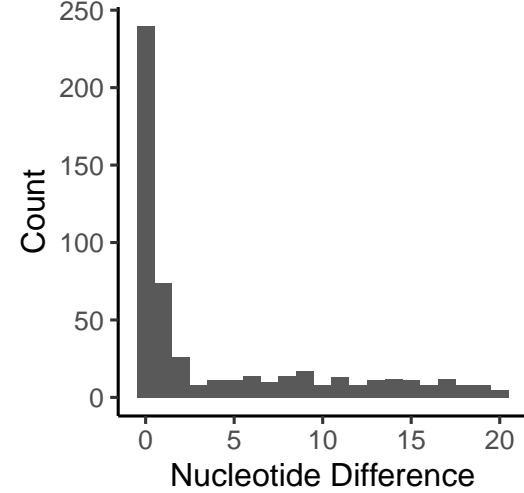
### IGHV5–10–1\*03

654 sequences assigned  
347 (53.1%) exact matches, in which:  
347 unique CDR3  
6 unique J



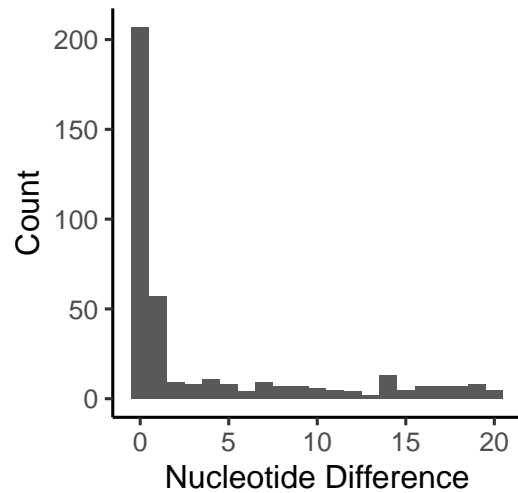
### IGHV6–1\*01

580 sequences assigned  
240 (41.4%) exact matches, in which:  
240 unique CDR3  
6 unique J



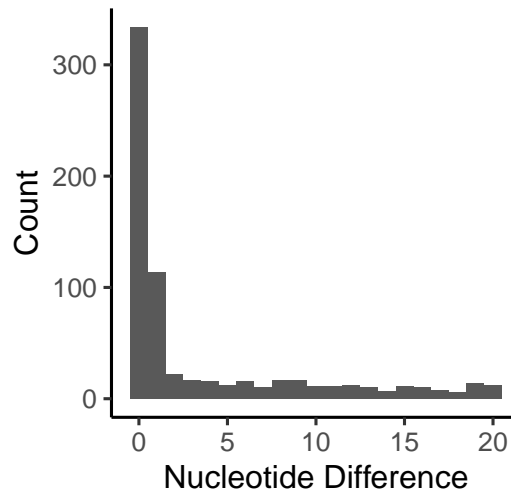
### IGHV4–59\*08

444 sequences assigned  
207 (46.6%) exact matches, in which:  
207 unique CDR3  
6 unique J



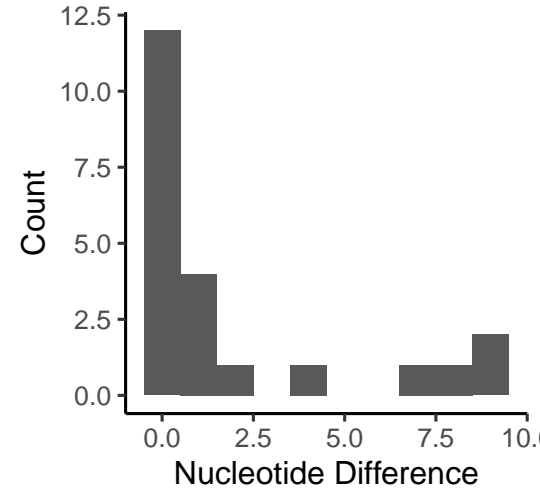
### IGHV5–51\*01

788 sequences assigned  
334 (42.4%) exact matches, in which:  
334 unique CDR3  
6 unique J



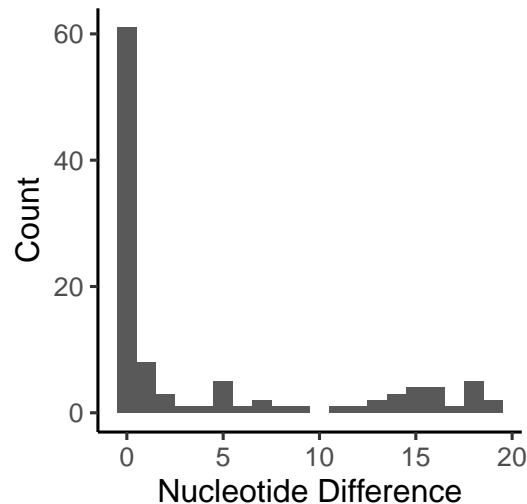
### IGHV7–4–1\*01

32 sequences assigned  
12 (37.5%) exact matches, in which:  
12 unique CDR3  
4 unique J



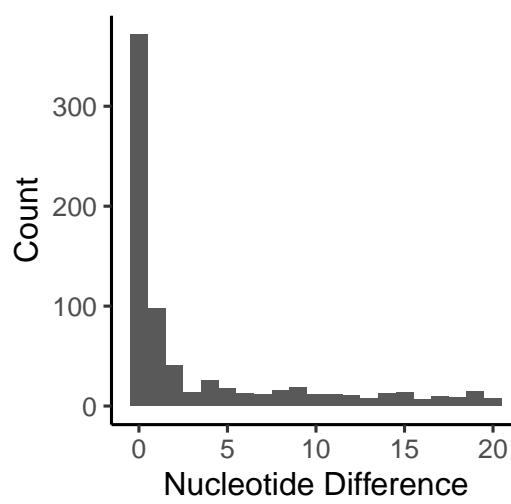
### IGHV4–61\*01

142 sequences assigned  
61 (43%) exact matches, in which:  
61 unique CDR3  
5 unique J



### IGHV5–51\*01\_C45G

863 sequences assigned  
372 (43.1%) exact matches, in which:  
372 unique CDR3  
6 unique J





Warning – no inferred sequences found.

Warning – no inferred sequences found.

Warning – no inferred sequences found.

Warning – no inferred sequences found.

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