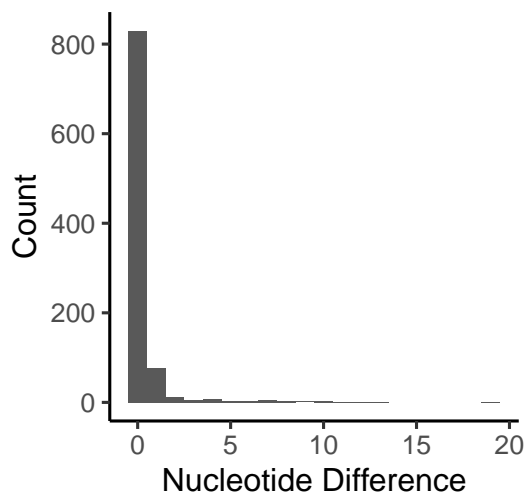


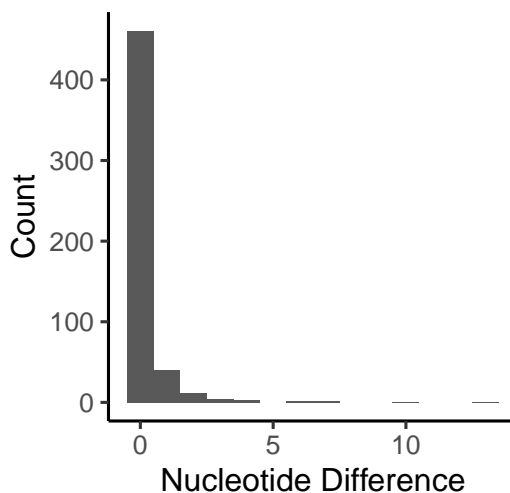
### IGHV1-2\*02

961 sequences assigned  
830 (86.4%) exact matches, in which:  
797 unique CDR3  
6 unique J



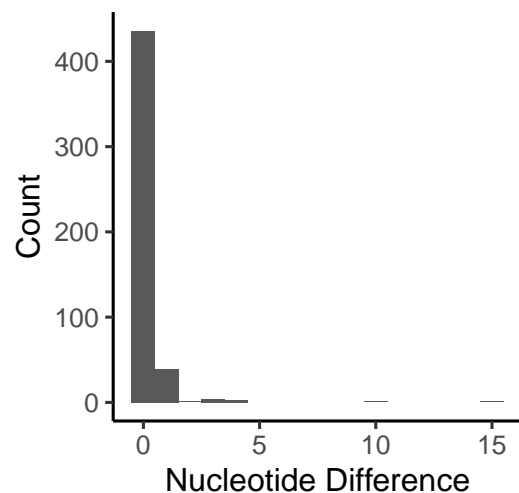
### IGHV1-8\*01

526 sequences assigned  
461 (87.6%) exact matches, in which:  
440 unique CDR3  
6 unique J



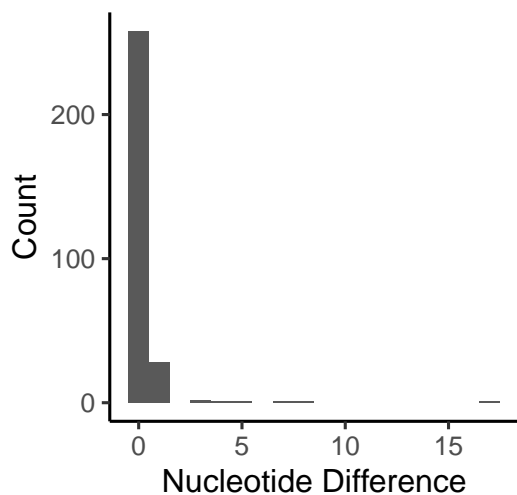
### IGHV1-24\*01

486 sequences assigned  
436 (89.7%) exact matches, in which:  
418 unique CDR3  
6 unique J



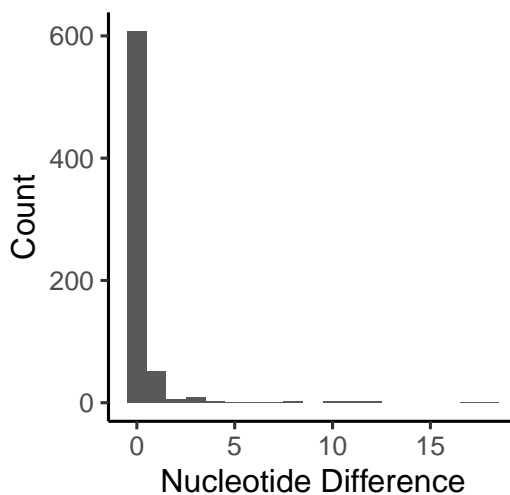
### IGHV1-2\*04

293 sequences assigned  
258 (88.1%) exact matches, in which:  
247 unique CDR3  
6 unique J



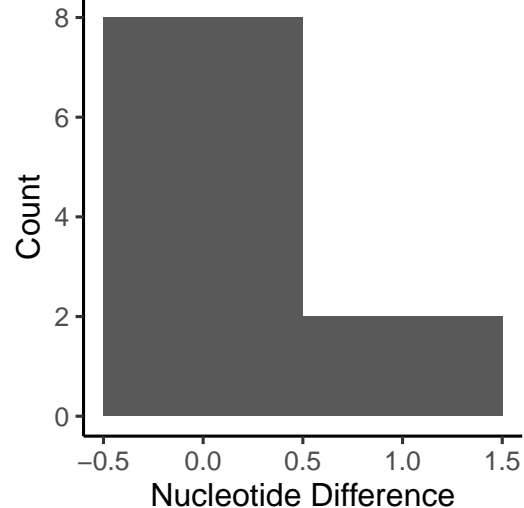
### IGHV1-18\*01

692 sequences assigned  
608 (87.9%) exact matches, in which:  
592 unique CDR3  
6 unique J



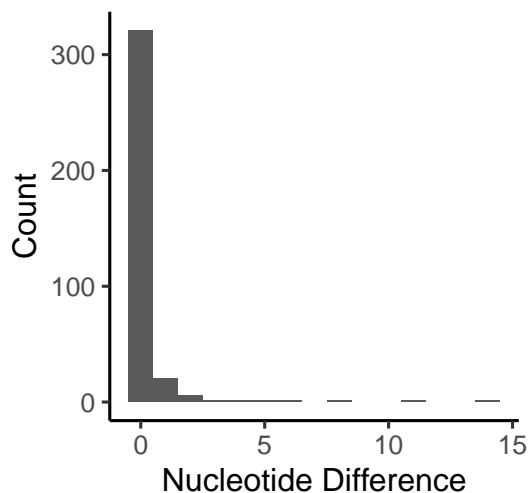
### IGHV1-45\*02

10 sequences assigned  
8 (80%) exact matches, in which:  
8 unique CDR3  
3 unique J



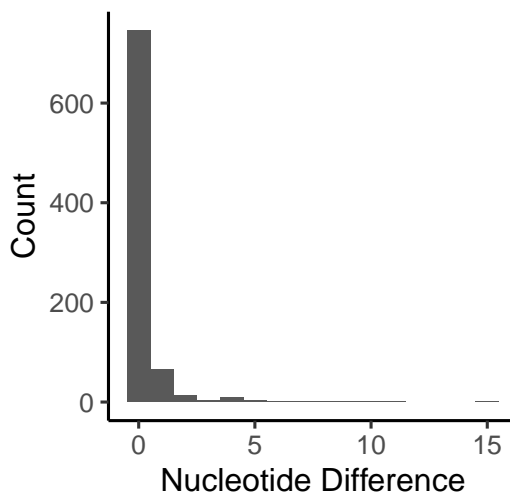
### IGHV1-3\*01

355 sequences assigned  
321 (90.4%) exact matches, in which:  
316 unique CDR3  
6 unique J



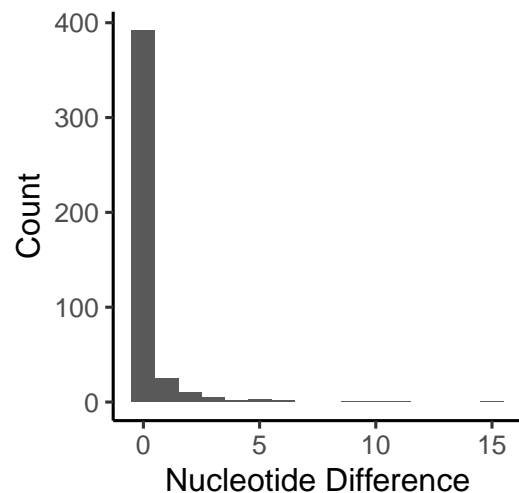
### IGHV1-18\*04

850 sequences assigned  
746 (87.8%) exact matches, in which:  
726 unique CDR3  
6 unique J



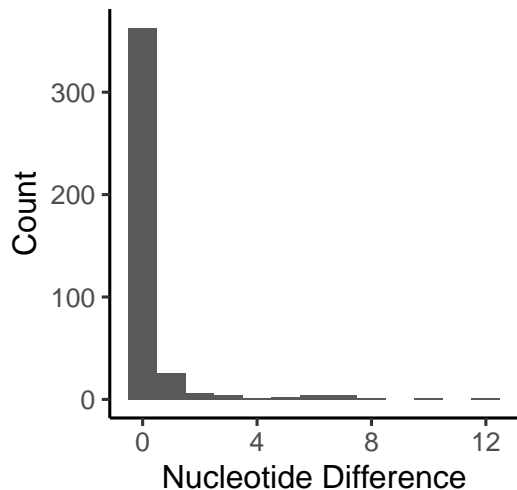
### IGHV1-46\*01

446 sequences assigned  
392 (87.9%) exact matches, in which:  
375 unique CDR3  
6 unique J



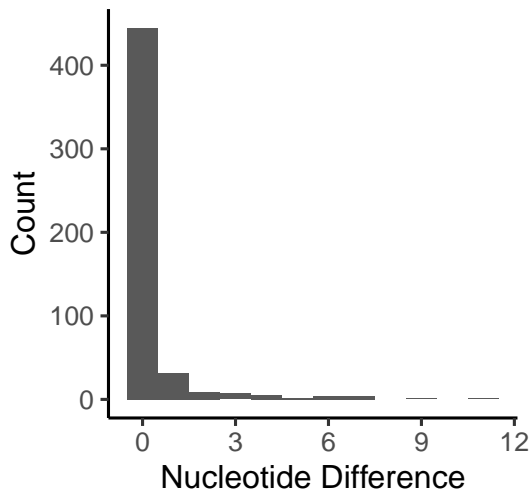
### IGHV1-46\*03

413 sequences assigned  
363 (87.9%) exact matches, in which:  
349 unique CDR3  
6 unique J



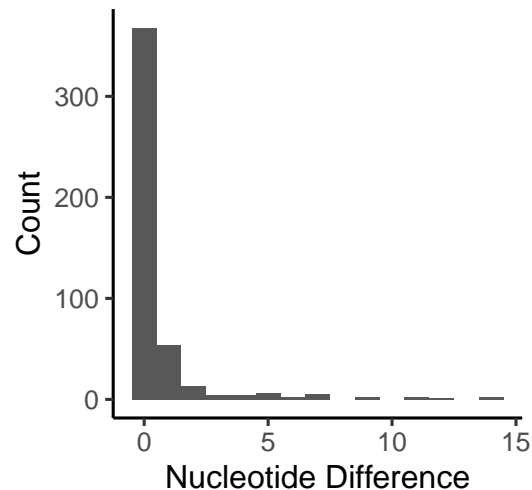
### IGHV2-5\*01

510 sequences assigned  
445 (87.3%) exact matches, in which:  
439 unique CDR3  
6 unique J



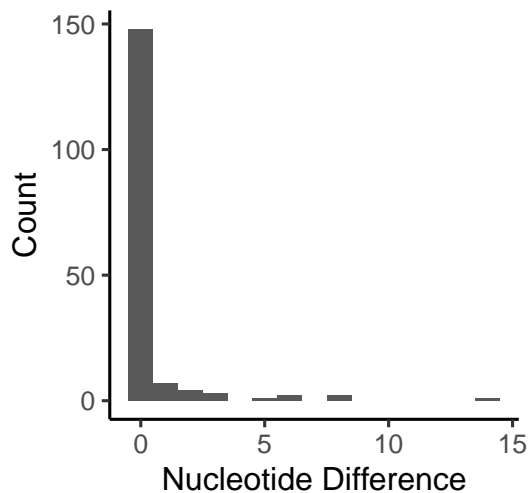
### IGHV3-7\*01

463 sequences assigned  
368 (79.5%) exact matches, in which:  
353 unique CDR3  
6 unique J



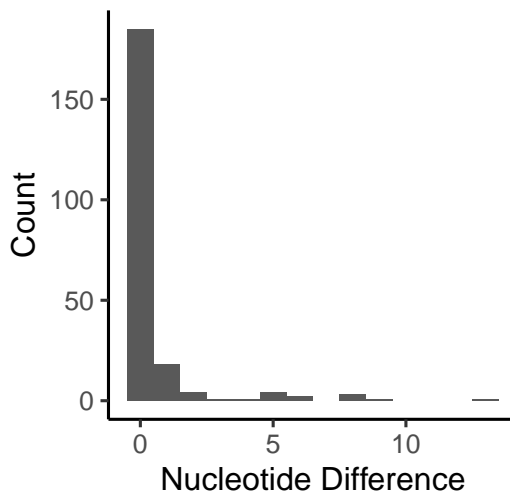
### IGHV1-58\*01

171 sequences assigned  
148 (86.5%) exact matches, in which:  
139 unique CDR3  
6 unique J



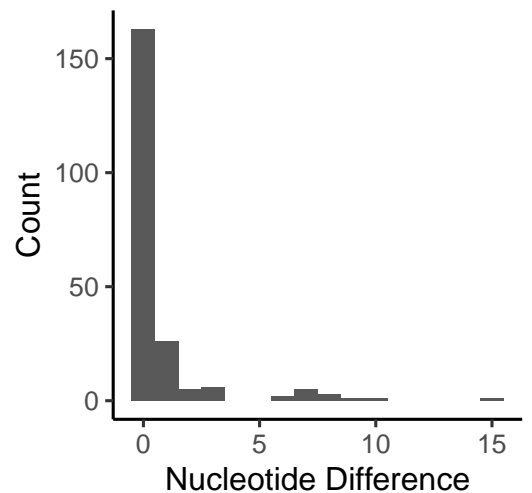
### IGHV2-26\*01

220 sequences assigned  
185 (84.1%) exact matches, in which:  
180 unique CDR3  
6 unique J



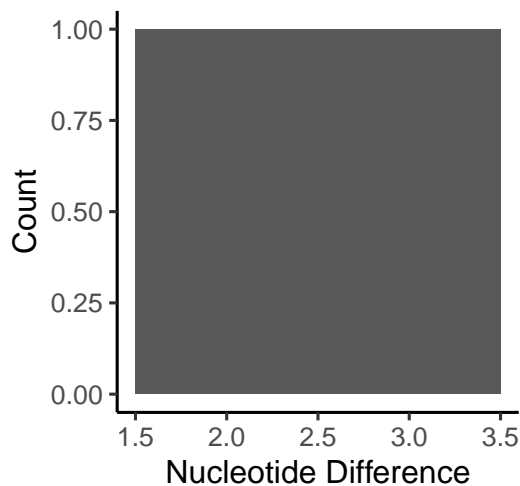
### IGHV3-7\*05

213 sequences assigned  
163 (76.5%) exact matches, in which:  
158 unique CDR3  
6 unique J



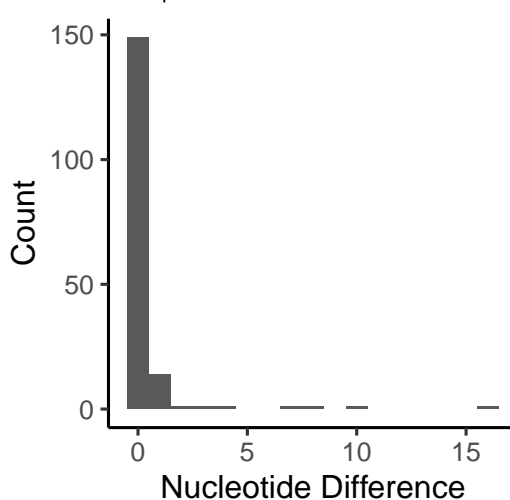
### IGHV1-NL1\*01

2 sequences assigned  
No exact matches.



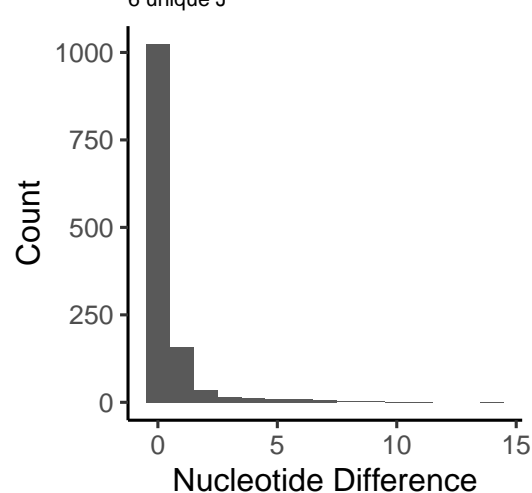
### IGHV2-70\*01

170 sequences assigned  
149 (87.6%) exact matches, in which:  
146 unique CDR3  
6 unique J



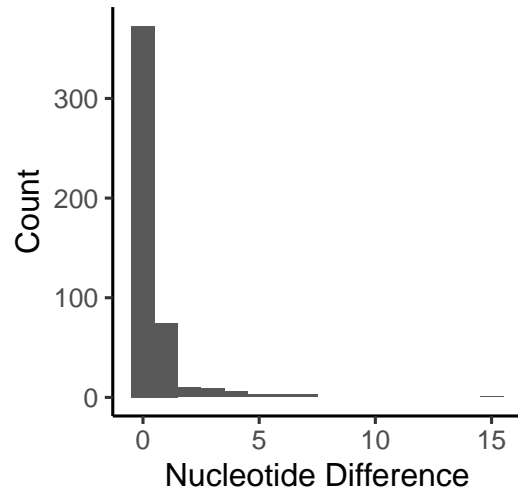
### IGHV3-9\*01

1277 sequences assigned  
1024 (80.2%) exact matches, in which:  
965 unique CDR3  
6 unique J



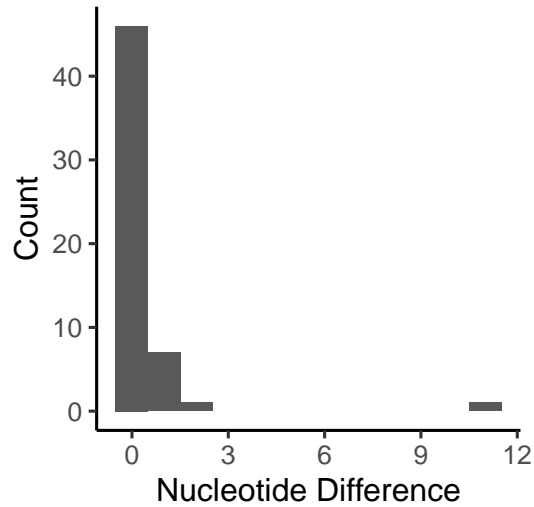
### IGHV3-11\*01

483 sequences assigned  
373 (77.2%) exact matches, in which:  
357 unique CDR3  
6 unique J



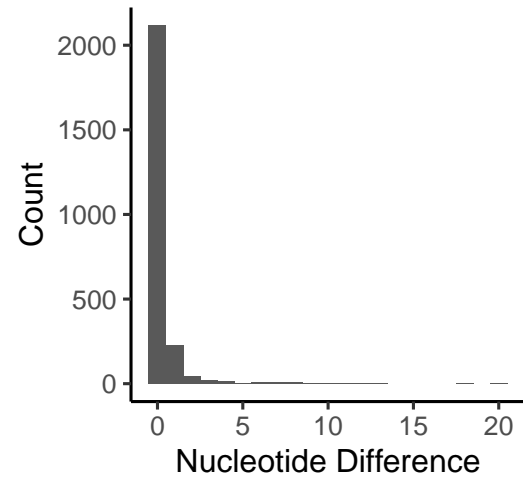
### IGHV3-13\*05

55 sequences assigned  
46 (83.6%) exact matches, in which:  
44 unique CDR3  
4 unique J



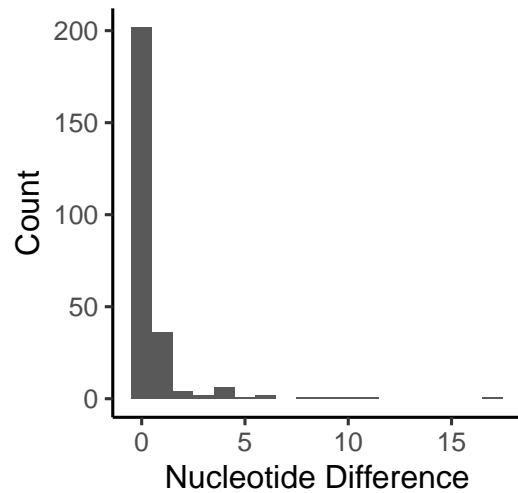
### IGHV3-21\*01

2468 sequences assigned  
2117 (85.8%) exact matches, in which:  
2009 unique CDR3  
6 unique J



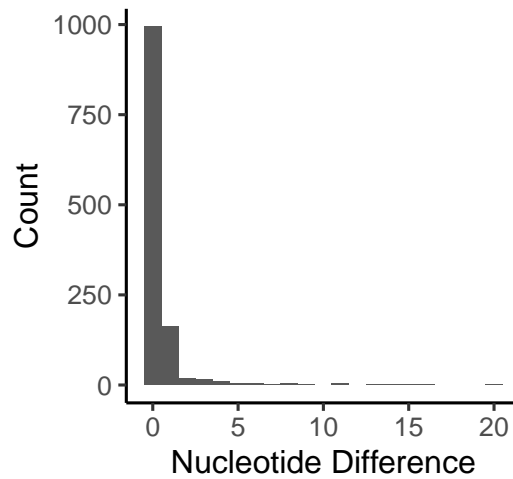
### IGHV3-11\*06

258 sequences assigned  
202 (78.3%) exact matches, in which:  
194 unique CDR3  
6 unique J



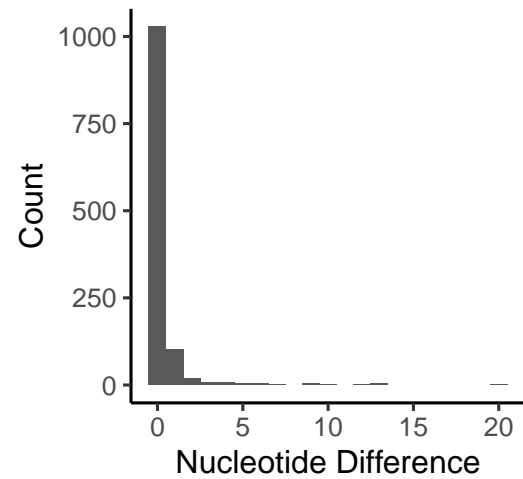
### IGHV3-15\*01

1226 sequences assigned  
994 (81.1%) exact matches, in which:  
965 unique CDR3  
6 unique J



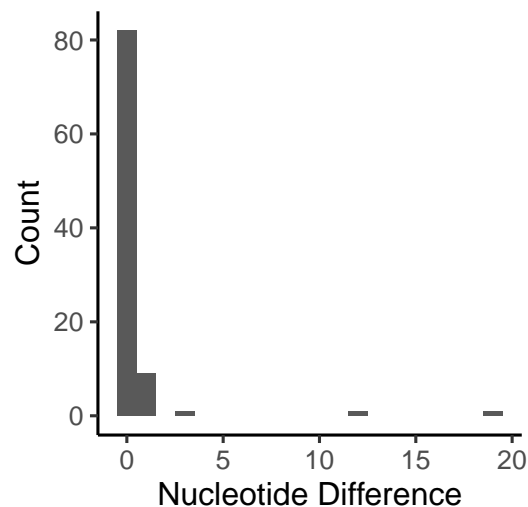
### IGHV3-30\*01

1181 sequences assigned  
1028 (87%) exact matches, in which:  
979 unique CDR3  
6 unique J



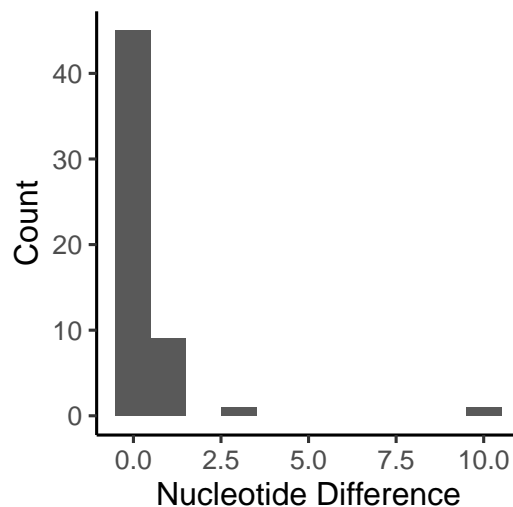
### IGHV3-13\*01

95 sequences assigned  
82 (86.3%) exact matches, in which:  
80 unique CDR3  
6 unique J



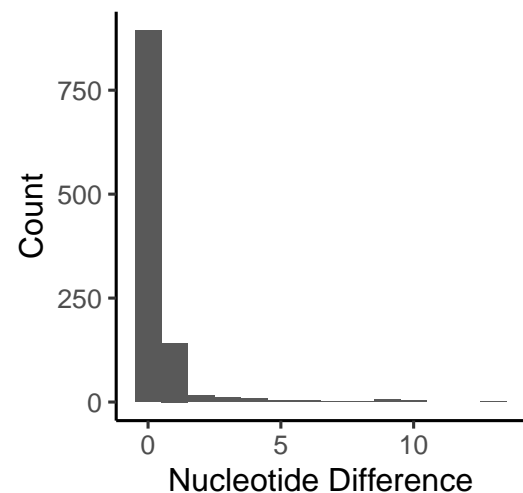
### IGHV3-20\*01

56 sequences assigned  
45 (80.4%) exact matches, in which:  
42 unique CDR3  
5 unique J



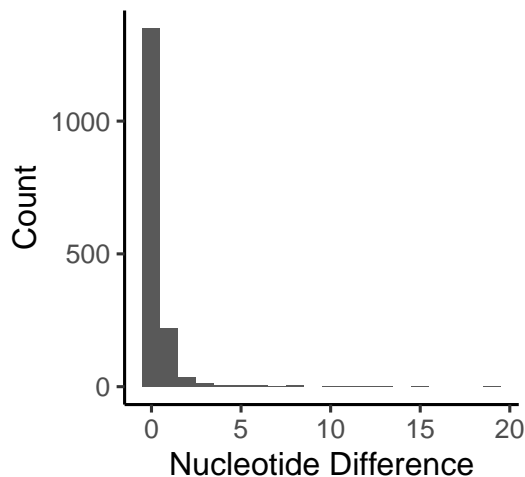
### IGHV3-30-3\*01

1092 sequences assigned  
894 (81.9%) exact matches, in which:  
851 unique CDR3  
6 unique J



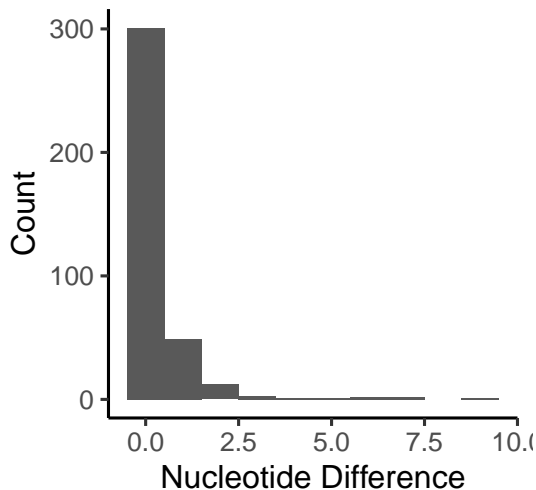
### IGHV3–33\*01

1650 sequences assigned  
1349 (81.8%) exact matches, in which:  
1275 unique CDR3  
6 unique J



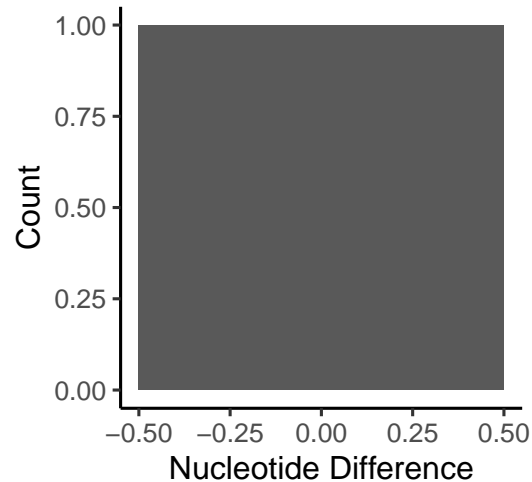
### IGHV3–49\*05

372 sequences assigned  
301 (80.9%) exact matches, in which:  
281 unique CDR3  
6 unique J



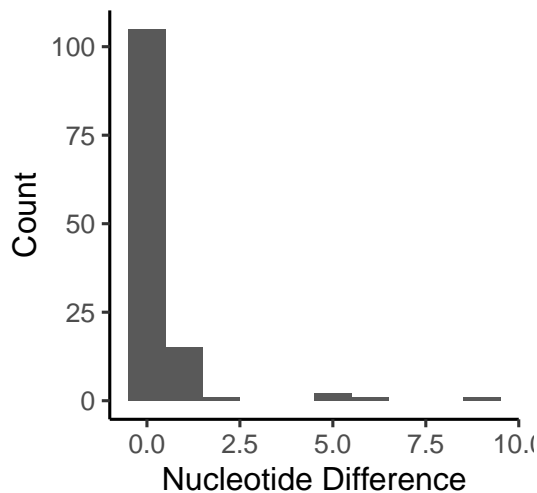
### IGHV3–66\*04

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



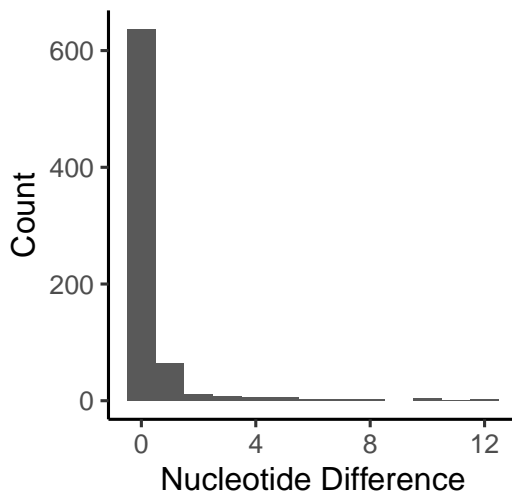
### IGHV3–43\*01

127 sequences assigned  
105 (82.7%) exact matches, in which:  
102 unique CDR3  
6 unique J



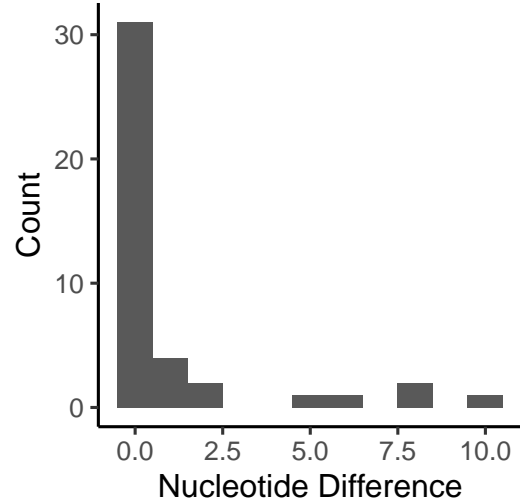
### IGHV3–53\*01

745 sequences assigned  
637 (85.5%) exact matches, in which:  
607 unique CDR3  
6 unique J



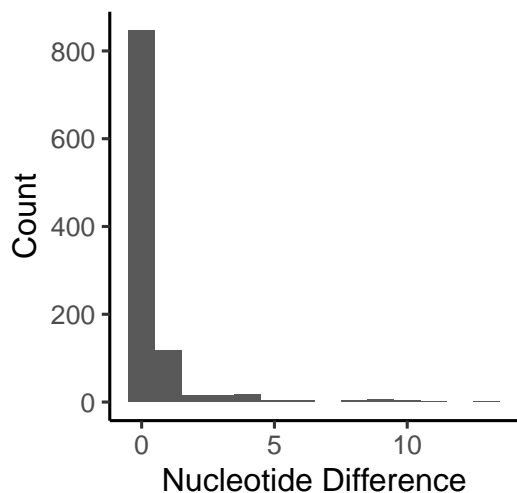
### IGHV3–72\*01

42 sequences assigned  
31 (73.8%) exact matches, in which:  
31 unique CDR3  
4 unique J



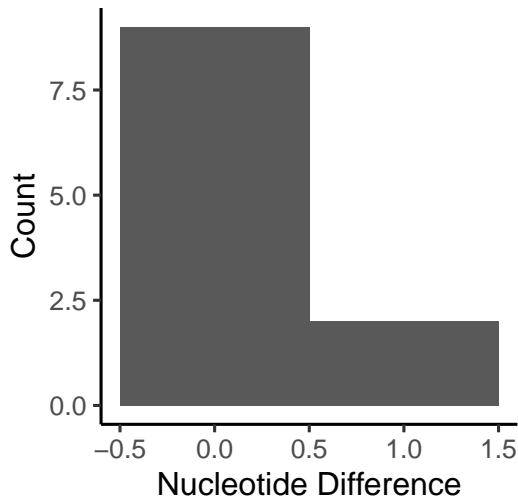
### IGHV3–48\*02

1036 sequences assigned  
847 (81.8%) exact matches, in which:  
807 unique CDR3  
6 unique J



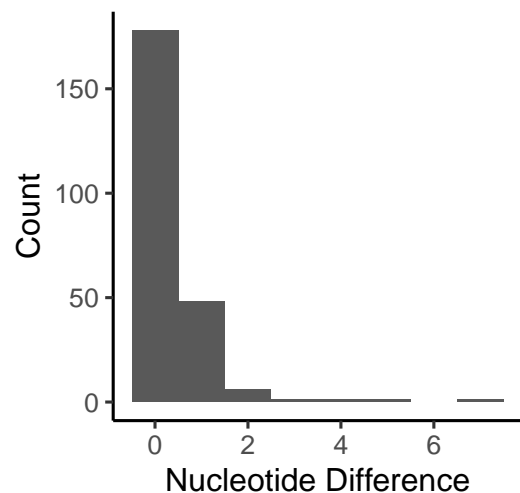
### IGHV3–64\*02

11 sequences assigned  
9 (81.8%) exact matches, in which:  
8 unique CDR3  
3 unique J



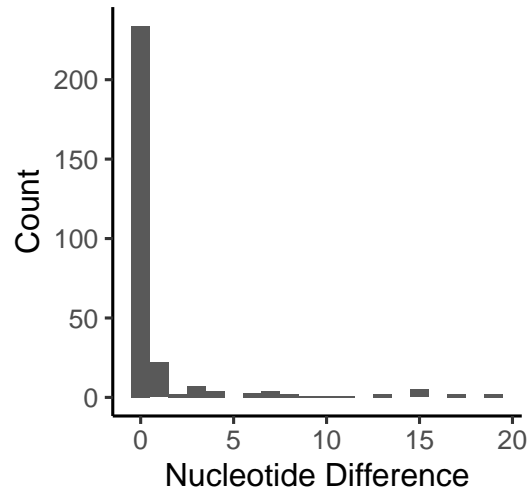
### IGHV3–73\*02

237 sequences assigned  
178 (75.1%) exact matches, in which:  
157 unique CDR3  
5 unique J



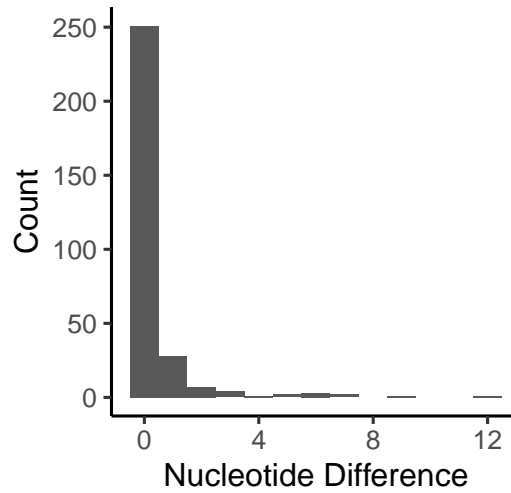
### IGHV3-74\*01

298 sequences assigned  
234 (78.5%) exact matches, in which:  
224 unique CDR3  
6 unique J



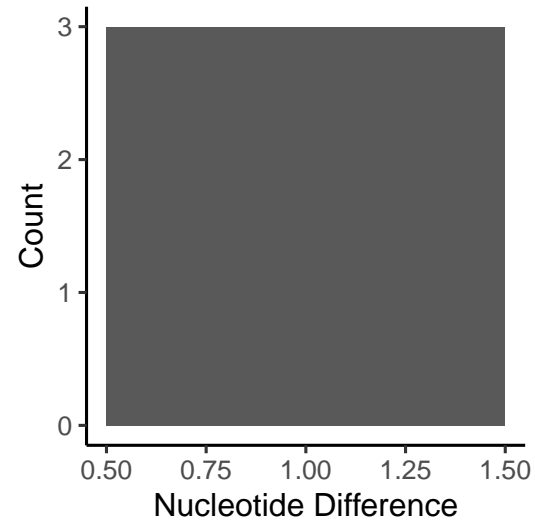
### IGHV4-4\*07

302 sequences assigned  
251 (83.1%) exact matches, in which:  
241 unique CDR3  
6 unique J



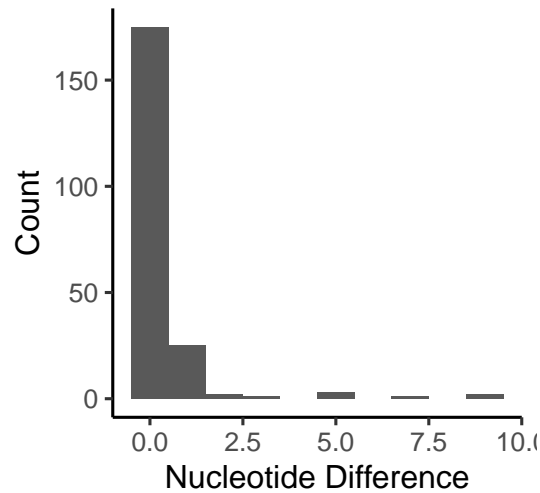
### IGHV4-28\*04

3 sequences assigned  
No exact matches.



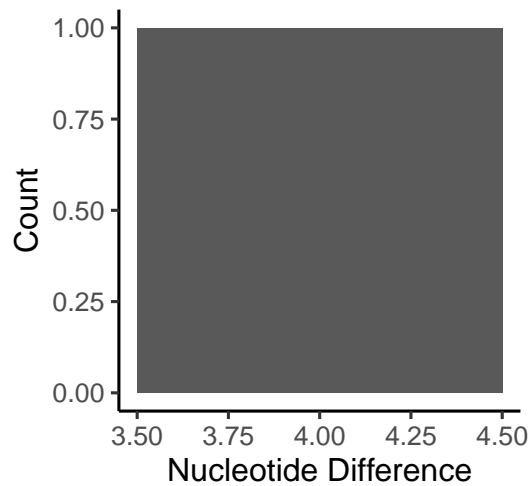
### IGHV3-64D\*08

209 sequences assigned  
175 (83.7%) exact matches, in which:  
165 unique CDR3  
6 unique J



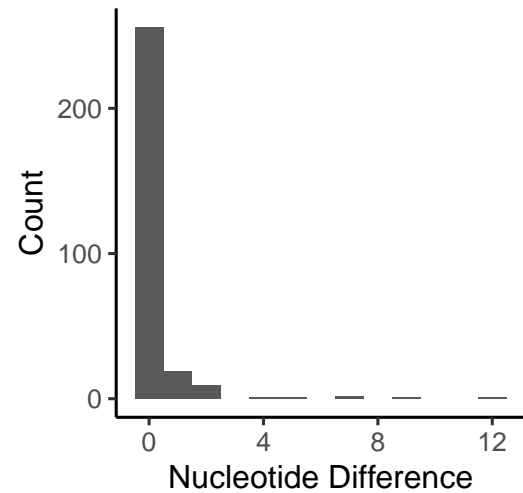
### IGHV4-28\*01

1 sequences assigned  
No exact matches.



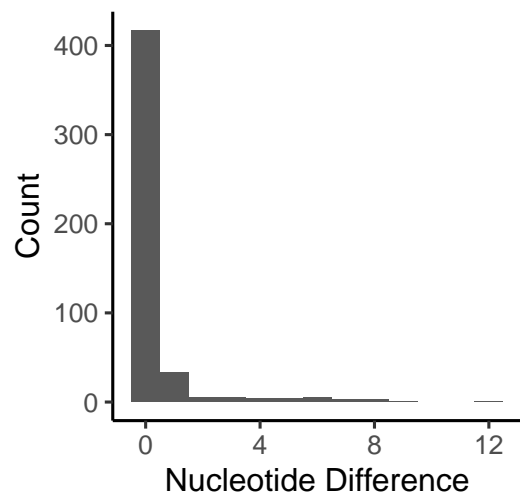
### IGHV4-30-4\*01

290 sequences assigned  
256 (88.3%) exact matches, in which:  
249 unique CDR3  
6 unique J



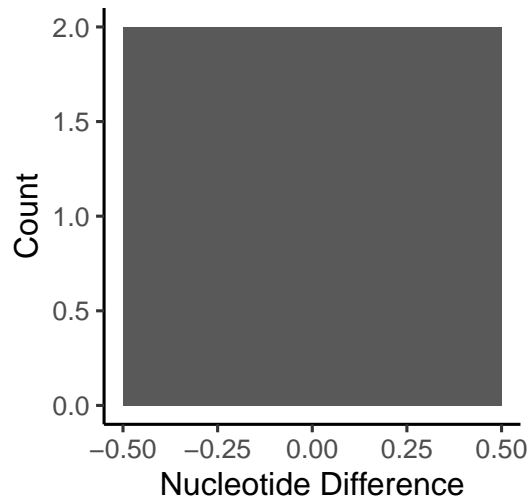
### IGHV4-4\*02

481 sequences assigned  
417 (86.7%) exact matches, in which:  
404 unique CDR3  
6 unique J



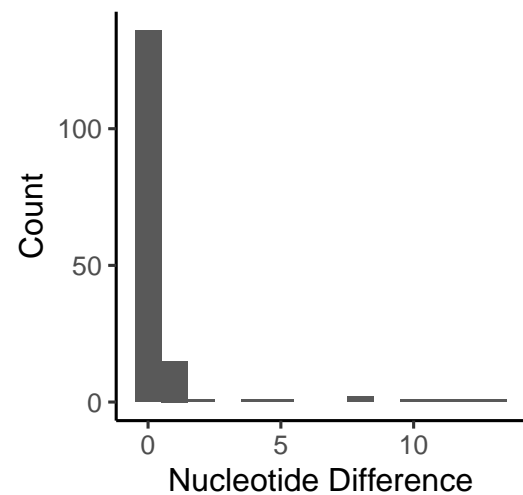
### IGHV4-28\*02

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



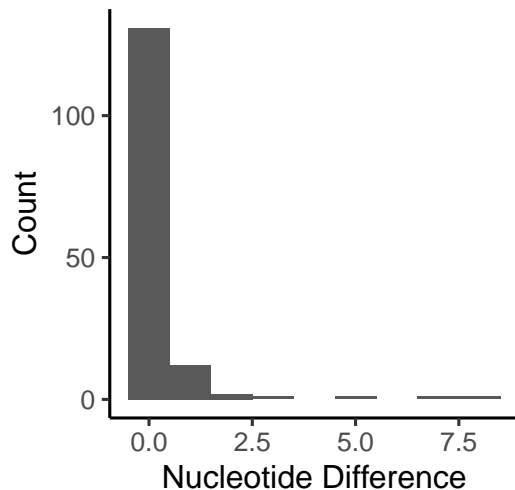
### IGHV4-30-2\*01

160 sequences assigned  
136 (85%) exact matches, in which:  
131 unique CDR3  
6 unique J



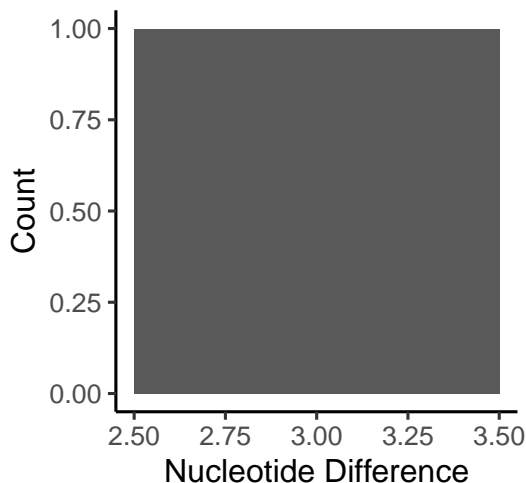
### IGHV4-31\*01

149 sequences assigned  
131 (87.9%) exact matches, in which:  
128 unique CDR3  
6 unique J



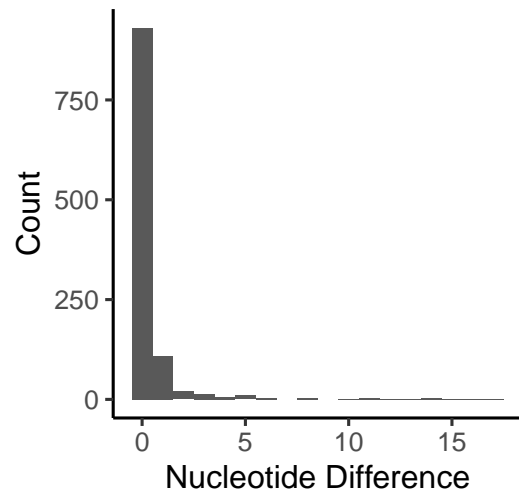
### IGHV4-38-2\*02

1 sequences assigned  
No exact matches.



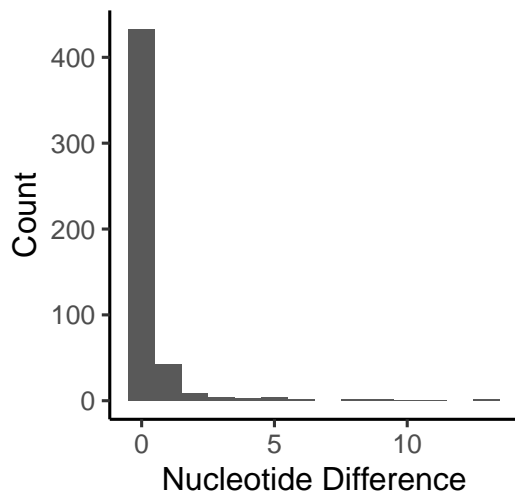
### IGHV4-59\*01

1111 sequences assigned  
931 (83.8%) exact matches, in which:  
911 unique CDR3  
6 unique J



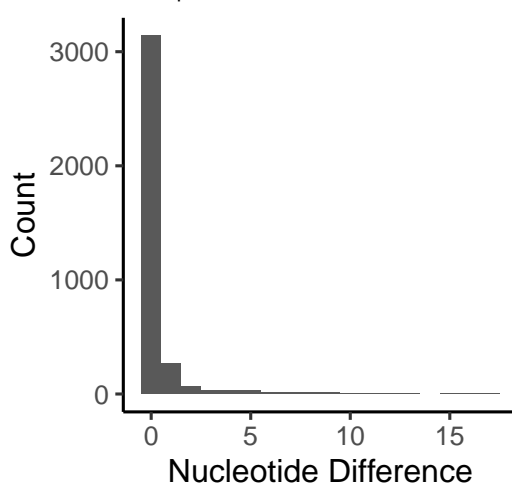
### IGHV4-31\*03

505 sequences assigned  
433 (85.7%) exact matches, in which:  
418 unique CDR3  
6 unique J



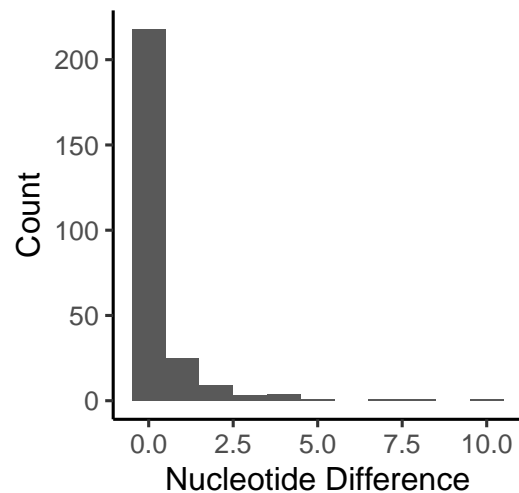
### IGHV4-39\*01

3634 sequences assigned  
3140 (86.4%) exact matches, in which:  
2975 unique CDR3  
6 unique J



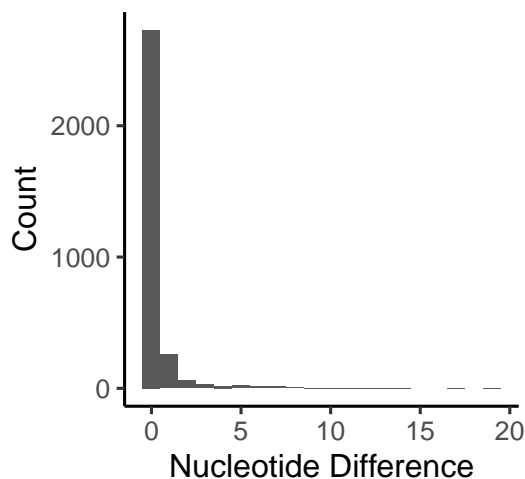
### IGHV4-61\*01

265 sequences assigned  
218 (82.3%) exact matches, in which:  
214 unique CDR3  
6 unique J



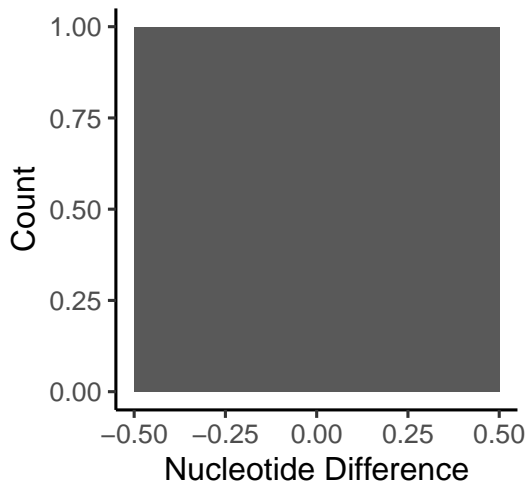
### IGHV4-34\*01

3164 sequences assigned  
2729 (86.3%) exact matches, in which:  
2599 unique CDR3  
6 unique J



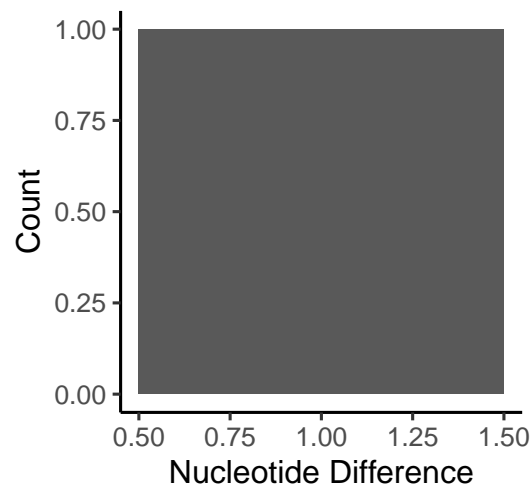
### IGHV4-55\*08

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



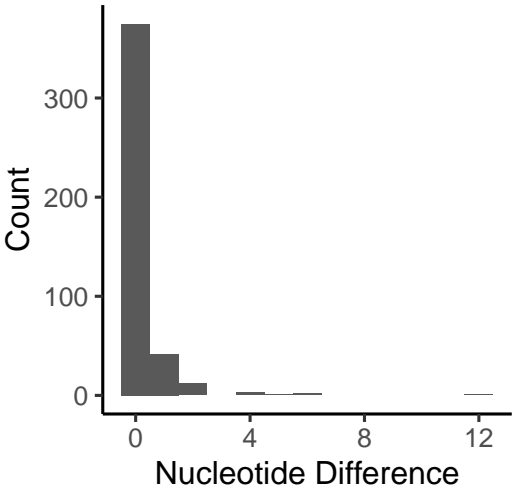
### IGHV1/OR15-1\*03

1 sequences assigned  
No exact matches.



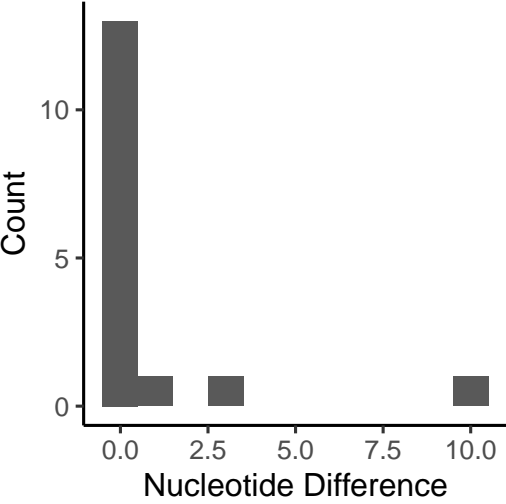
### IGHV5-10-1\*03

436 sequences assigned  
375 (86%) exact matches, in which:  
363 unique CDR3  
5 unique J



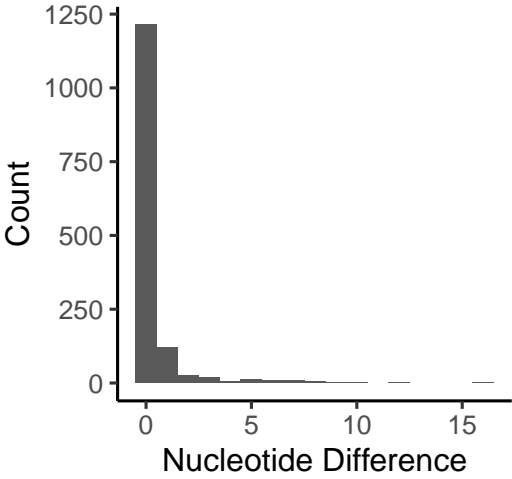
### IGHV7-4-1\*01

16 sequences assigned  
13 (81.2%) exact matches, in which:  
12 unique CDR3  
3 unique J



### IGHV5-51\*01

1429 sequences assigned  
1214 (85%) exact matches, in which:  
1173 unique CDR3  
6 unique J



### IGHV6-1\*01

213 sequences assigned  
179 (84%) exact matches, in which:  
168 unique CDR3  
6 unique J

