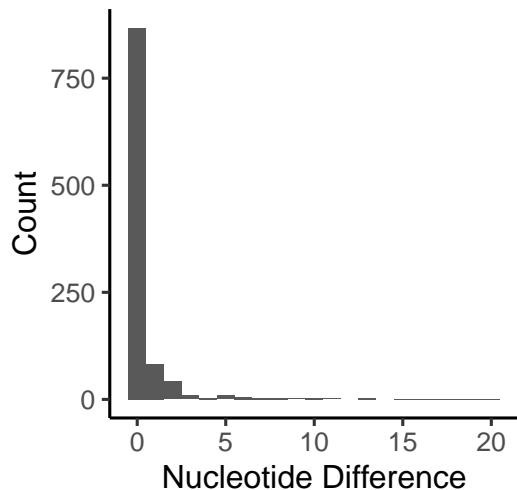


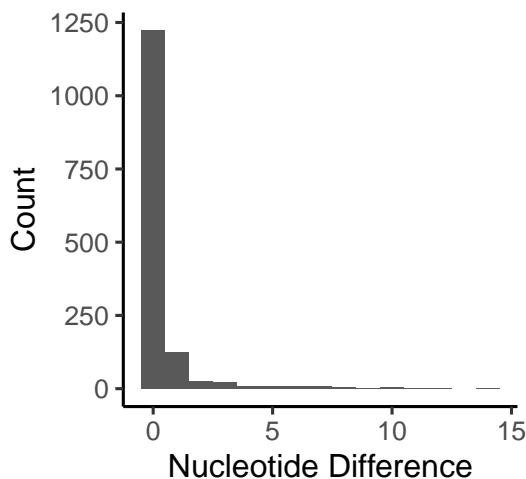
### IGHV1-2\*02

1043 sequences assigned  
868 (83.2%) exact matches, in which:  
806 unique CDR3  
6 unique J



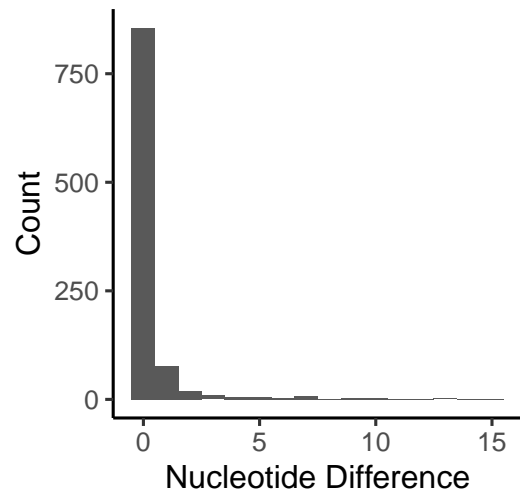
### IGHV1-18\*01

1455 sequences assigned  
1223 (84.1%) exact matches, in which:  
1156 unique CDR3  
7 unique J



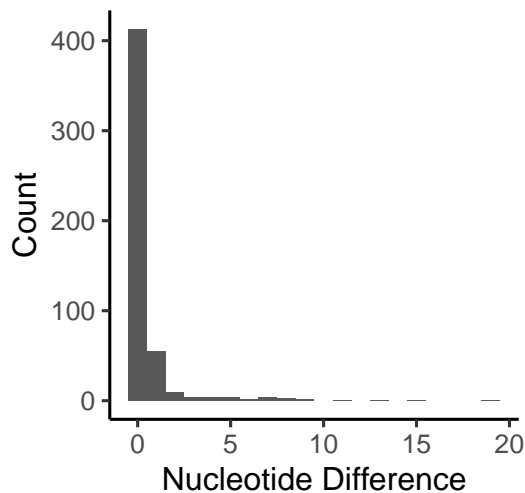
### IGHV1-46\*01

1004 sequences assigned  
856 (85.3%) exact matches, in which:  
797 unique CDR3  
7 unique J



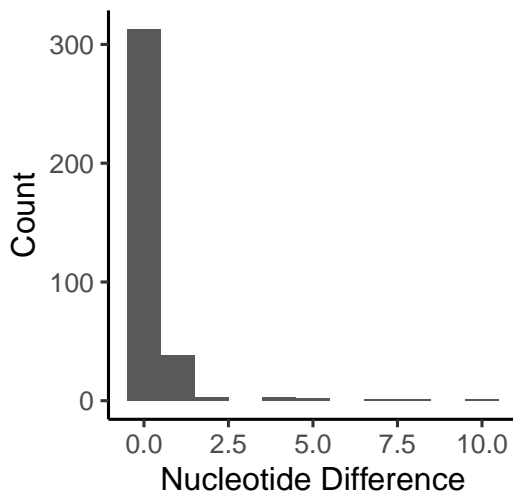
### IGHV1-3\*01

504 sequences assigned  
413 (81.9%) exact matches, in which:  
398 unique CDR3  
6 unique J



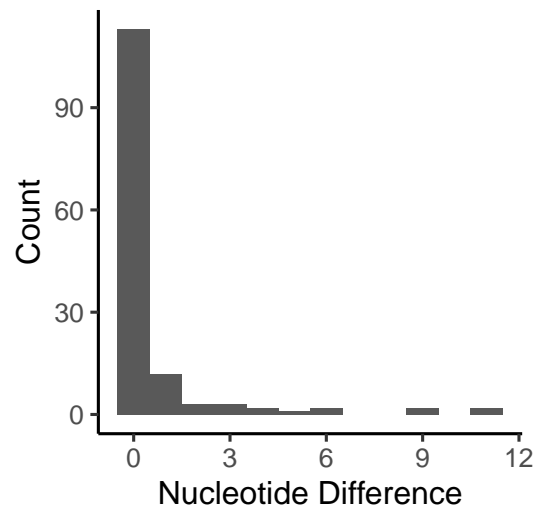
### IGHV1-24\*01

362 sequences assigned  
313 (86.5%) exact matches, in which:  
293 unique CDR3  
7 unique J



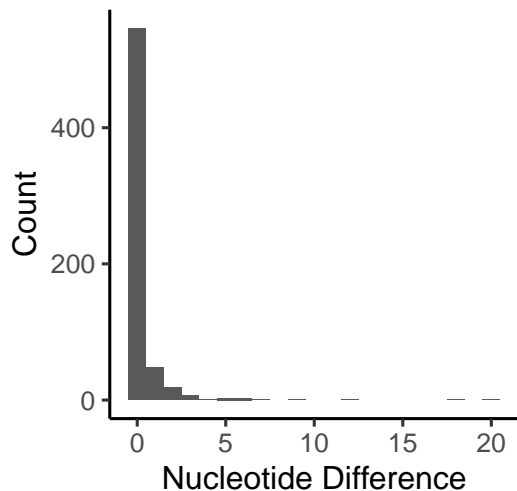
### IGHV1-58\*01

140 sequences assigned  
113 (80.7%) exact matches, in which:  
102 unique CDR3  
7 unique J



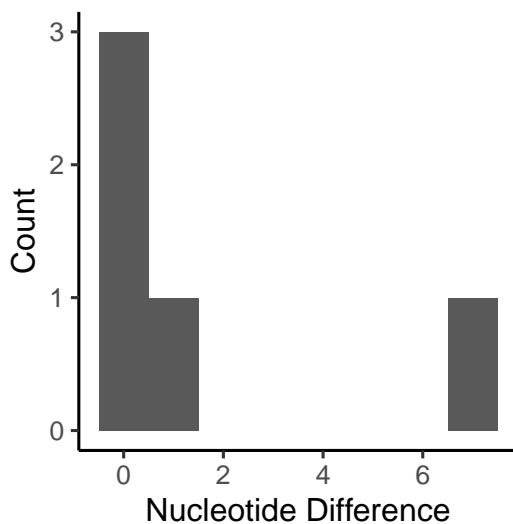
### IGHV1-8\*01

631 sequences assigned  
546 (86.5%) exact matches, in which:  
514 unique CDR3  
7 unique J



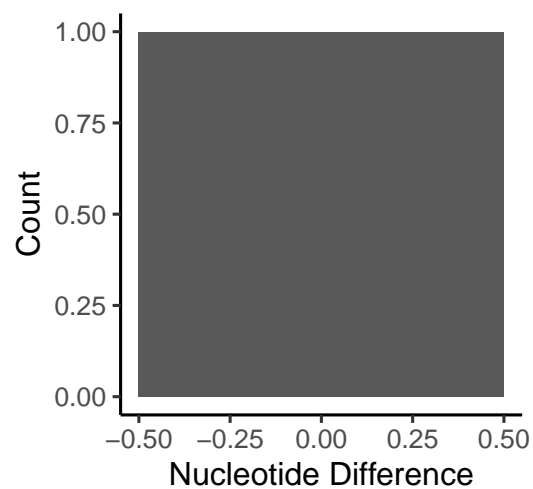
### IGHV1-45\*02

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



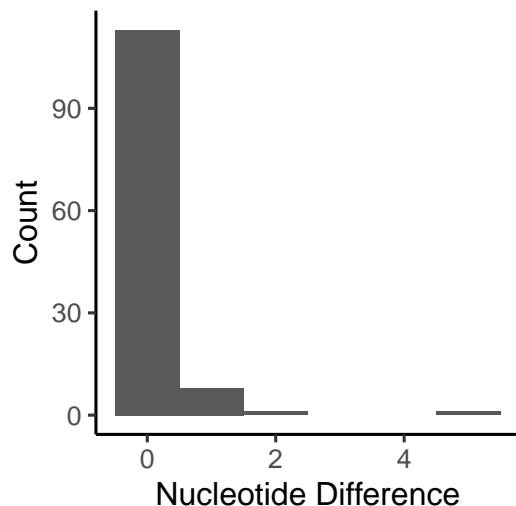
### IGHV1-68\*01

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



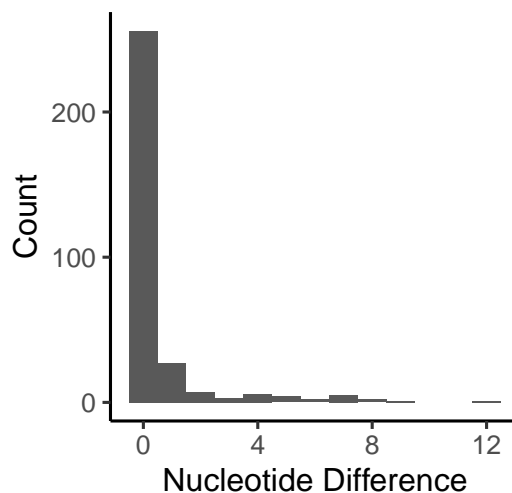
### IGHV1-69-2\*01

123 sequences assigned  
113 (91.9%) exact matches, in which:  
110 unique CDR3  
7 unique J



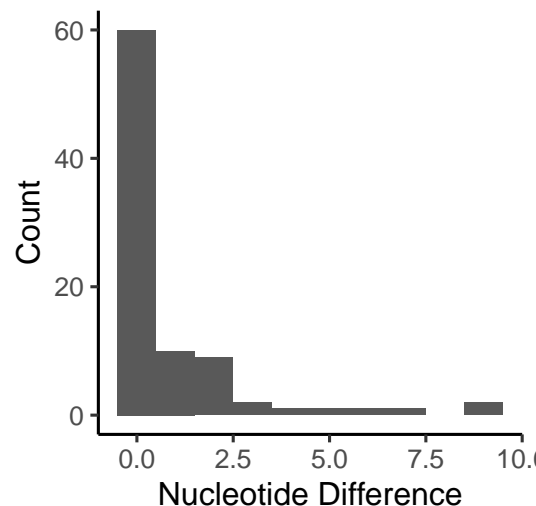
### IGHV2-5\*01

314 sequences assigned  
256 (81.5%) exact matches, in which:  
244 unique CDR3  
6 unique J



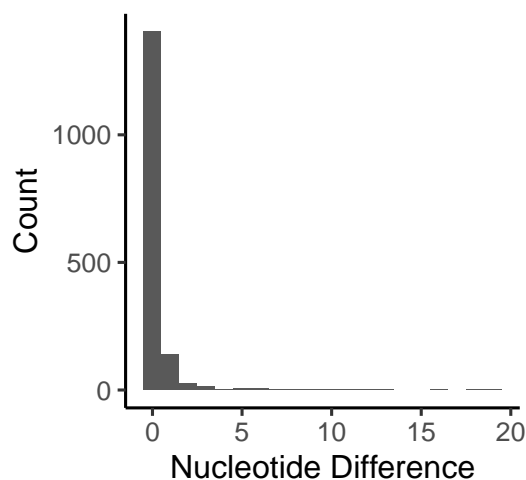
### IGHV2-70\*01

87 sequences assigned  
60 (69%) exact matches, in which:  
60 unique CDR3  
5 unique J



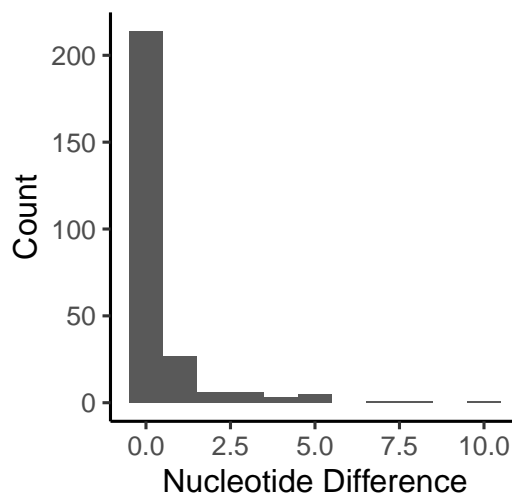
### IGHV1-69\*06

1612 sequences assigned  
1404 (87.1%) exact matches, in which:  
1296 unique CDR3  
7 unique J



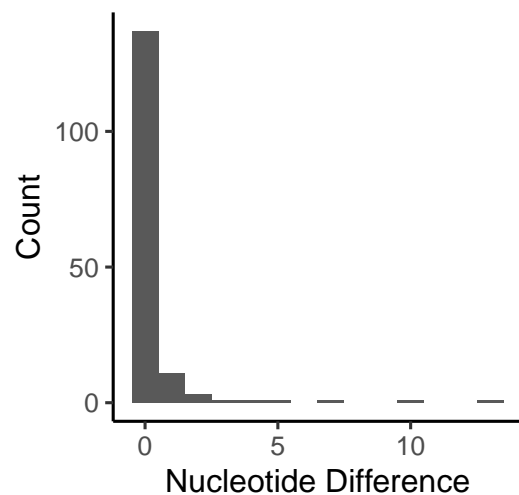
### IGHV2-5\*02

266 sequences assigned  
214 (80.5%) exact matches, in which:  
205 unique CDR3  
6 unique J



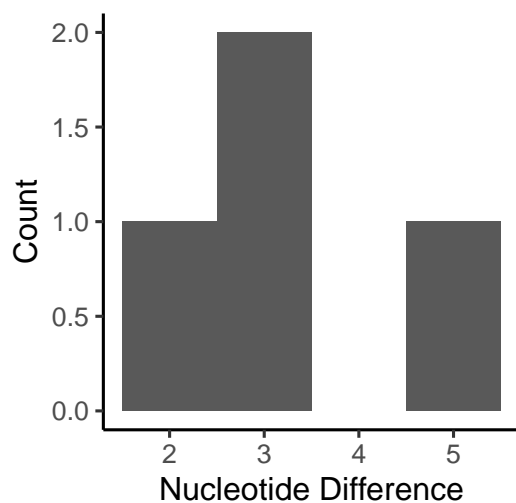
### IGHV2-70\*15

157 sequences assigned  
137 (87.3%) exact matches, in which:  
133 unique CDR3  
5 unique J



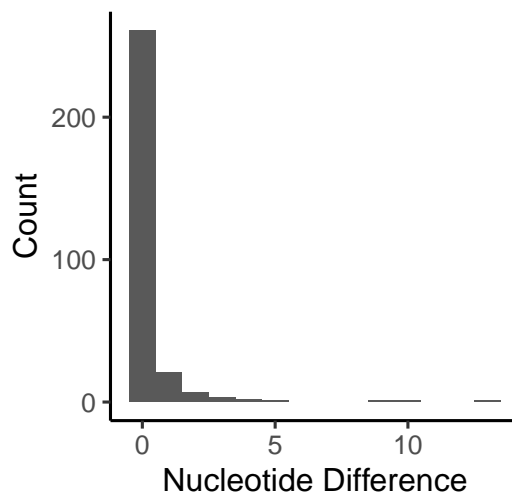
### IGHV1-NL1\*01

4 sequences assigned  
No exact matches.



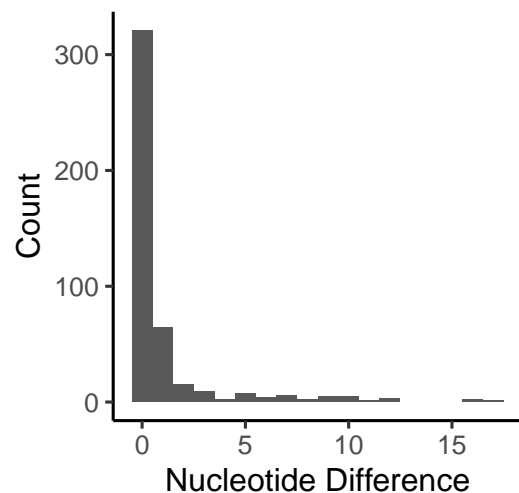
### IGHV2-26\*01

298 sequences assigned  
261 (87.6%) exact matches, in which:  
252 unique CDR3  
7 unique J



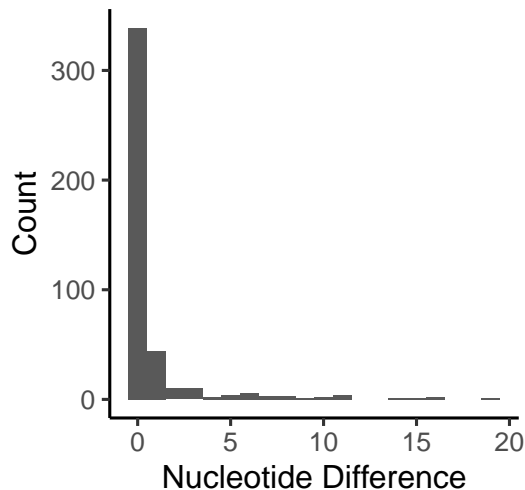
### IGHV3-7\*01

451 sequences assigned  
321 (71.2%) exact matches, in which:  
304 unique CDR3  
6 unique J



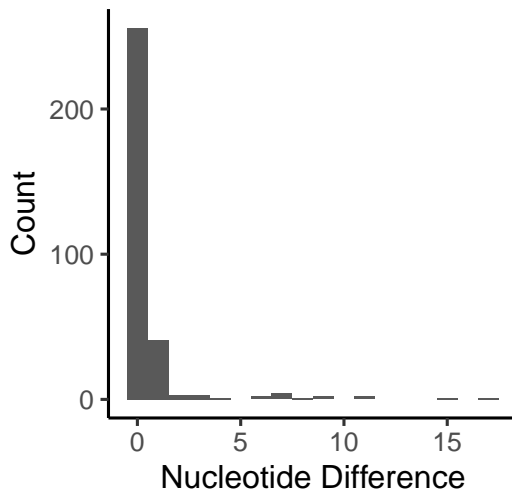
### IGHV3-7\*03

436 sequences assigned  
339 (77.8%) exact matches, in which:  
312 unique CDR3  
6 unique J



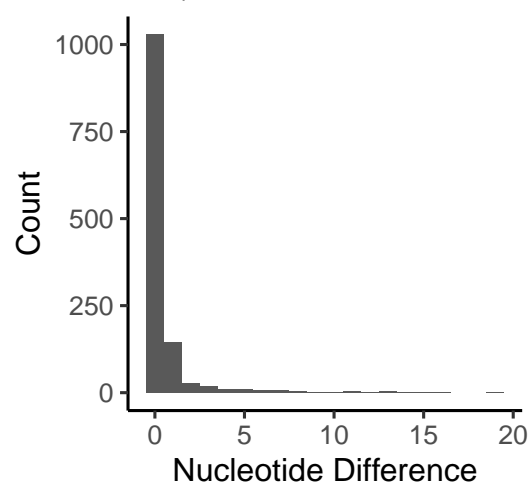
### IGHV3-11\*06

319 sequences assigned  
256 (80.3%) exact matches, in which:  
234 unique CDR3  
6 unique J



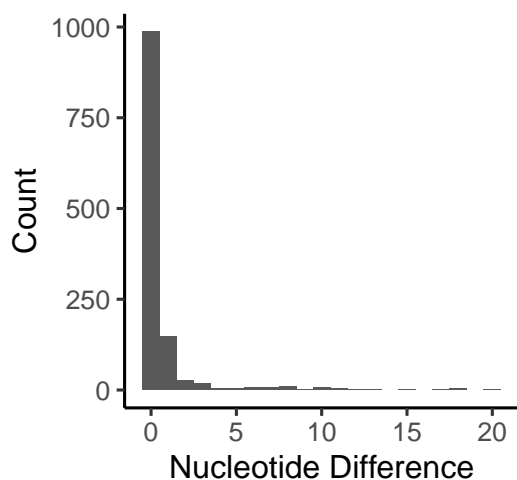
### IGHV3-15\*01

1286 sequences assigned  
1029 (80%) exact matches, in which:  
958 unique CDR3  
7 unique J



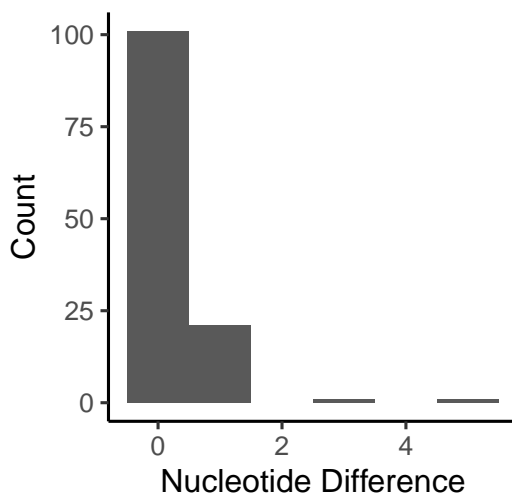
### IGHV3-9\*01

1229 sequences assigned  
987 (80.3%) exact matches, in which:  
902 unique CDR3  
6 unique J



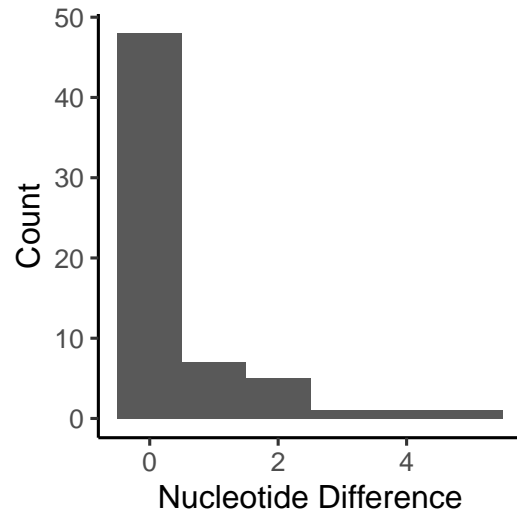
### IGHV3-13\*01

124 sequences assigned  
101 (81.5%) exact matches, in which:  
94 unique CDR3  
6 unique J



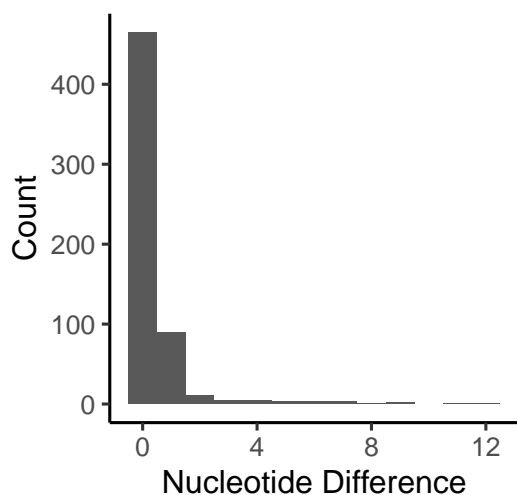
### IGHV3-20\*01

63 sequences assigned  
48 (76.2%) exact matches, in which:  
46 unique CDR3  
5 unique J



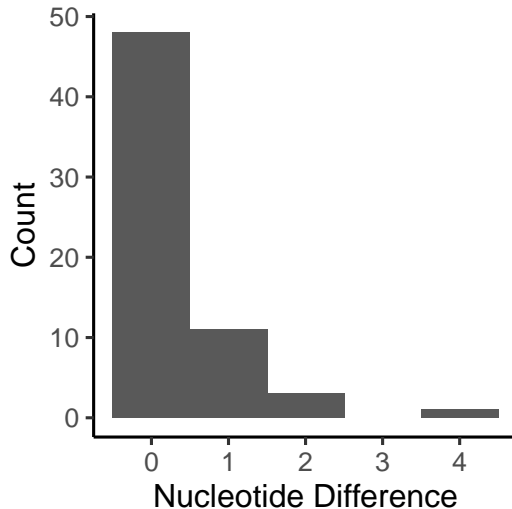
### IGHV3-11\*01

591 sequences assigned  
465 (78.7%) exact matches, in which:  
448 unique CDR3  
7 unique J



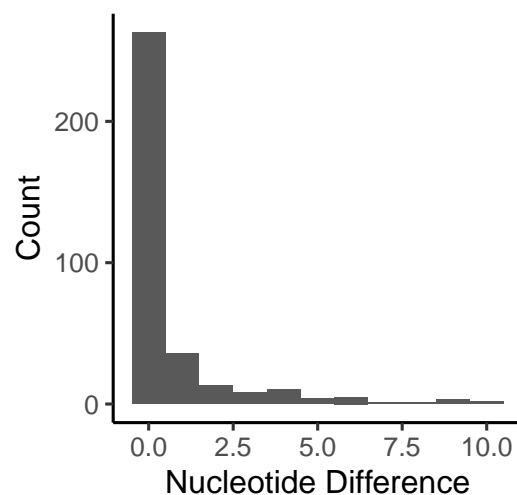
### IGHV3-13\*05

63 sequences assigned  
48 (76.2%) exact matches, in which:  
43 unique CDR3  
4 unique J



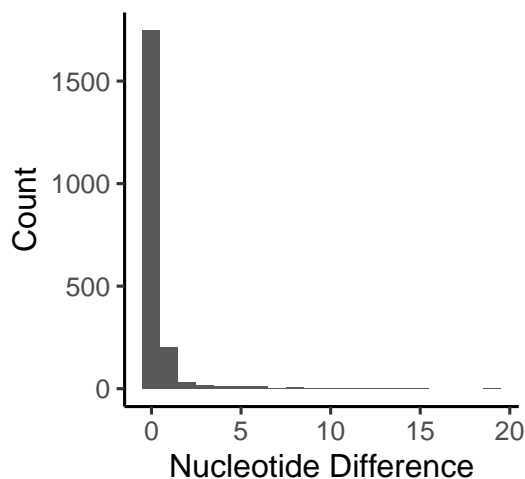
### IGHV3-20\*04

346 sequences assigned  
263 (76%) exact matches, in which:  
240 unique CDR3  
6 unique J



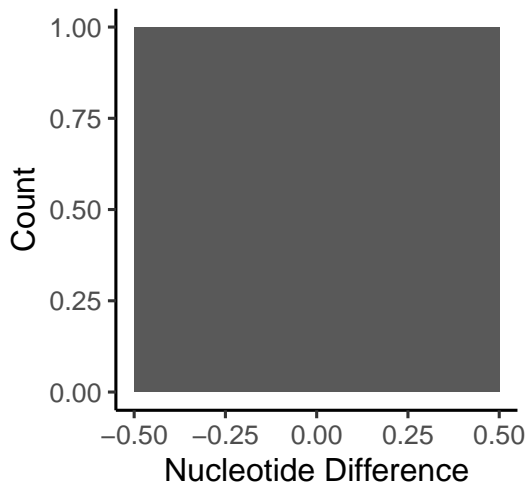
### IGHV3-21\*01

2075 sequences assigned  
1747 (84.2%) exact matches, in which:  
1630 unique CDR3  
7 unique J



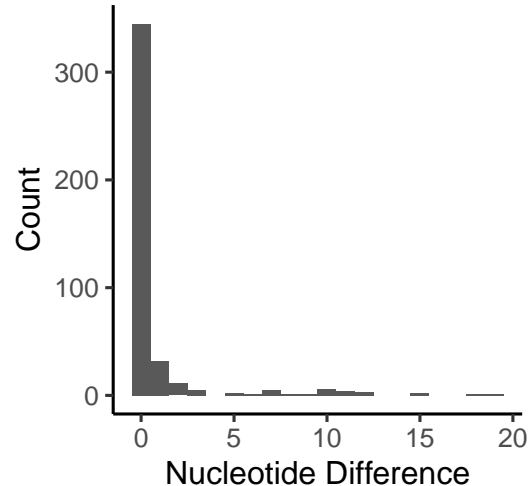
### IGHV3-35\*01

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



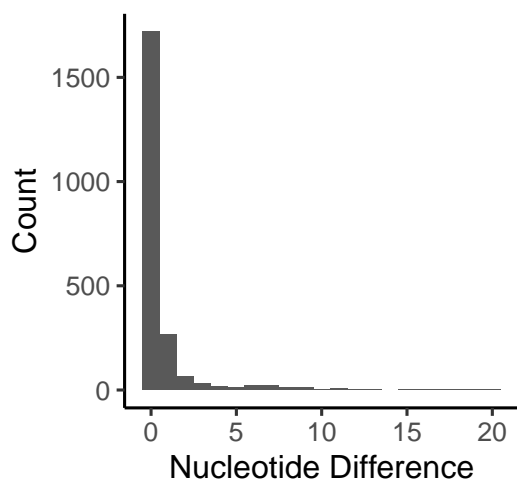
### IGHV3-48\*01

424 sequences assigned  
345 (81.4%) exact matches, in which:  
321 unique CDR3  
7 unique J



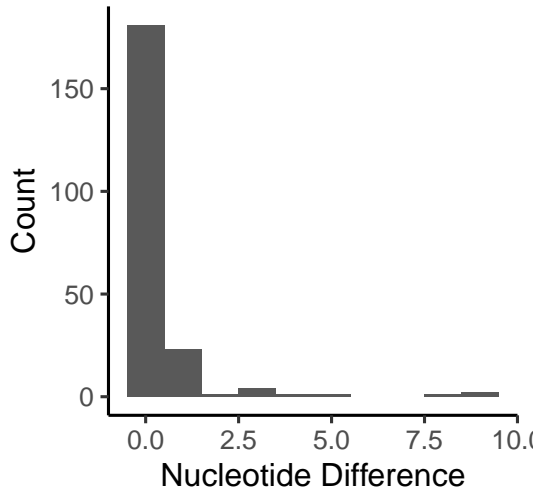
### IGHV3-30-3\*01

2204 sequences assigned  
1719 (78%) exact matches, in which:  
1595 unique CDR3  
7 unique J



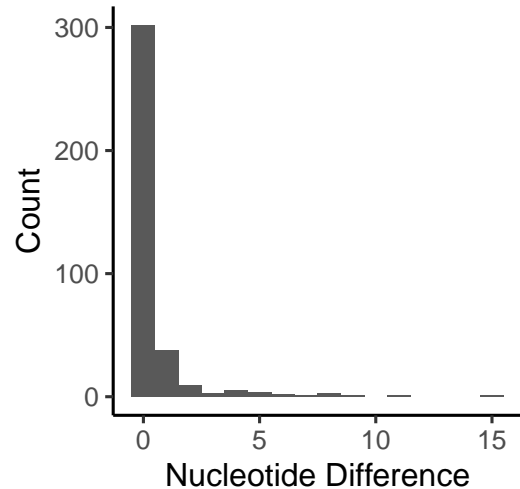
### IGHV3-43\*01

214 sequences assigned  
181 (84.6%) exact matches, in which:  
168 unique CDR3  
7 unique J



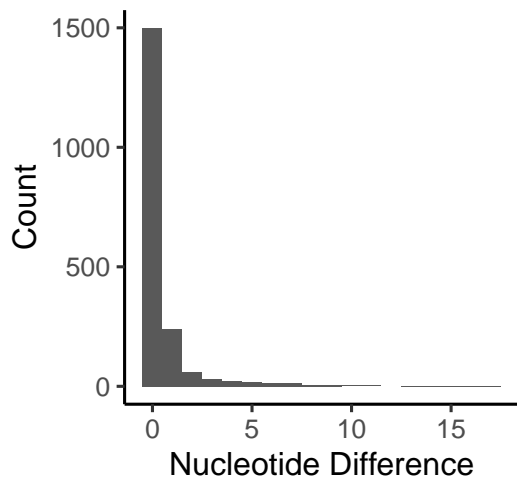
### IGHV3-48\*02

375 sequences assigned  
302 (80.5%) exact matches, in which:  
282 unique CDR3  
6 unique J



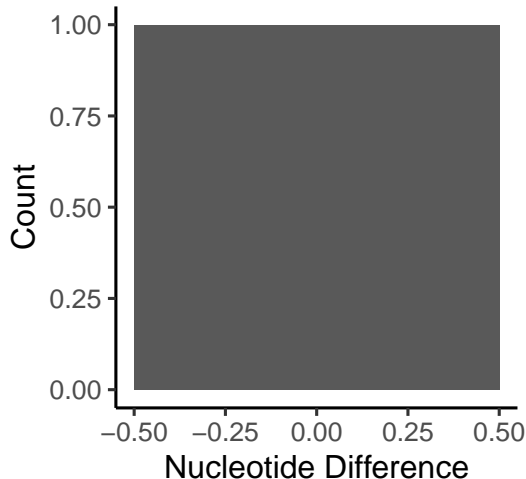
### IGHV3-33\*01

1922 sequences assigned  
1499 (78%) exact matches, in which:  
1369 unique CDR3  
7 unique J



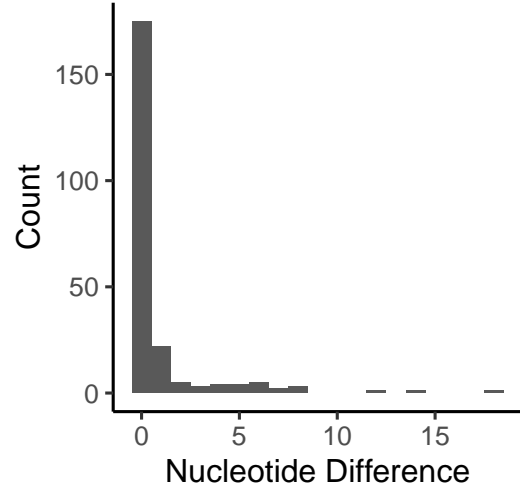
### IGHV3-47\*02

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



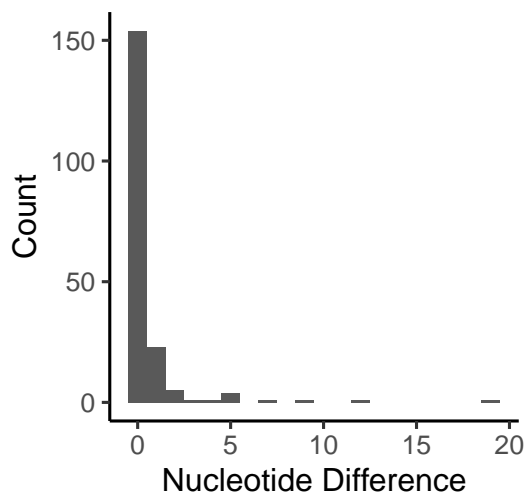
### IGHV3-49\*03

226 sequences assigned  
175 (77.4%) exact matches, in which:  
164 unique CDR3  
6 unique J



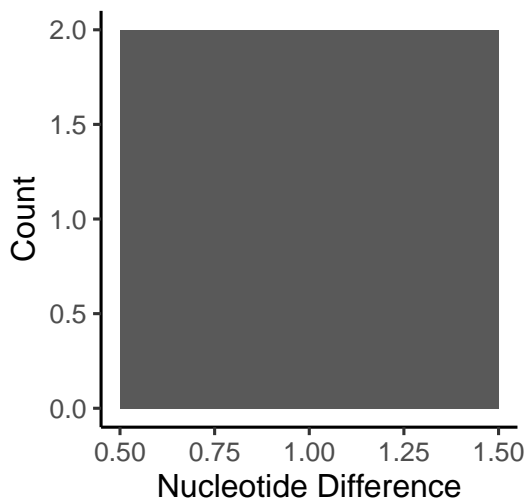
### IGHV3–49\*05

192 sequences assigned  
154 (80.2%) exact matches, in which:  
151 unique CDR3  
6 unique J



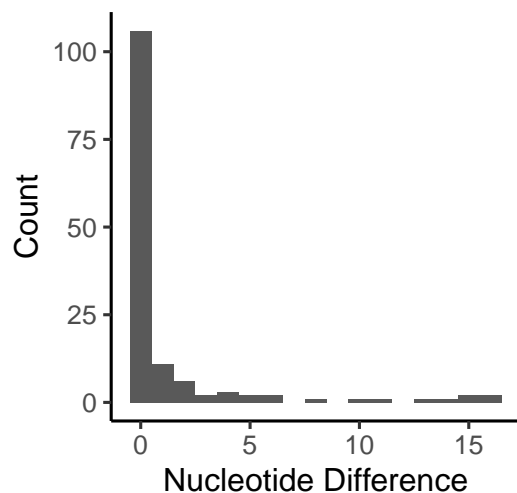
### IGHV3–66\*03

2 sequences assigned  
No exact matches.



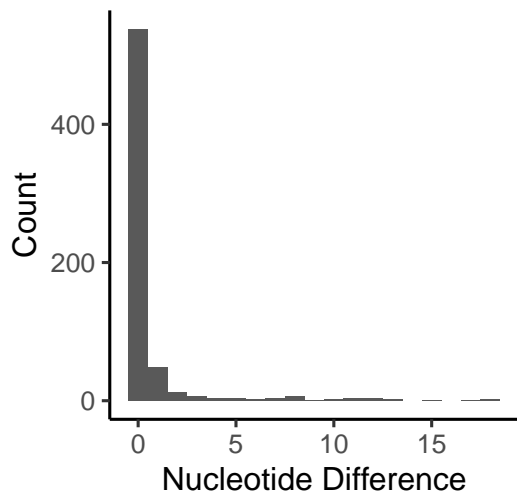
### IGHV3–73\*02

141 sequences assigned  
106 (75.2%) exact matches, in which:  
97 unique CDR3  
6 unique J



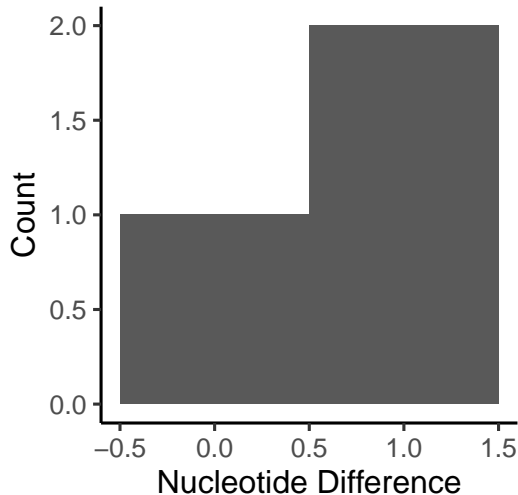
### IGHV3–53\*01

643 sequences assigned  
538 (83.7%) exact matches, in which:  
499 unique CDR3  
7 unique J



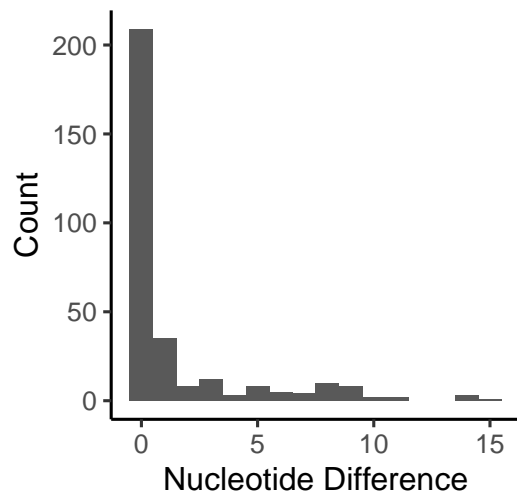
### IGHV3–66\*04

3 sequences assigned  
1 (33.3%) exact matches, in which:  
1 unique CDR3  
1 unique J



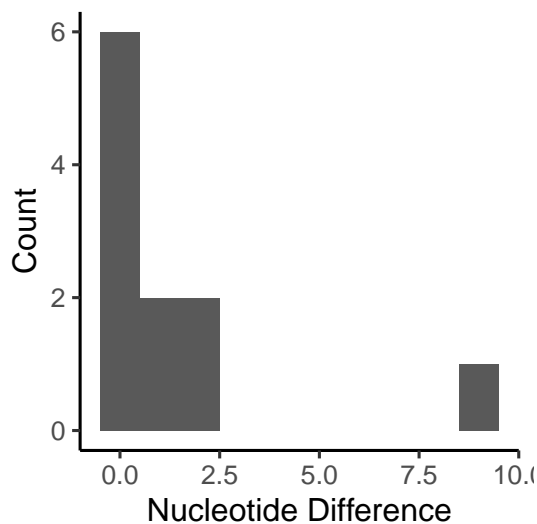
### IGHV3–74\*01

312 sequences assigned  
209 (67%) exact matches, in which:  
199 unique CDR3  
7 unique J



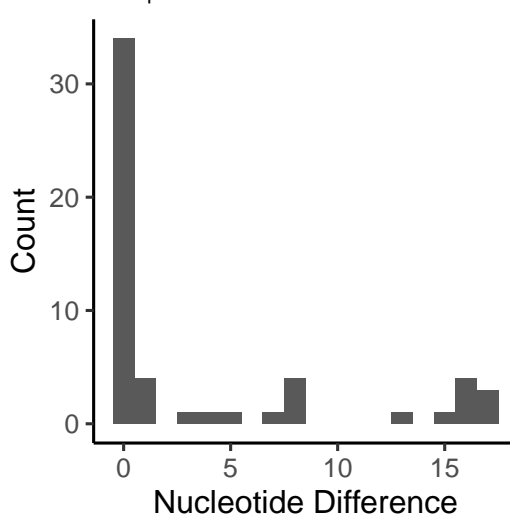
### IGHV3–64\*02

11 sequences assigned  
6 (54.5%) exact matches, in which:  
6 unique CDR3  
2 unique J



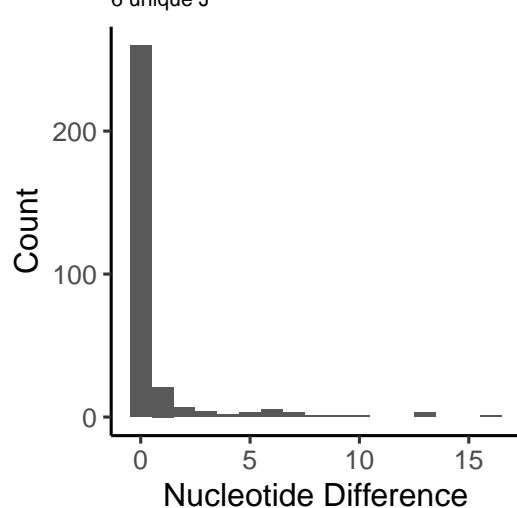
### IGHV3–72\*01

55 sequences assigned  
34 (61.8%) exact matches, in which:  
31 unique CDR3  
6 unique J



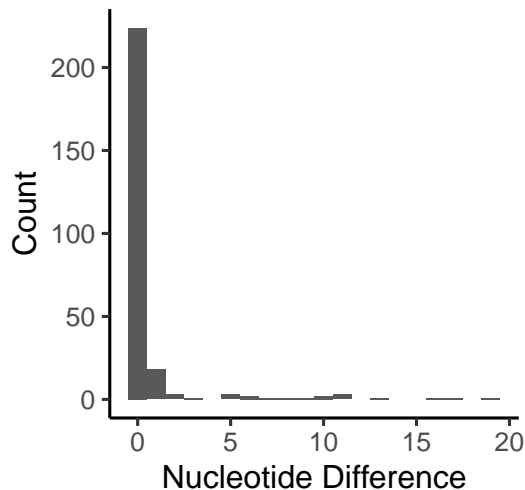
### IGHV3–64D\*06

324 sequences assigned  
260 (80.2%) exact matches, in which:  
238 unique CDR3  
6 unique J



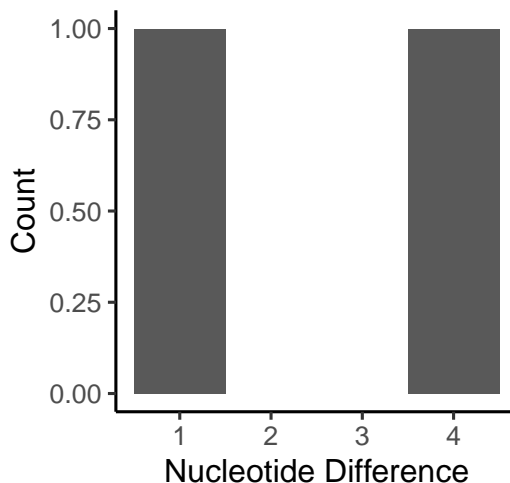
### IGHV4-4\*07

285 sequences assigned  
224 (78.6%) exact matches, in which:  
219 unique CDR3  
6 unique J



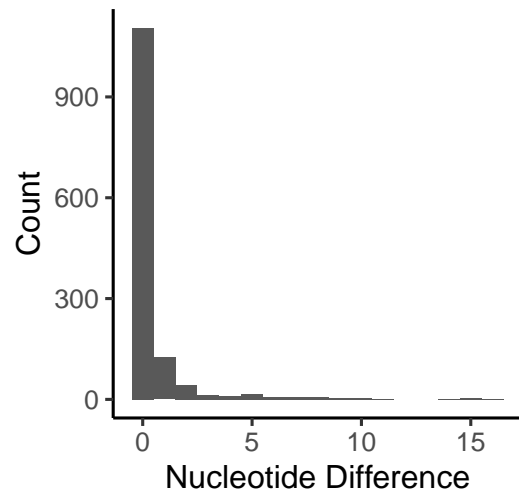
### IGHV4-28\*04

2 sequences assigned  
No exact matches.



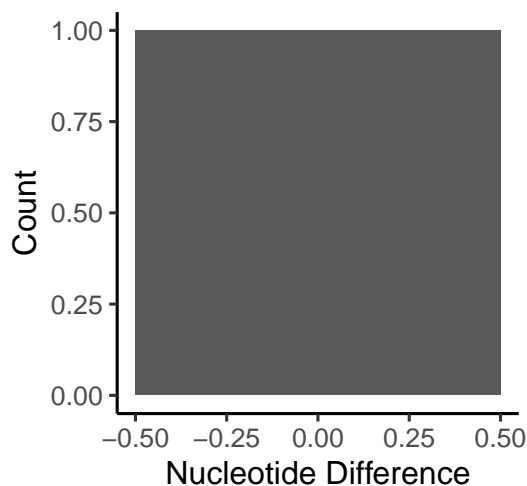
### IGHV4-31\*03

1352 sequences assigned  
1106 (81.8%) exact matches, in which:  
1049 unique CDR3  
7 unique J



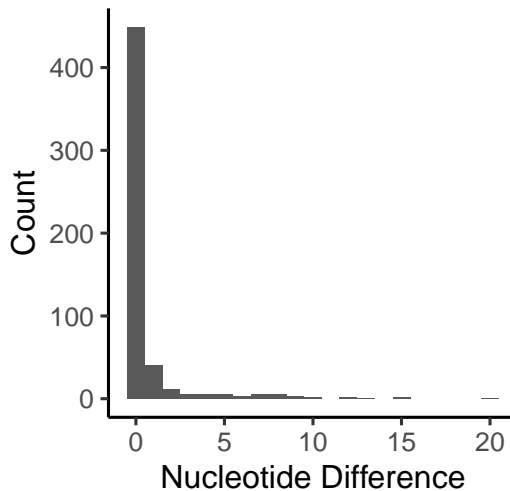
### IGHV4-28\*01

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



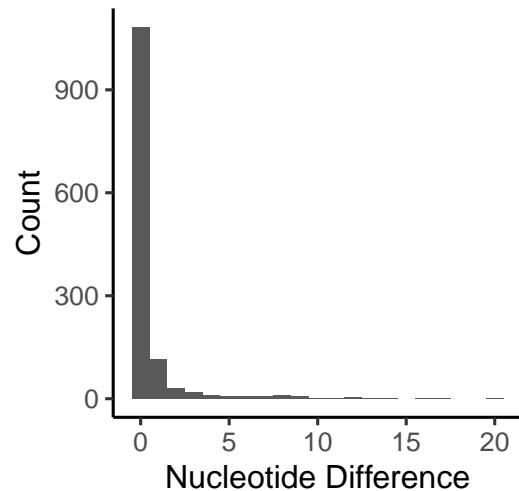
### IGHV4-30-4\*01

542 sequences assigned  
449 (82.8%) exact matches, in which:  
431 unique CDR3  
7 unique J



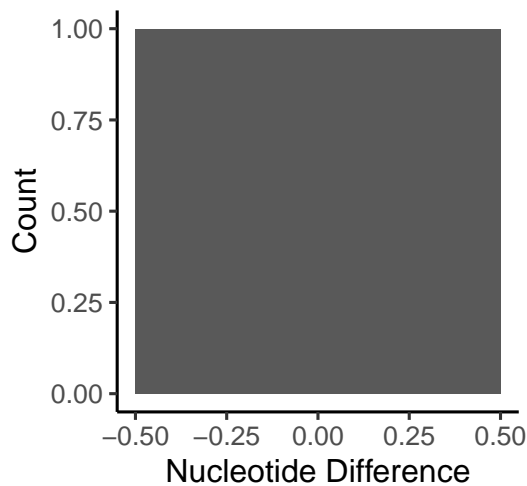
### IGHV4-34\*01

1309 sequences assigned  
1083 (82.7%) exact matches, in which:  
1000 unique CDR3  
7 unique J



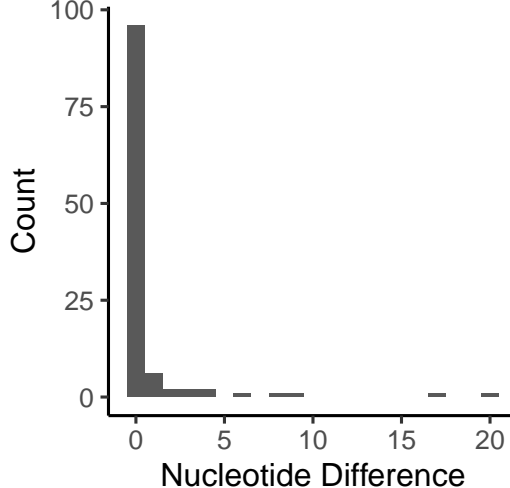
### IGHV4-28\*02

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



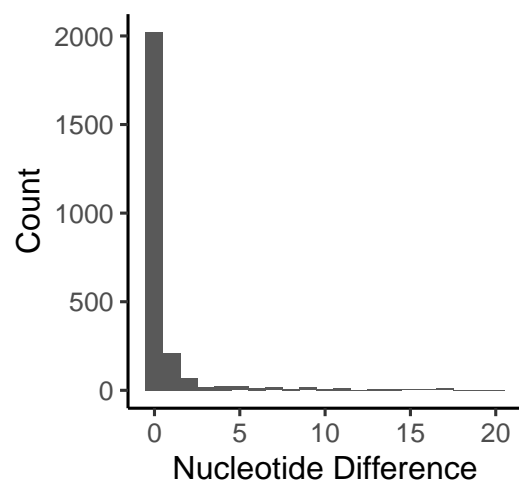
### IGHV4-30-2\*01

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



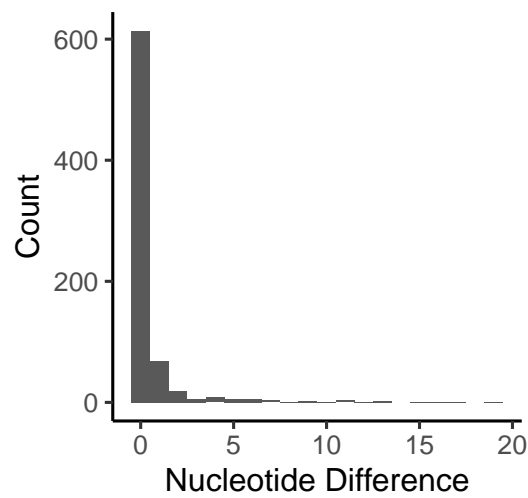
### IGHV4-39\*01

2488 sequences assigned  
2022 (81.3%) exact matches, in which:  
1863 unique CDR3  
7 unique J



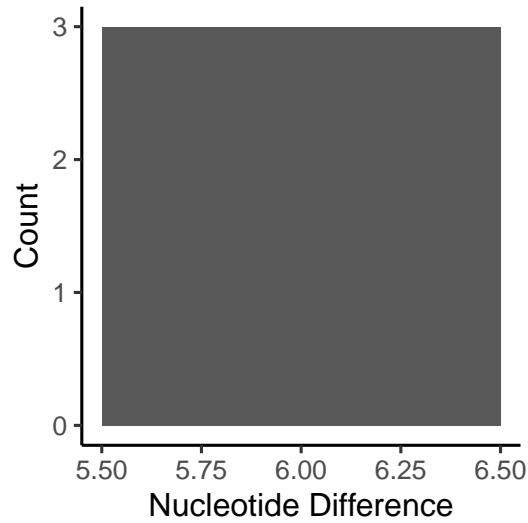
### IGHV4–59\*01

744 sequences assigned  
614 (82.5%) exact matches, in which:  
596 unique CDR3  
7 unique J



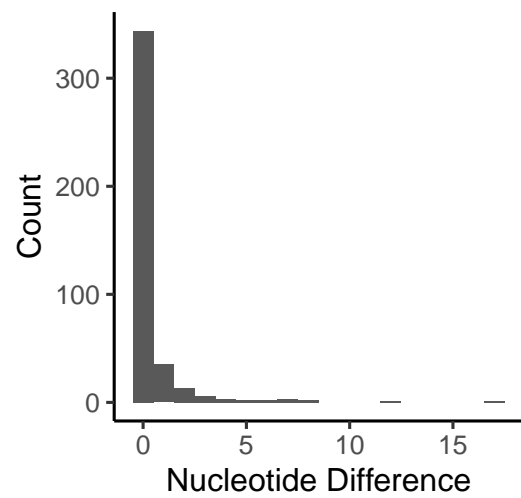
### IGHV4/OR15–8\*01

3 sequences assigned  
No exact matches.



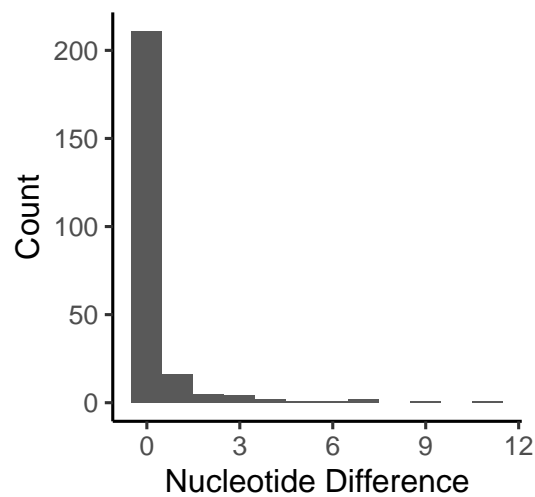
### IGHV6–1\*01

412 sequences assigned  
344 (83.5%) exact matches, in which:  
325 unique CDR3  
6 unique J



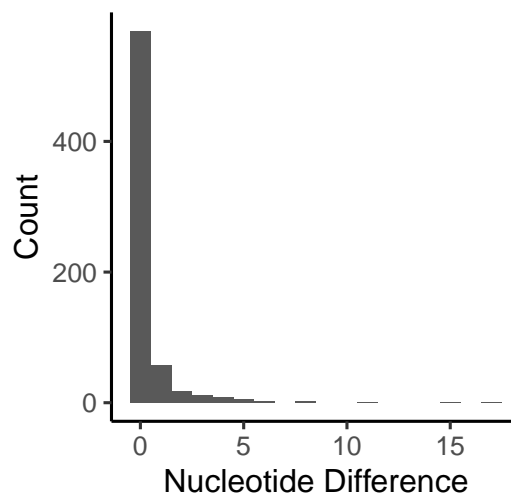
### IGHV4–61\*01

244 sequences assigned  
211 (86.5%) exact matches, in which:  
198 unique CDR3  
7 unique J



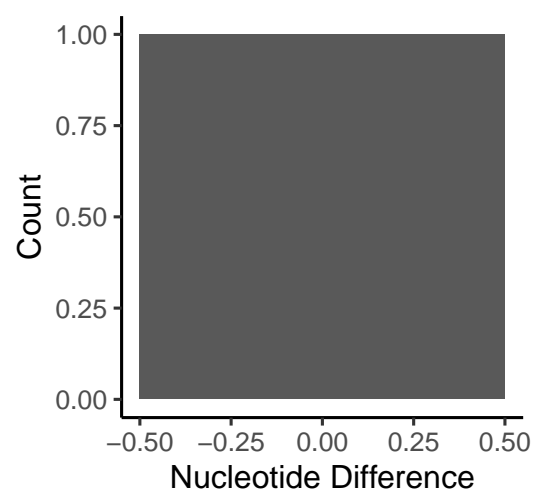
### IGHV5–10–1\*03

675 sequences assigned  
569 (84.3%) exact matches, in which:  
527 unique CDR3  
6 unique J



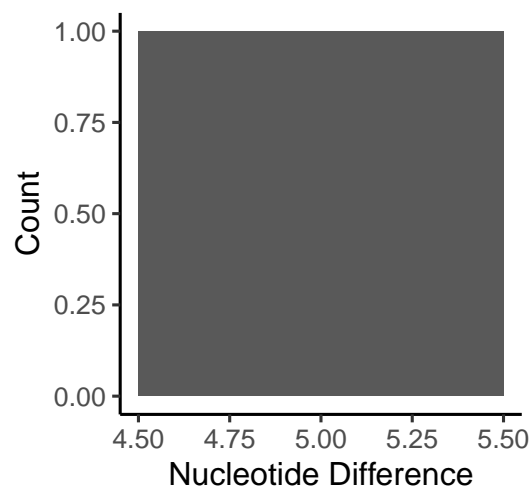
### IGHV3/OR16–12\*01

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



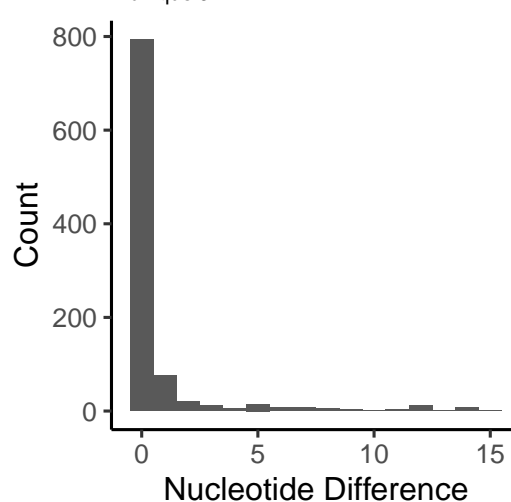
### IGHV1/OR15–4\*01

1 sequences assigned  
No exact matches.



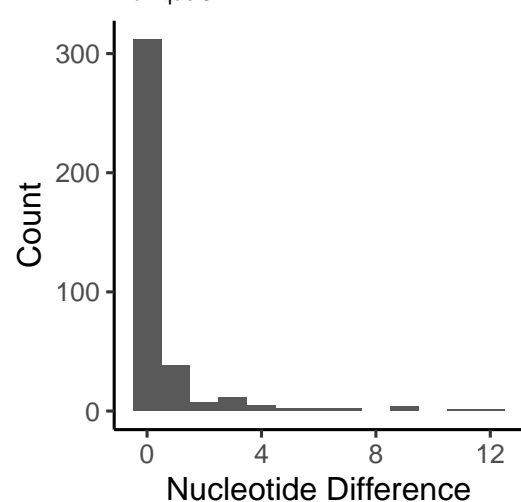
### IGHV5–51\*01

973 sequences assigned  
794 (81.6%) exact matches, in which:  
752 unique CDR3  
7 unique J

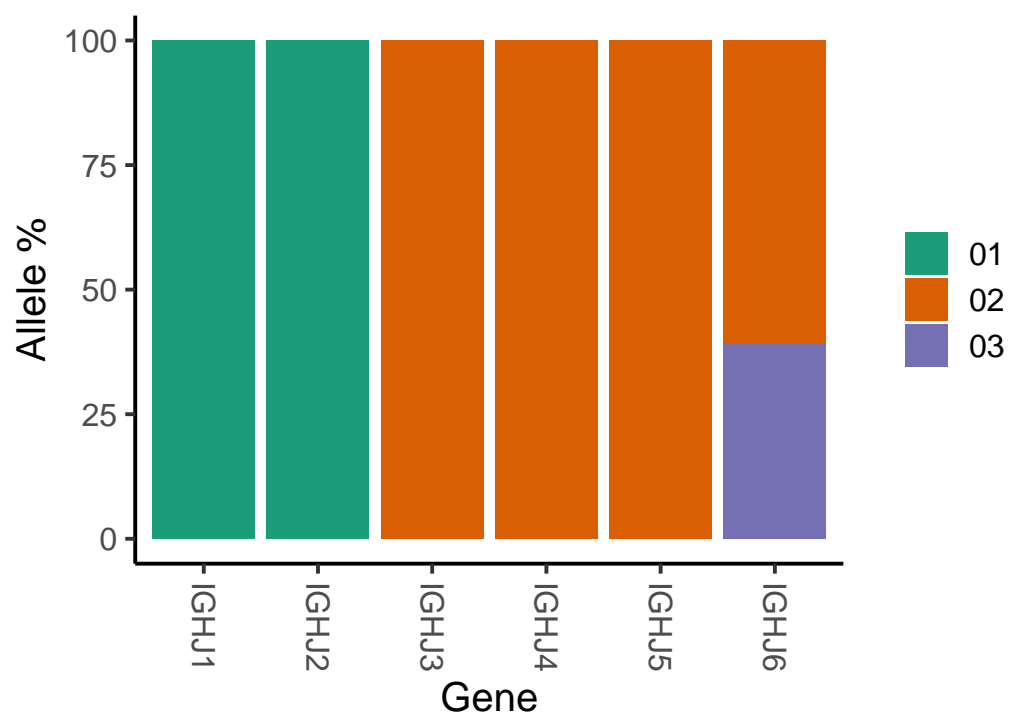


### IGHV7–4–1\*02

385 sequences assigned  
312 (81%) exact matches, in which:  
300 unique CDR3  
7 unique J

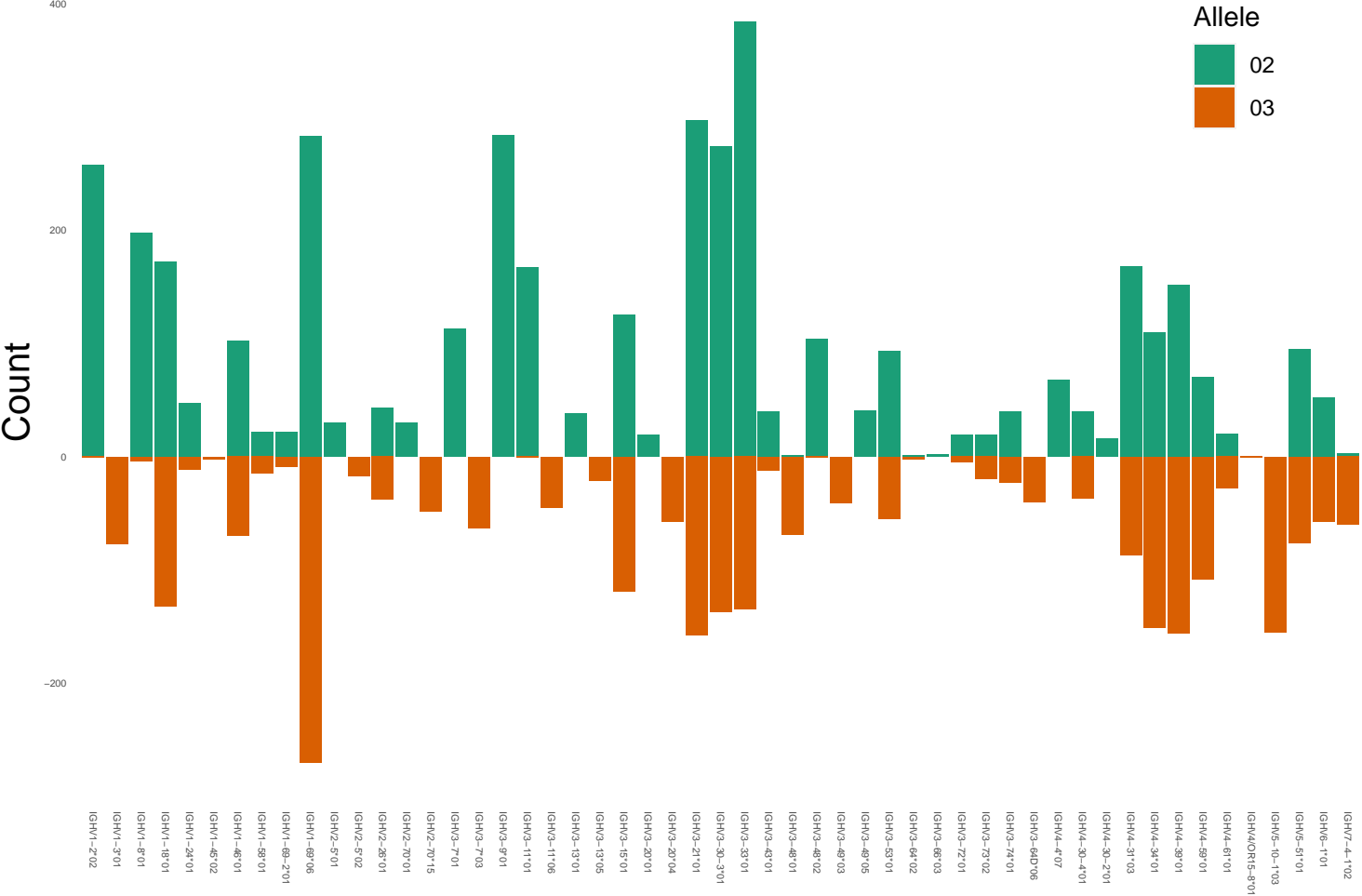


Allele Usage





Sequence Count by IGHJ6 allele usage



Warning – no inferred sequences found.