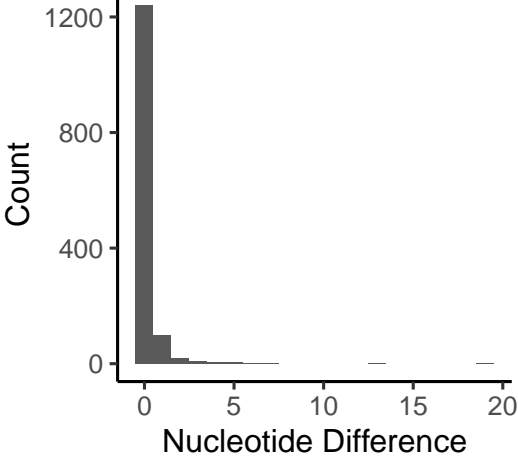


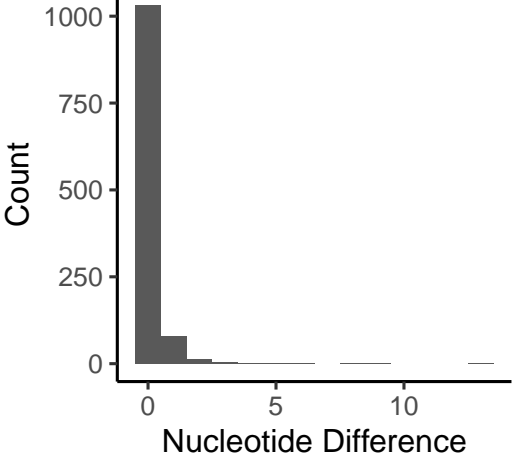
IGHV1-2\*02

1380 sequences assigned  
1240 (89.9%) exact matches, in which:  
1180 unique CDR3  
6 unique J



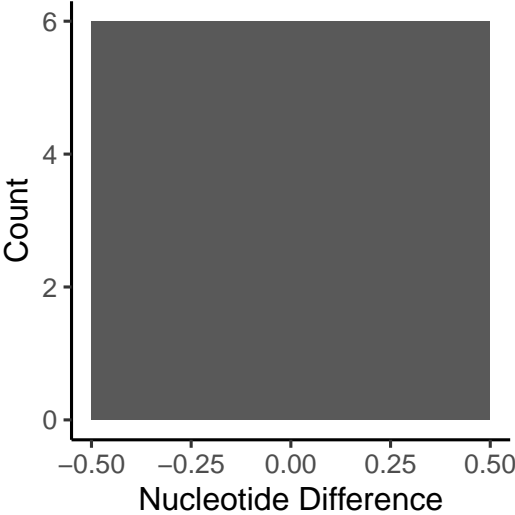
IGHV1-8\*01

1137 sequences assigned  
1031 (90.7%) exact matches, in which:  
984 unique CDR3  
6 unique J



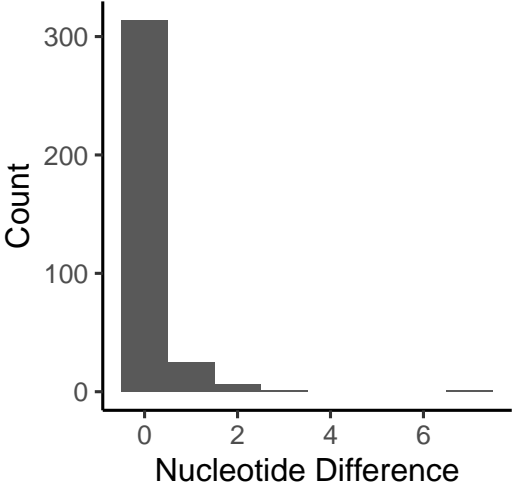
IGHV1-45\*02

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



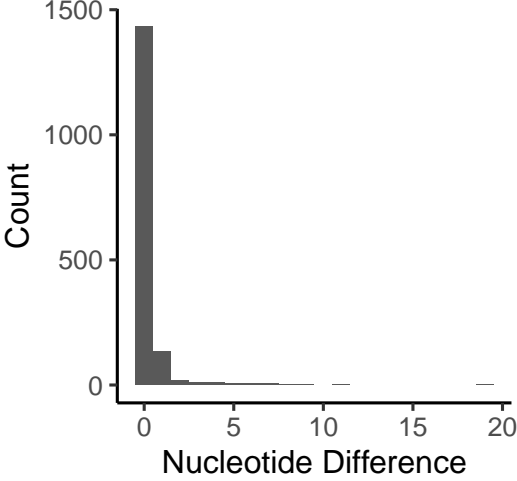
IGHV1-2\*04

347 sequences assigned  
314 (90.5%) exact matches, in which:  
289 unique CDR3  
6 unique J



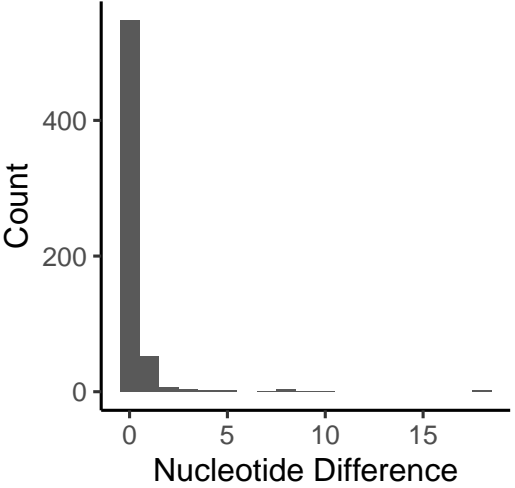
IGHV1-18\*01

1625 sequences assigned  
1432 (88.1%) exact matches, in which:  
1380 unique CDR3  
6 unique J



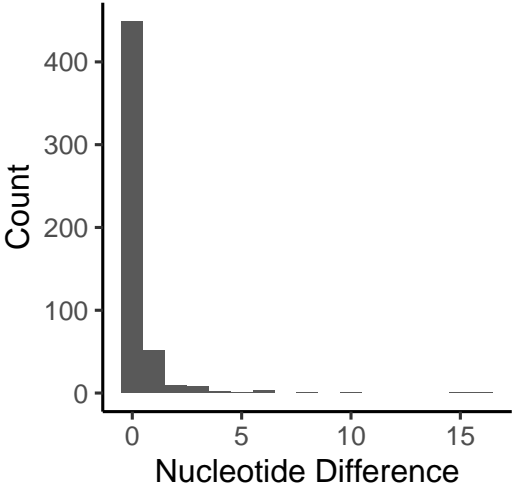
IGHV1-46\*01

623 sequences assigned  
548 (88%) exact matches, in which:  
521 unique CDR3  
6 unique J



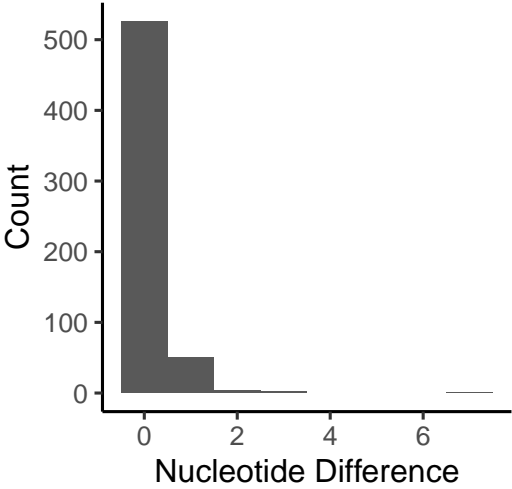
IGHV1-3\*01

528 sequences assigned  
449 (85%) exact matches, in which:  
435 unique CDR3  
6 unique J



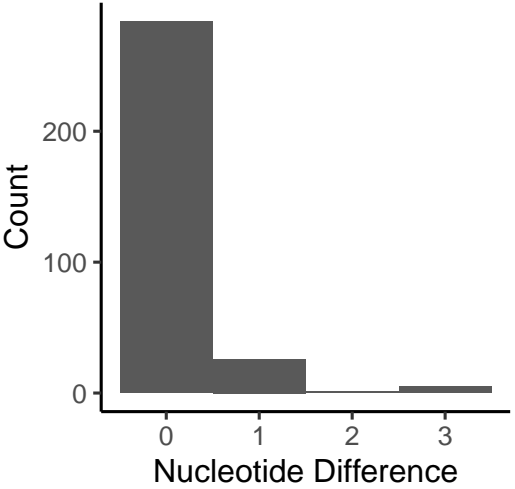
IGHV1-24\*01

583 sequences assigned  
526 (90.2%) exact matches, in which:  
503 unique CDR3  
6 unique J



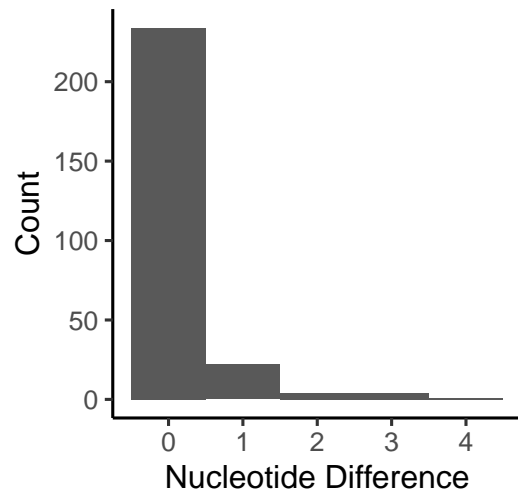
IGHV1-46\*03

317 sequences assigned  
284 (89.6%) exact matches, in which:  
265 unique CDR3  
6 unique J



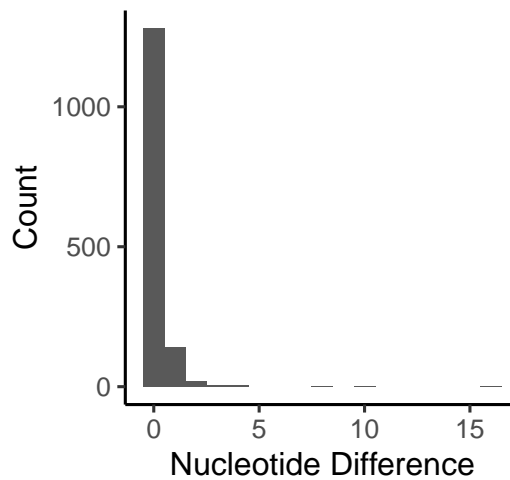
### IGHV1–58\*01

265 sequences assigned  
234 (88.3%) exact matches, in which:  
220 unique CDR3  
6 unique J



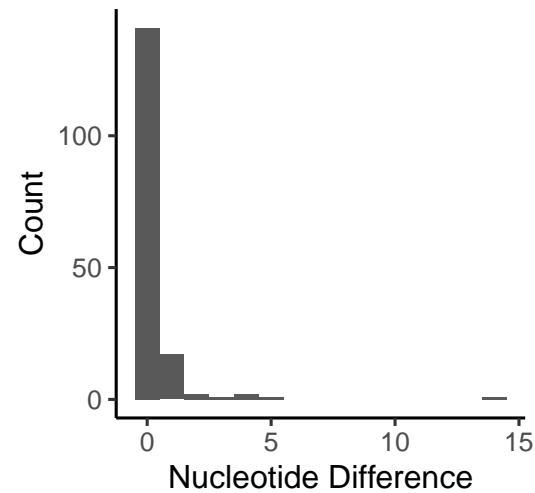
### IGHV1–69\*06

1460 sequences assigned  
1280 (87.7%) exact matches, in which:  
1201 unique CDR3  
6 unique J



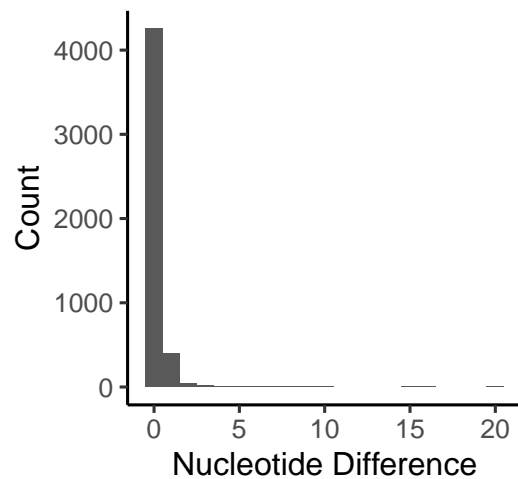
### IGHV2–5\*02

165 sequences assigned  
141 (85.5%) exact matches, in which:  
139 unique CDR3  
6 unique J



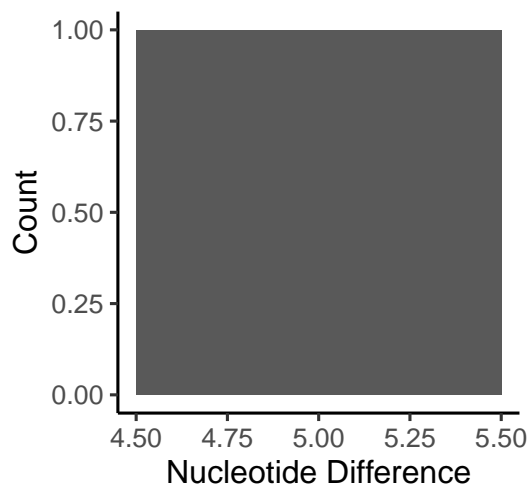
### IGHV1–69\*01

4752 sequences assigned  
4254 (89.5%) exact matches, in which:  
4000 unique CDR3  
6 unique J



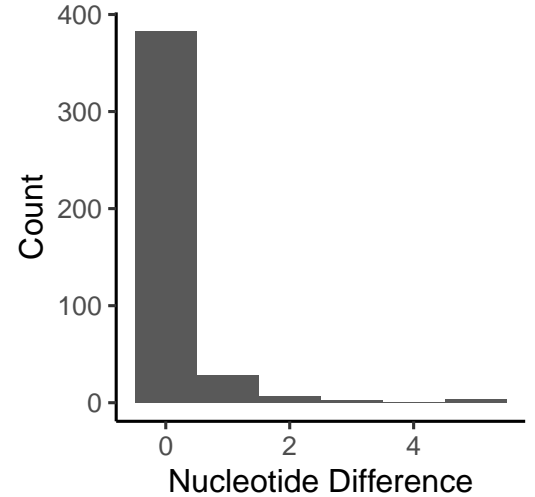
### IGHV1–NL1\*01

1 sequences assigned  
No exact matches.



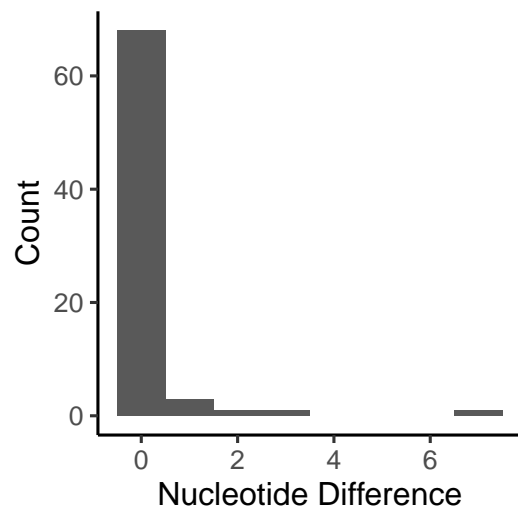
### IGHV2–26\*01

426 sequences assigned  
383 (89.9%) exact matches, in which:  
373 unique CDR3  
6 unique J



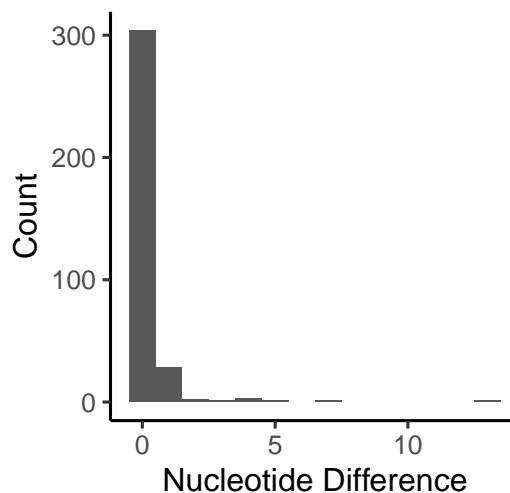
### IGHV1–69–2\*01

74 sequences assigned  
68 (91.9%) exact matches, in which:  
67 unique CDR3  
5 unique J



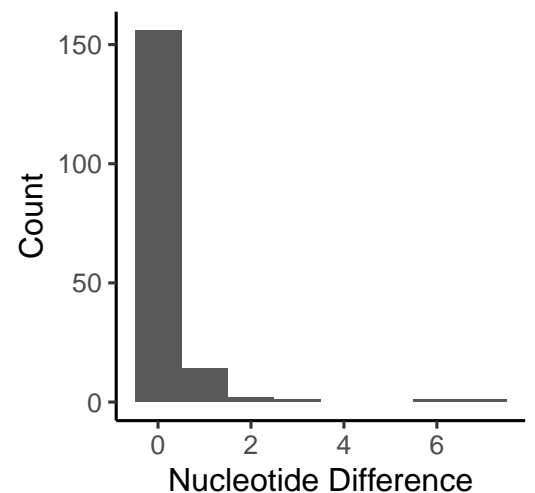
### IGHV2–5\*01

341 sequences assigned  
304 (89.1%) exact matches, in which:  
294 unique CDR3  
6 unique J



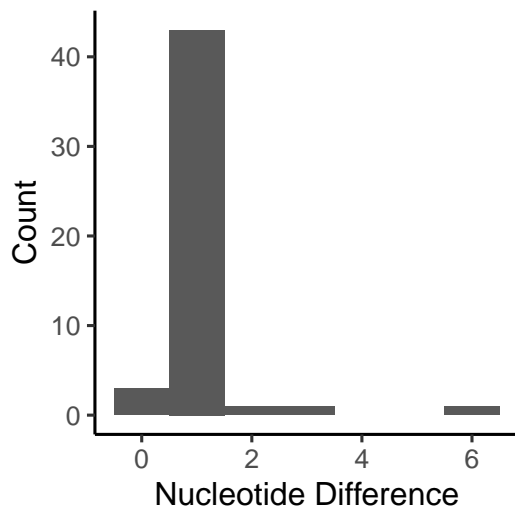
### IGHV2–70\*01

175 sequences assigned  
156 (89.1%) exact matches, in which:  
152 unique CDR3  
5 unique J



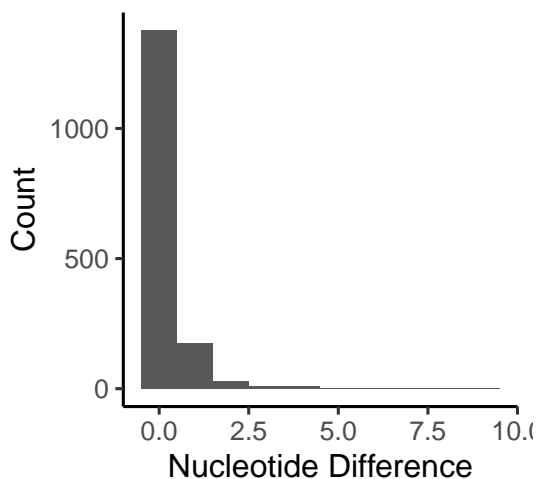
### IGHV2-70\*04

49 sequences assigned  
3 (6.1%) exact matches, in which:  
3 unique CDR3  
1 unique J



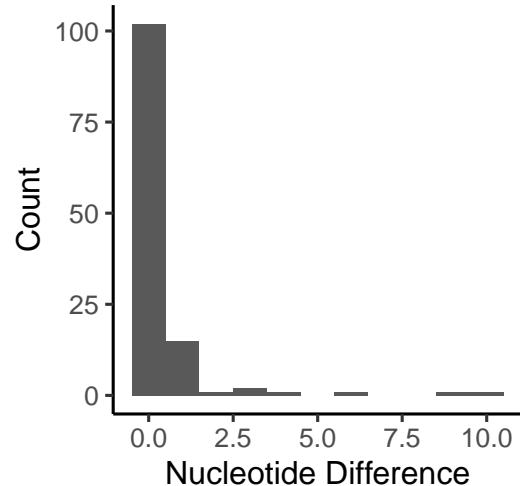
### IGHV3-9\*01

1606 sequences assigned  
1377 (85.7%) exact matches, in which:  
1270 unique CDR3  
6 unique J



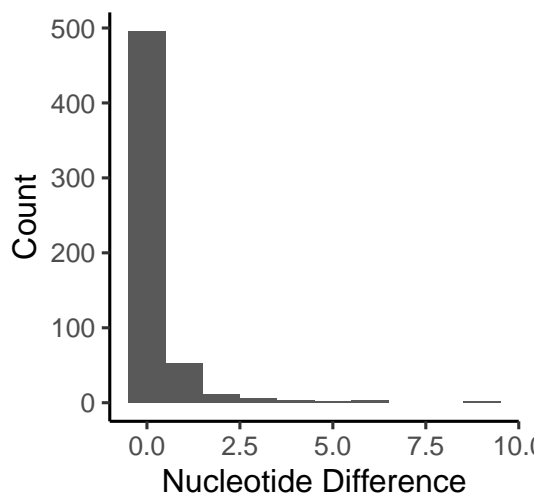
### IGHV3-13\*01

124 sequences assigned  
102 (82.3%) exact matches, in which:  
97 unique CDR3  
5 unique J



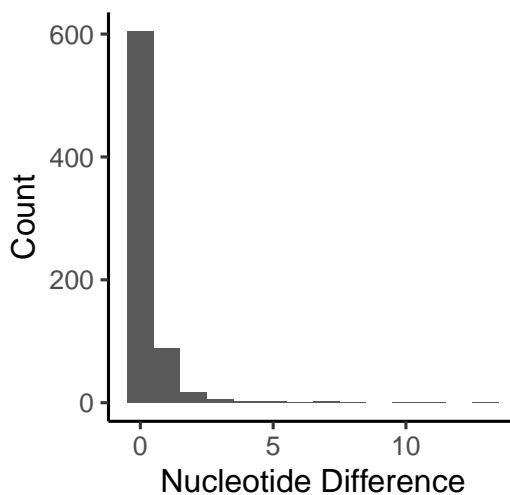
### IGHV3-7\*01

577 sequences assigned  
496 (86%) exact matches, in which:  
477 unique CDR3  
6 unique J



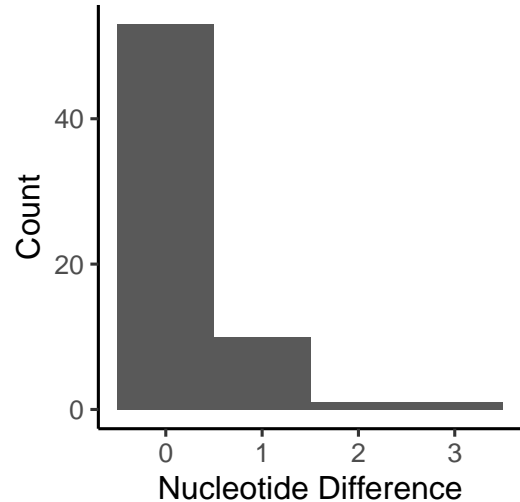
### IGHV3-11\*01

729 sequences assigned  
605 (83%) exact matches, in which:  
574 unique CDR3  
6 unique J



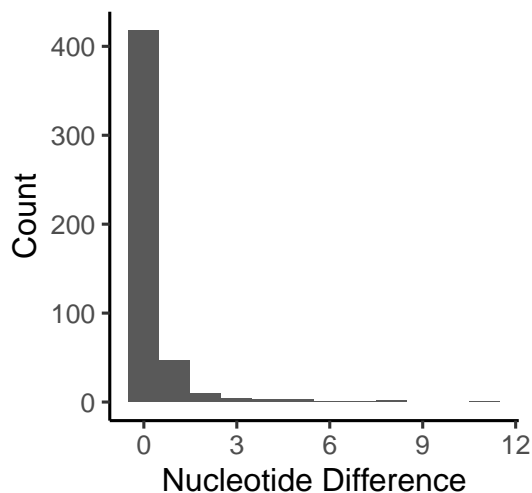
### IGHV3-13\*05

65 sequences assigned  
53 (81.5%) exact matches, in which:  
50 unique CDR3  
5 unique J



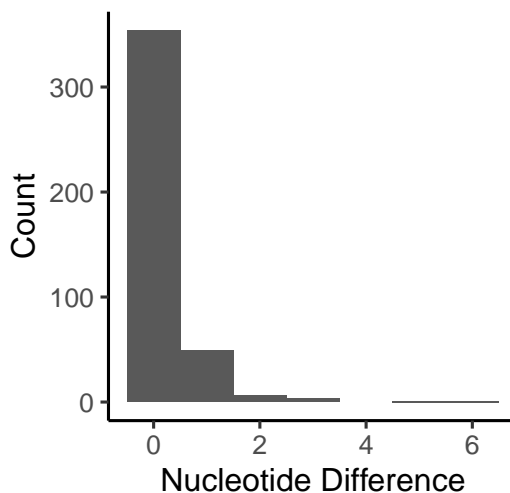
### IGHV3-7\*03

490 sequences assigned  
418 (85.3%) exact matches, in which:  
396 unique CDR3  
6 unique J



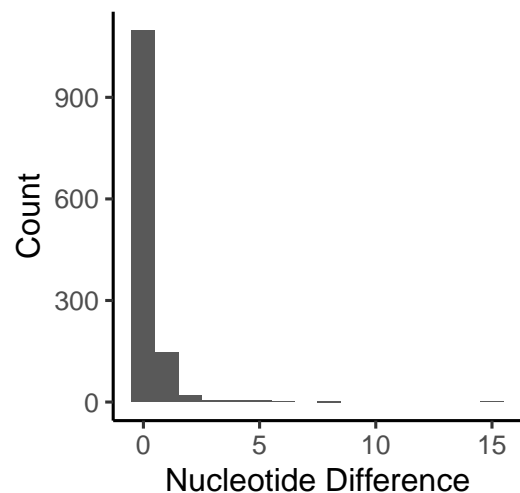
### IGHV3-11\*06

414 sequences assigned  
354 (85.5%) exact matches, in which:  
334 unique CDR3  
6 unique J



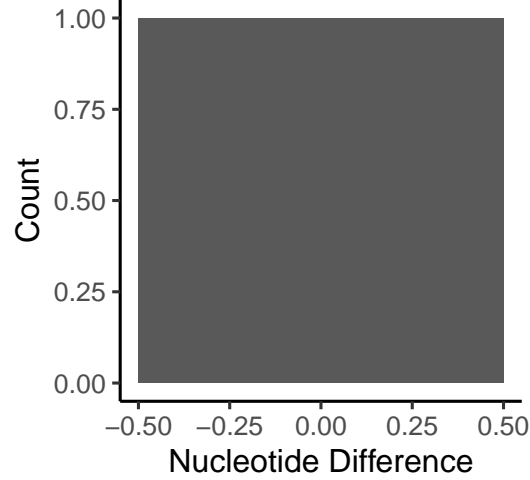
### IGHV3-15\*01

1284 sequences assigned  
1098 (85.5%) exact matches, in which:  
1052 unique CDR3  
6 unique J



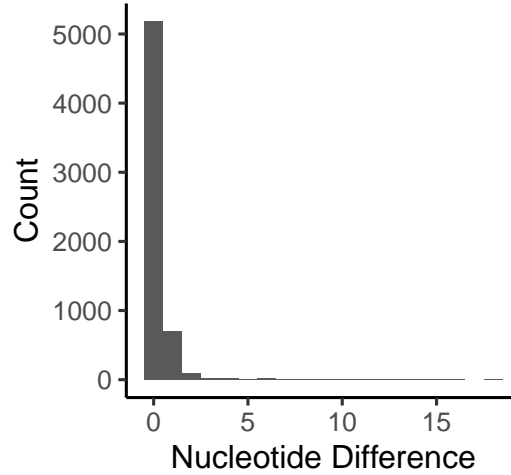
### IGHV3-19\*01

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



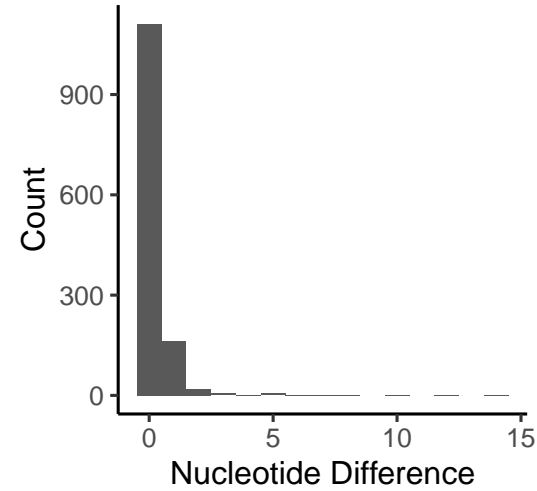
### IGHV3-23\*01

6115 sequences assigned  
5182 (84.7%) exact matches, in which:  
4842 unique CDR3  
6 unique J



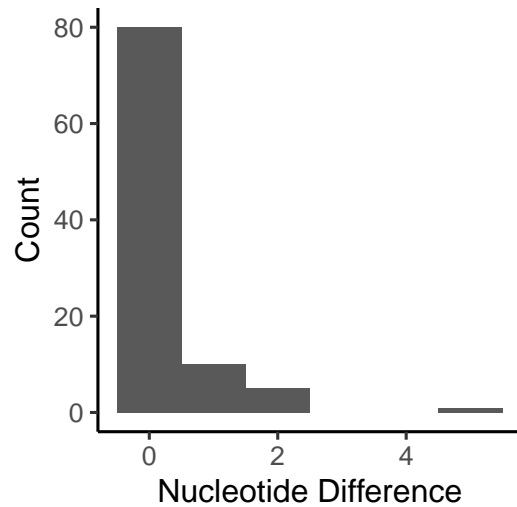
### IGHV3-30\*18

1312 sequences assigned  
1112 (84.8%) exact matches, in which:  
1060 unique CDR3  
6 unique J



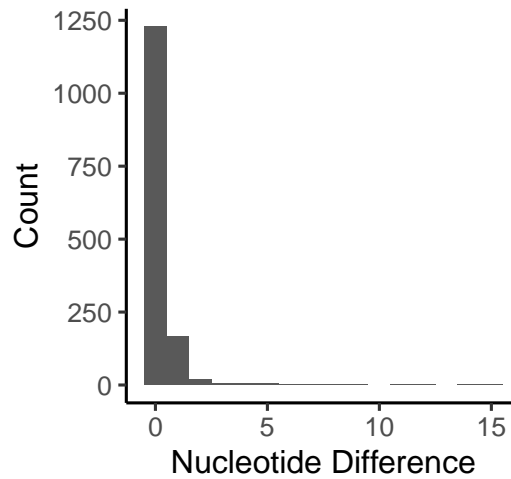
### IGHV3-20\*01

96 sequences assigned  
80 (83.3%) exact matches, in which:  
75 unique CDR3  
5 unique J



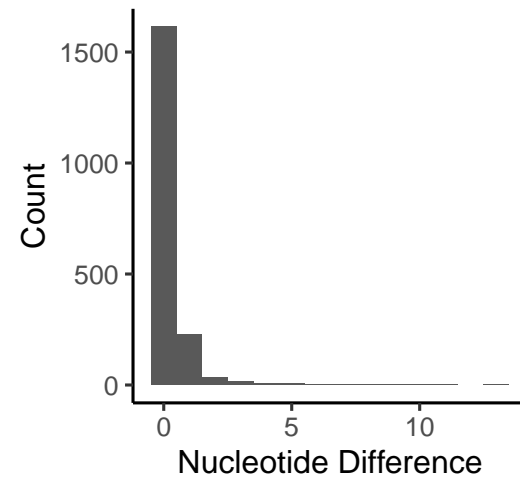
### IGHV3-30-3\*01

1445 sequences assigned  
1228 (85%) exact matches, in which:  
1157 unique CDR3  
6 unique J



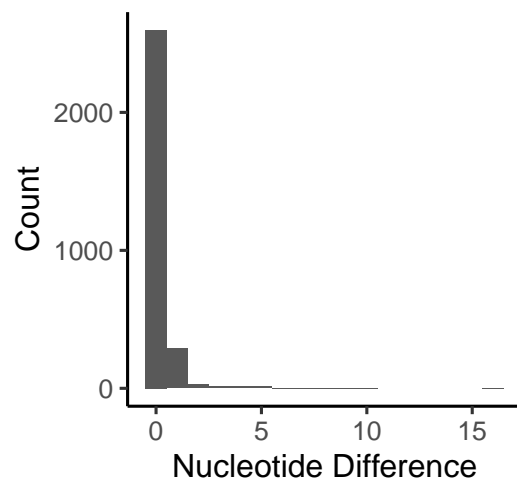
### IGHV3-33\*01

1911 sequences assigned  
1614 (84.5%) exact matches, in which:  
1518 unique CDR3  
6 unique J



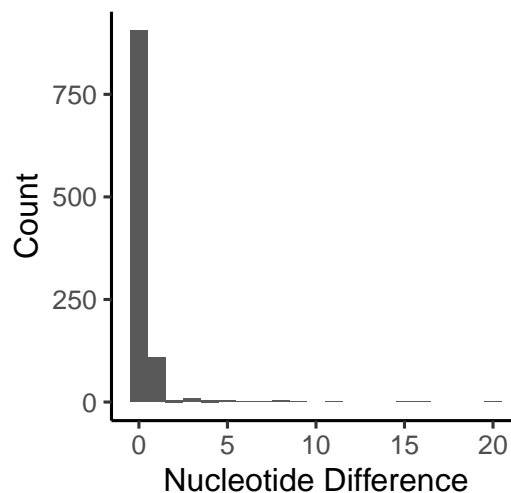
### IGHV3-21\*01

2971 sequences assigned  
2597 (87.4%) exact matches, in which:  
2433 unique CDR3  
6 unique J



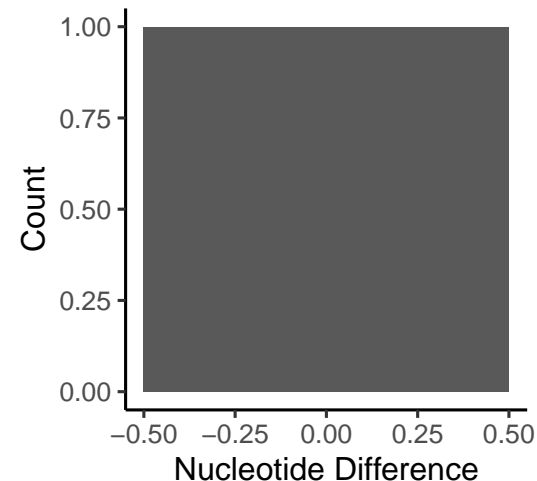
### IGHV3-30\*03

1048 sequences assigned  
906 (86.5%) exact matches, in which:  
844 unique CDR3  
6 unique J



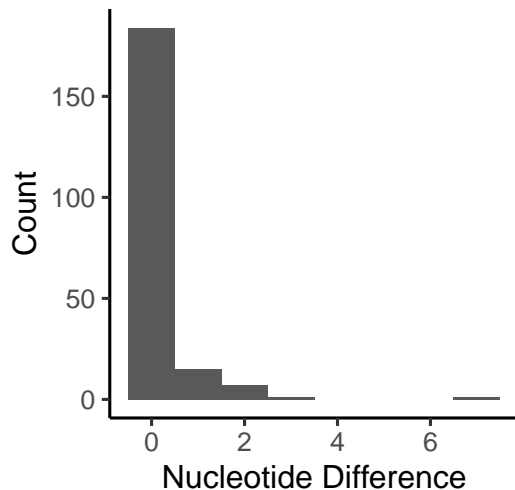
### IGHV3-35\*01

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



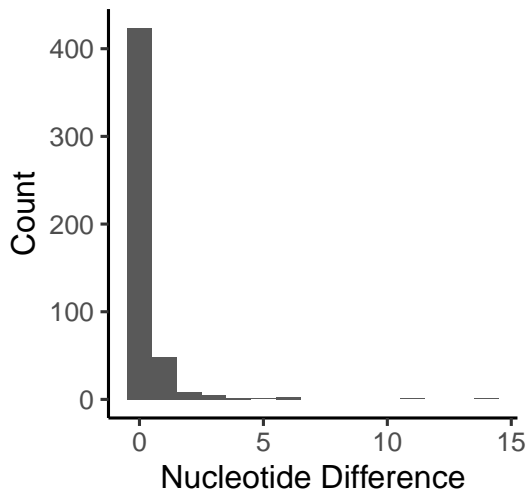
### IGHV3-43\*01

208 sequences assigned  
184 (88.5%) exact matches, in which:  
173 unique CDR3  
6 unique J



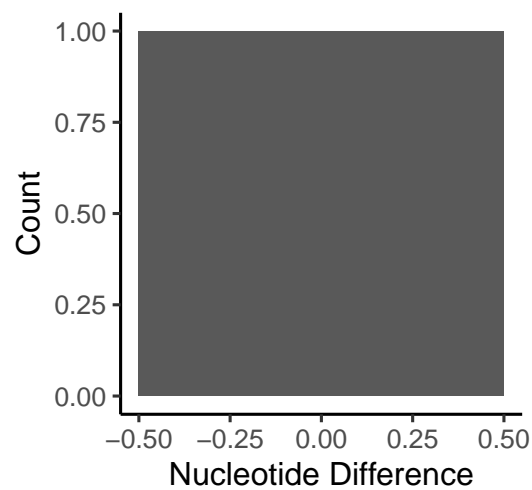
### IGHV3-49\*05

493 sequences assigned  
424 (86%) exact matches, in which:  
399 unique CDR3  
6 unique J



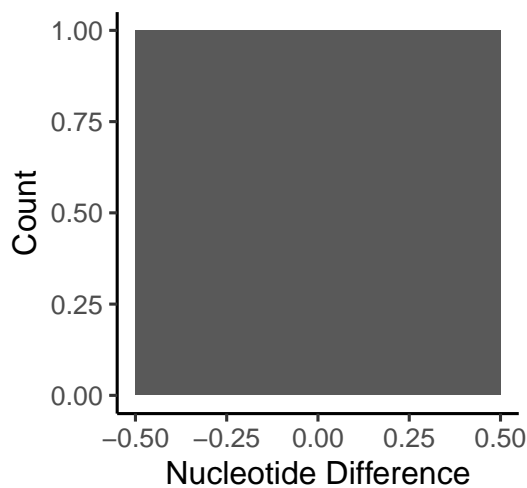
### IGHV3-64\*04

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



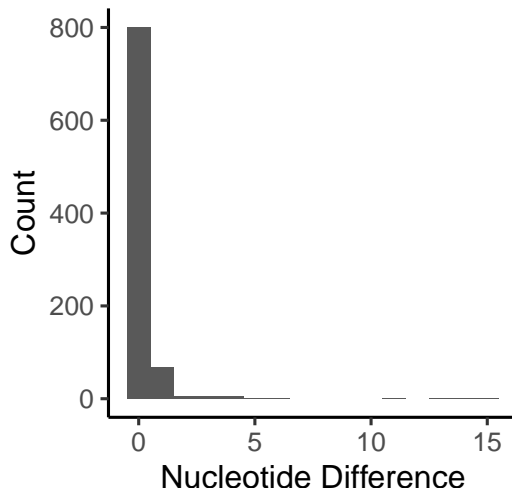
### IGHV3-47\*02

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



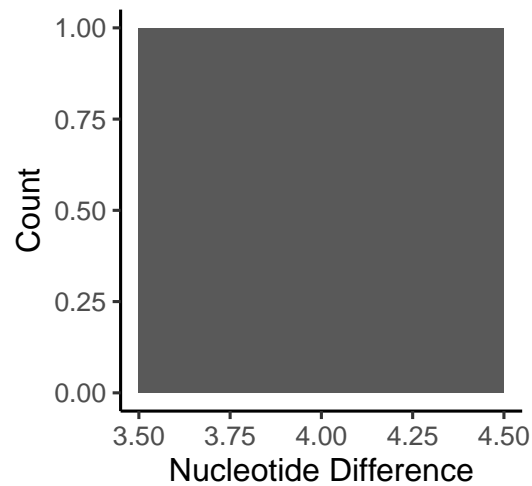
### IGHV3-53\*01

893 sequences assigned  
801 (89.7%) exact matches, in which:  
762 unique CDR3  
6 unique J



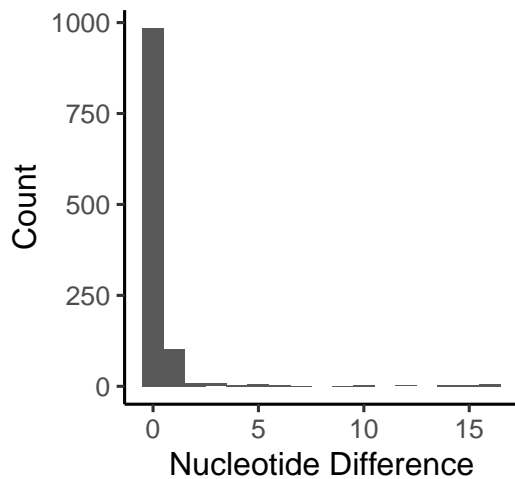
### IGHV3-66\*01

1 sequences assigned  
No exact matches.



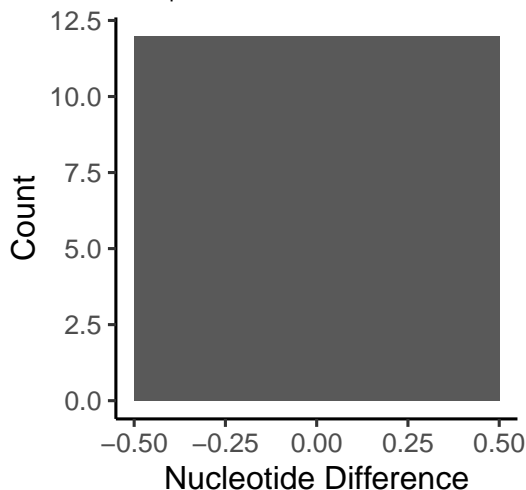
### IGHV3-48\*02

1136 sequences assigned  
985 (86.7%) exact matches, in which:  
929 unique CDR3  
6 unique J



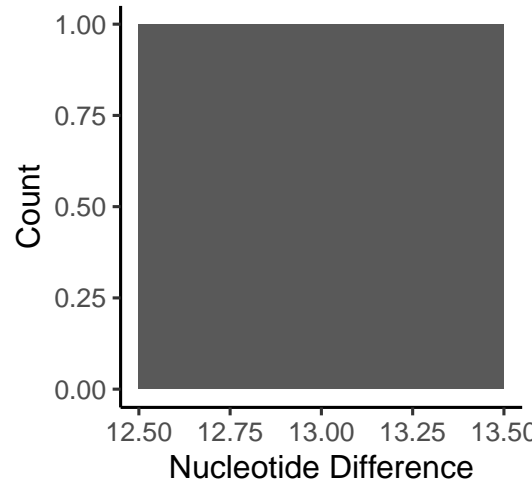
### IGHV3-64\*02

12 sequences assigned  
12 (100%) exact matches, in which:  
12 unique CDR3  
3 unique J



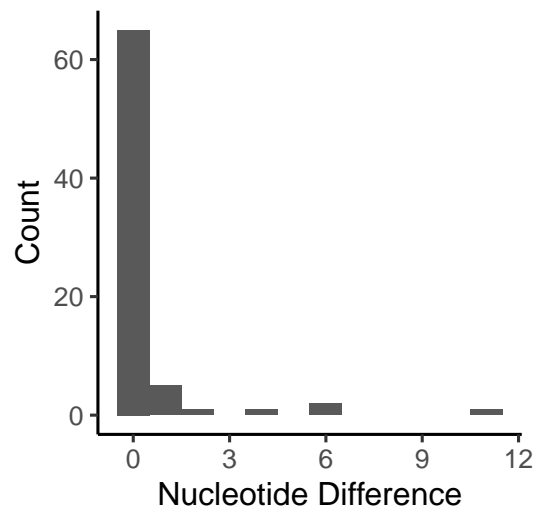
### IGHV3-66\*02

1 sequences assigned  
No exact matches.



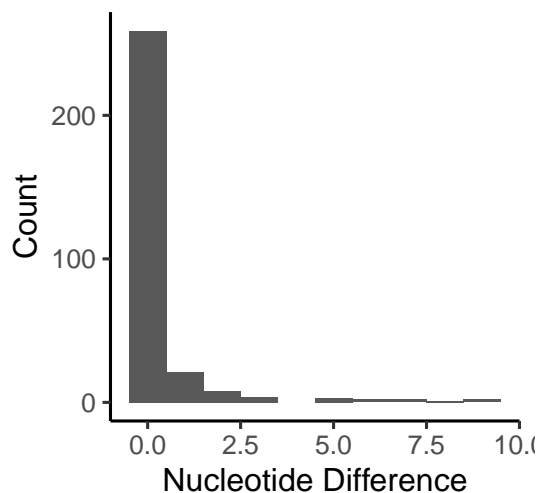
### IGHV3-72\*01

75 sequences assigned  
65 (86.7%) exact matches, in which:  
61 unique CDR3  
5 unique J



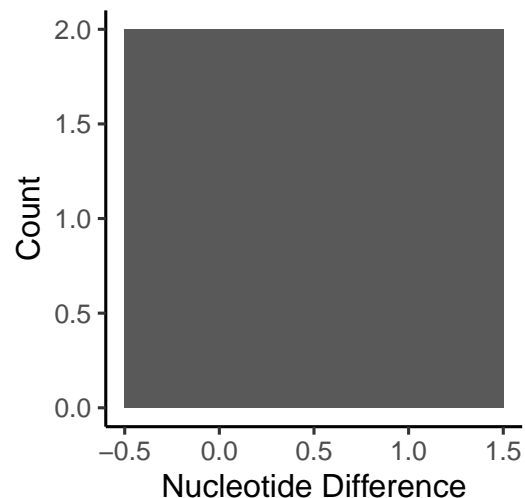
### IGHV3-64D\*09

302 sequences assigned  
259 (85.8%) exact matches, in which:  
239 unique CDR3  
6 unique J



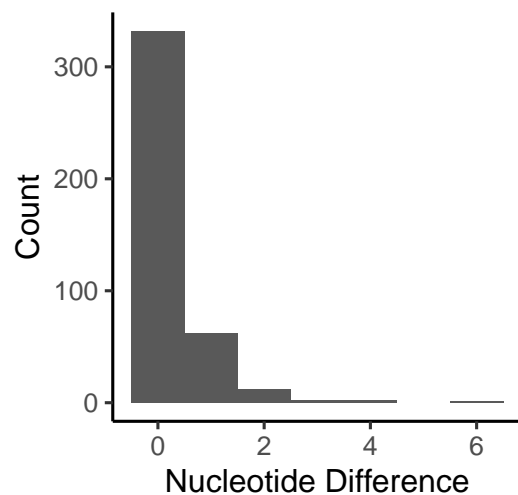
### IGHV4-28\*01

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



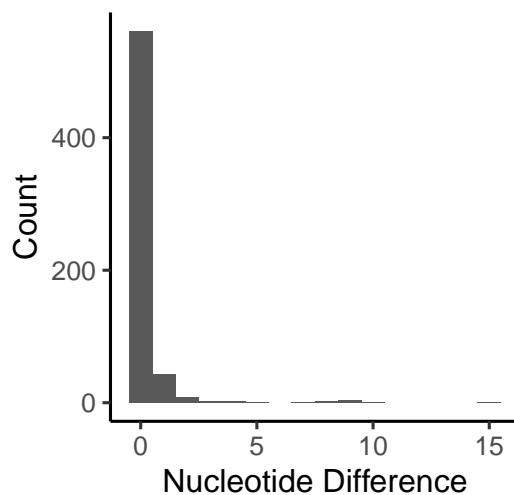
### IGHV3-73\*02

411 sequences assigned  
332 (80.8%) exact matches, in which:  
312 unique CDR3  
6 unique J



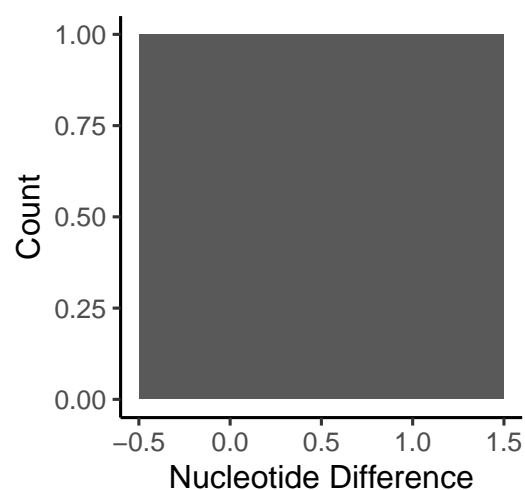
### IGHV4-4\*02

627 sequences assigned  
561 (89.5%) exact matches, in which:  
538 unique CDR3  
6 unique J



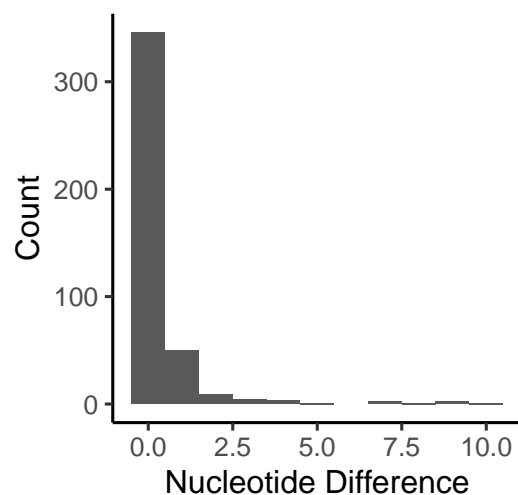
### IGHV4-28\*03

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



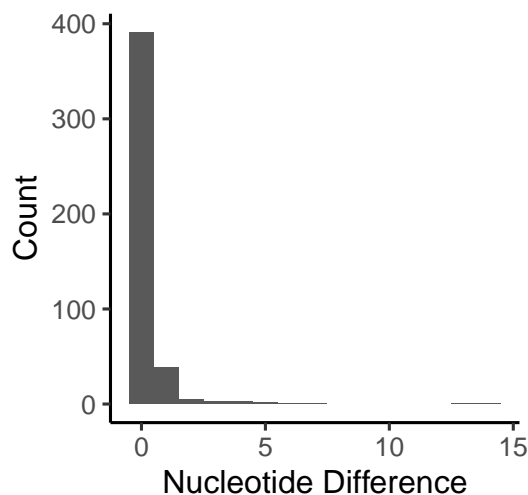
### IGHV3-74\*01

419 sequences assigned  
346 (82.6%) exact matches, in which:  
332 unique CDR3  
6 unique J



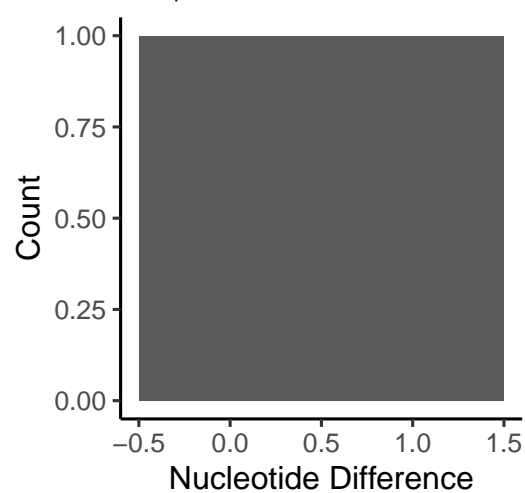
### IGHV4-4\*07

446 sequences assigned  
391 (87.7%) exact matches, in which:  
378 unique CDR3  
6 unique J



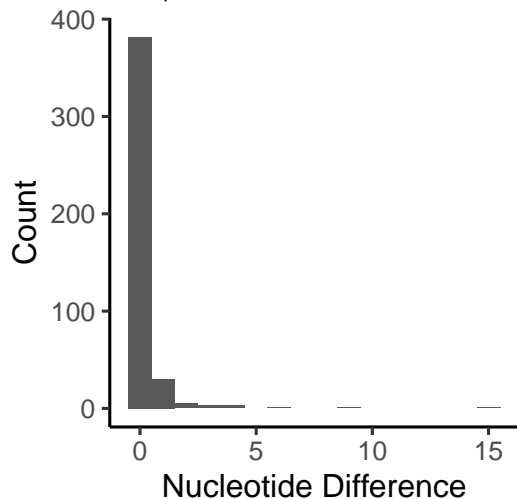
### IGHV4-28\*04

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



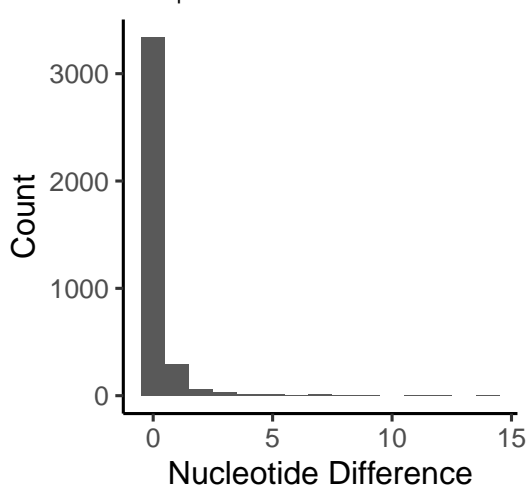
### IGHV4-30-4\*01

427 sequences assigned  
382 (89.5%) exact matches, in which:  
368 unique CDR3  
6 unique J



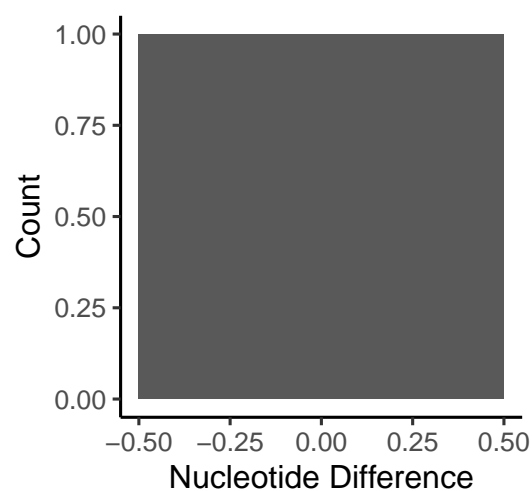
### IGHV4-34\*01

3782 sequences assigned  
3338 (88.3%) exact matches, in which:  
3126 unique CDR3  
6 unique J



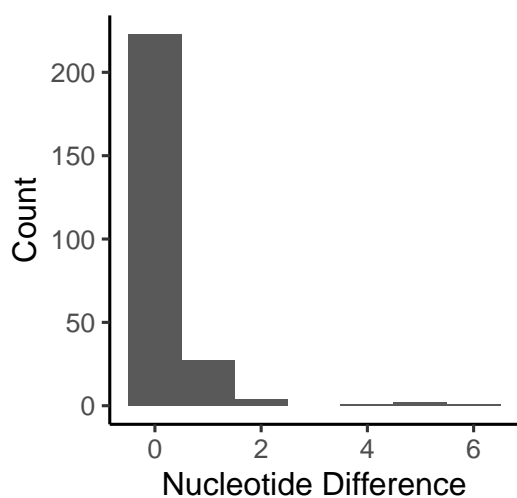
### IGHV4-55\*08

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



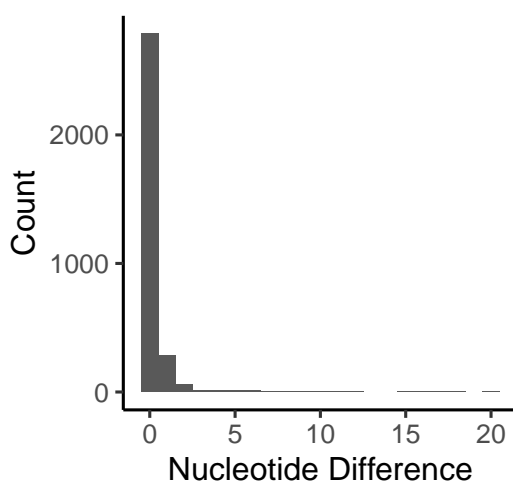
### IGHV4-30-2\*01

258 sequences assigned  
223 (86.4%) exact matches, in which:  
212 unique CDR3  
5 unique J



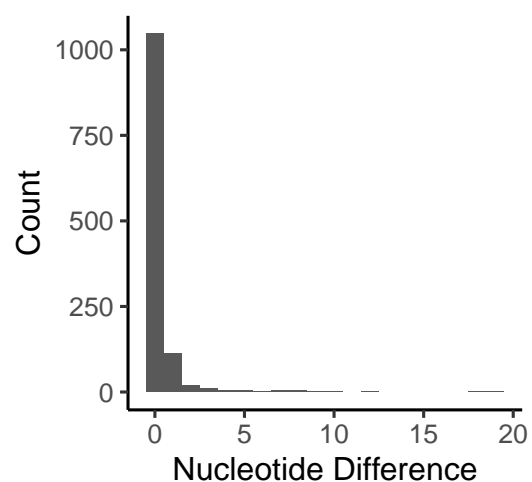
### IGHV4-39\*01

3218 sequences assigned  
2787 (86.6%) exact matches, in which:  
2629 unique CDR3  
6 unique J



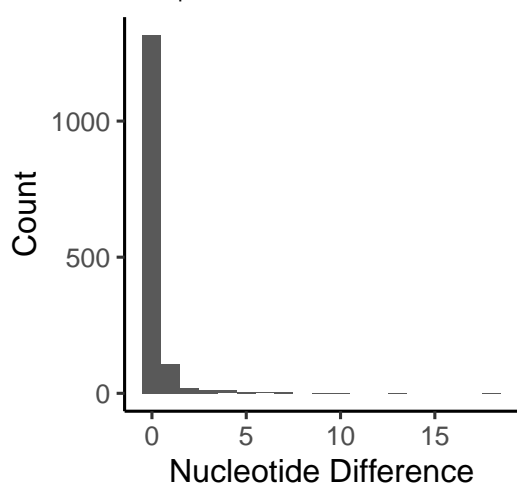
### IGHV4-59\*01

1213 sequences assigned  
1047 (86.3%) exact matches, in which:  
1017 unique CDR3  
6 unique J



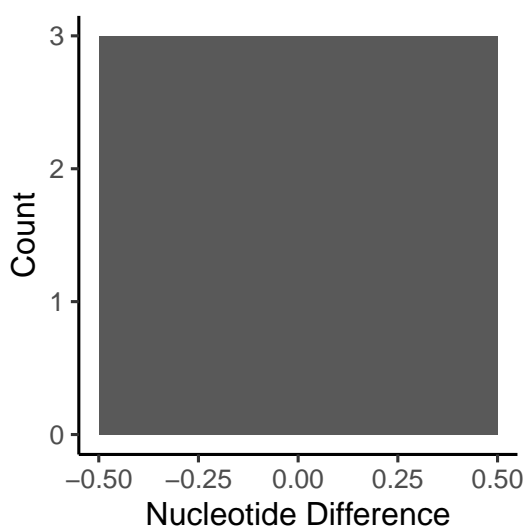
### IGHV4-31\*03

1484 sequences assigned  
1316 (88.7%) exact matches, in which:  
1255 unique CDR3  
6 unique J



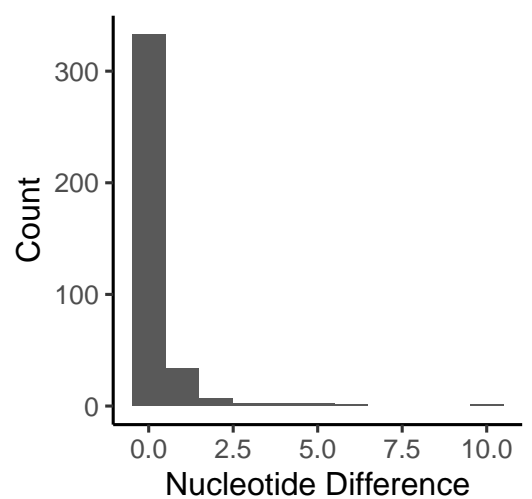
### IGHV4-55\*01

3 sequences assigned  
3 (100%) exact matches, in which:  
3 unique CDR3  
3 unique J



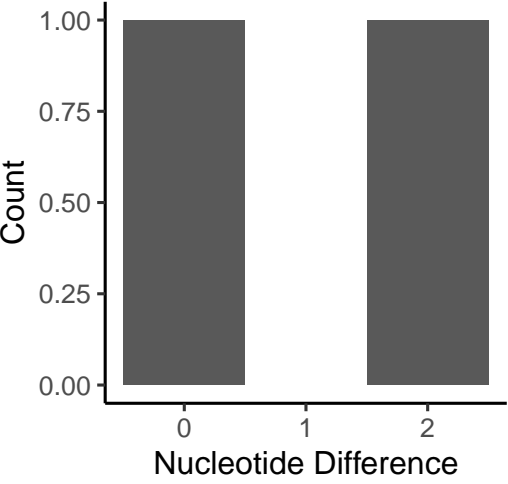
### IGHV4-61\*01

382 sequences assigned  
333 (87.2%) exact matches, in which:  
325 unique CDR3  
6 unique J



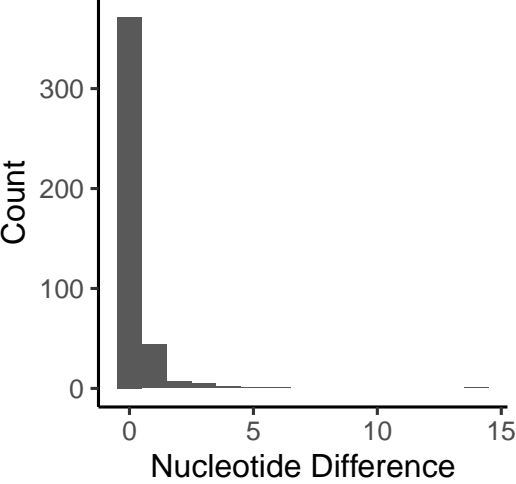
IGHV1/OR15-2\*01

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



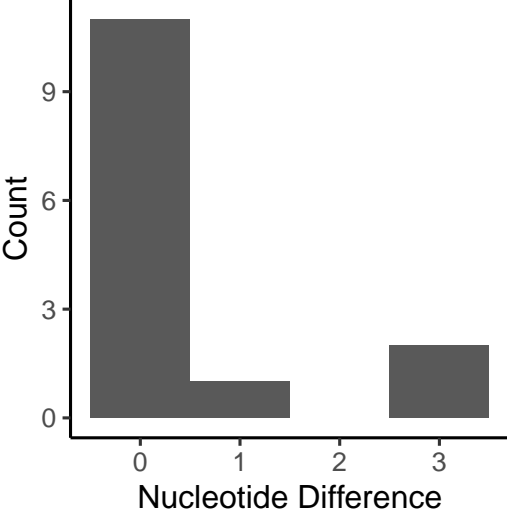
IGHV6-1\*01

433 sequences assigned  
372 (85.9%) exact matches, in which:  
346 unique CDR3  
6 unique J



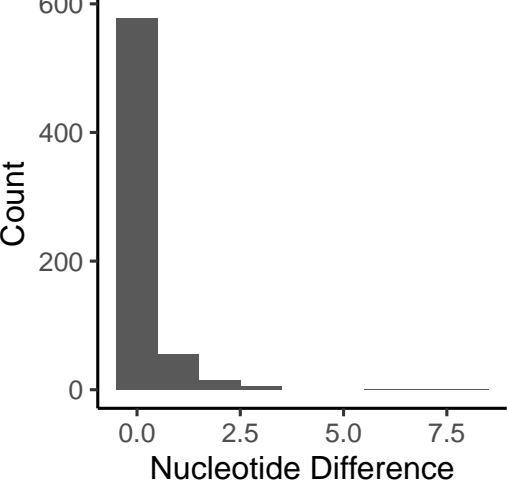
IGHV7-4-1\*01

14 sequences assigned  
11 (78.6%) exact matches, in which:  
11 unique CDR3  
3 unique J



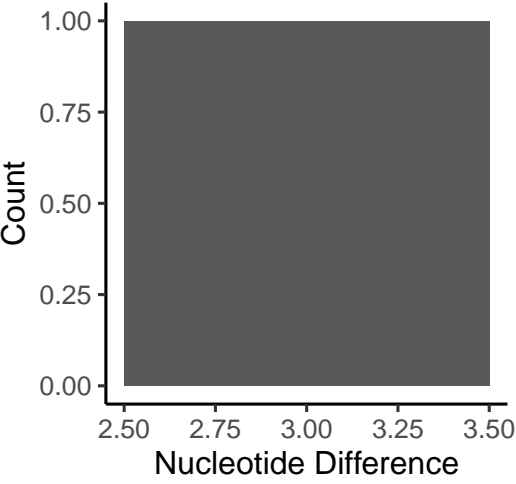
IGHV5-10-1\*03

656 sequences assigned  
578 (88.1%) exact matches, in which:  
540 unique CDR3  
6 unique J



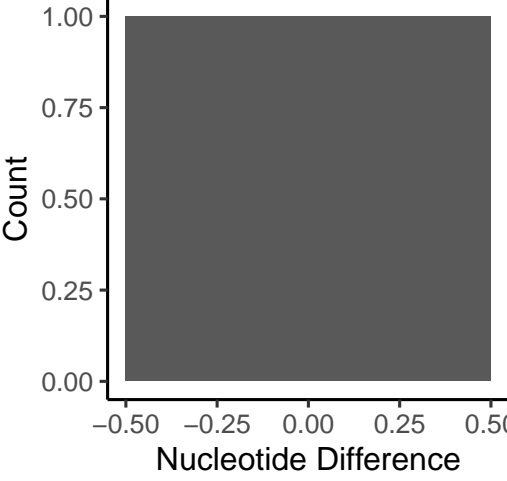
IGHV3/OR16-6\*02

1 sequences assigned  
No exact matches.



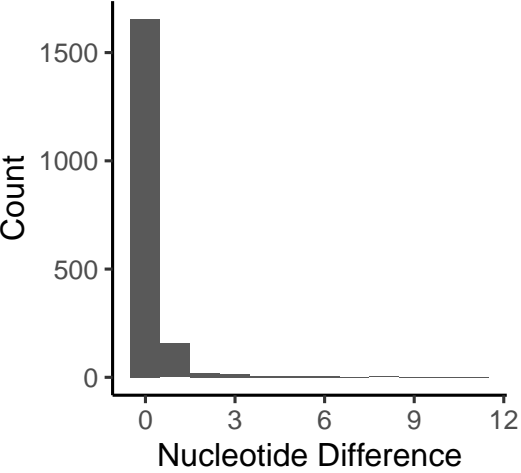
IGHV7-81\*01

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



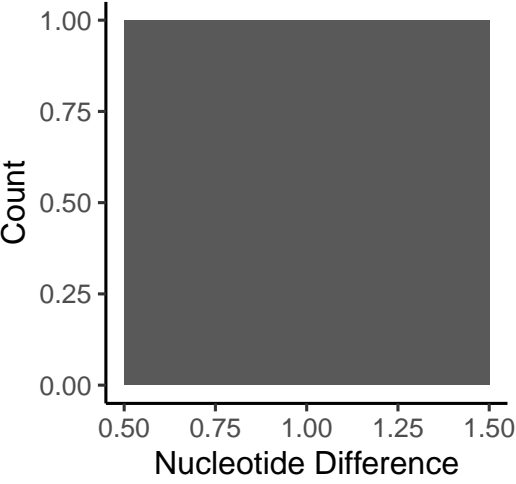
IGHV5-51\*01

1875 sequences assigned  
1655 (88.3%) exact matches, in which:  
1575 unique CDR3  
6 unique J



IGHV3/OR16-12\*01

1 sequences assigned  
No exact matches.







Warning – no inferred sequences found.