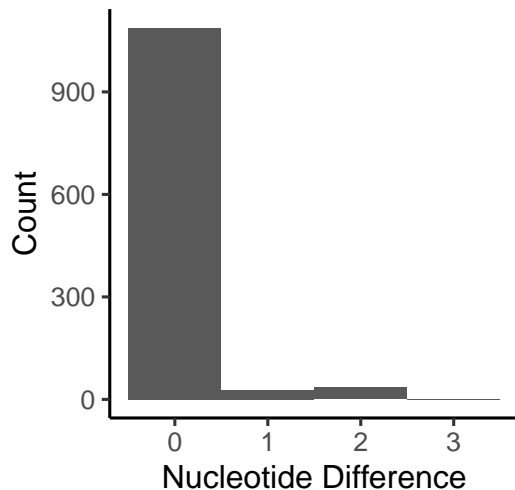


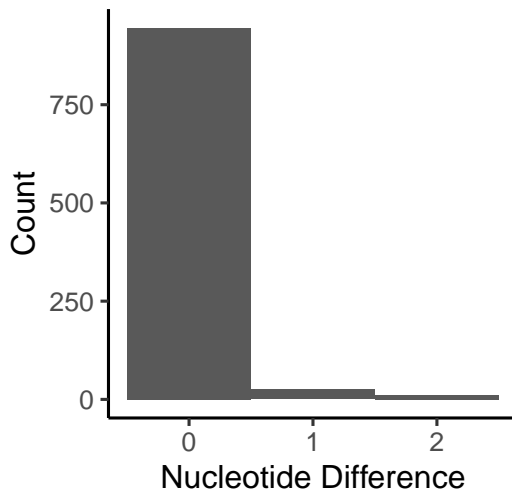
### IGHV1–2\*02

1153 sequences assigned  
1088 (94.4%) exact matches, in which:  
1083 unique CDR3  
6 unique J



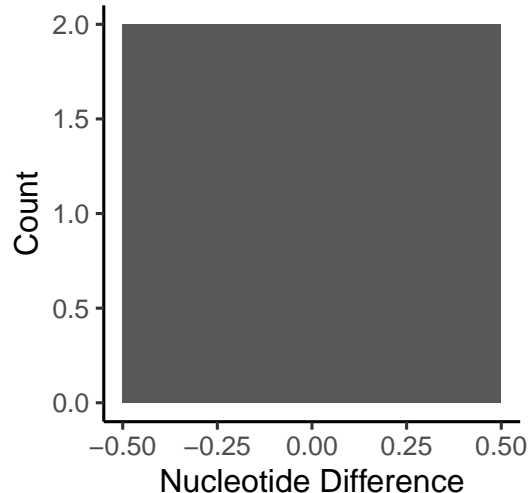
### IGHV1–18\*01

982 sequences assigned  
946 (96.3%) exact matches, in which:  
930 unique CDR3  
7 unique J



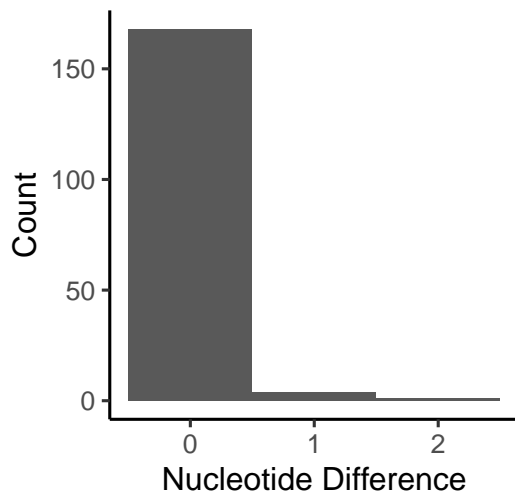
### IGHV1–45\*02

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



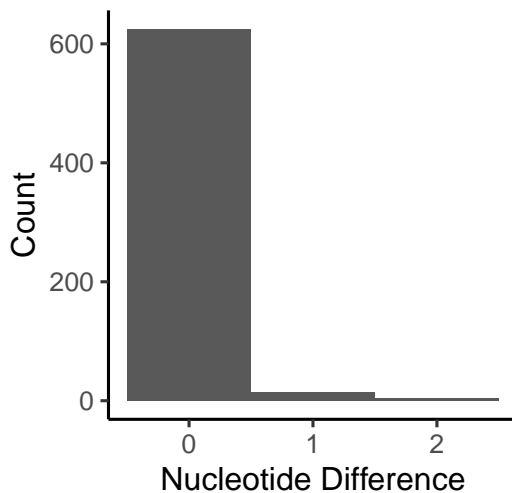
### IGHV1–3\*01\_05

173 sequences assigned  
168 (97.1%) exact matches, in which:  
168 unique CDR3  
6 unique J



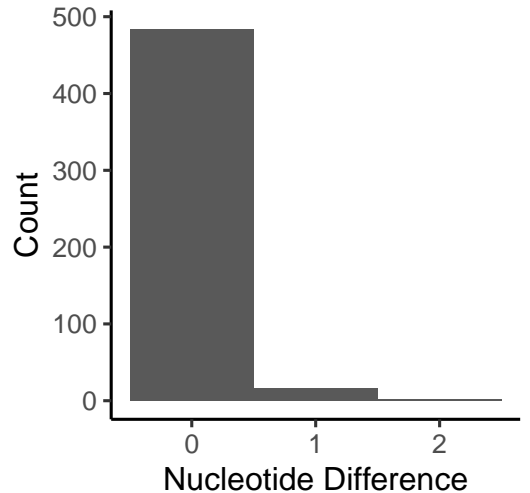
### IGHV1–18\*04

644 sequences assigned  
625 (97%) exact matches, in which:  
619 unique CDR3  
6 unique J



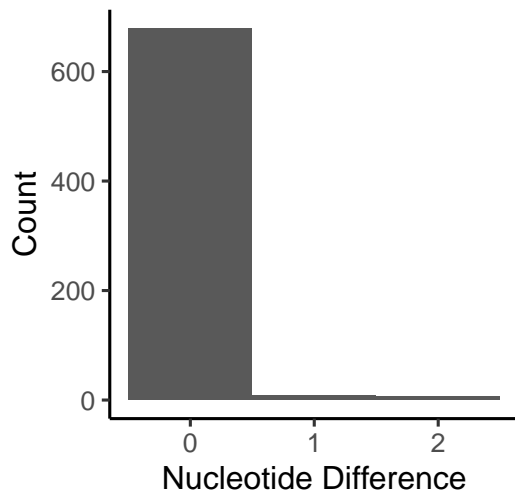
### IGHV1–46\*01

502 sequences assigned  
484 (96.4%) exact matches, in which:  
484 unique CDR3  
7 unique J



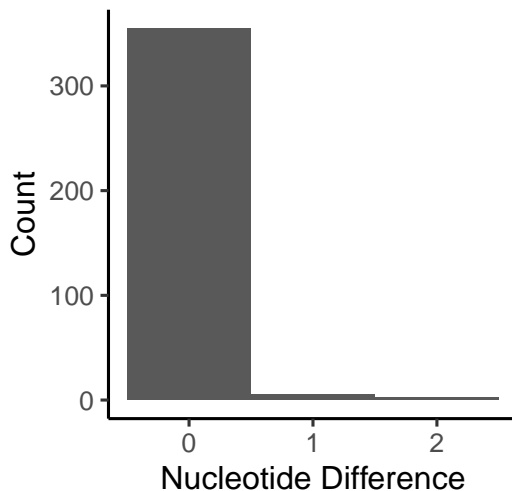
### IGHV1–8\*01

695 sequences assigned  
679 (97.7%) exact matches, in which:  
670 unique CDR3  
7 unique J



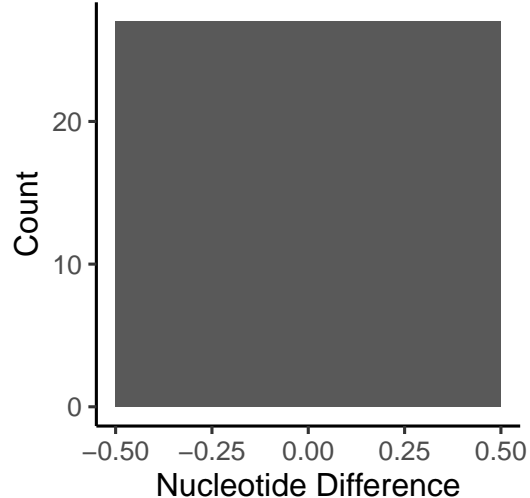
### IGHV1–24\*01

362 sequences assigned  
355 (98.1%) exact matches, in which:  
351 unique CDR3  
7 unique J



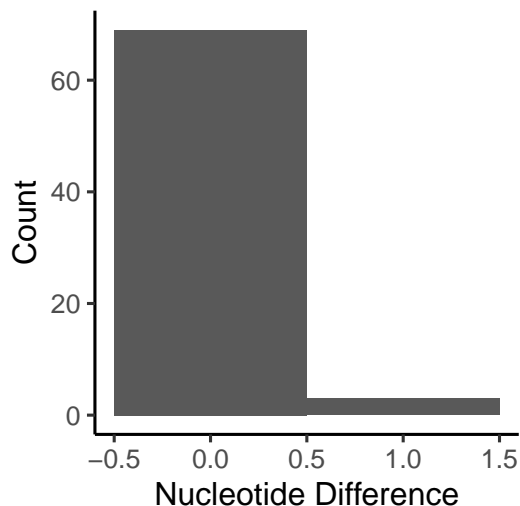
### IGHV1–58\*02

27 sequences assigned  
27 (100%) exact matches, in which:  
27 unique CDR3  
5 unique J



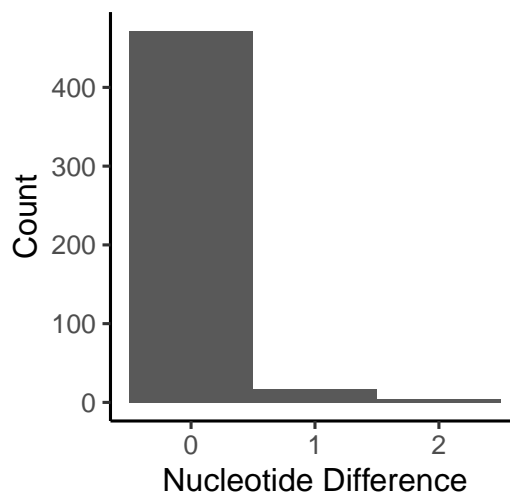
### IGHV1–58\*01\_03

72 sequences assigned  
69 (95.8%) exact matches, in which:  
69 unique CDR3  
5 unique J



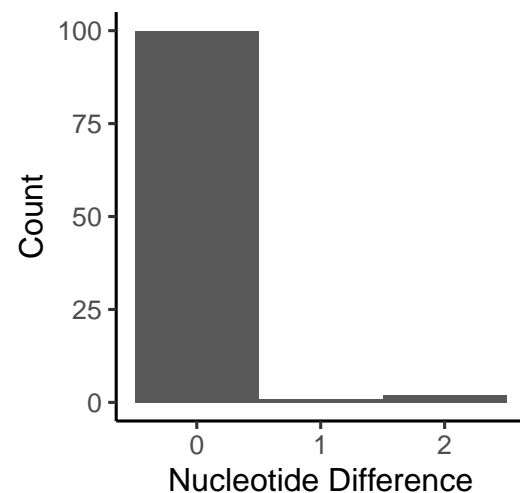
### IGHV2–5\*01

493 sequences assigned  
472 (95.7%) exact matches, in which:  
469 unique CDR3  
7 unique J



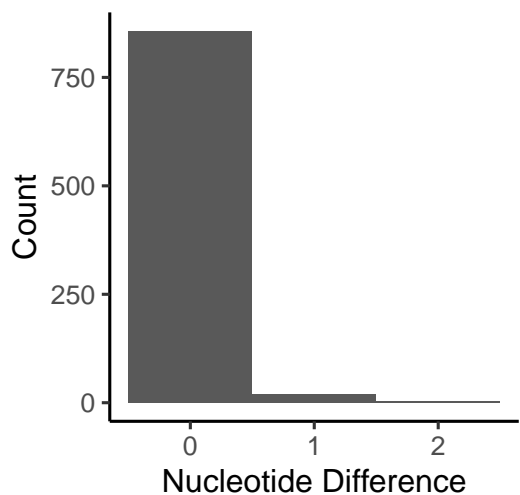
### IGHV2–70\*01

103 sequences assigned  
100 (97.1%) exact matches, in which:  
97 unique CDR3  
6 unique J



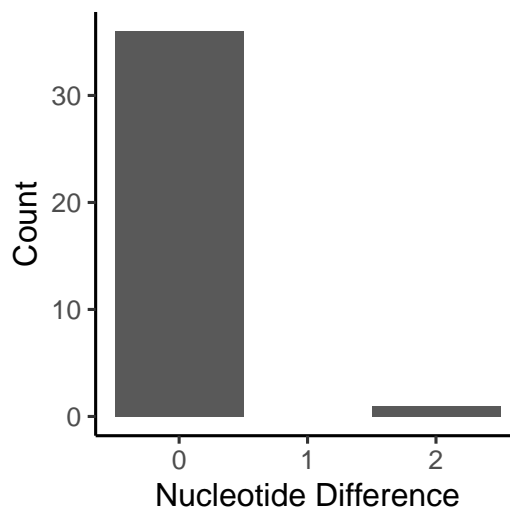
### IGHV1–69\*01\_12\_13

880 sequences assigned  
857 (97.4%) exact matches, in which:  
851 unique CDR3  
7 unique J



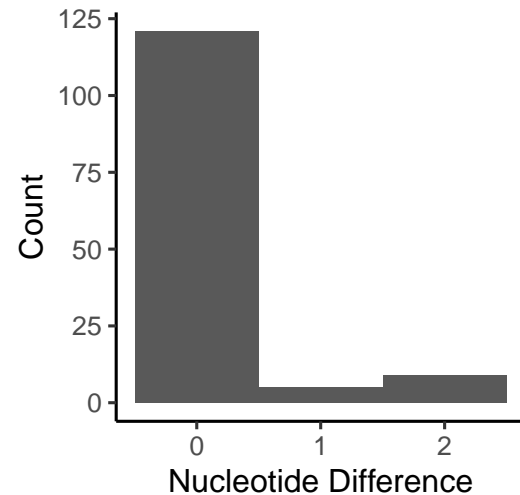
### IGHV2–26\*01

37 sequences assigned  
36 (97.3%) exact matches, in which:  
36 unique CDR3  
5 unique J



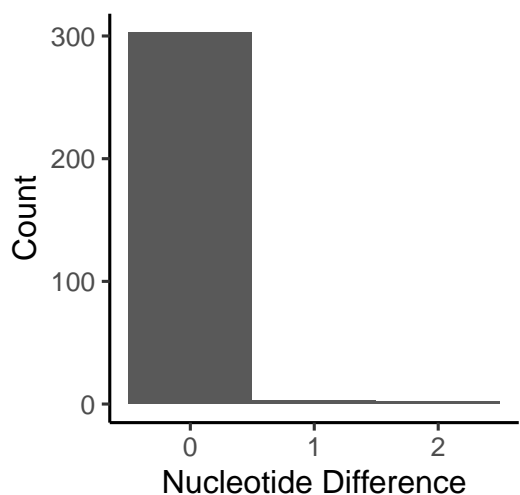
### IGHV2–70\*11\_15

135 sequences assigned  
121 (89.6%) exact matches, in which:  
118 unique CDR3  
4 unique J



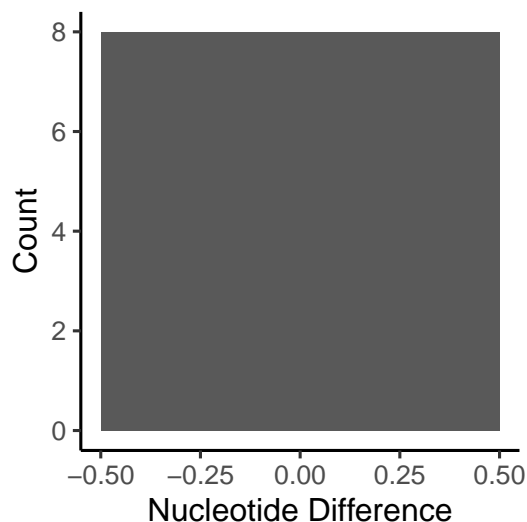
### IGHV1–69\*04\_09

308 sequences assigned  
303 (98.4%) exact matches, in which:  
301 unique CDR3  
6 unique J



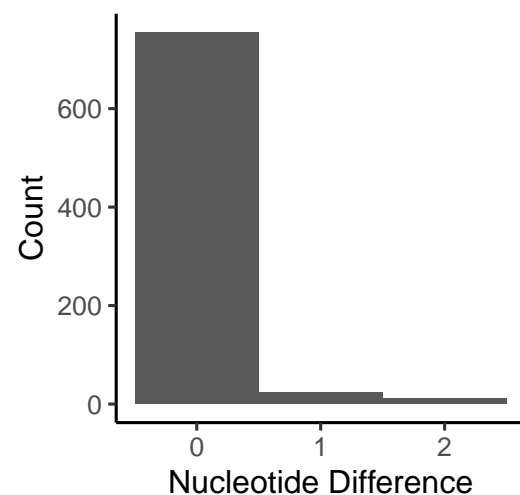
### IGHV2–26\*04

8 sequences assigned  
8 (100%) exact matches, in which:  
8 unique CDR3  
5 unique J



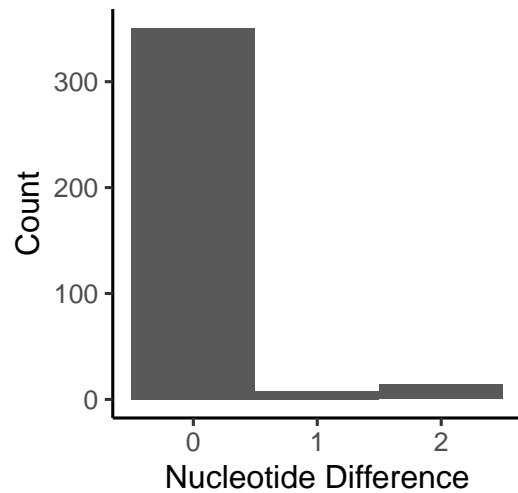
### IGHV3–7\*01

790 sequences assigned  
755 (95.6%) exact matches, in which:  
743 unique CDR3  
7 unique J



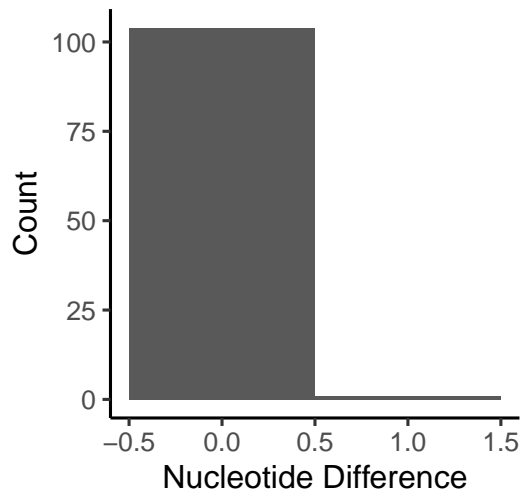
### IGHV3-9\*01

373 sequences assigned  
351 (94.1%) exact matches, in which:  
347 unique CDR3  
6 unique J



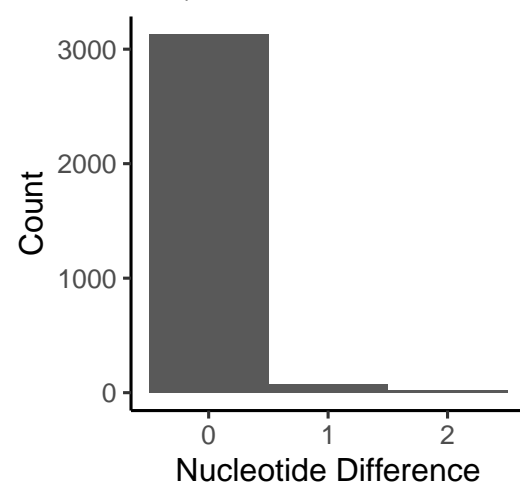
### IGHV3-13\*04

105 sequences assigned  
104 (99%) exact matches, in which:  
103 unique CDR3  
5 unique J



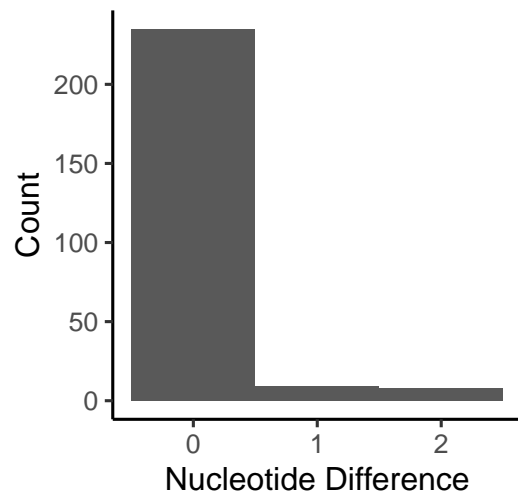
### IGHV3-23\*01\_04

3226 sequences assigned  
3129 (97%) exact matches, in which:  
3041 unique CDR3  
7 unique J



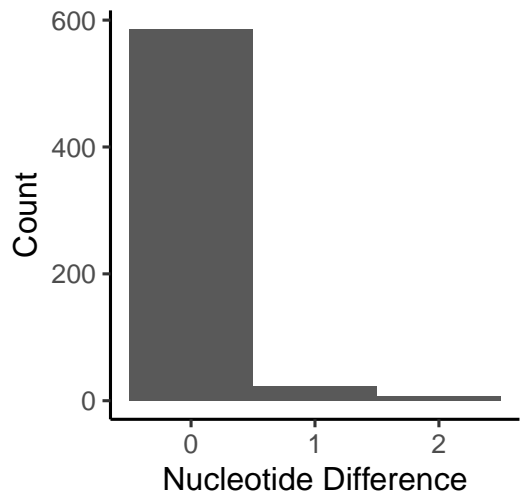
### IGHV3-11\*01

252 sequences assigned  
235 (93.3%) exact matches, in which:  
232 unique CDR3  
6 unique J



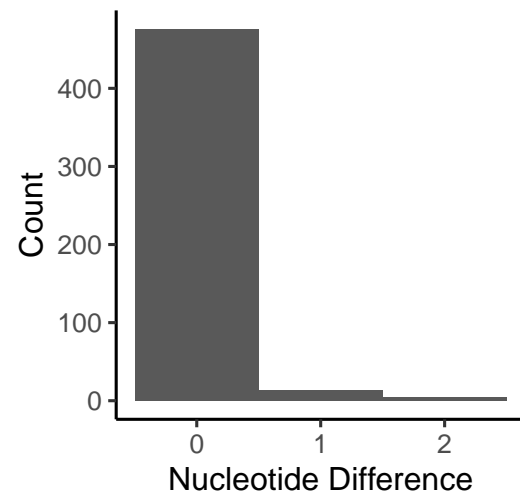
### IGHV3-15\*01\_02

616 sequences assigned  
586 (95.1%) exact matches, in which:  
581 unique CDR3  
7 unique J



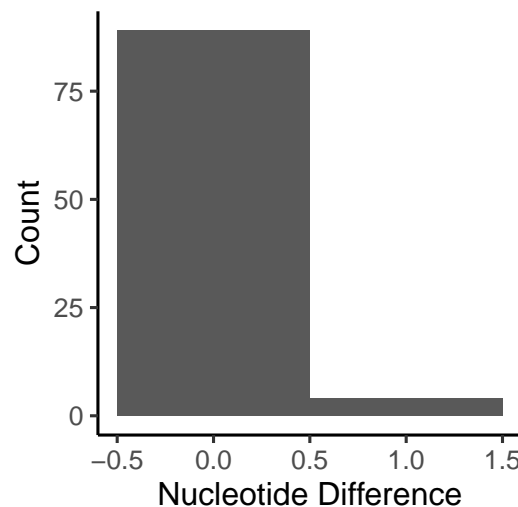
### IGHV3-30-3\*01

494 sequences assigned  
476 (96.4%) exact matches, in which:  
469 unique CDR3  
6 unique J



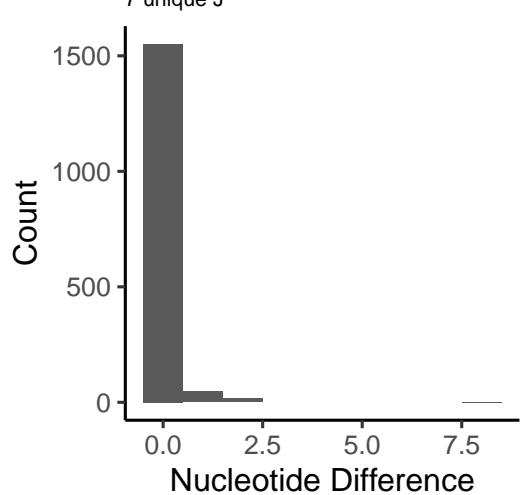
### IGHV3-13\*01

93 sequences assigned  
89 (95.7%) exact matches, in which:  
88 unique CDR3  
5 unique J



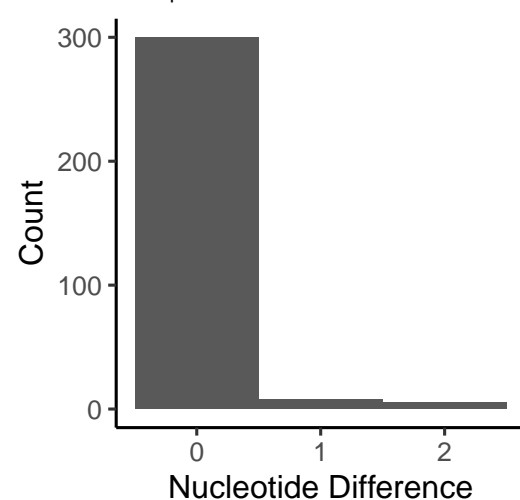
### IGHV3-21\*01\_02

1615 sequences assigned  
1551 (96%) exact matches, in which:  
1500 unique CDR3  
7 unique J



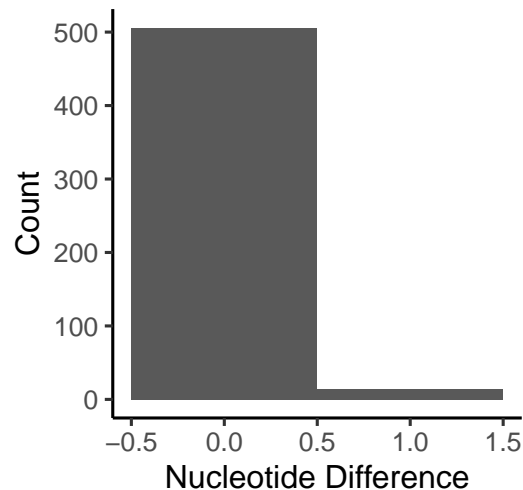
### IGHV3-33\*01

313 sequences assigned  
300 (95.8%) exact matches, in which:  
300 unique CDR3  
7 unique J



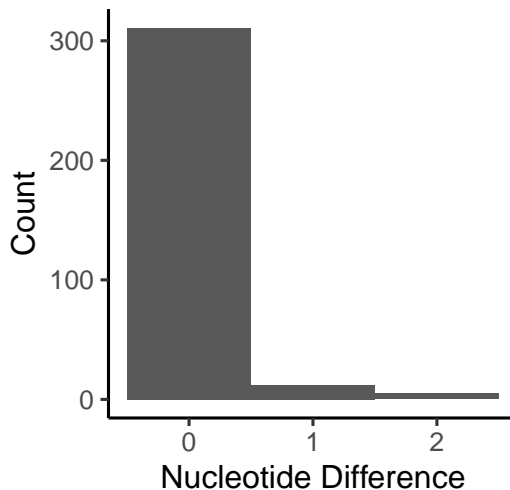
### IGHV3–33\*08

520 sequences assigned  
506 (97.3%) exact matches, in which:  
501 unique CDR3  
6 unique J



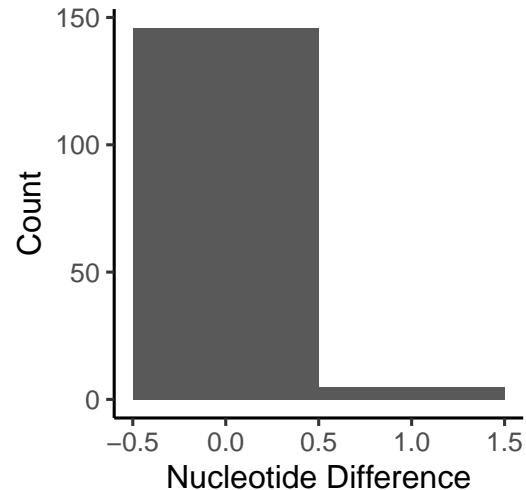
### IGHV3–48\*03

328 sequences assigned  
311 (94.8%) exact matches, in which:  
300 unique CDR3  
6 unique J



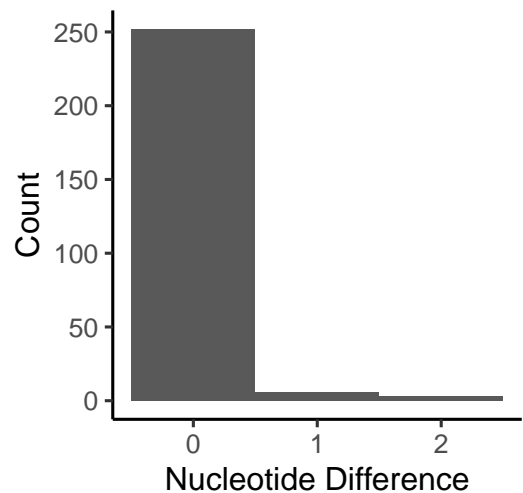
### IGHV3–53\*04

151 sequences assigned  
146 (96.7%) exact matches, in which:  
139 unique CDR3  
6 unique J



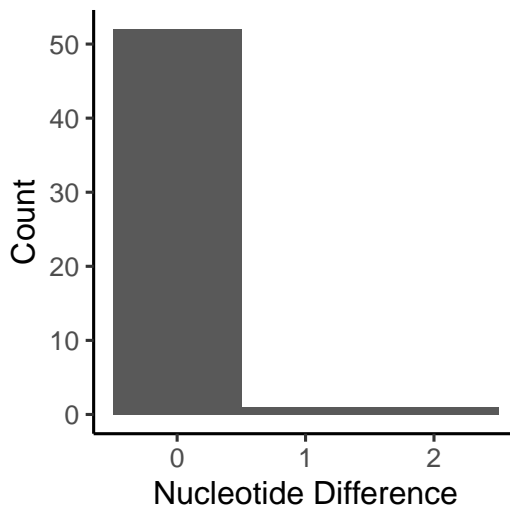
### IGHV3–43\*02

261 sequences assigned  
252 (96.6%) exact matches, in which:  
240 unique CDR3  
6 unique J



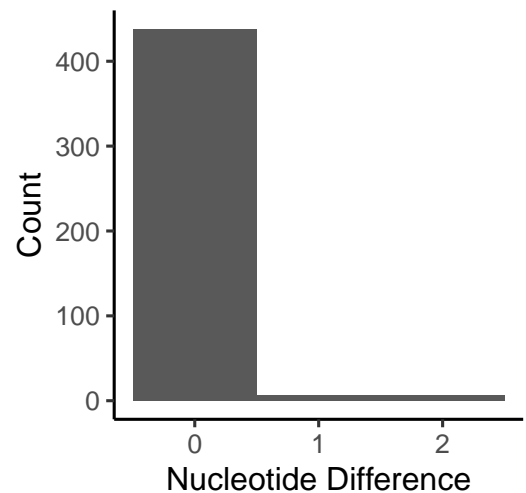
### IGHV3–49\*04

54 sequences assigned  
52 (96.3%) exact matches, in which:  
52 unique CDR3  
5 unique J



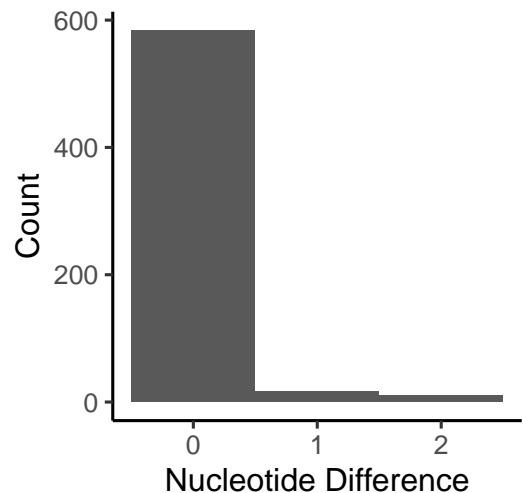
### IGHV3–53\*01\_02

451 sequences assigned  
438 (97.1%) exact matches, in which:  
424 unique CDR3  
6 unique J



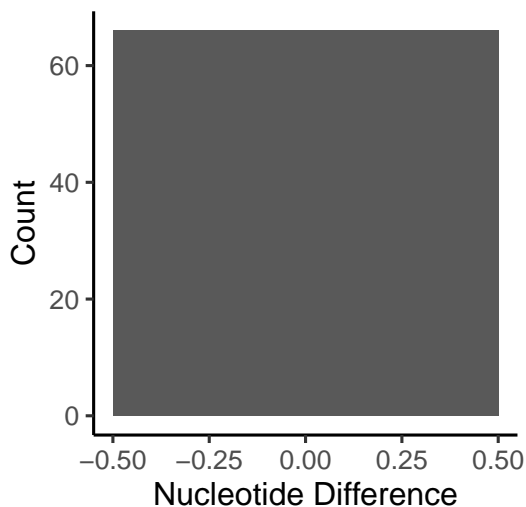
### IGHV3–48\*02

610 sequences assigned  
584 (95.7%) exact matches, in which:  
573 unique CDR3  
6 unique J



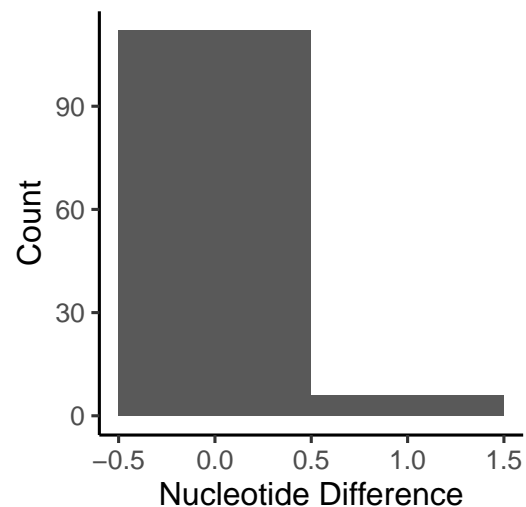
### IGHV3–49\*03\_05

66 sequences assigned  
66 (100%) exact matches, in which:  
65 unique CDR3  
5 unique J



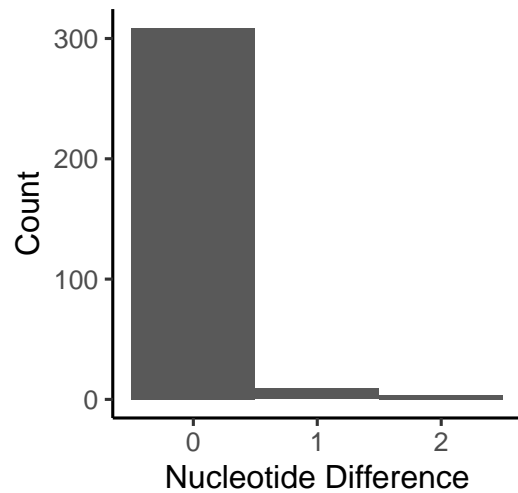
### IGHV3–64\*01

118 sequences assigned  
112 (94.9%) exact matches, in which:  
107 unique CDR3  
6 unique J



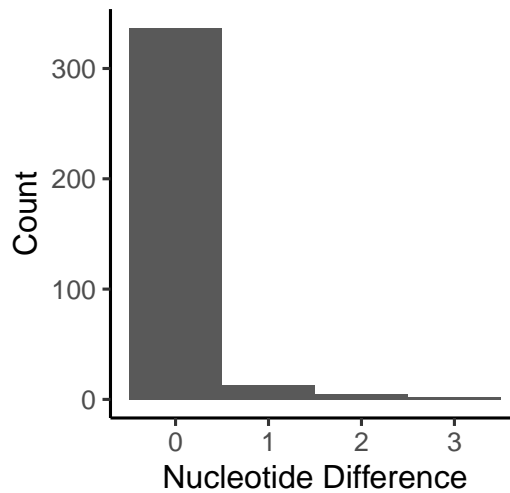
### IGHV3–66\*01

322 sequences assigned  
309 (96%) exact matches, in which:  
301 unique CDR3  
6 unique J



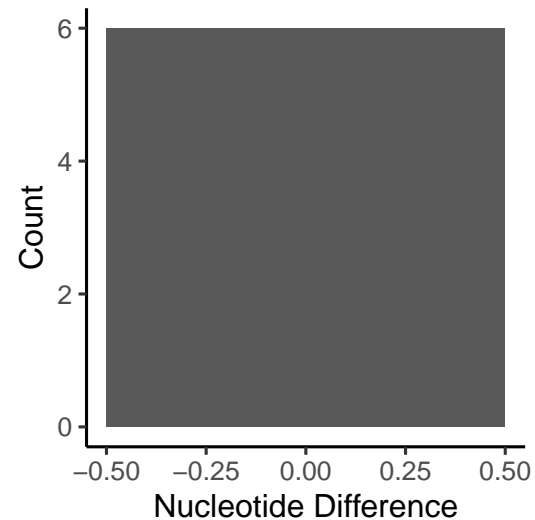
### IGHV3–74\*01\_02

357 sequences assigned  
337 (94.4%) exact matches, in which:  
329 unique CDR3  
7 unique J



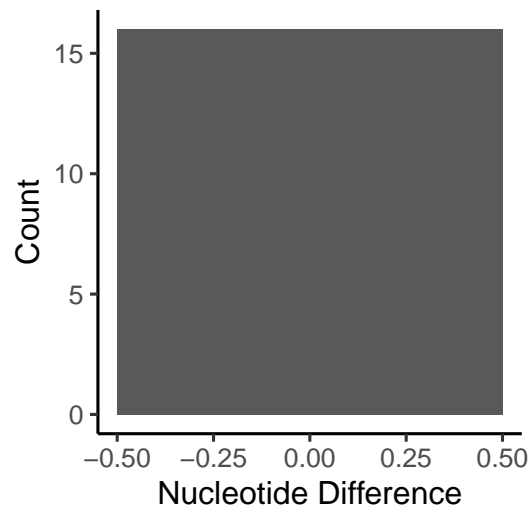
### IGHV4–28\*01\_07

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



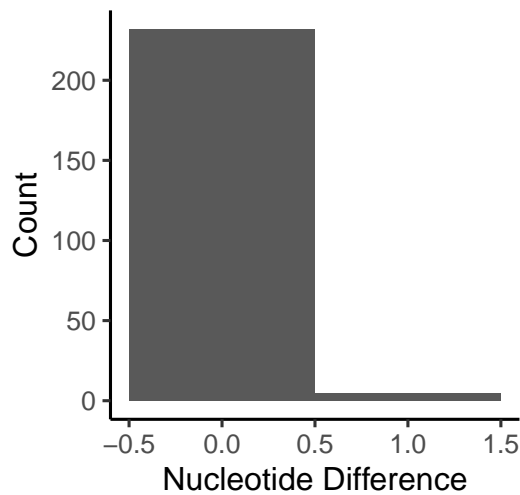
### IGHV3–72\*01

16 sequences assigned  
16 (100%) exact matches, in which:  
14 unique CDR3  
5 unique J



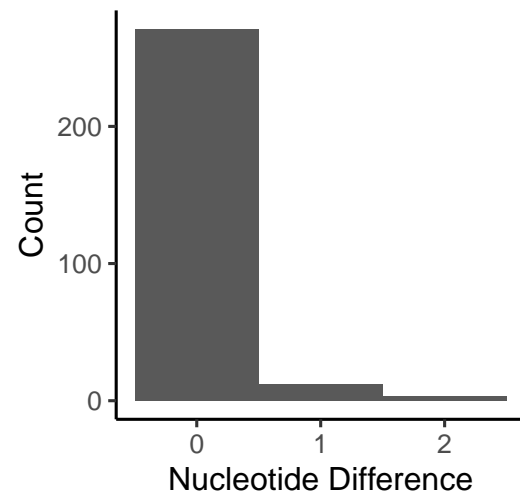
### IGHV3–64D\*09

237 sequences assigned  
232 (97.9%) exact matches, in which:  
230 unique CDR3  
6 unique J



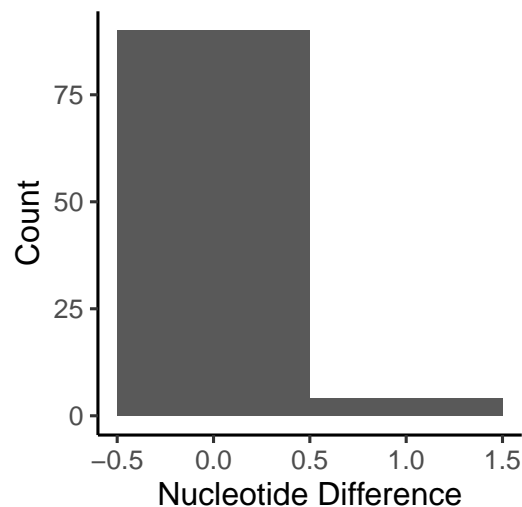
### IGHV4–30–2\*01

286 sequences assigned  
271 (94.8%) exact matches, in which:  
268 unique CDR3  
6 unique J



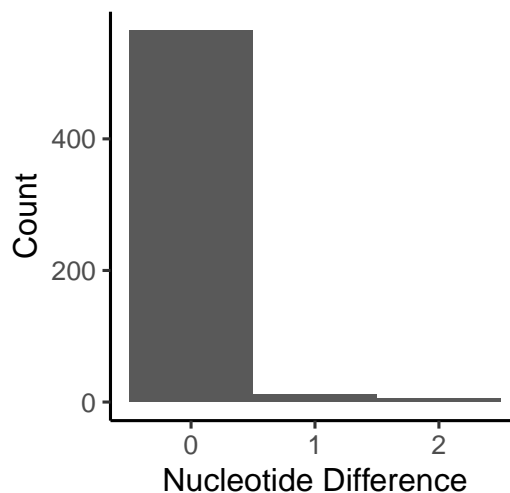
### IGHV3–73\*01\_02

94 sequences assigned  
90 (95.7%) exact matches, in which:  
89 unique CDR3  
6 unique J



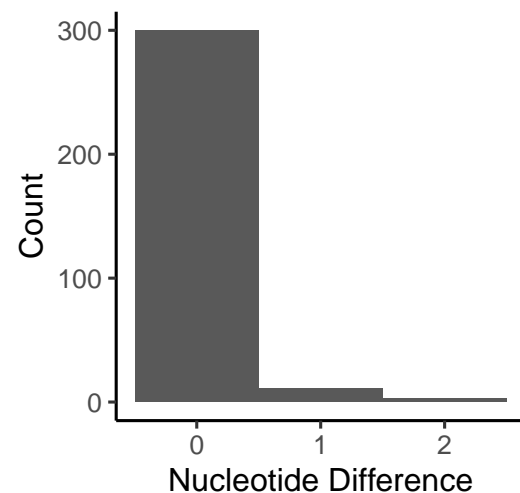
### IGHV4–4\*07

582 sequences assigned  
565 (97.1%) exact matches, in which:  
540 unique CDR3  
6 unique J



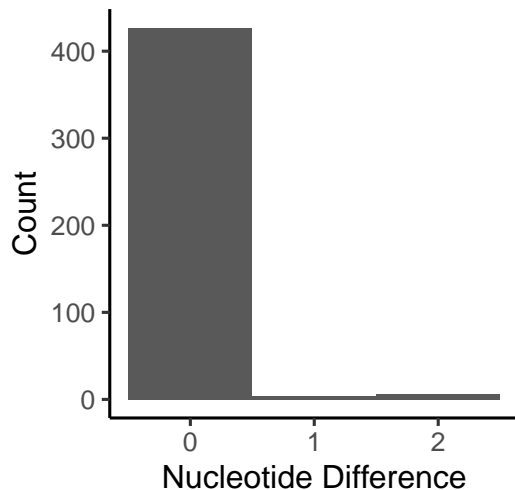
### IGHV4–30–4\*01

314 sequences assigned  
300 (95.5%) exact matches, in which:  
297 unique CDR3  
6 unique J



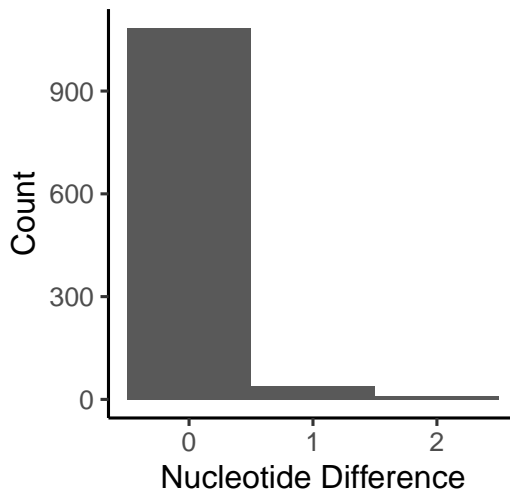
### IGHV4-31\*02

437 sequences assigned  
427 (97.7%) exact matches, in which:  
424 unique CDR3  
7 unique J



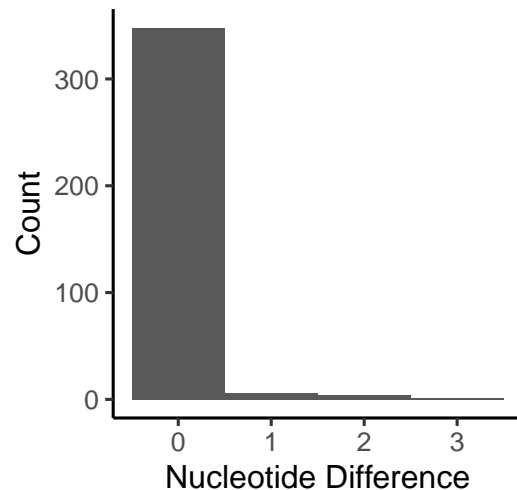
### IGHV4-59\*08

1134 sequences assigned  
1085 (95.7%) exact matches, in which:  
1057 unique CDR3  
6 unique J



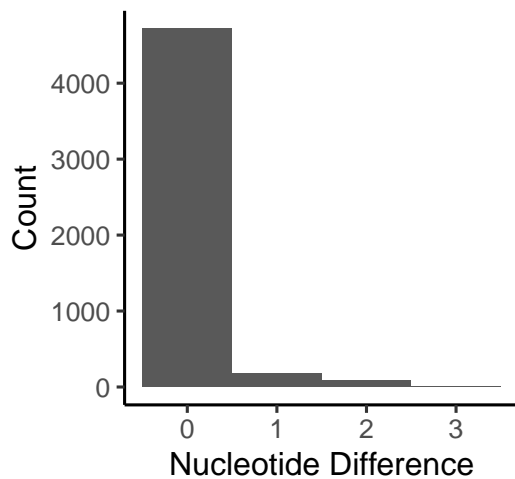
### IGHV4-61\*01

359 sequences assigned  
348 (96.9%) exact matches, in which:  
338 unique CDR3  
6 unique J



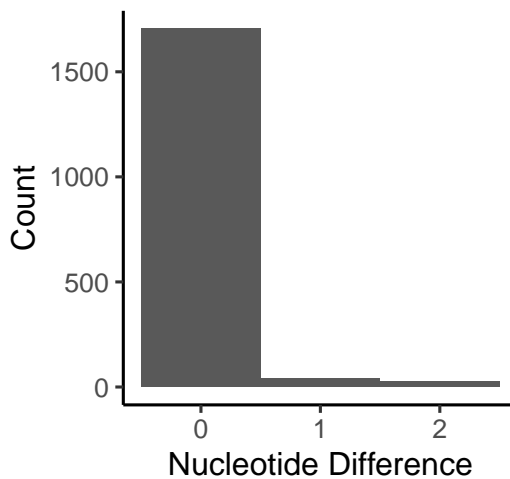
### IGHV4-34\*01\_02

4985 sequences assigned  
4717 (94.6%) exact matches, in which:  
4560 unique CDR3  
7 unique J



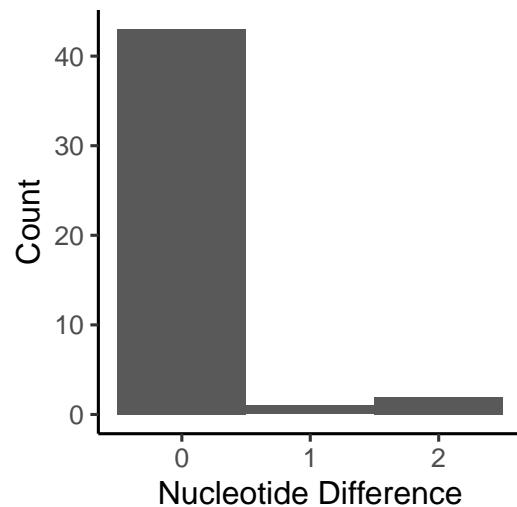
### IGHV4-59\*01\_07

1771 sequences assigned  
1705 (96.3%) exact matches, in which:  
1650 unique CDR3  
7 unique J



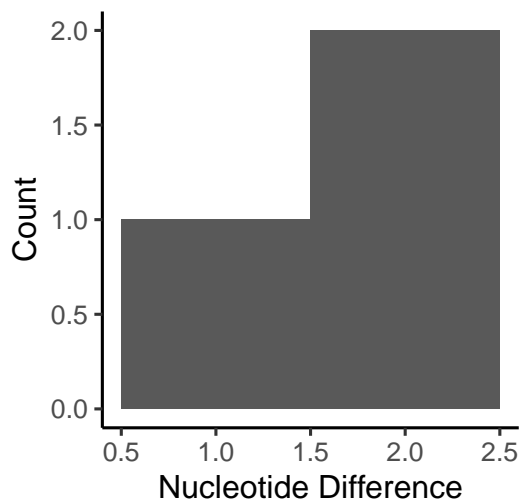
### IGHV5-10-1\*01\_03

46 sequences assigned  
43 (93.5%) exact matches, in which:  
43 unique CDR3  
5 unique J



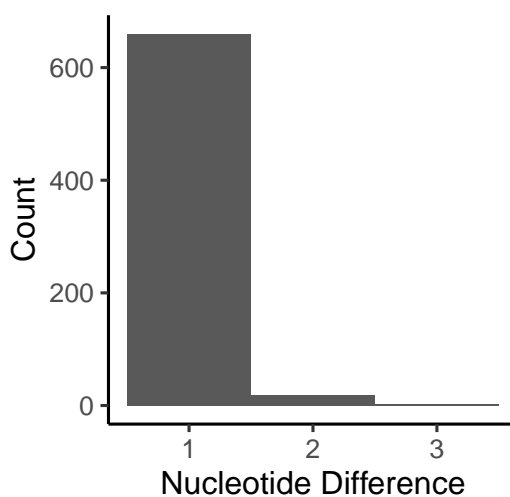
### IGHV4-39\*02

3 sequences assigned  
No exact matches.



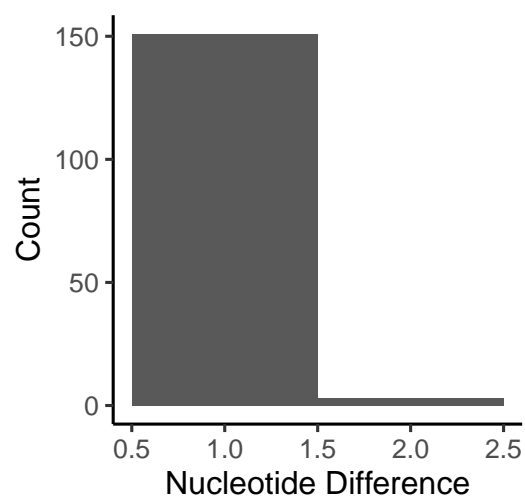
### IGHV4-59\*12

681 sequences assigned  
No exact matches.



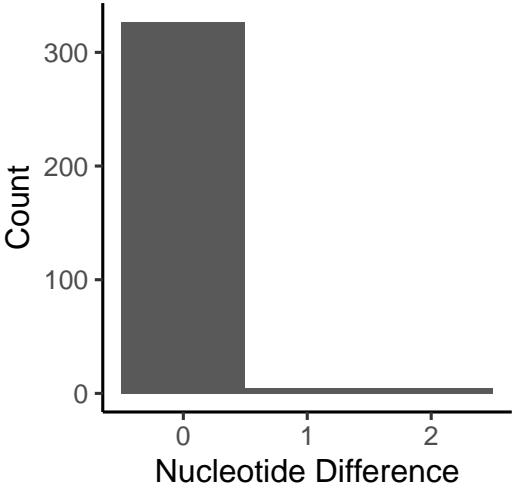
### IGHV5-51\*07

154 sequences assigned  
No exact matches.



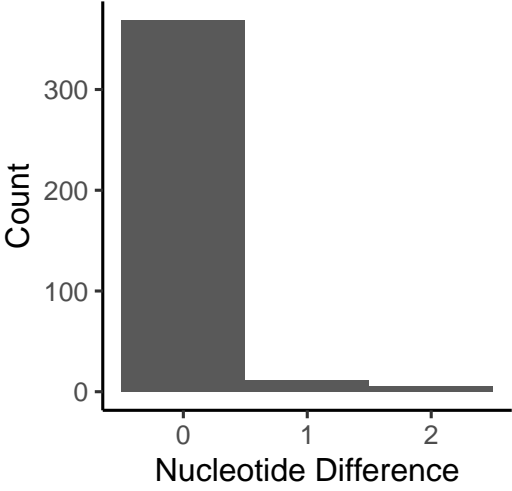
# IGHV5-51\*01\_03

337 sequences assigned  
327 (97%) exact matches, in which:  
323 unique CDR3  
7 unique J

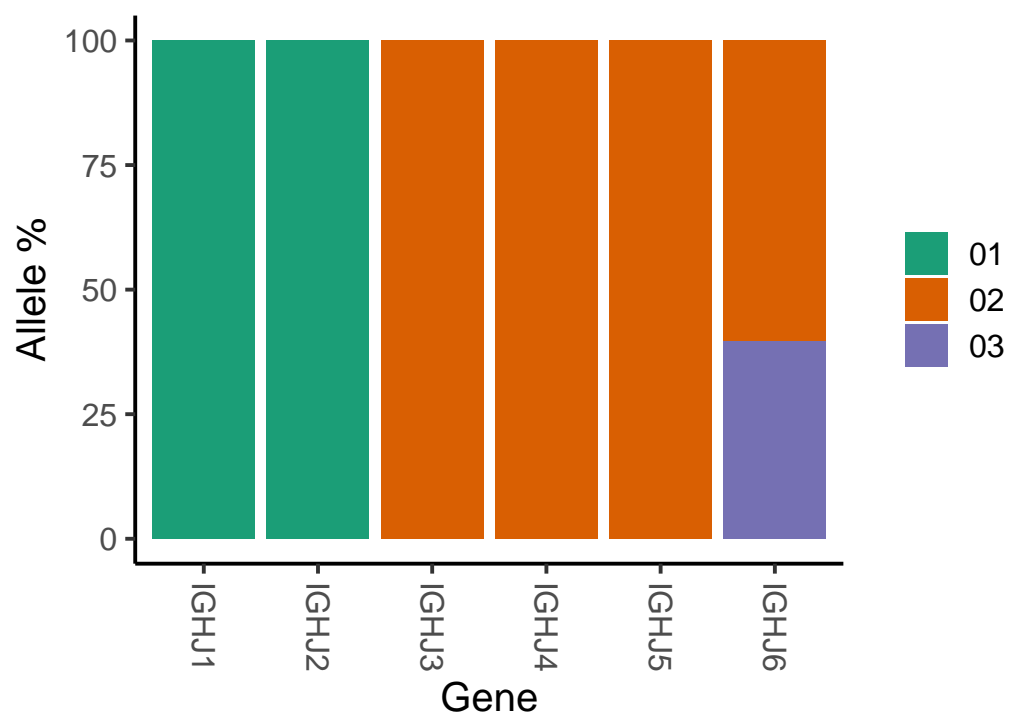


# IGHV6-1\*01\_02

385 sequences assigned  
369 (95.8%) exact matches, in which:  
360 unique CDR3  
7 unique J



Allele Usage





Sequence Count by IGHJ6 allele usage

