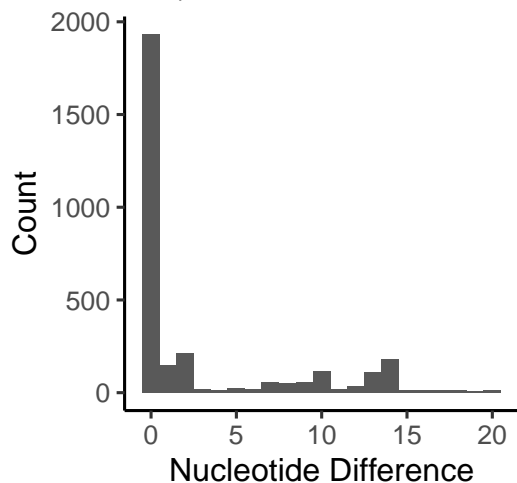


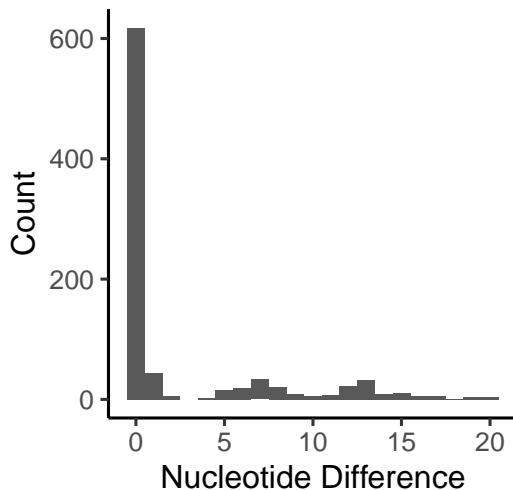
### IGHV1-2\*02

3289 sequences assigned  
1932 (58.7%) exact matches, in which:  
1909 unique CDR3  
6 unique J



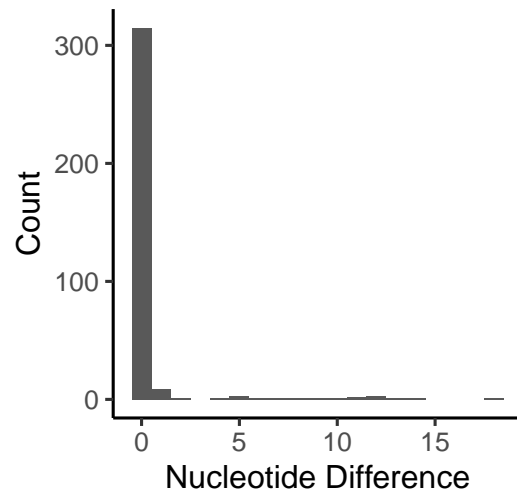
### IGHV1-8\*01

923 sequences assigned  
618 (67%) exact matches, in which:  
611 unique CDR3  
6 unique J



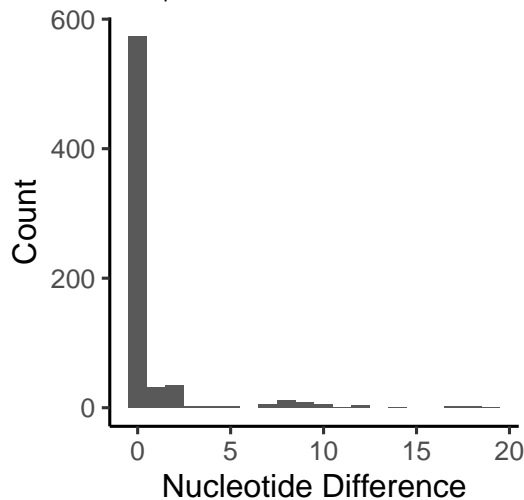
### IGHV1-24\*01

352 sequences assigned  
315 (89.5%) exact matches, in which:  
314 unique CDR3  
6 unique J



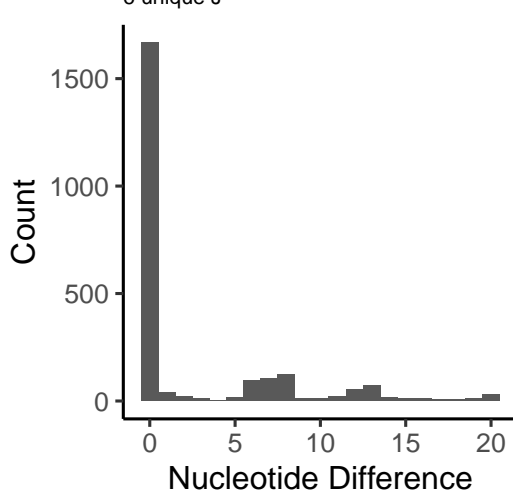
### IGHV1-2\*04

691 sequences assigned  
574 (83.1%) exact matches, in which:  
560 unique CDR3  
6 unique J



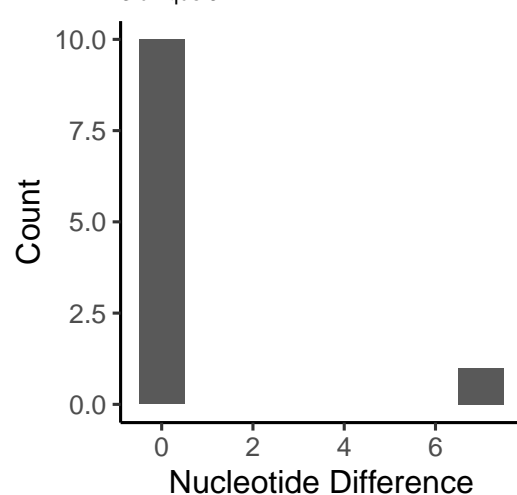
### IGHV1-18\*01

2512 sequences assigned  
1667 (66.4%) exact matches, in which:  
1663 unique CDR3  
6 unique J



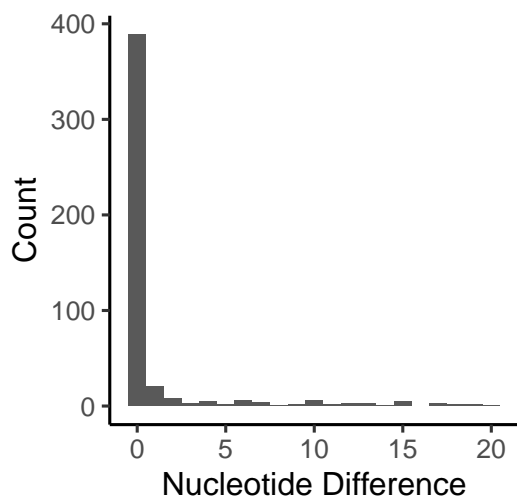
### IGHV1-45\*02

11 sequences assigned  
10 (90.9%) exact matches, in which:  
10 unique CDR3  
3 unique J



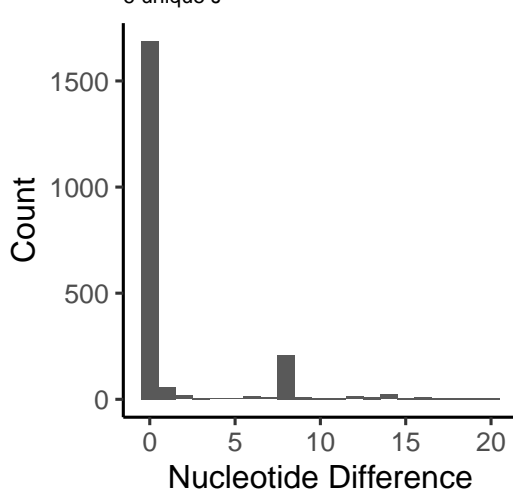
### IGHV1-3\*01\_05

483 sequences assigned  
389 (80.5%) exact matches, in which:  
382 unique CDR3  
6 unique J



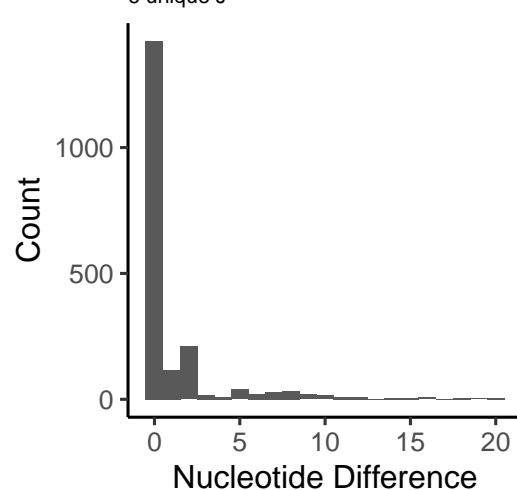
### IGHV1-18\*04

2229 sequences assigned  
1688 (75.7%) exact matches, in which:  
1674 unique CDR3  
6 unique J



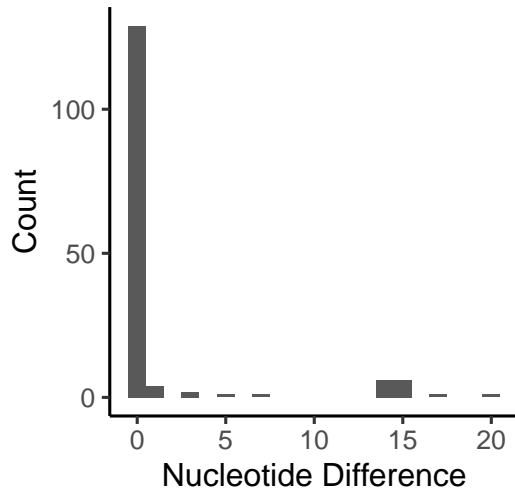
### IGHV1-46\*01

2034 sequences assigned  
1423 (70%) exact matches, in which:  
1411 unique CDR3  
6 unique J



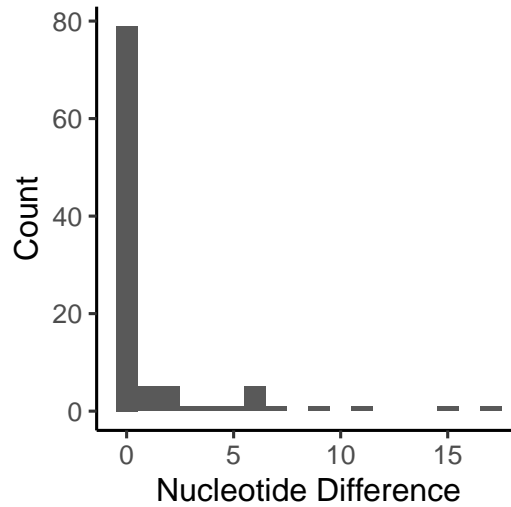
### IGHV1–58\*02

152 sequences assigned  
129 (84.9%) exact matches, in which:  
129 unique CDR3  
6 unique J



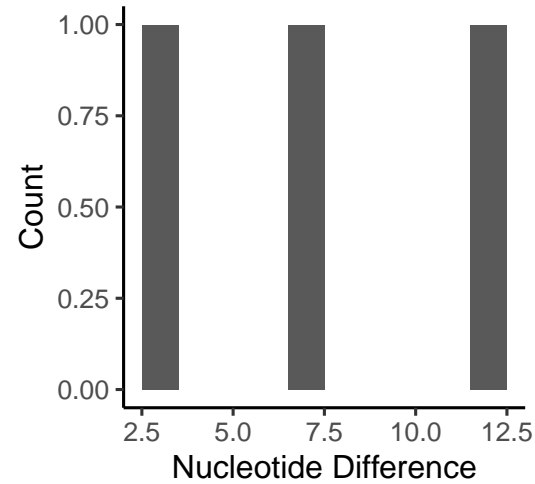
### IGHV2–5\*01

112 sequences assigned  
79 (70.5%) exact matches, in which:  
79 unique CDR3  
6 unique J



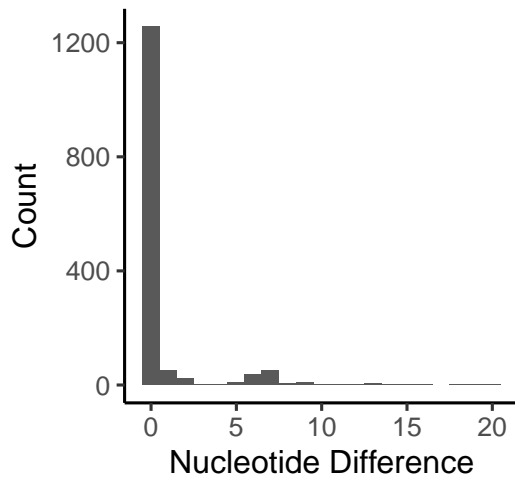
### IGHV2–70D\*04

3 sequences assigned  
No exact matches.



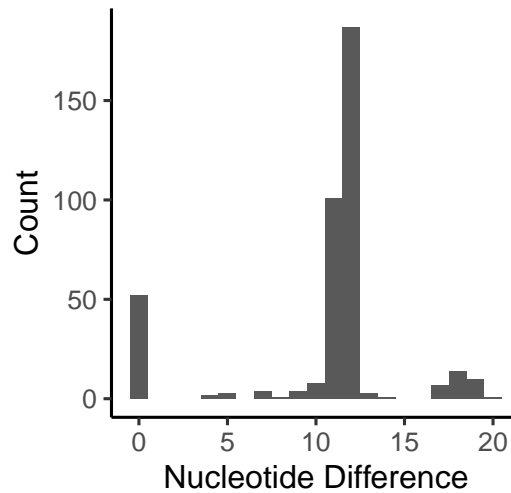
### IGHV1–69\*04\_09

1497 sequences assigned  
1256 (83.9%) exact matches, in which:  
1247 unique CDR3  
6 unique J



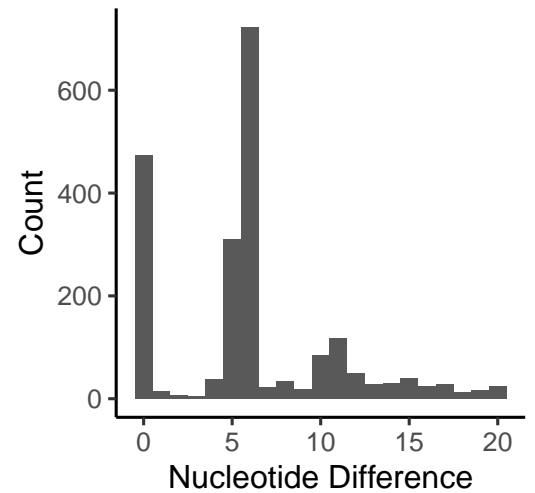
### IGHV2–26\*01

400 sequences assigned  
52 (13%) exact matches, in which:  
51 unique CDR3  
5 unique J



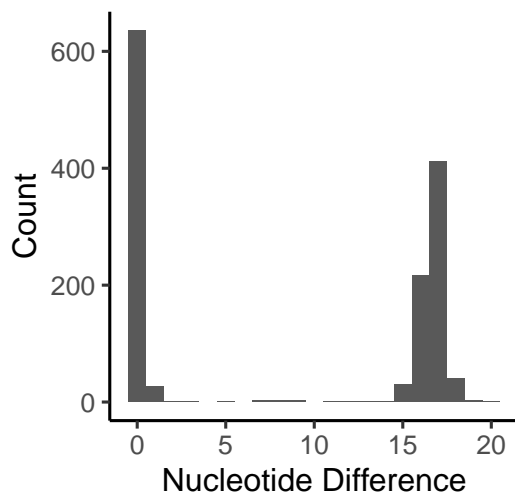
### IGHV3–7\*01

2381 sequences assigned  
473 (19.9%) exact matches, in which:  
356 unique CDR3  
6 unique J



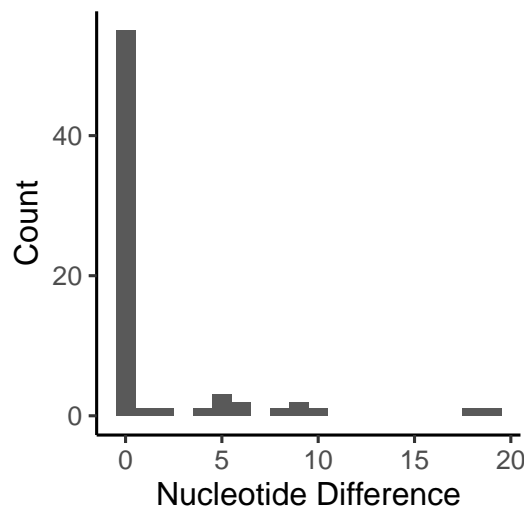
### IGHV1–69\*04\_09\_G112A

1430 sequences assigned  
636 (44.5%) exact matches, in which:  
635 unique CDR3  
6 unique J



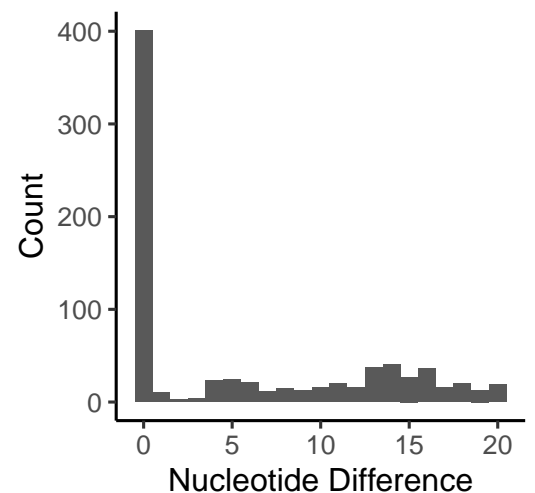
### IGHV2–70\*11\_15

74 sequences assigned  
55 (74.3%) exact matches, in which:  
55 unique CDR3  
5 unique J



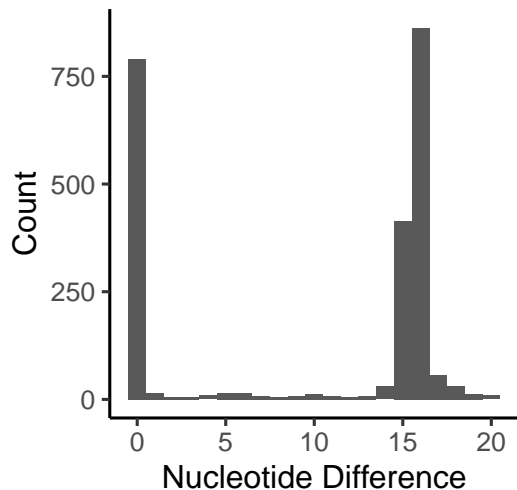
### IGHV3–7\*03

845 sequences assigned  
401 (47.5%) exact matches, in which:  
293 unique CDR3  
6 unique J



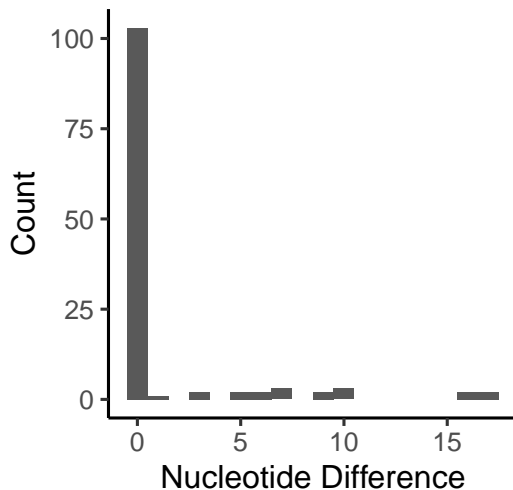
### IGHV3-9\*01

2468 sequences assigned  
791 (32.1%) exact matches, in which:  
599 unique CDR3  
6 unique J



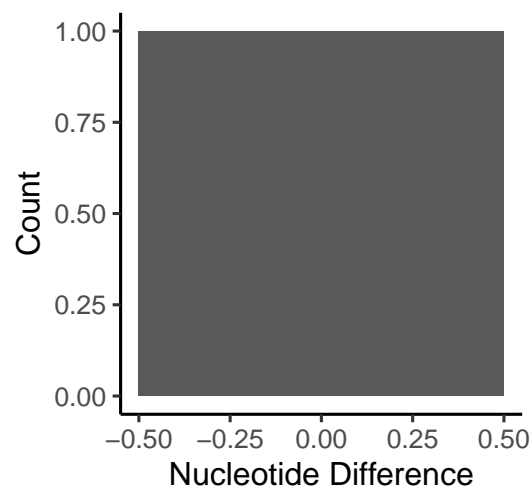
### IGHV3-13\*01

127 sequences assigned  
103 (81.1%) exact matches, in which:  
80 unique CDR3  
5 unique J



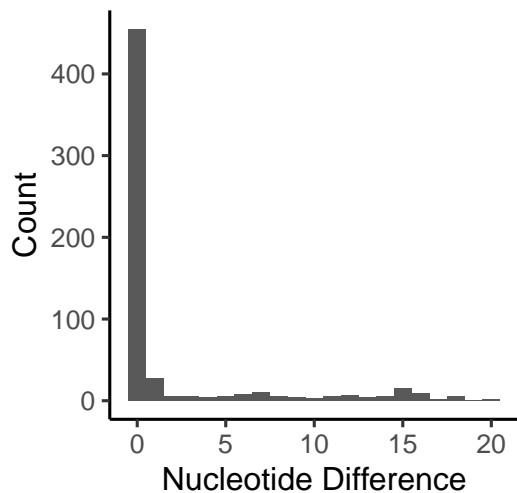
### IGHV3-19\*01

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



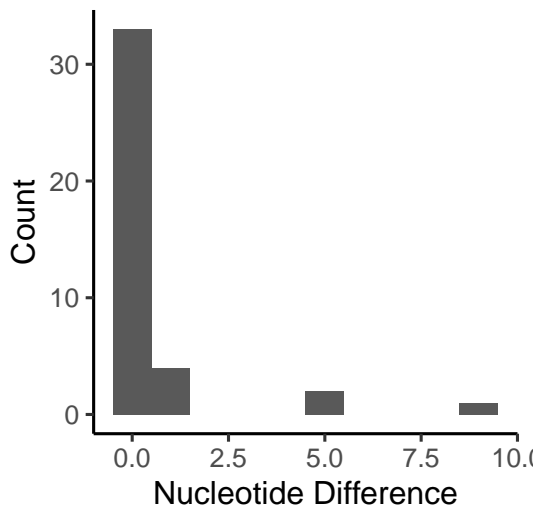
### IGHV3-11\*01

672 sequences assigned  
455 (67.7%) exact matches, in which:  
334 unique CDR3  
6 unique J



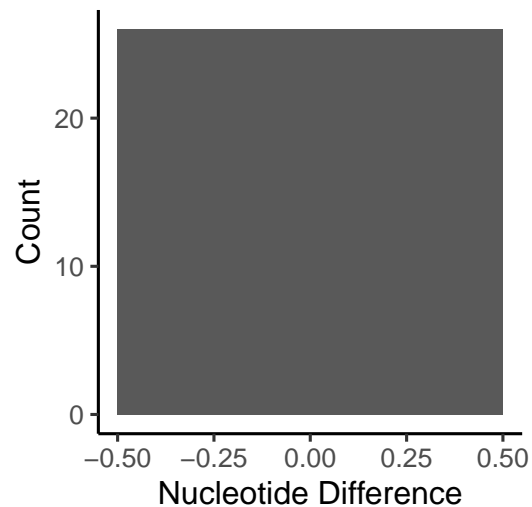
### IGHV3-13\*05

41 sequences assigned  
33 (80.5%) exact matches, in which:  
26 unique CDR3  
5 unique J



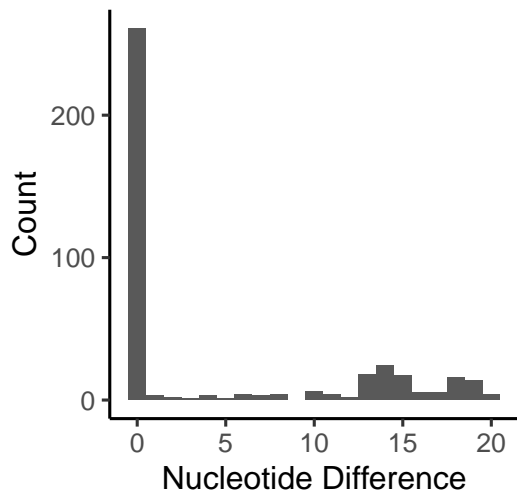
### IGHV3-20\*01\_02

26 sequences assigned  
26 (100%) exact matches, in which:  
21 unique CDR3  
5 unique J



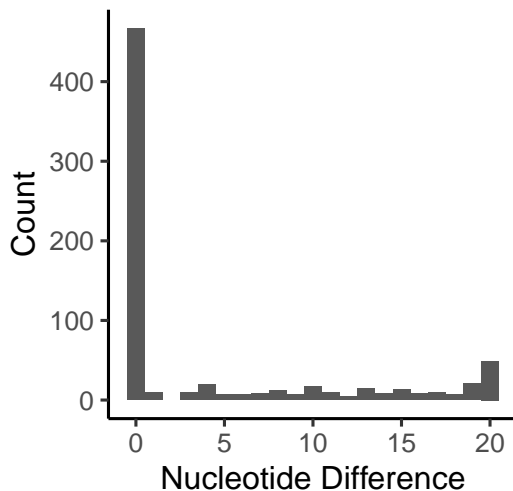
### IGHV3-11\*06

504 sequences assigned  
261 (51.8%) exact matches, in which:  
191 unique CDR3  
6 unique J



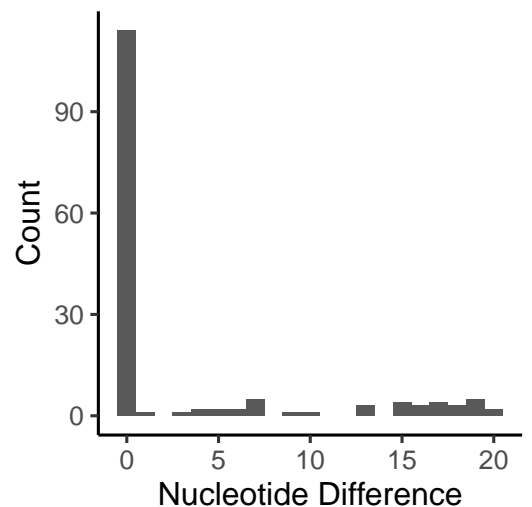
### IGHV3-15\*01\_02

975 sequences assigned  
467 (47.9%) exact matches, in which:  
376 unique CDR3  
6 unique J



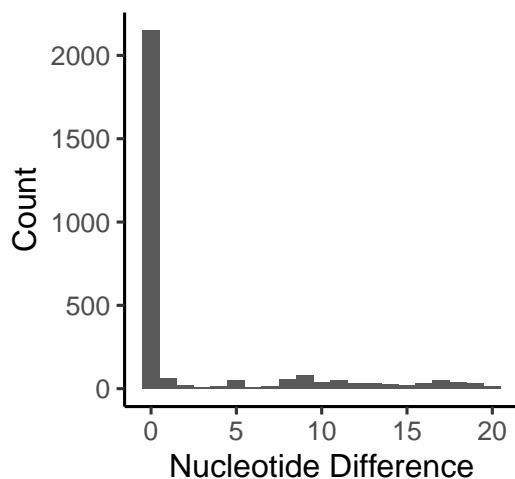
### IGHV3-20\*03\_04

189 sequences assigned  
114 (60.3%) exact matches, in which:  
86 unique CDR3  
5 unique J



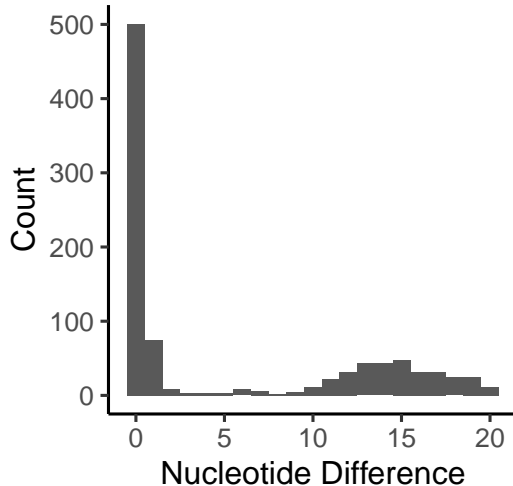
### IGHV3-21\*01\_02

3340 sequences assigned  
2150 (64.4%) exact matches, in which:  
1535 unique CDR3  
6 unique J



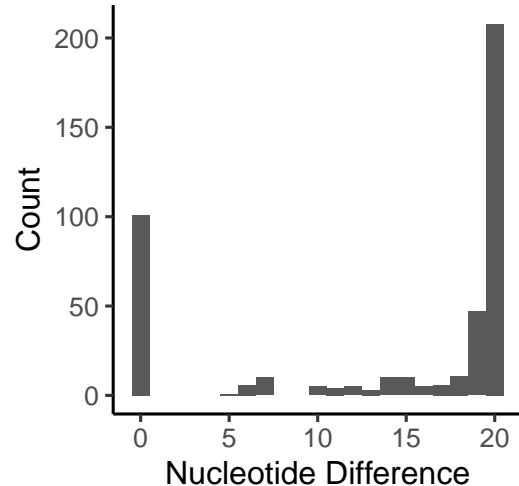
### IGHV3-33\*01

1026 sequences assigned  
501 (48.8%) exact matches, in which:  
394 unique CDR3  
6 unique J



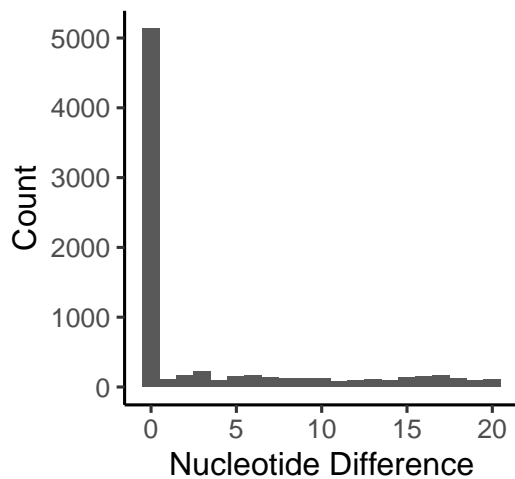
### IGHV3-43\*01

3041 sequences assigned  
101 (3.3%) exact matches, in which:  
79 unique CDR3  
5 unique J



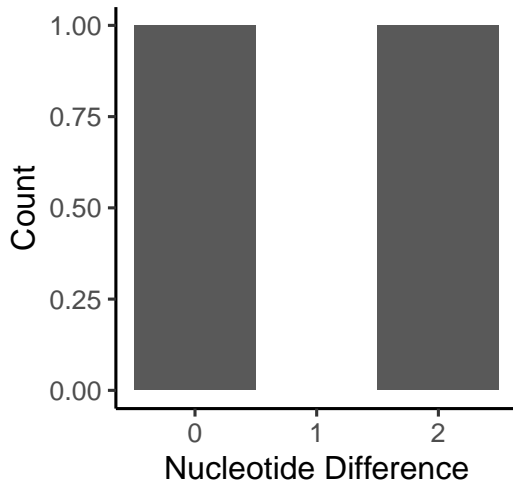
### IGHV3-23\*01\_04

9432 sequences assigned  
5133 (54.4%) exact matches, in which:  
3570 unique CDR3  
6 unique J



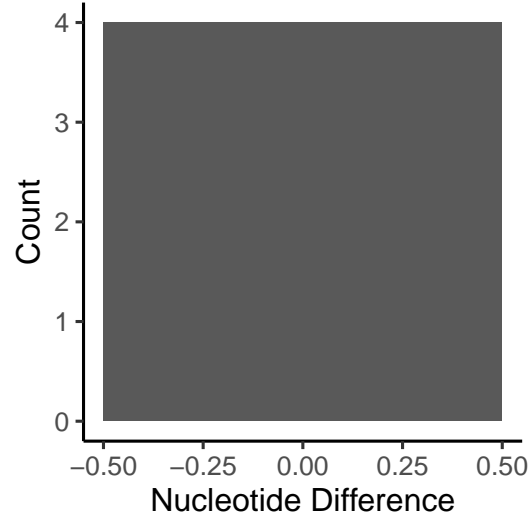
### IGHV3-35\*01

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



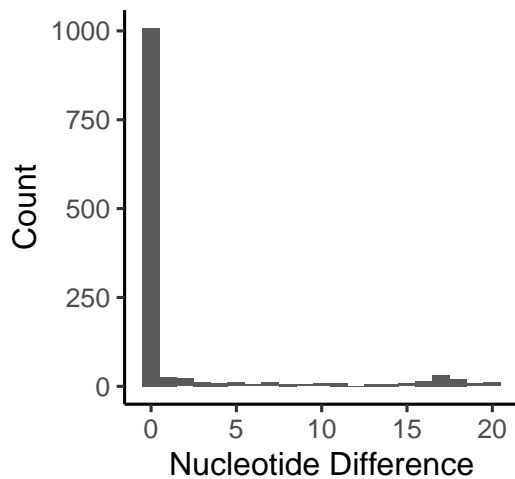
### IGHV3-47\*02

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



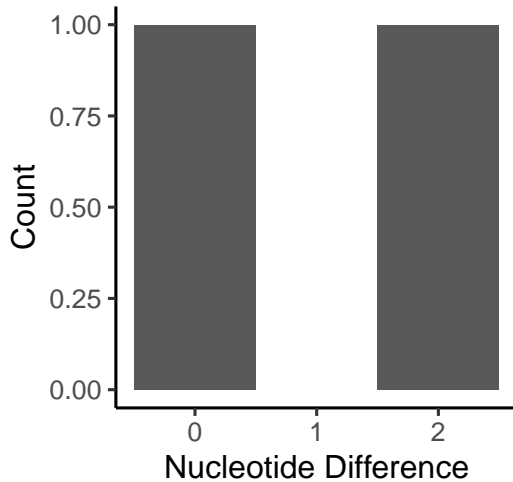
### IGHV3-30-3\*01

1370 sequences assigned  
1008 (73.6%) exact matches, in which:  
767 unique CDR3  
6 unique J



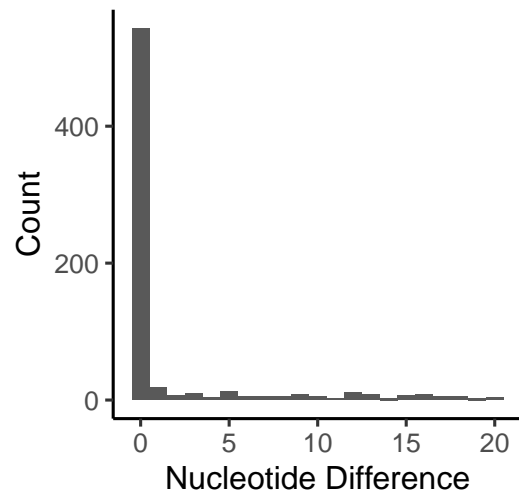
### IGHV3-38-3\*01

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



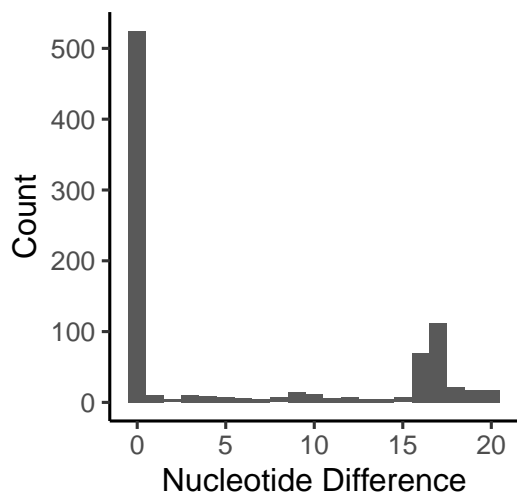
### IGHV3-48\*01

723 sequences assigned  
543 (75.1%) exact matches, in which:  
390 unique CDR3  
6 unique J



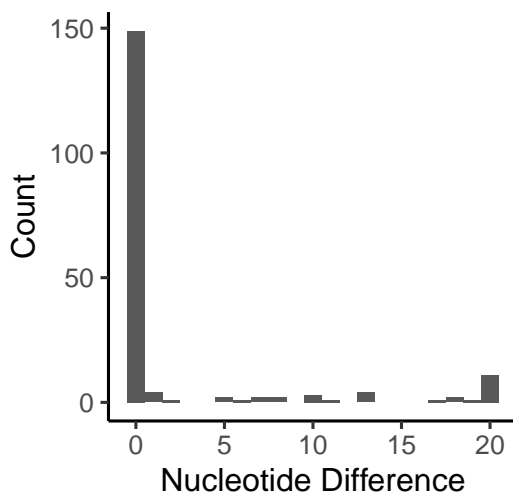
### IGHV3-48\*02

943 sequences assigned  
525 (55.7%) exact matches, in which:  
385 unique CDR3  
6 unique J



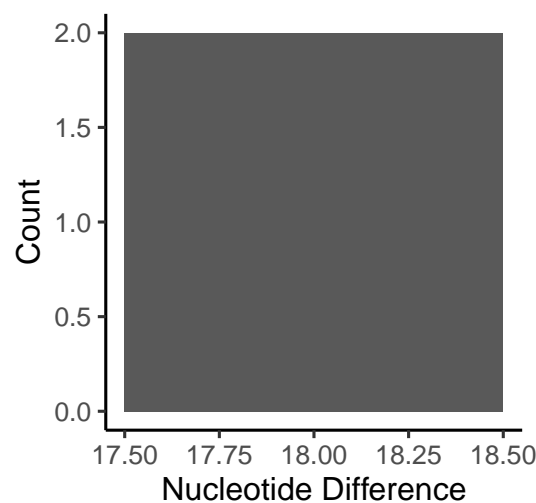
### IGHV3-64\*01

205 sequences assigned  
149 (72.7%) exact matches, in which:  
102 unique CDR3  
6 unique J



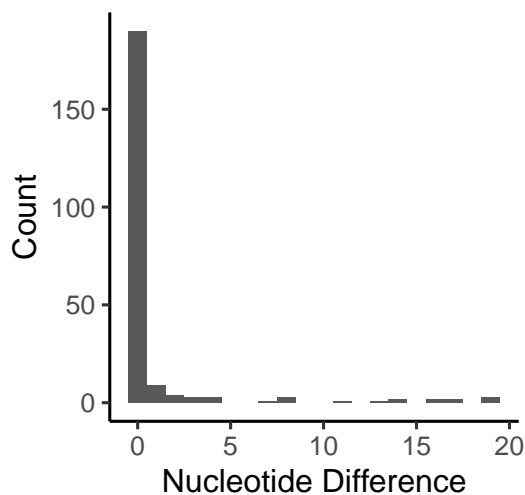
### IGHV3-69-1\*01

3 sequences assigned  
No exact matches.



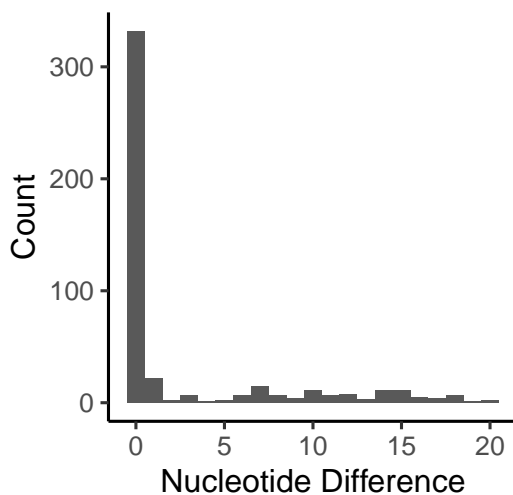
### IGHV3-49\*03\_05

247 sequences assigned  
190 (76.9%) exact matches, in which:  
151 unique CDR3  
6 unique J



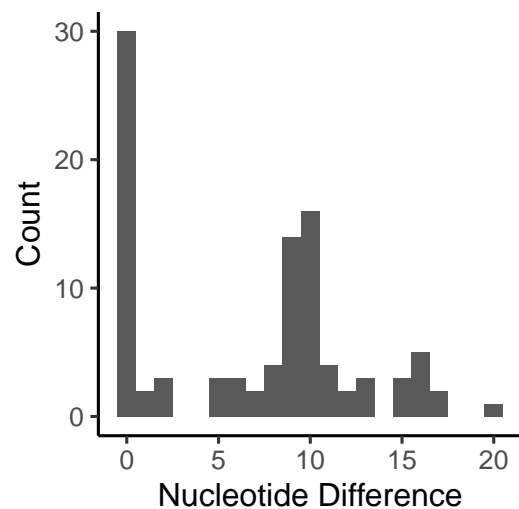
### IGHV3-66\*01

544 sequences assigned  
332 (61%) exact matches, in which:  
235 unique CDR3  
6 unique J



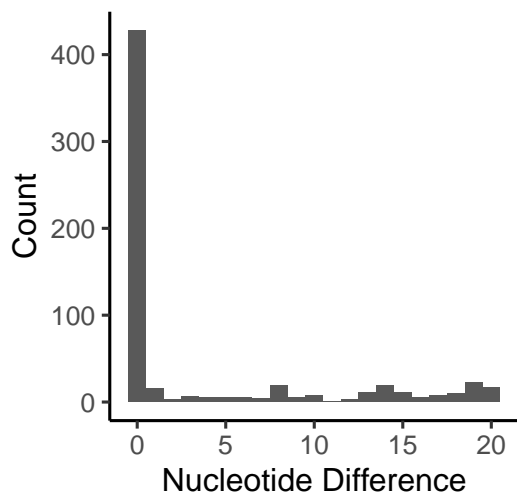
### IGHV3-72\*01

120 sequences assigned  
30 (25%) exact matches, in which:  
22 unique CDR3  
4 unique J



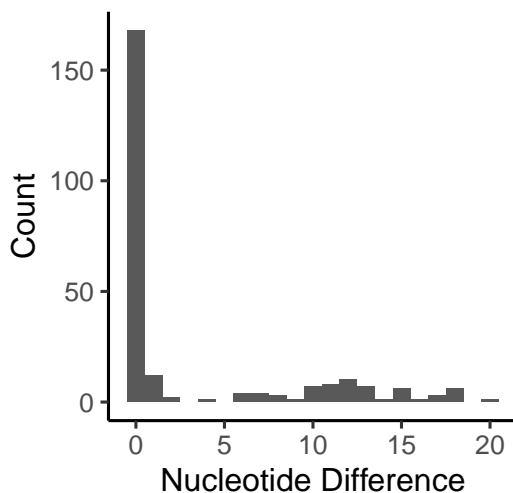
### IGHV3-53\*01\_02

694 sequences assigned  
428 (61.7%) exact matches, in which:  
316 unique CDR3  
6 unique J



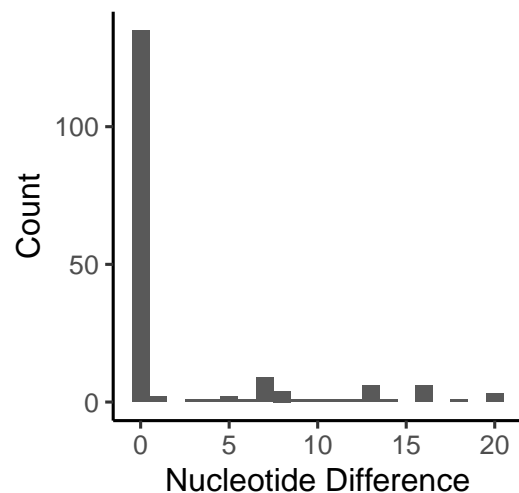
### IGHV3-66\*02

317 sequences assigned  
168 (53%) exact matches, in which:  
123 unique CDR3  
6 unique J



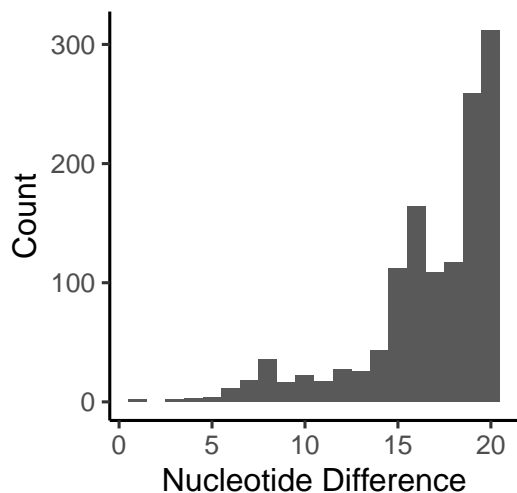
### IGHV3-73\*01\_02

184 sequences assigned  
135 (73.4%) exact matches, in which:  
103 unique CDR3  
5 unique J



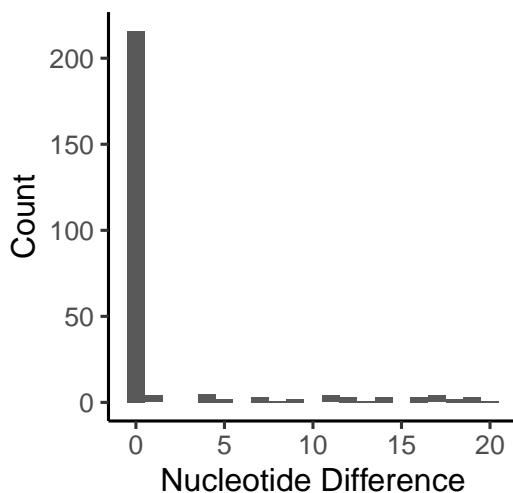
### IGHV3–74\*03

2863 sequences assigned  
No exact matches.



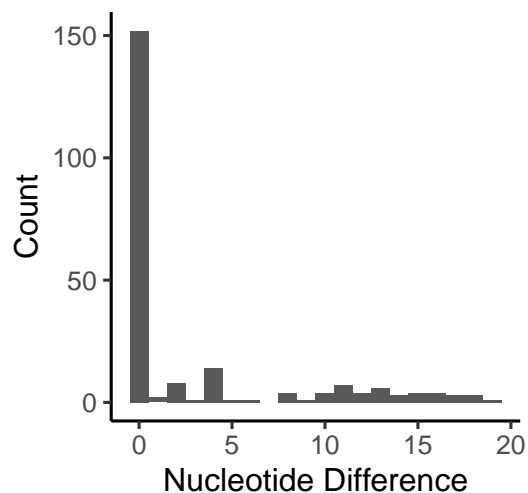
### IGHV3–64D\*09

327 sequences assigned  
216 (66.1%) exact matches, in which:  
151 unique CDR3  
6 unique J



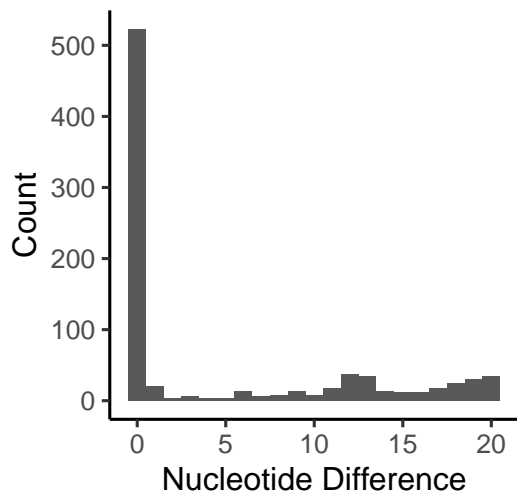
### IGHV4–4\*07\_G234A\_G235A

224 sequences assigned  
152 (67.9%) exact matches, in which:  
152 unique CDR3  
6 unique J



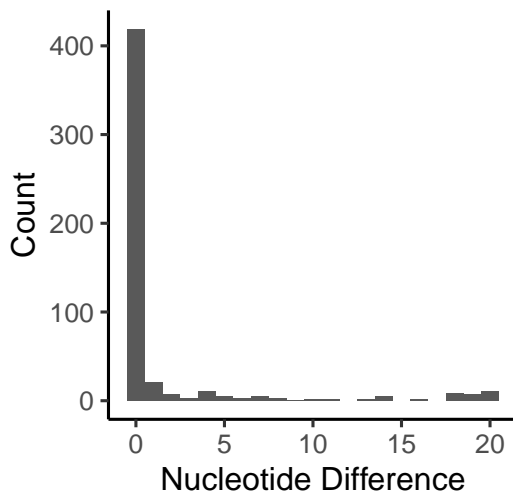
### IGHV3–74\*01\_02

1382 sequences assigned  
523 (37.8%) exact matches, in which:  
371 unique CDR3  
6 unique J



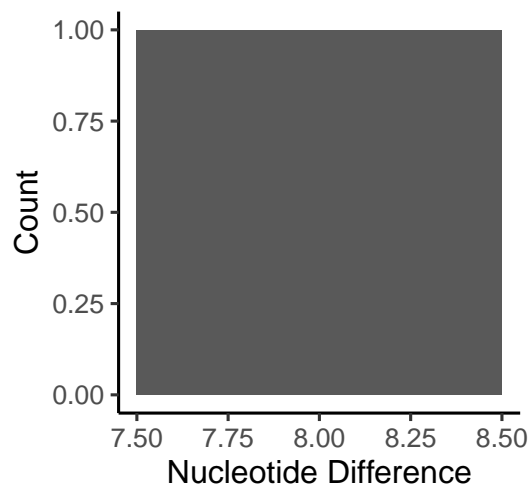
### IGHV4–4\*07

569 sequences assigned  
419 (73.6%) exact matches, in which:  
416 unique CDR3  
6 unique J



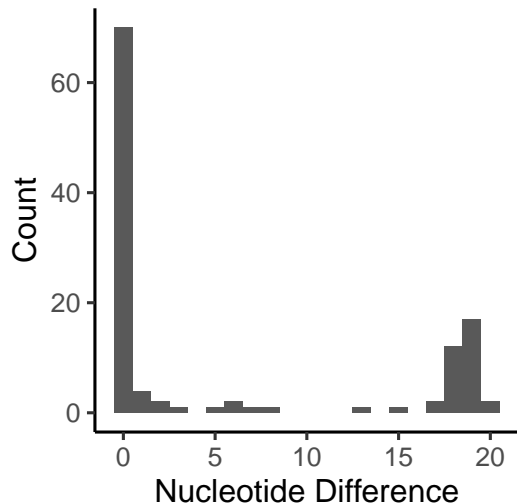
### IGHV4–28\*03

1 sequences assigned  
No exact matches.



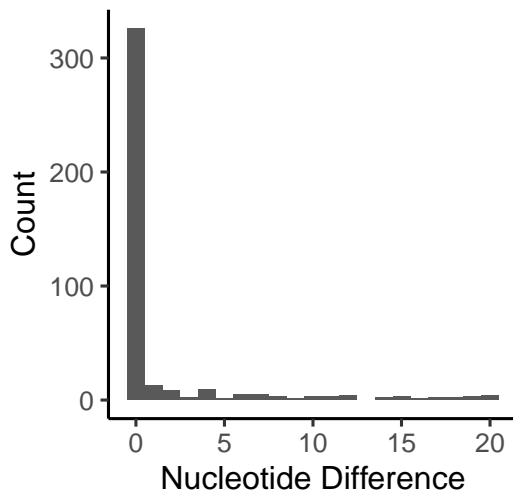
### IGHV3–43D\*03

122 sequences assigned  
70 (57.4%) exact matches, in which:  
52 unique CDR3  
4 unique J



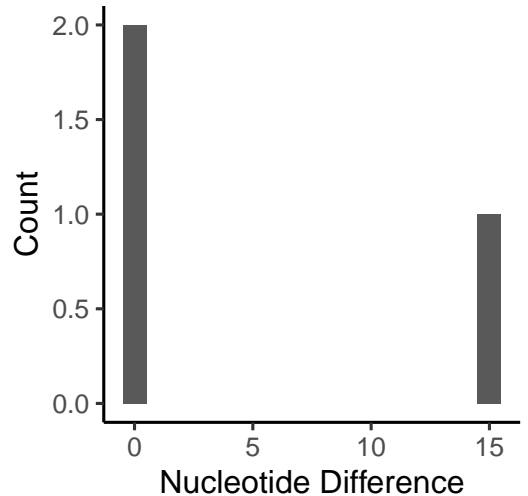
### IGHV4–4\*02\_03

502 sequences assigned  
326 (64.9%) exact matches, in which:  
312 unique CDR3  
6 unique J



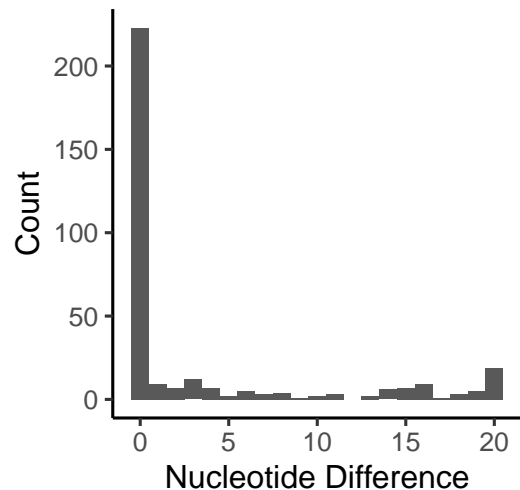
### IGHV4–28\*01\_07

3 sequences assigned  
2 (66.7%) exact matches, in which:  
2 unique CDR3  
1 unique J



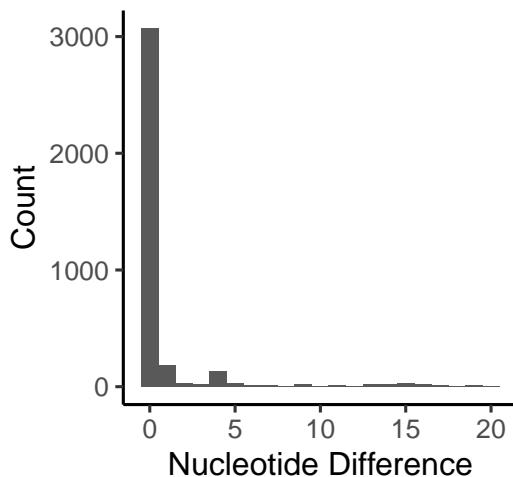
### IGHV4-30-4\*01

388 sequences assigned  
223 (57.5%) exact matches, in which:  
218 unique CDR3  
6 unique J



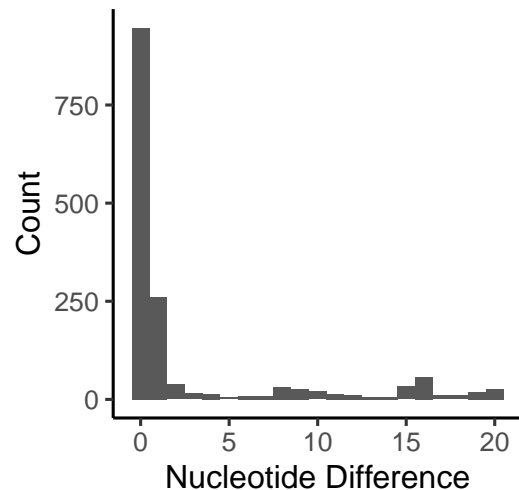
### IGHV4-34\*01\_02

3752 sequences assigned  
3070 (81.8%) exact matches, in which:  
3005 unique CDR3  
6 unique J



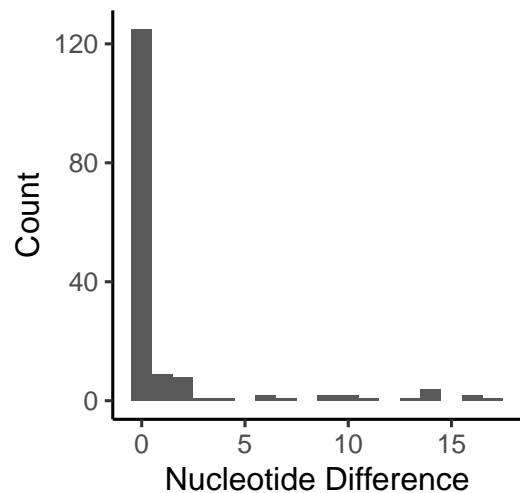
### IGHV4-39\*07

1752 sequences assigned  
947 (54.1%) exact matches, in which:  
928 unique CDR3  
6 unique J



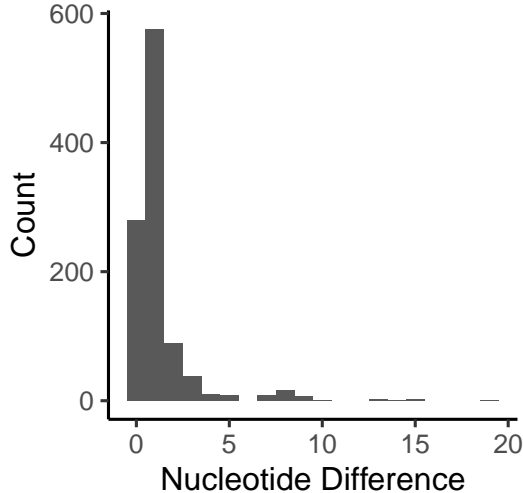
### IGHV4-30-2\*01

162 sequences assigned  
125 (77.2%) exact matches, in which:  
117 unique CDR3  
6 unique J



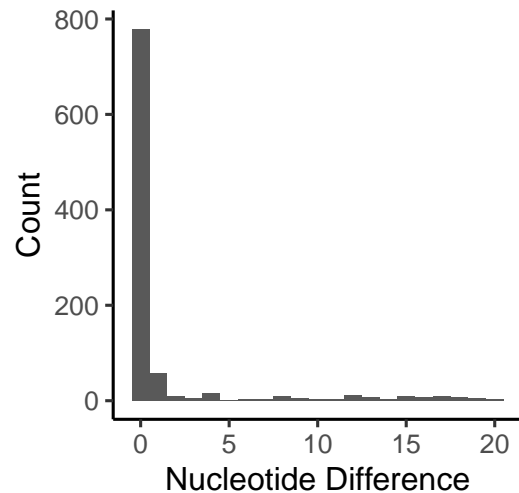
### IGHV4-34\*01\_02\_T300C

1044 sequences assigned  
280 (26.8%) exact matches, in which:  
280 unique CDR3  
6 unique J



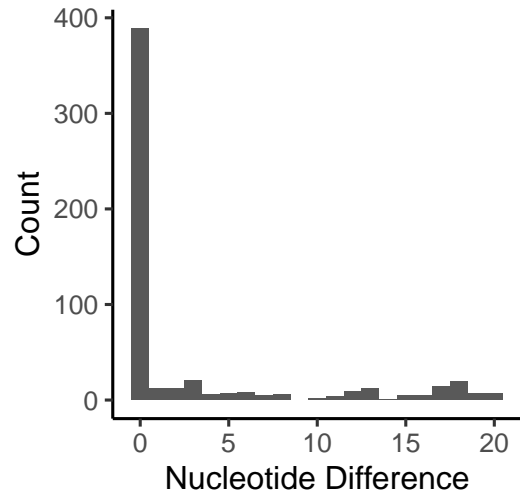
### IGHV4-39\*02\_C258G

1093 sequences assigned  
779 (71.3%) exact matches, in which:  
757 unique CDR3  
6 unique J



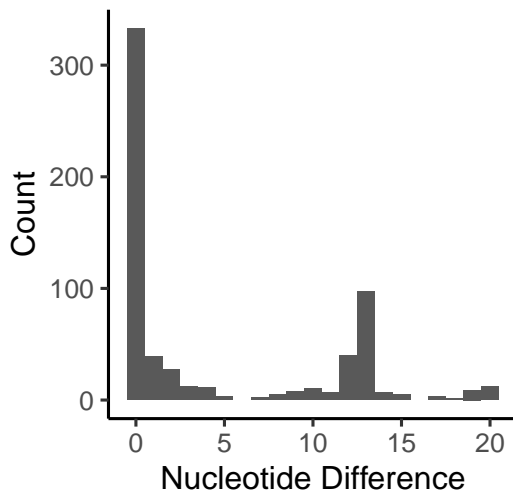
### IGHV4-31\*02

810 sequences assigned  
389 (48%) exact matches, in which:  
383 unique CDR3  
6 unique J



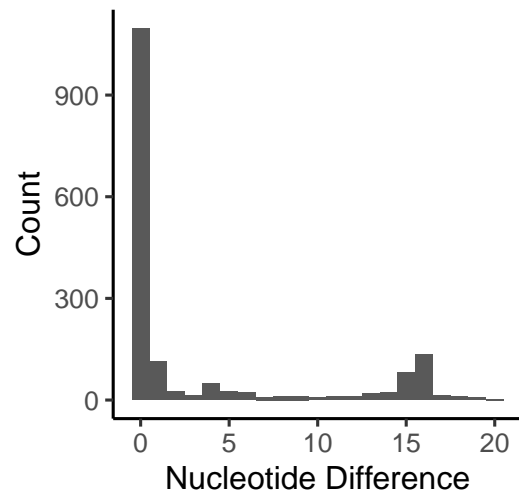
### IGHV4-38-2\*02

670 sequences assigned  
333 (49.7%) exact matches, in which:  
333 unique CDR3  
6 unique J



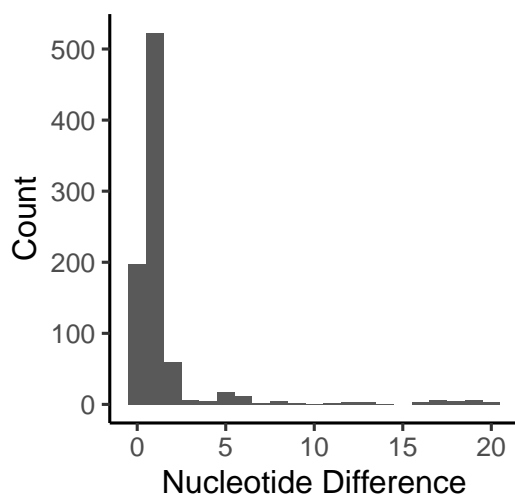
### IGHV4-59\*08

1787 sequences assigned  
1097 (61.4%) exact matches, in which:  
1072 unique CDR3  
6 unique J



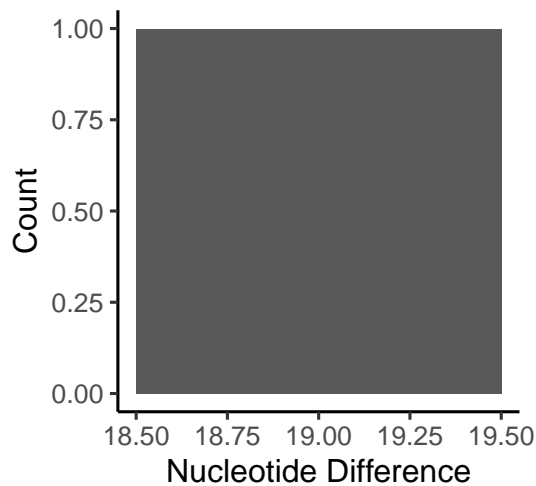
### IGHV4–59\*12

876 sequences assigned  
198 (22.6%) exact matches, in which:  
198 unique CDR3  
6 unique J



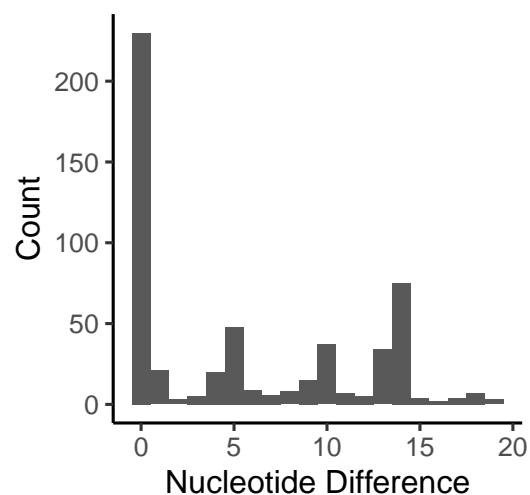
### IGHV4/OR15–8\*02

4 sequences assigned  
No exact matches.



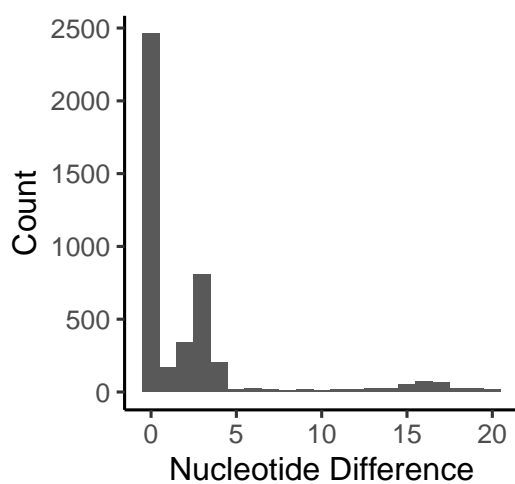
### IGHV6–1\*01\_02

554 sequences assigned  
230 (41.5%) exact matches, in which:  
229 unique CDR3  
5 unique J



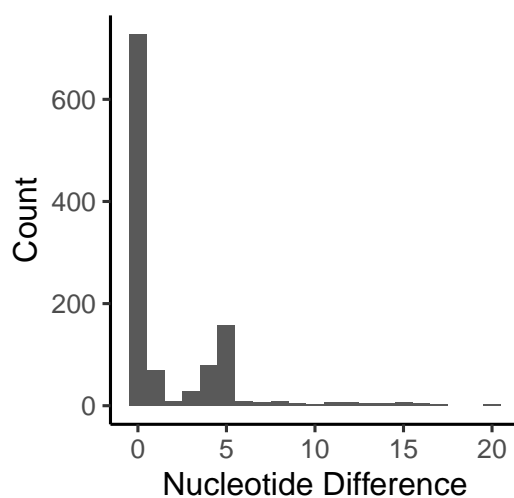
### IGHV4–59\*02\_G88A

4660 sequences assigned  
2461 (52.8%) exact matches, in which:  
2404 unique CDR3  
6 unique J



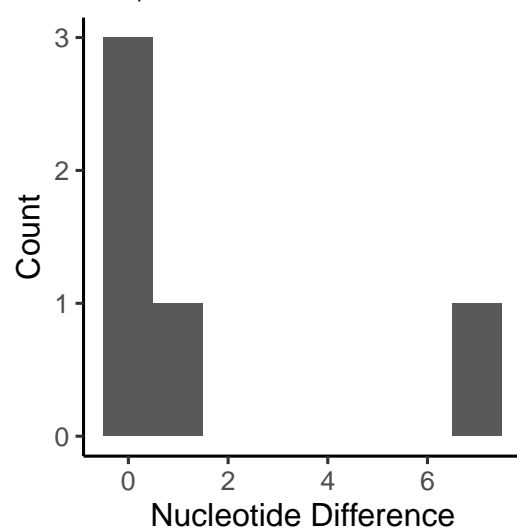
### IGHV5–10–1\*01\_03

1156 sequences assigned  
728 (63%) exact matches, in which:  
592 unique CDR3  
6 unique J



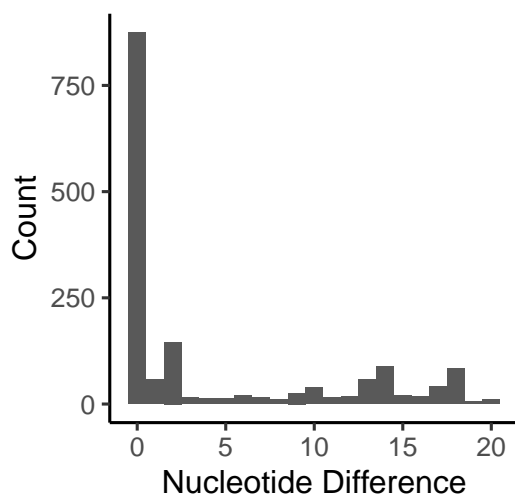
### IGHV7–4–1\*01

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



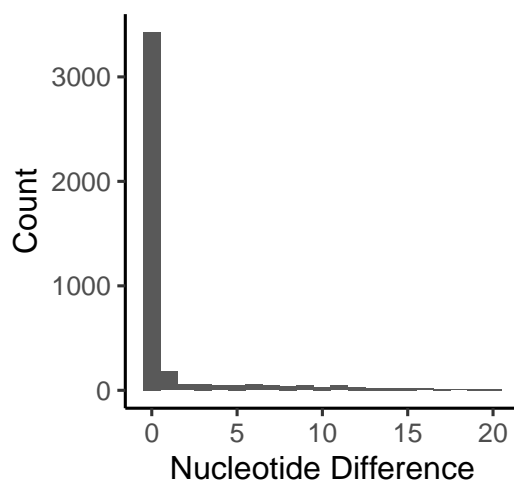
### IGHV4–61\*02

1679 sequences assigned  
875 (52.1%) exact matches, in which:  
870 unique CDR3  
6 unique J



### IGHV5–51\*07\_A128G

4310 sequences assigned  
3429 (79.6%) exact matches, in which:  
2548 unique CDR3  
6 unique J







Warning – no inferred sequences found.