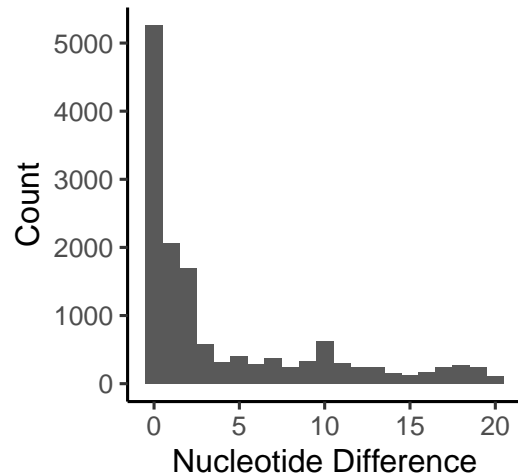


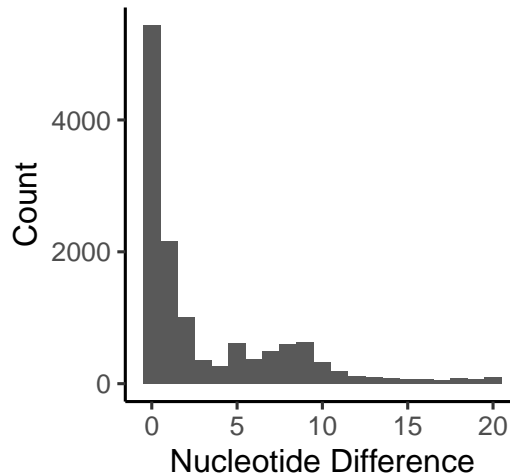
### IGHV1-2\*02

15489 sequences assigned  
5259 (34%) exact matches, in which:  
5040 unique CDR3  
6 unique J



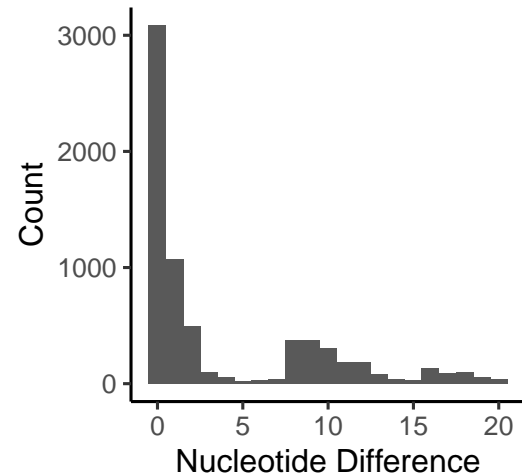
### IGHV1-8\*01

14008 sequences assigned  
5434 (38.8%) exact matches, in which:  
5219 unique CDR3  
6 unique J



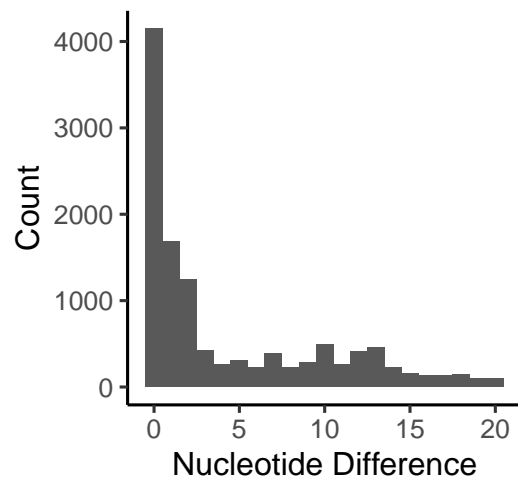
### IGHV1-24\*01

6949 sequences assigned  
3085 (44.4%) exact matches, in which:  
2925 unique CDR3  
6 unique J



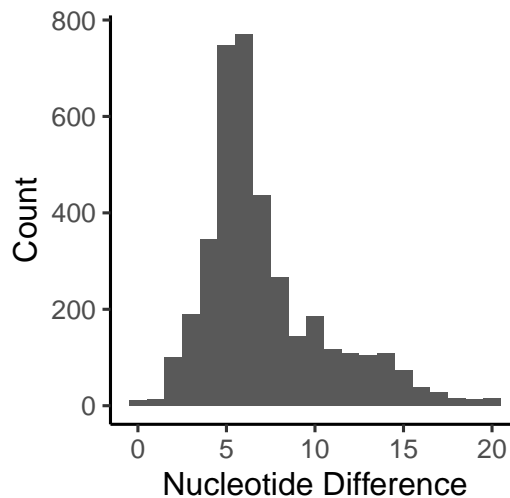
### IGHV1-2\*06

12640 sequences assigned  
4148 (32.8%) exact matches, in which:  
3945 unique CDR3  
6 unique J



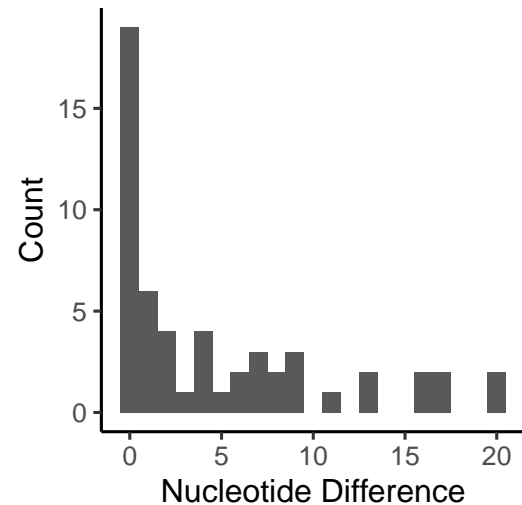
### IGHV1-8\*02

4042 sequences assigned  
11 (0.3%) exact matches, in which:  
11 unique CDR3  
4 unique J



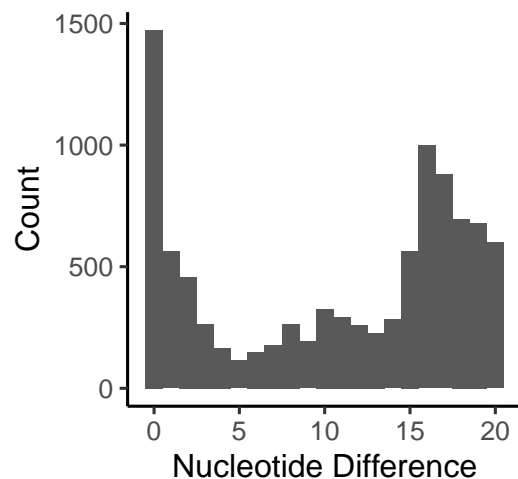
### IGHV1-45\*02

56 sequences assigned  
19 (33.9%) exact matches, in which:  
17 unique CDR3  
5 unique J



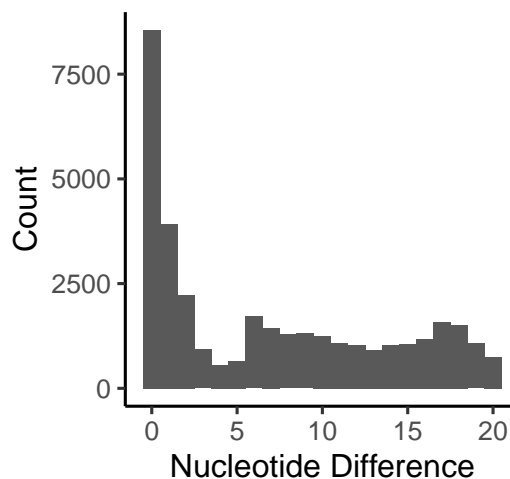
### IGHV1-3\*01\_05

16802 sequences assigned  
1473 (8.8%) exact matches, in which:  
1375 unique CDR3  
6 unique J



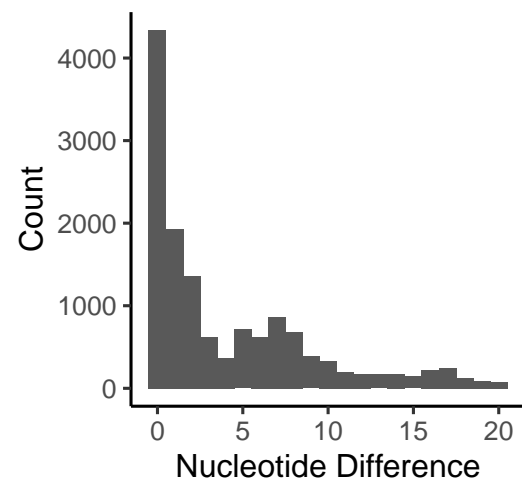
### IGHV1-18\*01

38465 sequences assigned  
8553 (22.2%) exact matches, in which:  
8092 unique CDR3  
6 unique J



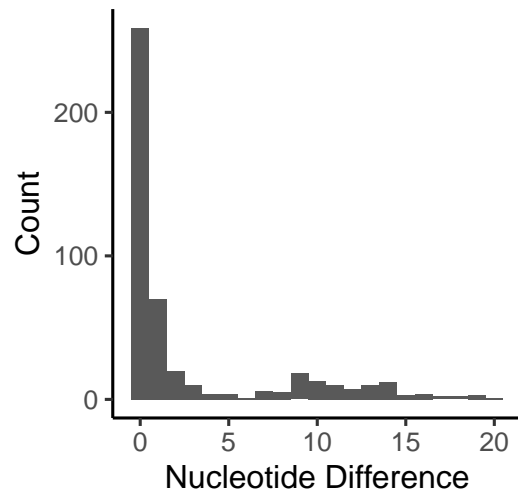
### IGHV1-46\*01

14700 sequences assigned  
4339 (29.5%) exact matches, in which:  
4184 unique CDR3  
6 unique J



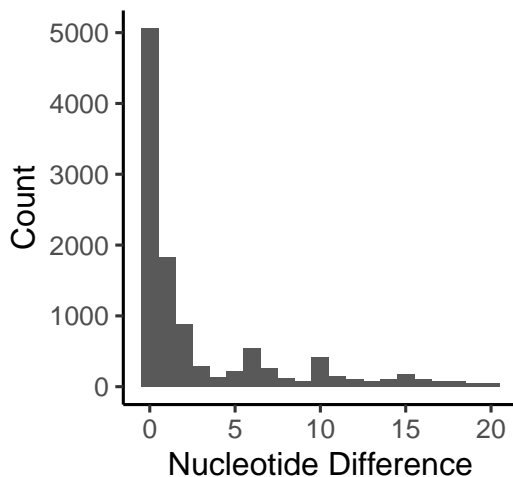
### IGHV1-58\*02

471 sequences assigned  
259 (55%) exact matches, in which:  
250 unique CDR3  
6 unique J



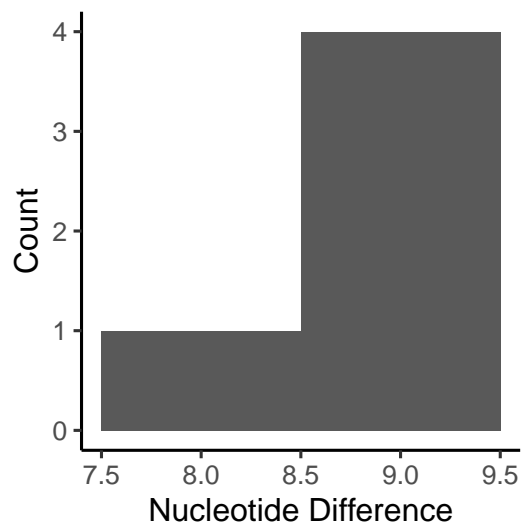
### IGHV1-69\*01\_12\_13

11346 sequences assigned  
5060 (44.6%) exact matches, in which:  
4947 unique CDR3  
6 unique J



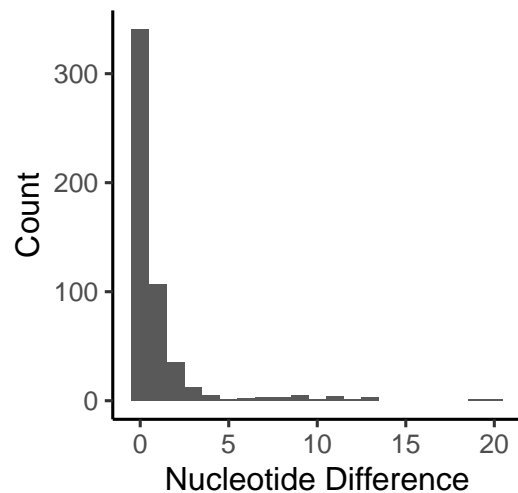
### IGHV1-NL1\*01

5 sequences assigned  
No exact matches.



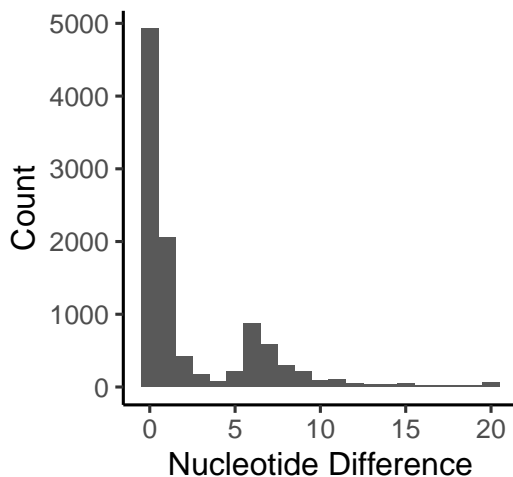
### IGHV1-58\*01\_03

669 sequences assigned  
341 (51%) exact matches, in which:  
323 unique CDR3  
6 unique J



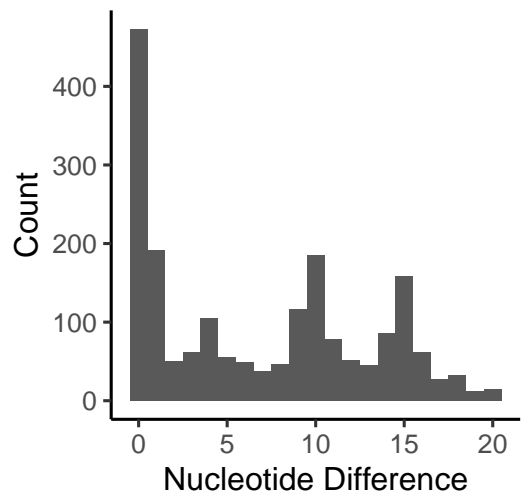
### IGHV1-69\*04\_09

10612 sequences assigned  
4926 (46.4%) exact matches, in which:  
4768 unique CDR3  
6 unique J



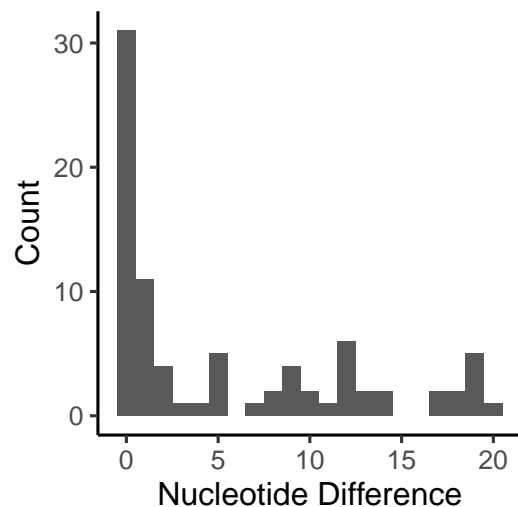
### IGHV2-5\*01

2012 sequences assigned  
473 (23.5%) exact matches, in which:  
453 unique CDR3  
6 unique J



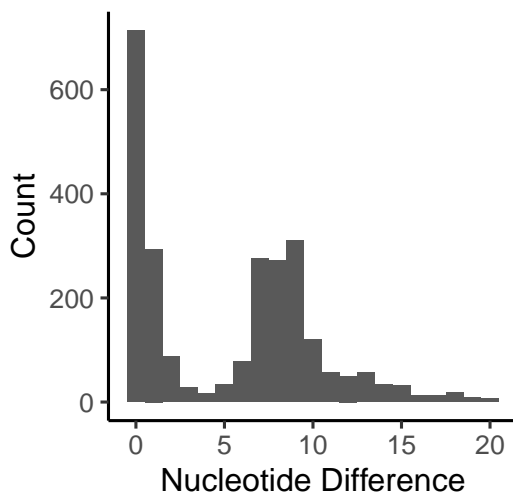
### IGHV1-69-2\*01

93 sequences assigned  
31 (33.3%) exact matches, in which:  
30 unique CDR3  
4 unique J



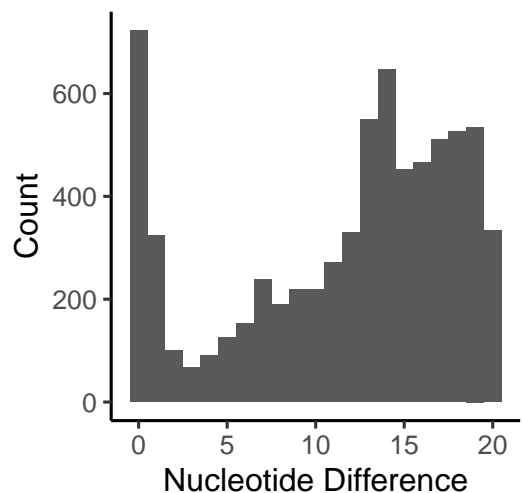
### IGHV1-69\*06\_14

2585 sequences assigned  
714 (27.6%) exact matches, in which:  
710 unique CDR3  
6 unique J



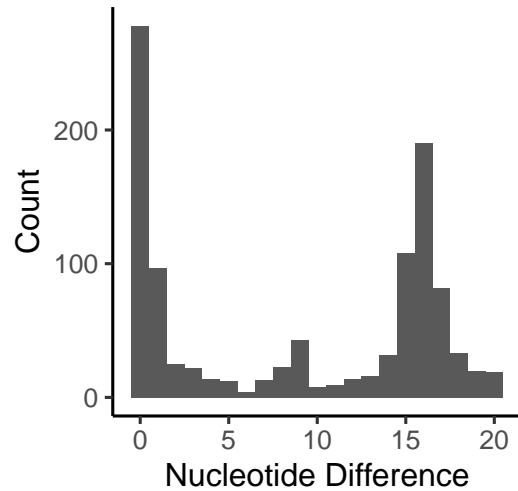
### IGHV2-5\*02

7947 sequences assigned  
723 (9.1%) exact matches, in which:  
693 unique CDR3  
6 unique J



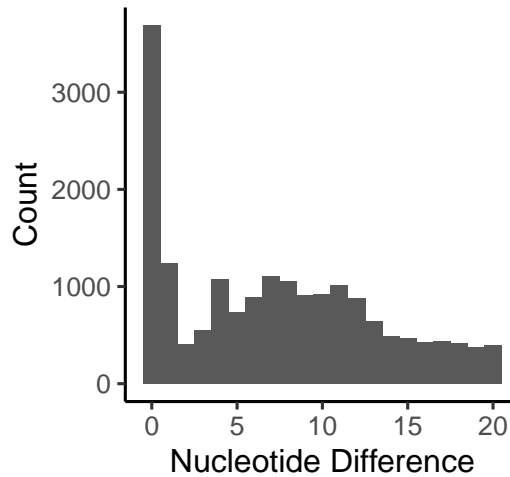
### IGHV2-26\*01

1108 sequences assigned  
278 (25.1%) exact matches, in which:  
266 unique CDR3  
5 unique J



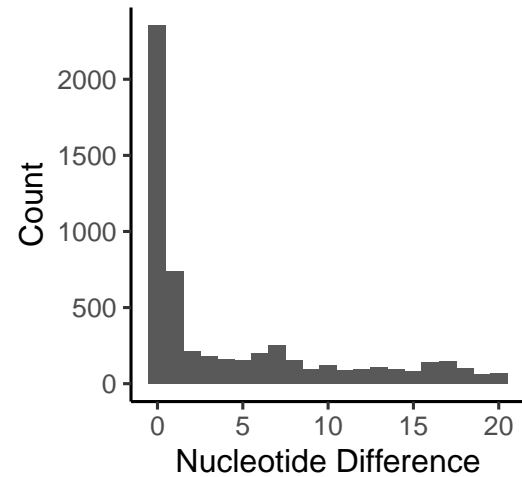
### IGHV3-7\*01

20869 sequences assigned  
3688 (17.7%) exact matches, in which:  
3105 unique CDR3  
6 unique J



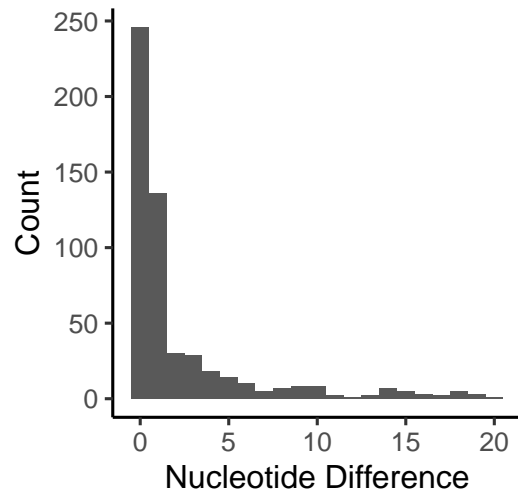
### IGHV3-11\*01

7859 sequences assigned  
2354 (30%) exact matches, in which:  
2046 unique CDR3  
6 unique J



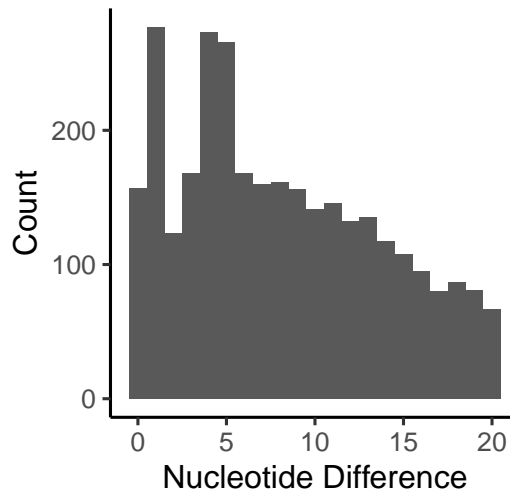
### IGHV2-70\*01

576 sequences assigned  
246 (42.7%) exact matches, in which:  
232 unique CDR3  
6 unique J



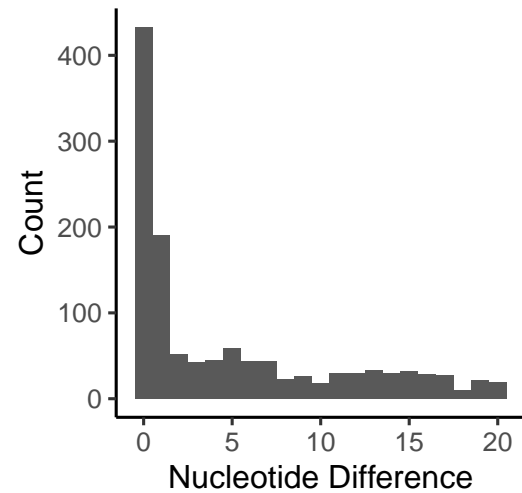
### IGHV3-7\*03

3533 sequences assigned  
157 (4.4%) exact matches, in which:  
155 unique CDR3  
5 unique J



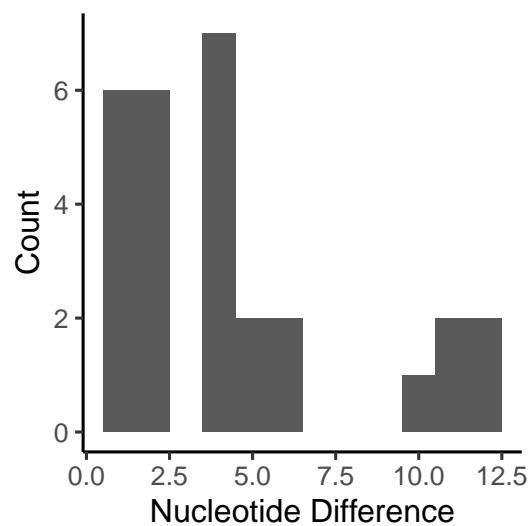
### IGHV3-11\*04

1420 sequences assigned  
433 (30.5%) exact matches, in which:  
425 unique CDR3  
6 unique J



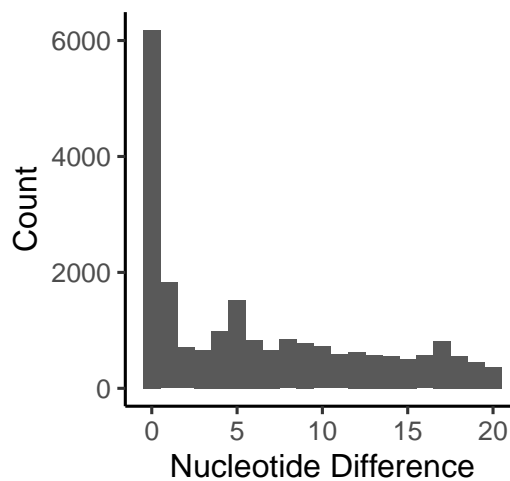
### IGHV2-70D\*04

31 sequences assigned  
No exact matches.



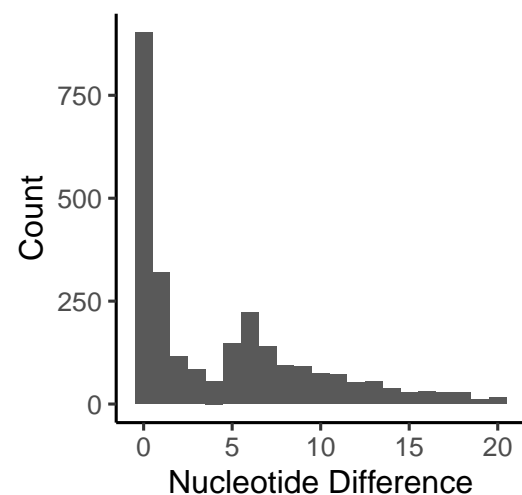
### IGHV3-9\*01\_A104G

24352 sequences assigned  
6181 (25.4%) exact matches, in which:  
4836 unique CDR3  
6 unique J



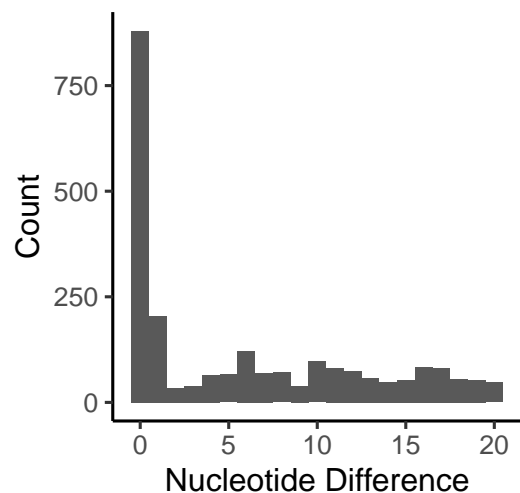
### IGHV3-13\*01

2749 sequences assigned  
903 (32.8%) exact matches, in which:  
752 unique CDR3  
6 unique J



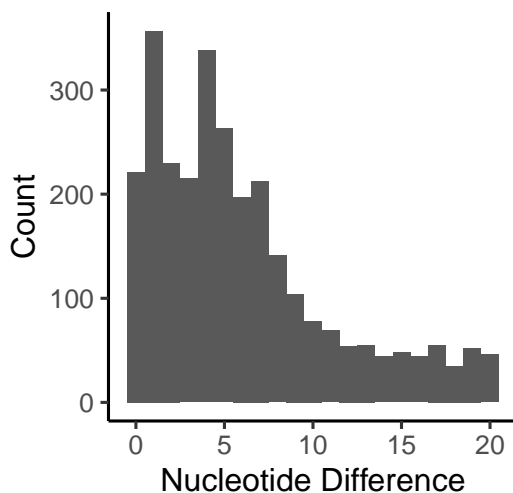
### IGHV3-15\*01\_02

3227 sequences assigned  
880 (27.3%) exact matches, in which:  
751 unique CDR3  
6 unique J



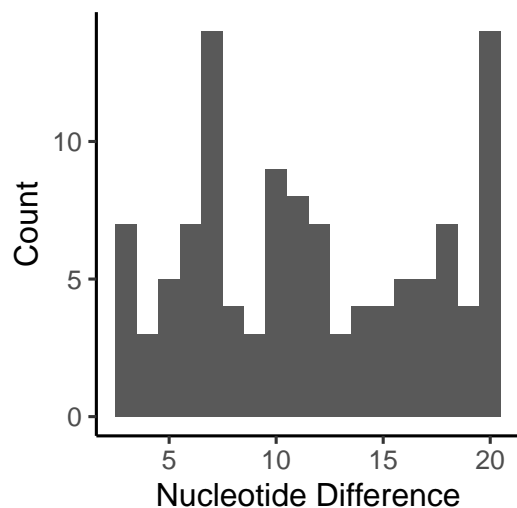
### IGHV3-21\*04

3106 sequences assigned  
221 (7.1%) exact matches, in which:  
221 unique CDR3  
6 unique J



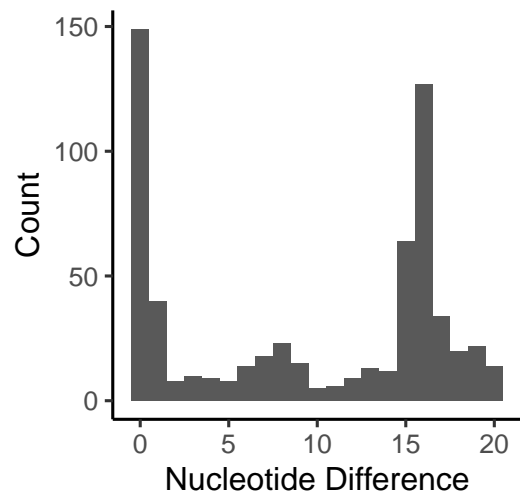
### IGHV3-30-5\*01

212 sequences assigned  
No exact matches.



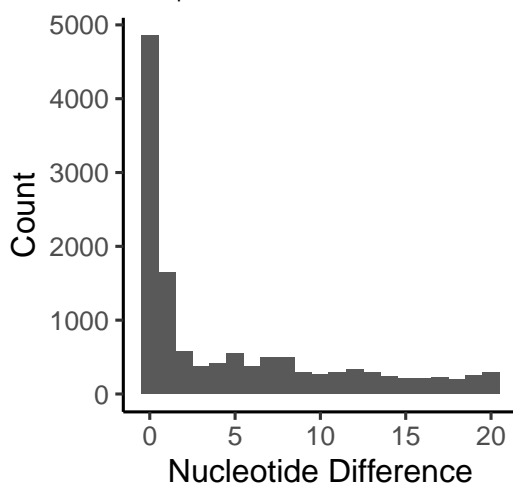
### IGHV3-20\*01\_02

656 sequences assigned  
149 (22.7%) exact matches, in which:  
124 unique CDR3  
5 unique J



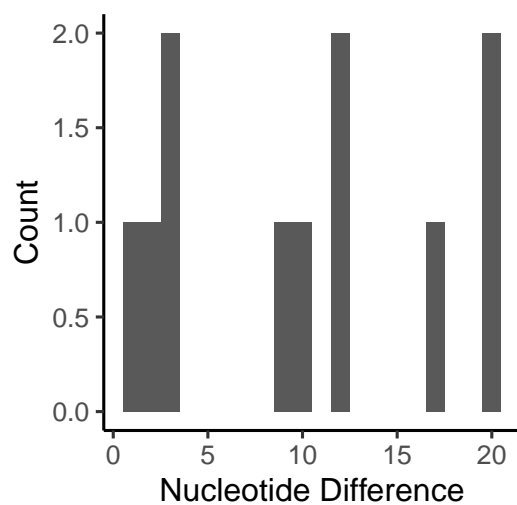
### IGHV3-21\*01\_02

14204 sequences assigned  
4853 (34.2%) exact matches, in which:  
4029 unique CDR3  
6 unique J



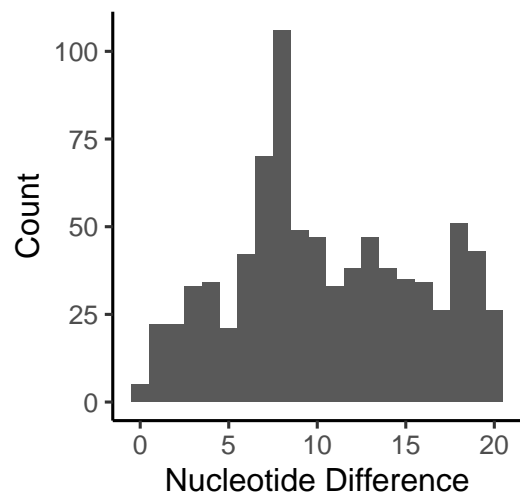
### IGHV3-30-3\*02

19 sequences assigned  
No exact matches.



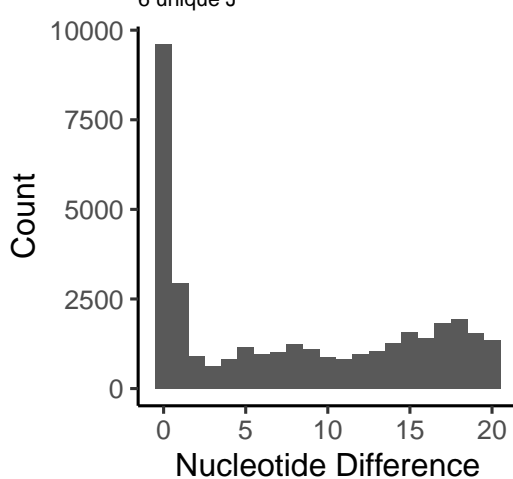
### IGHV3-20\*03\_04

950 sequences assigned  
5 (0.5%) exact matches, in which:  
4 unique CDR3  
3 unique J



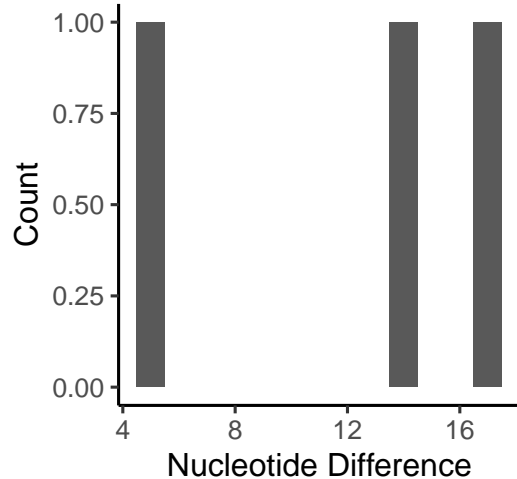
### IGHV3-23\*01\_04

43921 sequences assigned  
9620 (21.9%) exact matches, in which:  
7503 unique CDR3  
6 unique J



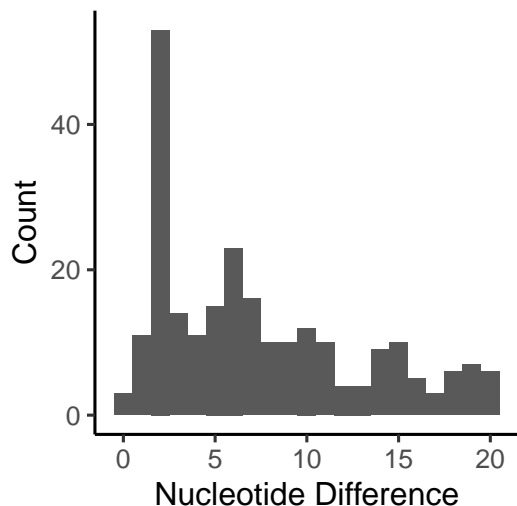
### IGHV3-30-5\*02

6 sequences assigned  
No exact matches.



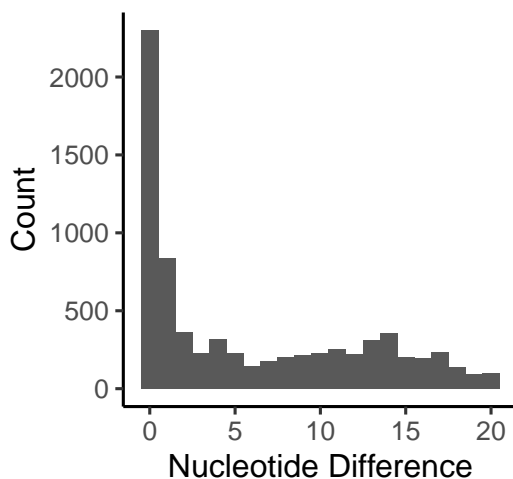
### IGHV3-30-3\*03

363 sequences assigned  
3 (0.8%) exact matches, in which:  
3 unique CDR3  
2 unique J



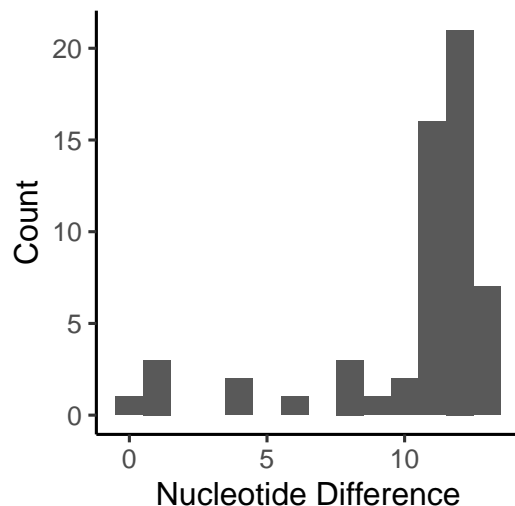
### IGHV3-33\*01

8008 sequences assigned  
2299 (28.7%) exact matches, in which:  
2033 unique CDR3  
6 unique J



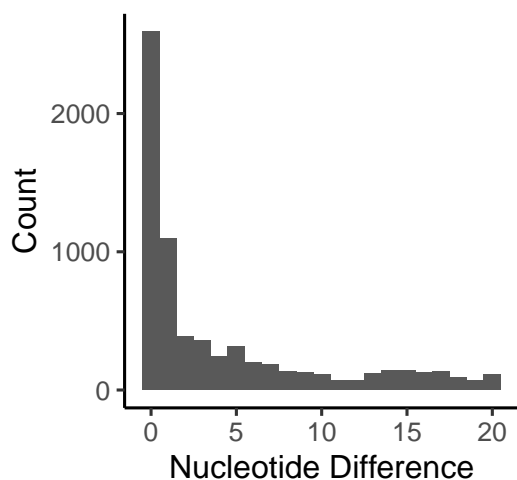
### IGHV3-35\*01

57 sequences assigned  
1 (1.8%) exact matches, in which:  
1 unique CDR3  
1 unique J



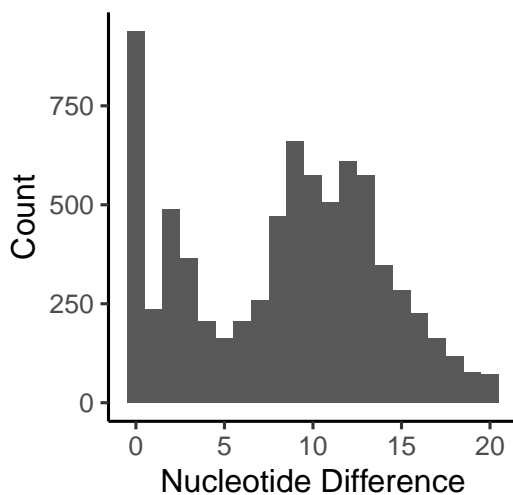
### IGHV3-30\*04\_C203T

7915 sequences assigned  
2592 (32.7%) exact matches, in which:  
2208 unique CDR3  
6 unique J



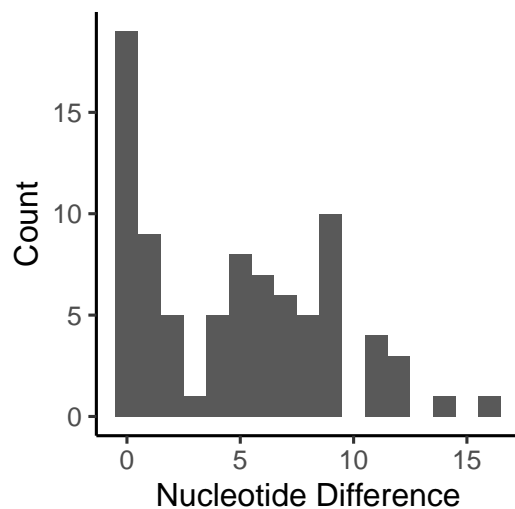
### IGHV3-33\*06

8132 sequences assigned  
939 (11.5%) exact matches, in which:  
784 unique CDR3  
6 unique J



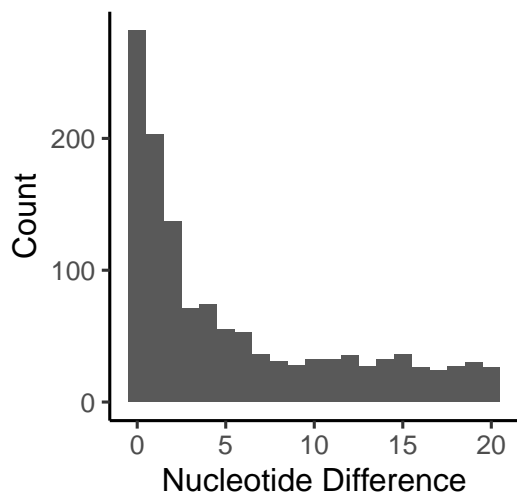
### IGHV3-38-3\*01

84 sequences assigned  
19 (22.6%) exact matches, in which:  
19 unique CDR3  
4 unique J



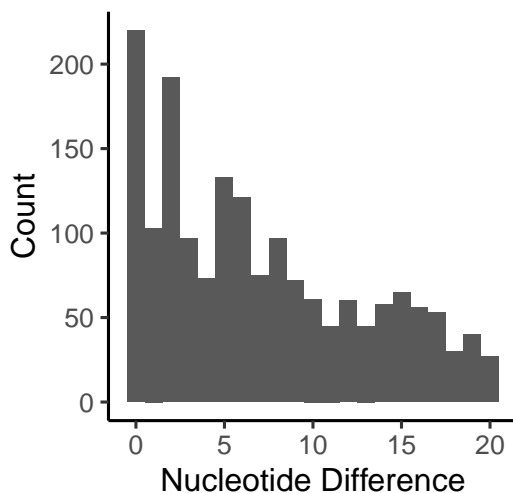
### IGHV3-30\*04\_C203T\_T2

1551 sequences assigned  
282 (18.2%) exact matches, in which:  
280 unique CDR3  
6 unique J



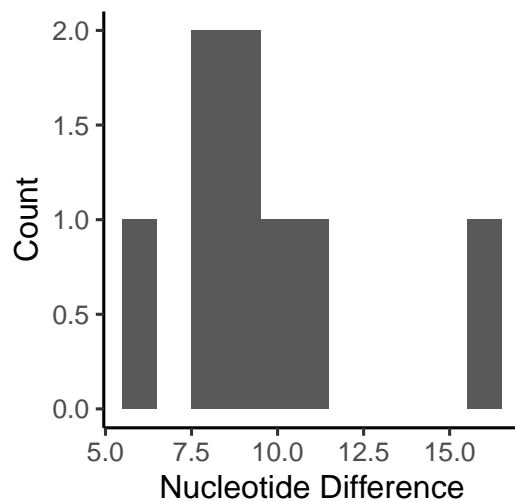
### IGHV3-33\*08

2007 sequences assigned  
220 (11%) exact matches, in which:  
215 unique CDR3  
6 unique J



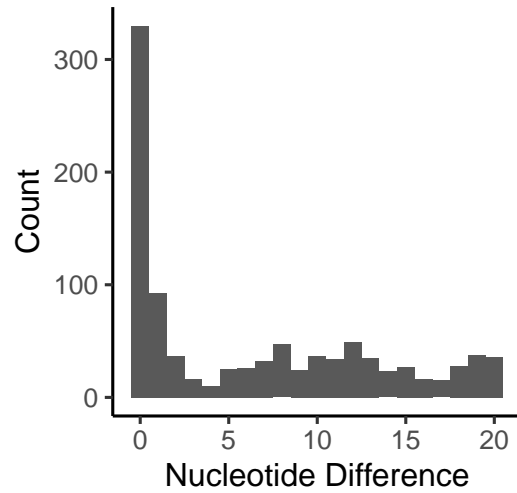
### IGHV3-38\*03

8 sequences assigned  
No exact matches.



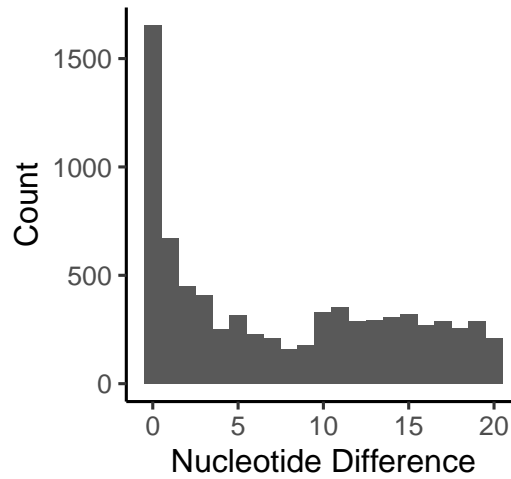
### IGHV3-43\*01

1168 sequences assigned  
330 (28.3%) exact matches, in which:  
283 unique CDR3  
6 unique J



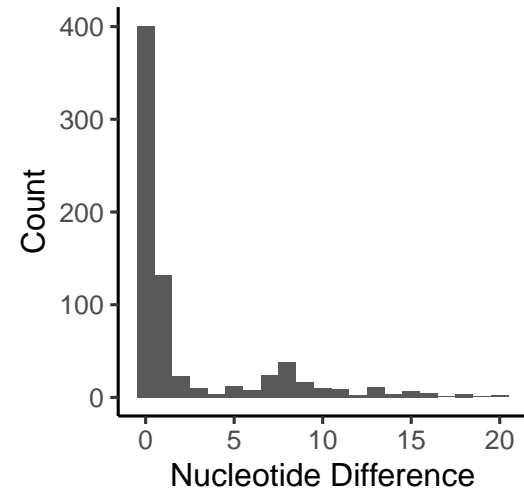
### IGHV3-48\*04

9657 sequences assigned  
1653 (17.1%) exact matches, in which:  
1443 unique CDR3  
6 unique J



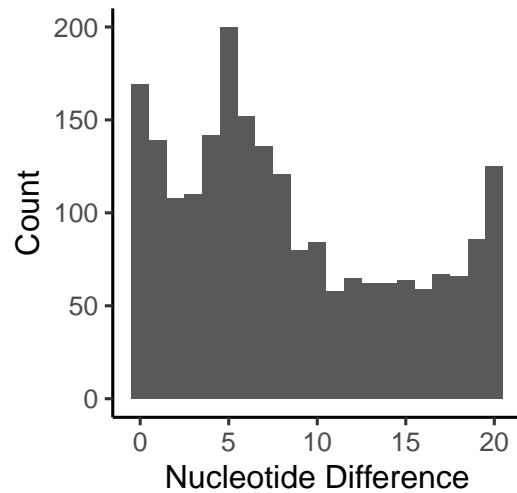
### IGHV3-53\*04

739 sequences assigned  
401 (54.3%) exact matches, in which:  
347 unique CDR3  
6 unique J



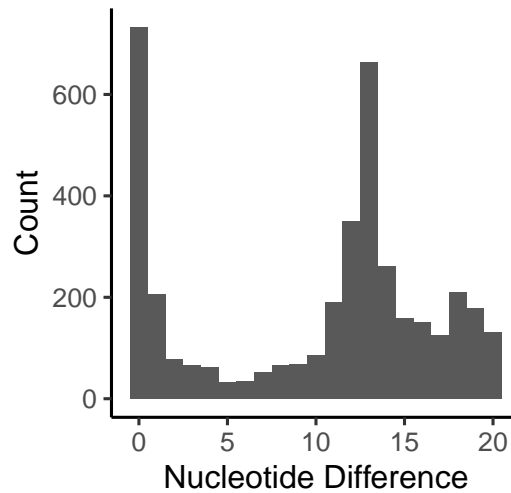
### IGHV3-48\*01

2598 sequences assigned  
169 (6.5%) exact matches, in which:  
169 unique CDR3  
6 unique J



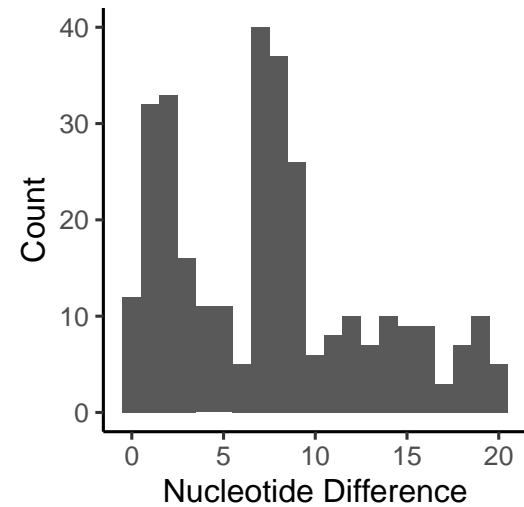
### IGHV3-49\*03\_05

4539 sequences assigned  
733 (16.1%) exact matches, in which:  
627 unique CDR3  
6 unique J



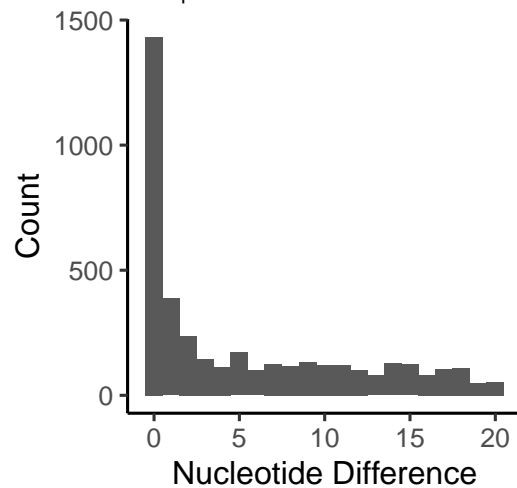
### IGHV3-53\*05

356 sequences assigned  
12 (3.4%) exact matches, in which:  
12 unique CDR3  
3 unique J



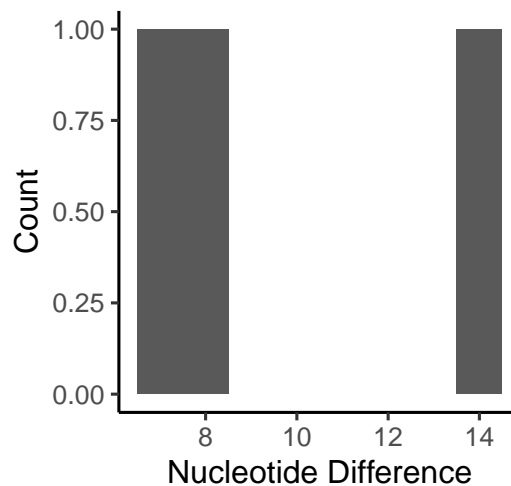
### IGHV3-48\*02

4486 sequences assigned  
1432 (31.9%) exact matches, in which:  
1178 unique CDR3  
6 unique J



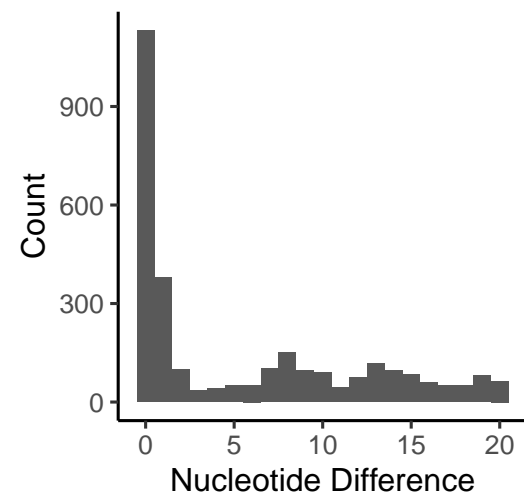
### IGHV3-52\*01\_03

3 sequences assigned  
No exact matches.



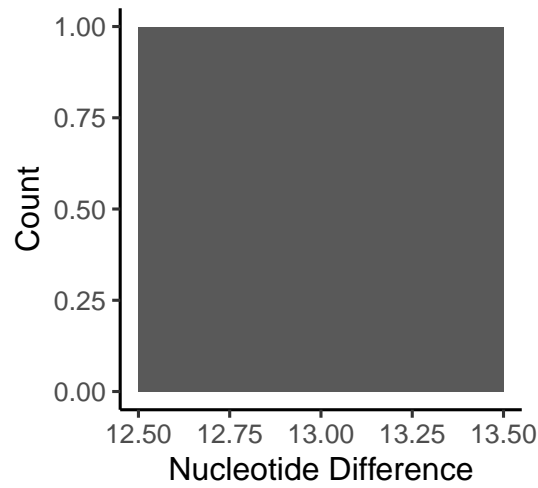
### IGHV3-53\*01\_02

3542 sequences assigned  
1132 (32%) exact matches, in which:  
973 unique CDR3  
6 unique J



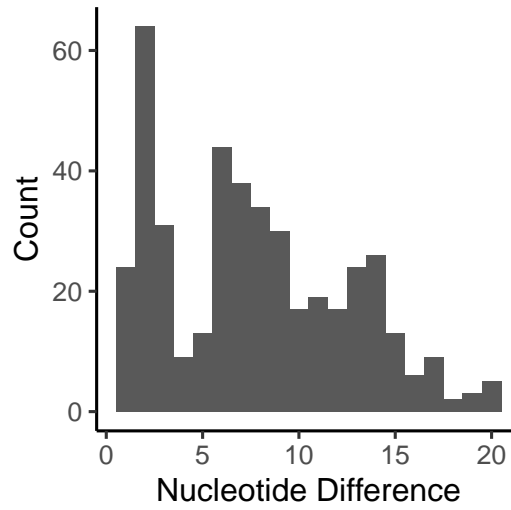
### IGHV3-62\*03

1 sequences assigned  
No exact matches.



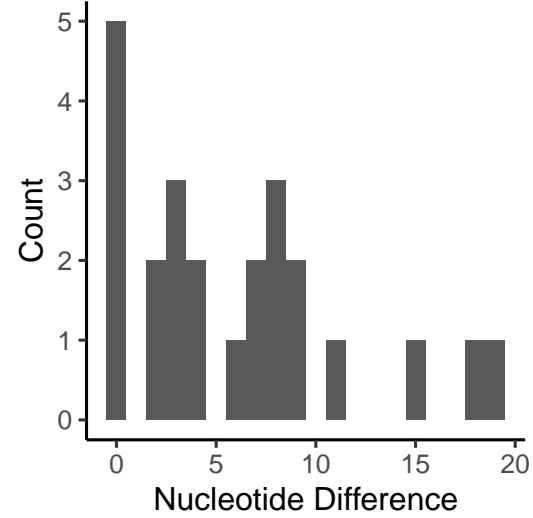
### IGHV3-66\*01

460 sequences assigned  
No exact matches.



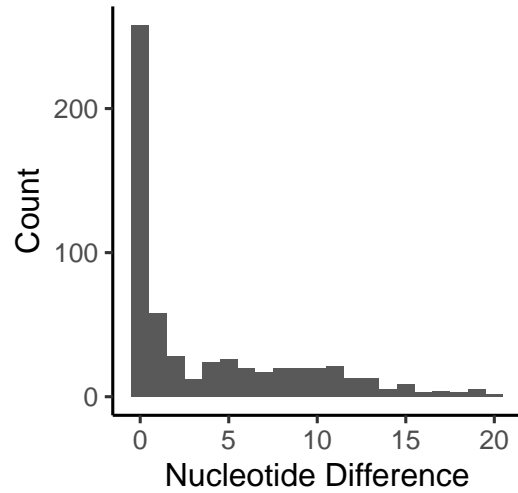
### IGHV3-69-1\*02

39 sequences assigned  
5 (12.8%) exact matches, in which:  
5 unique CDR3  
3 unique J



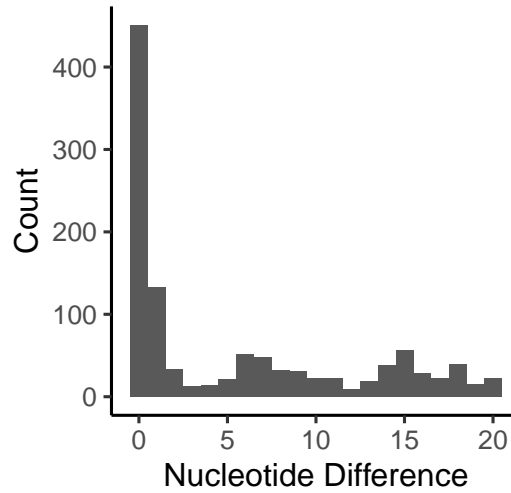
### IGHV3-64\*01

601 sequences assigned  
258 (42.9%) exact matches, in which:  
198 unique CDR3  
6 unique J



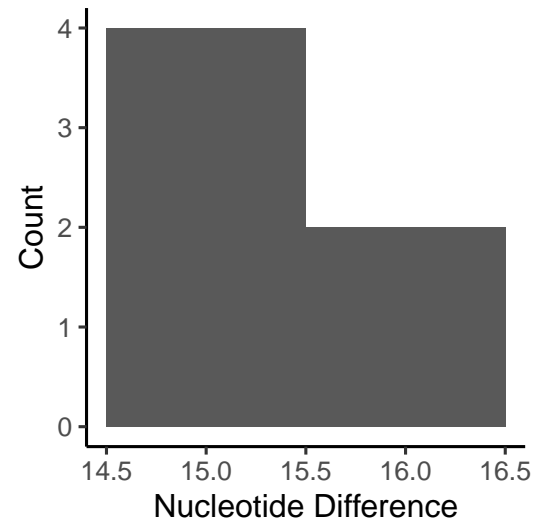
### IGHV3-66\*02

1394 sequences assigned  
451 (32.4%) exact matches, in which:  
387 unique CDR3  
6 unique J



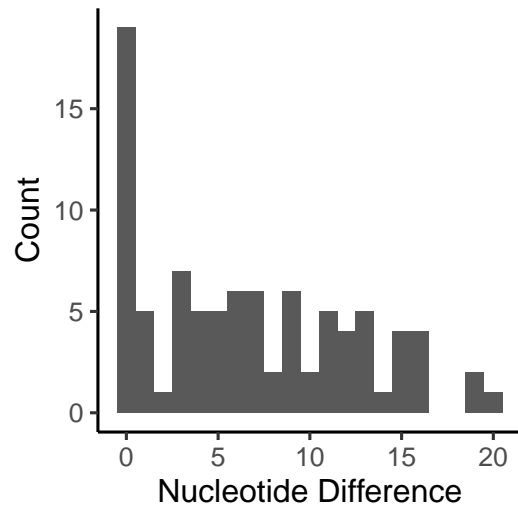
### IGHV3-71\*01\_04

8 sequences assigned  
No exact matches.



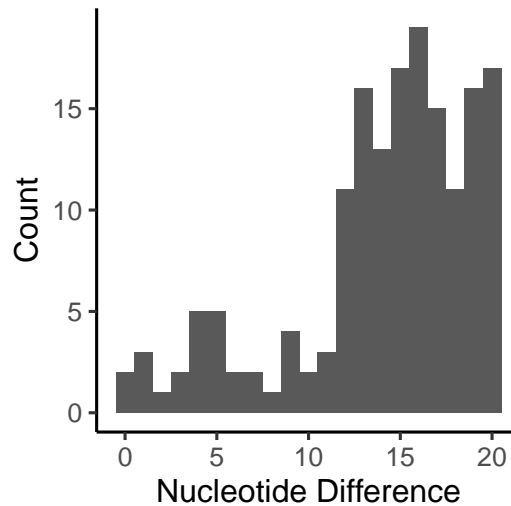
### IGHV3-64\*02\_07

97 sequences assigned  
19 (19.6%) exact matches, in which:  
15 unique CDR3  
3 unique J



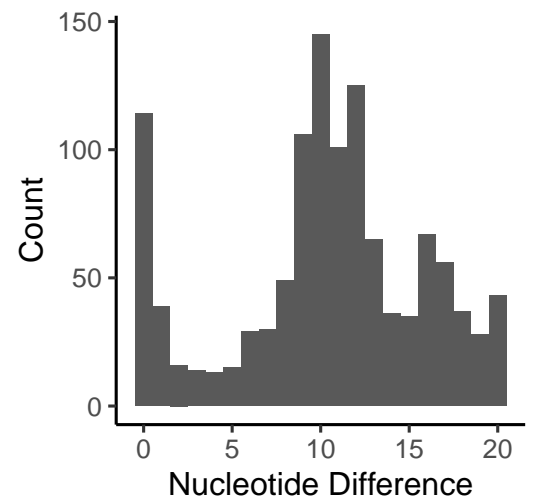
### IGHV3-69-1\*01

251 sequences assigned  
2 (0.8%) exact matches, in which:  
2 unique CDR3  
1 unique J



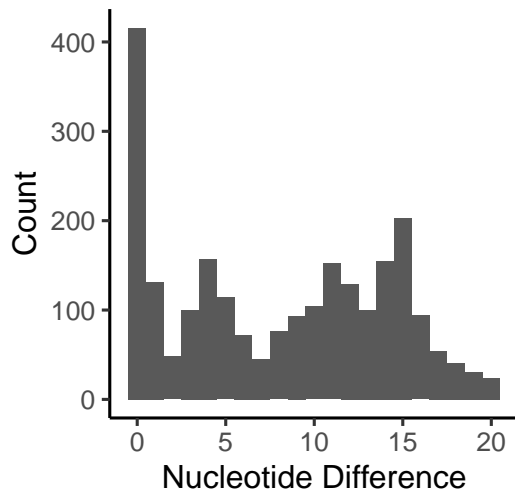
### IGHV3-72\*01

1731 sequences assigned  
114 (6.6%) exact matches, in which:  
105 unique CDR3  
6 unique J



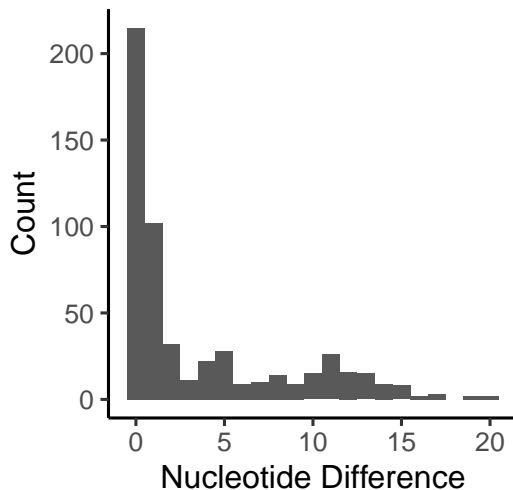
### IGHV3-73\*01\_02

2582 sequences assigned  
416 (16.1%) exact matches, in which:  
348 unique CDR3  
6 unique J



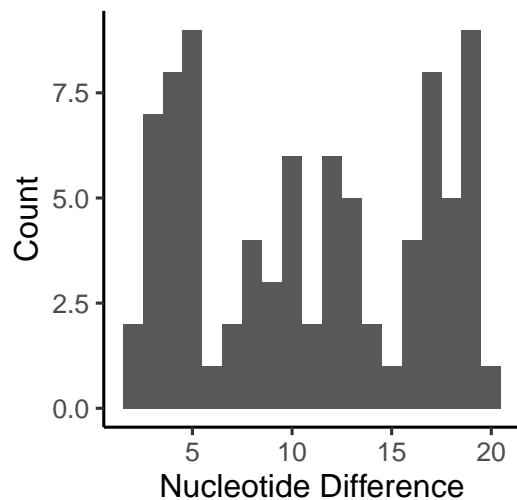
### IGHV3-43D\*03

757 sequences assigned  
215 (28.4%) exact matches, in which:  
187 unique CDR3  
6 unique J



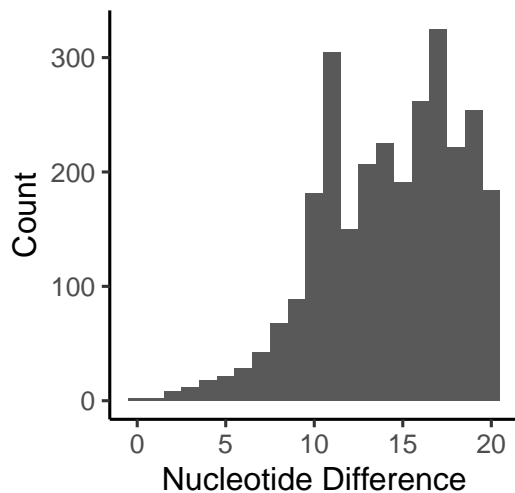
### IGHV3-NL1\*01

136 sequences assigned  
No exact matches.



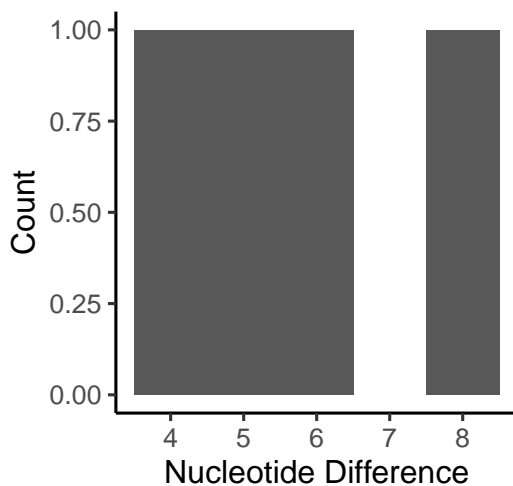
### IGHV3-74\*03

5265 sequences assigned  
2 (0%) exact matches, in which:  
1 unique CDR3  
1 unique J



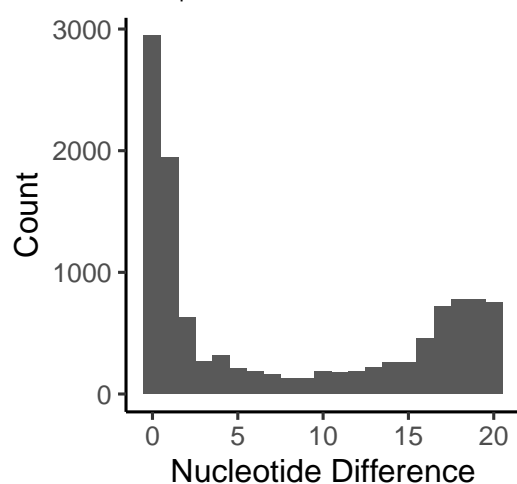
### IGHV3-64D\*06

6 sequences assigned  
No exact matches.



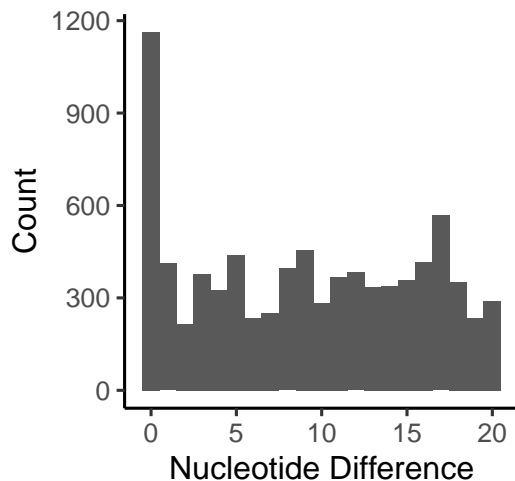
### IGHV4-4\*07

20598 sequences assigned  
2945 (14.3%) exact matches, in which:  
2802 unique CDR3  
6 unique J



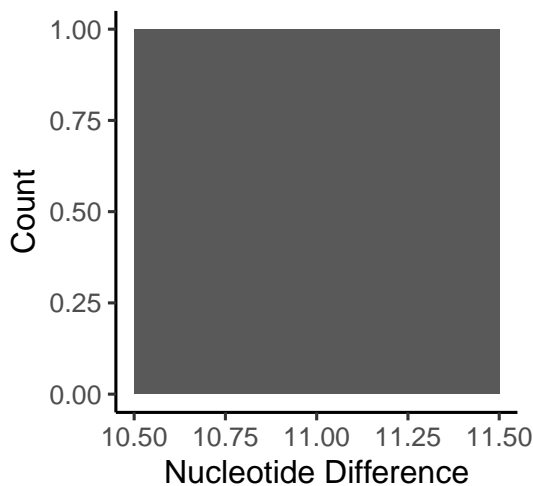
### IGHV3-74\*01\_02

9508 sequences assigned  
1163 (12.2%) exact matches, in which:  
955 unique CDR3  
6 unique J



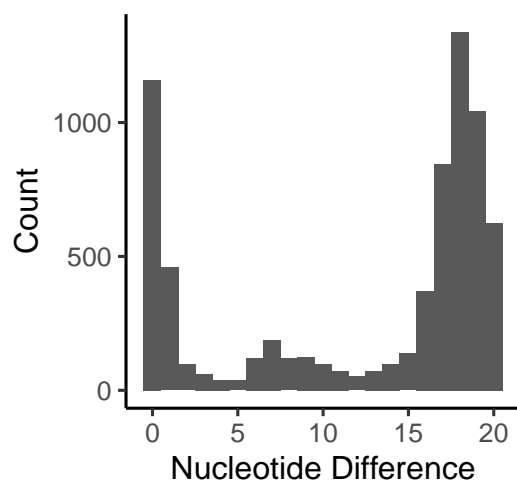
### IGHV3-64D\*08

1 sequences assigned  
No exact matches.



### IGHV4-4\*02\_03

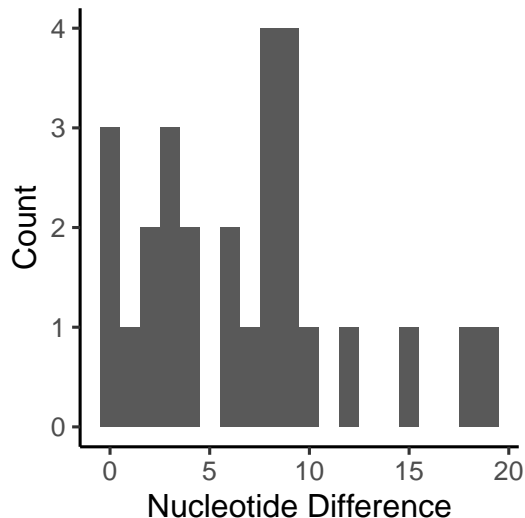
9067 sequences assigned  
1159 (12.8%) exact matches, in which:  
1115 unique CDR3  
6 unique J





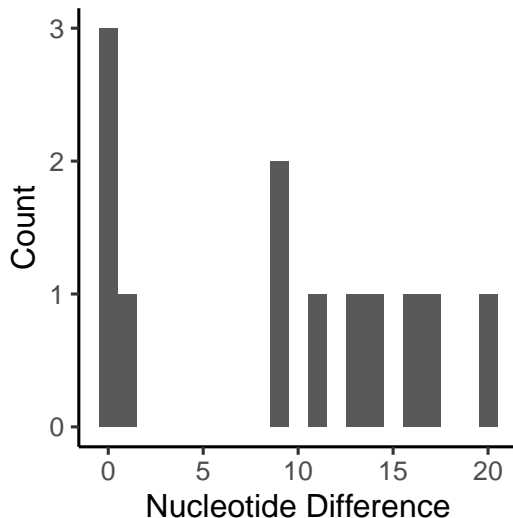
### IGHV4-28\*03

29 sequences assigned  
3 (10.3%) exact matches, in which:  
3 unique CDR3  
2 unique J



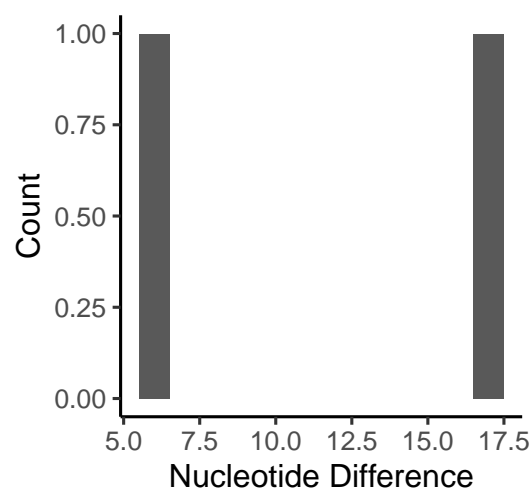
### IGHV4-30-2\*01

17 sequences assigned  
3 (17.6%) exact matches, in which:  
3 unique CDR3  
2 unique J



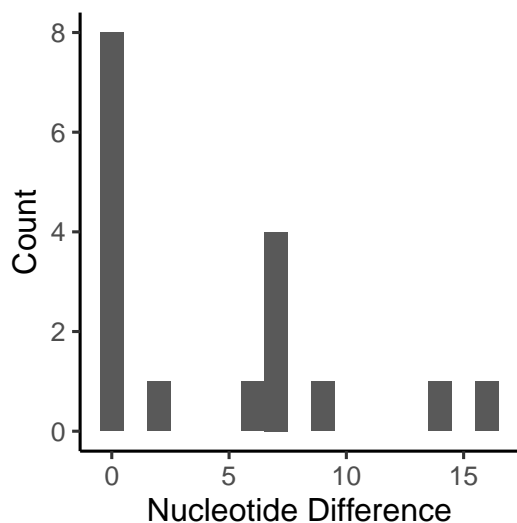
### IGHV4-30-4\*07

5 sequences assigned  
No exact matches.



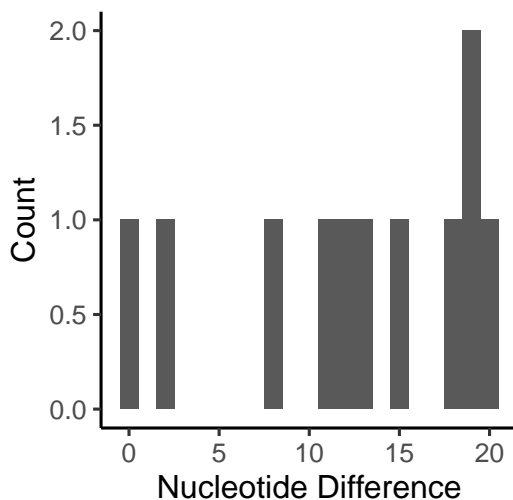
### IGHV4-28\*01\_07

18 sequences assigned  
8 (44.4%) exact matches, in which:  
8 unique CDR3  
2 unique J



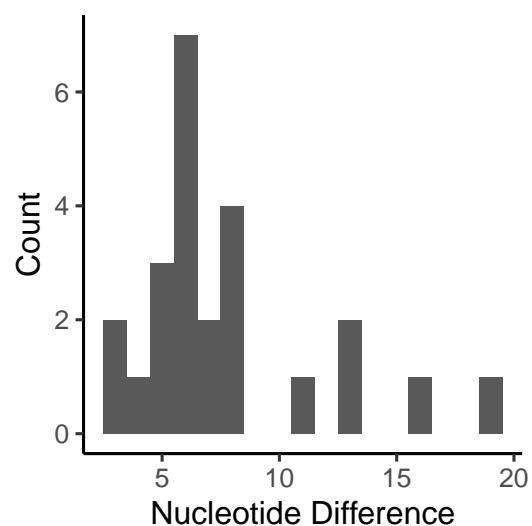
### IGHV4-30-4\*01

17 sequences assigned  
1 (5.9%) exact matches, in which:  
1 unique CDR3  
1 unique J



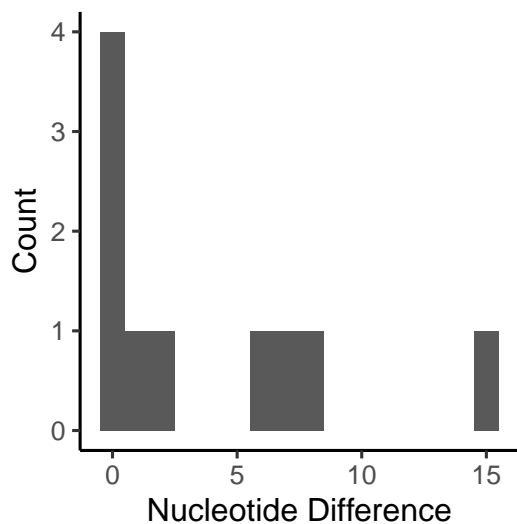
### IGHV4-30-4\*08

33 sequences assigned  
No exact matches.



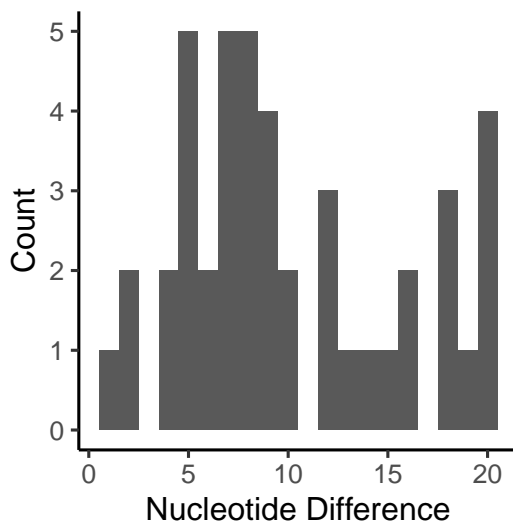
### IGHV4-28\*02\_05

12 sequences assigned  
4 (33.3%) exact matches, in which:  
4 unique CDR3  
3 unique J



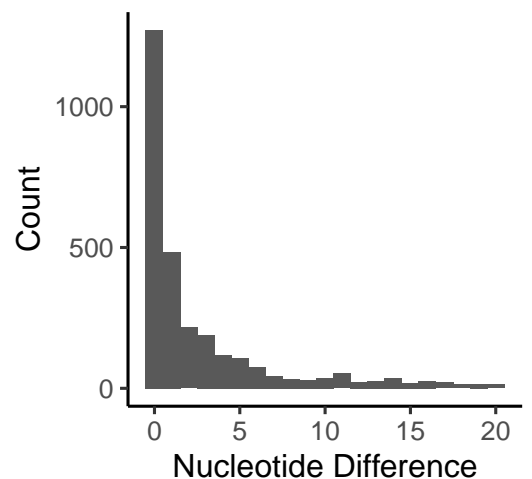
### IGHV4-30-2\*03

77 sequences assigned  
No exact matches.



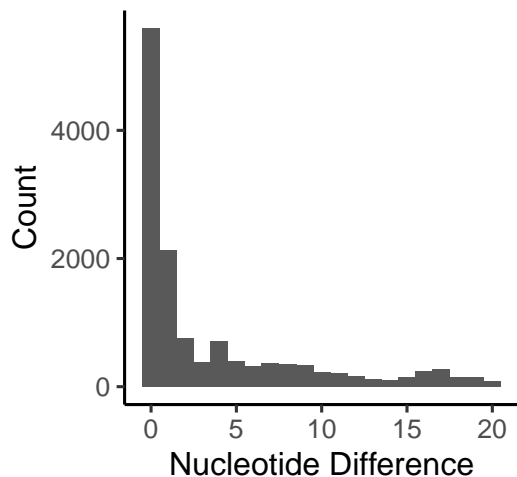
### IGHV4-31\*02

2952 sequences assigned  
1272 (43.1%) exact matches, in which:  
1243 unique CDR3  
6 unique J



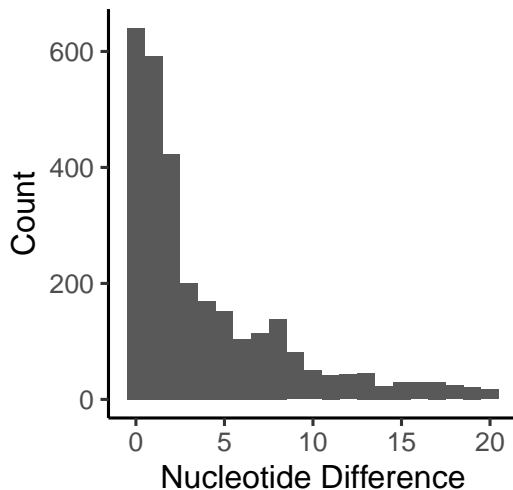
### IGHV4-34\*01\_02

15296 sequences assigned  
5591 (36.6%) exact matches, in which:  
5281 unique CDR3  
6 unique J



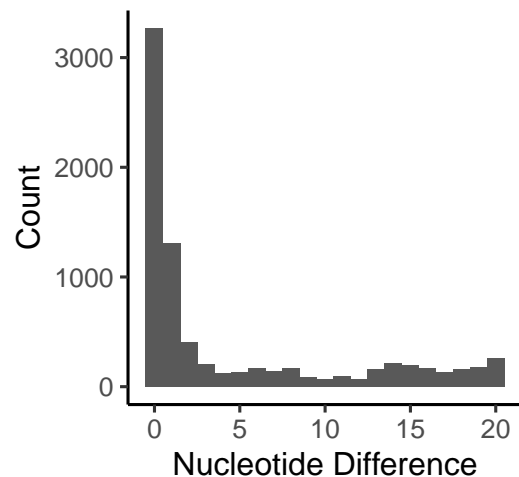
### IGHV4-59\*08

3204 sequences assigned  
641 (20%) exact matches, in which:  
634 unique CDR3  
6 unique J



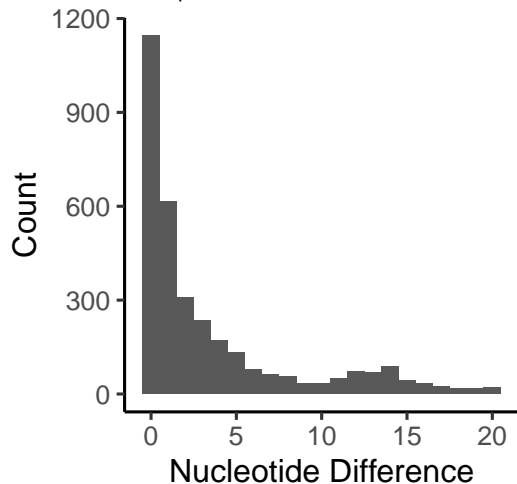
### IGHV4-61\*02

9410 sequences assigned  
3266 (34.7%) exact matches, in which:  
3155 unique CDR3  
6 unique J



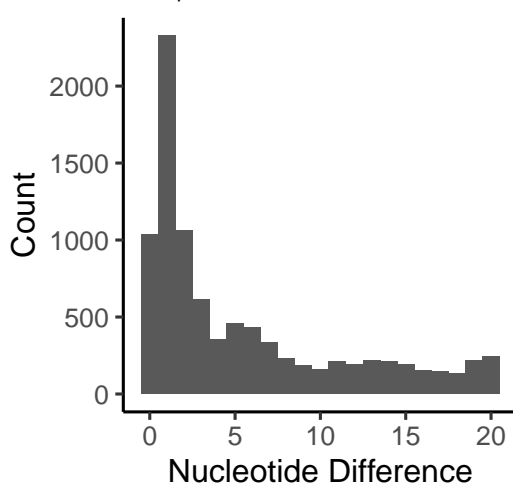
### IGHV4-38-2\*02

3529 sequences assigned  
1145 (32.4%) exact matches, in which:  
1092 unique CDR3  
6 unique J



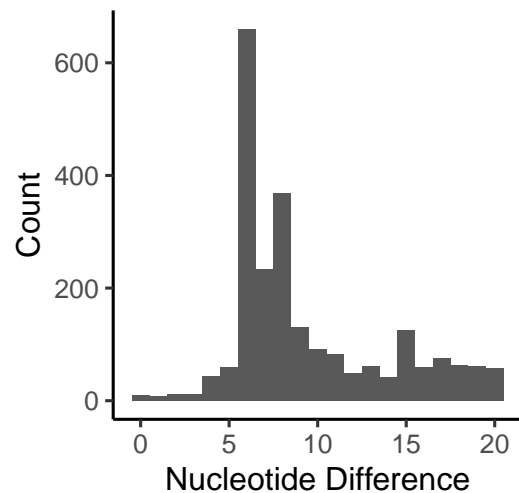
### IGHV4-59\*12

9811 sequences assigned  
1039 (10.6%) exact matches, in which:  
1034 unique CDR3  
6 unique J



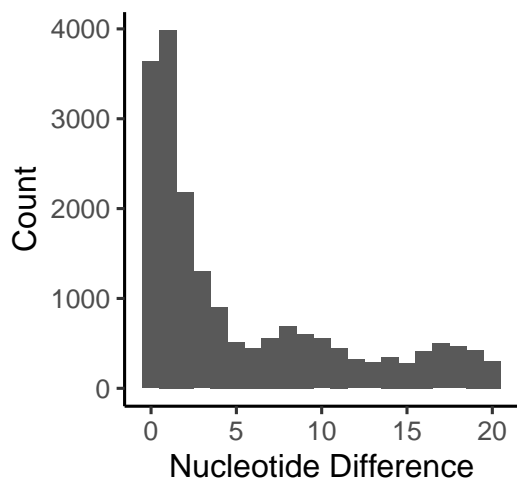
### IGHV1/OR15-2\*02\_03\_T

2566 sequences assigned  
10 (0.4%) exact matches, in which:  
10 unique CDR3  
4 unique J



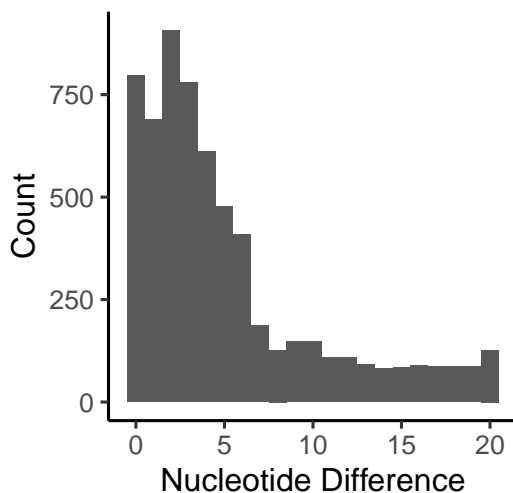
### IGHV4-39\*07

25688 sequences assigned  
3637 (14.2%) exact matches, in which:  
3451 unique CDR3  
6 unique J



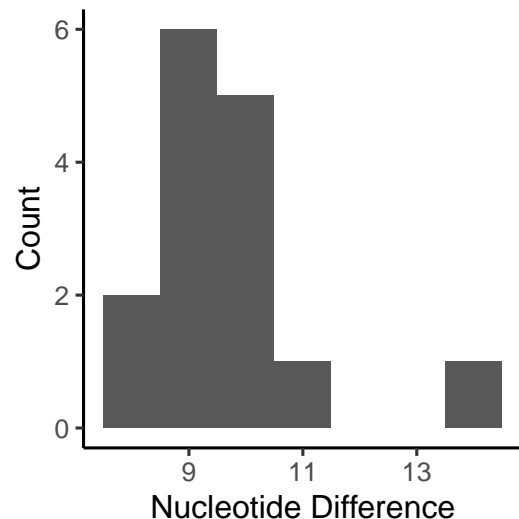
### IGHV4-61\*01

7917 sequences assigned  
796 (10.1%) exact matches, in which:  
784 unique CDR3  
6 unique J



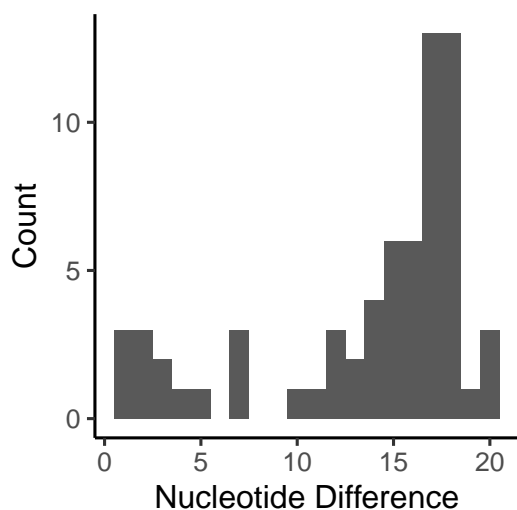
### IGHV1/OR15-3\*02

22 sequences assigned  
No exact matches.



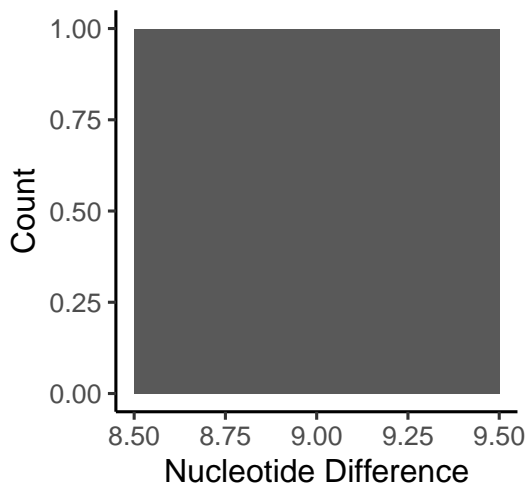
### IGHV4/OR15–8\*01

93 sequences assigned  
No exact matches.



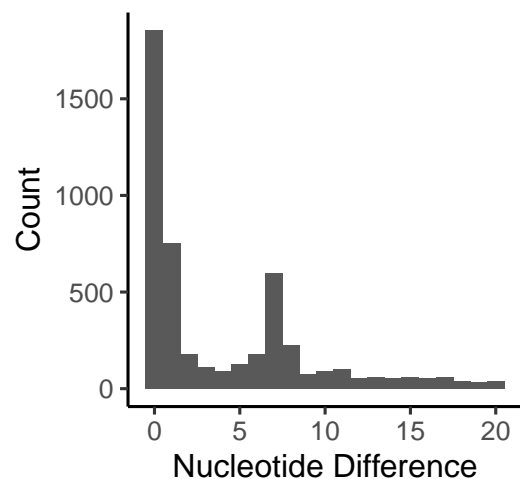
### IGHV5–78\*01

1 sequences assigned  
No exact matches.



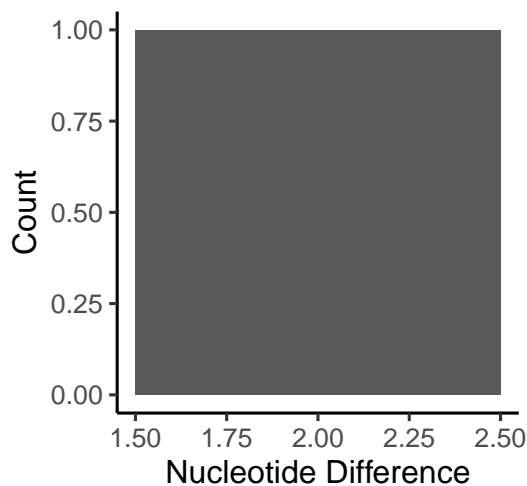
### IGHV7–4–1\*02

5401 sequences assigned  
1854 (34.3%) exact matches, in which:  
1748 unique CDR3  
6 unique J



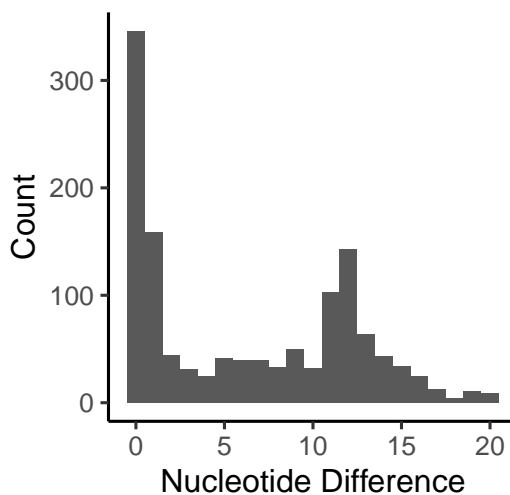
### IGHV5–10–1\*01\_03

1 sequences assigned  
No exact matches.



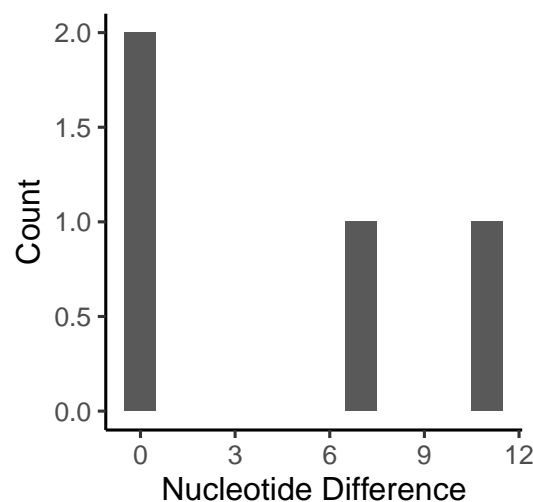
### IGHV6–1\*01\_02

1539 sequences assigned  
346 (22.5%) exact matches, in which:  
337 unique CDR3  
6 unique J



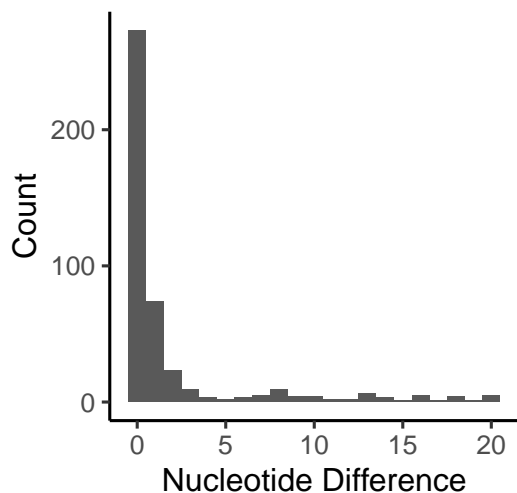
### IGHV7–81\*01

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



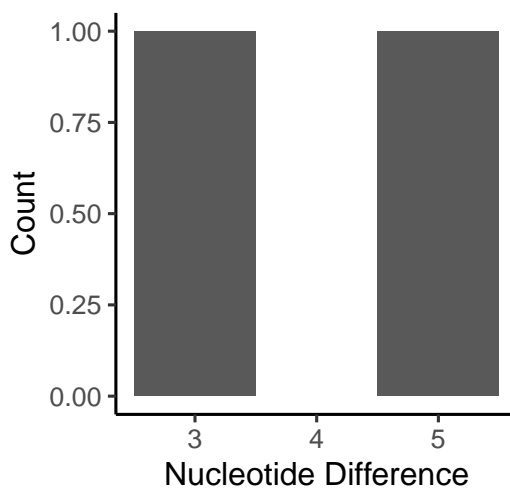
### IGHV5–51\*07

456 sequences assigned  
273 (59.9%) exact matches, in which:  
252 unique CDR3  
6 unique J



### IGHV3/OR16–9\*01

2 sequences assigned  
No exact matches.





Warning – no inferred sequences found.