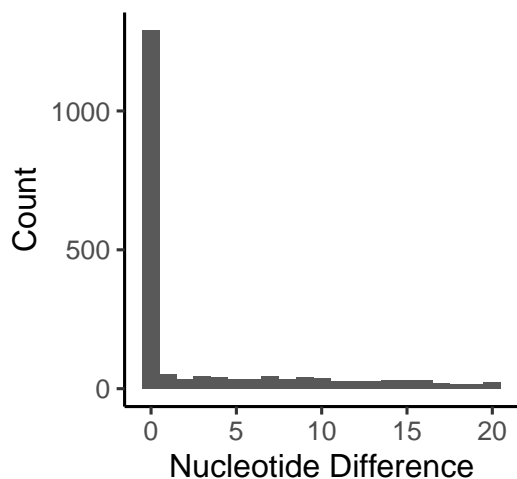


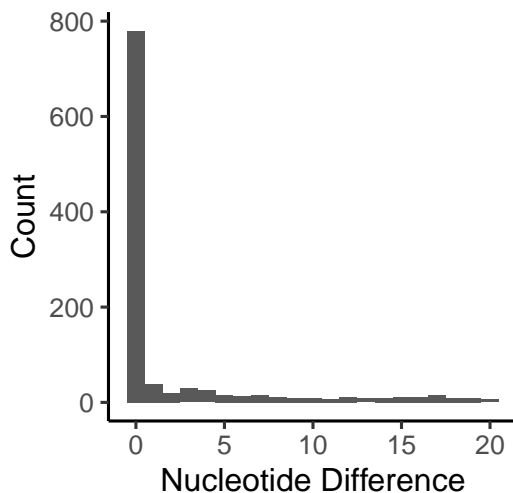
### IGHV1-2\*02

2140 sequences assigned  
1290 (60.3%) exact matches, in which:  
1275 unique CDR3  
6 unique J



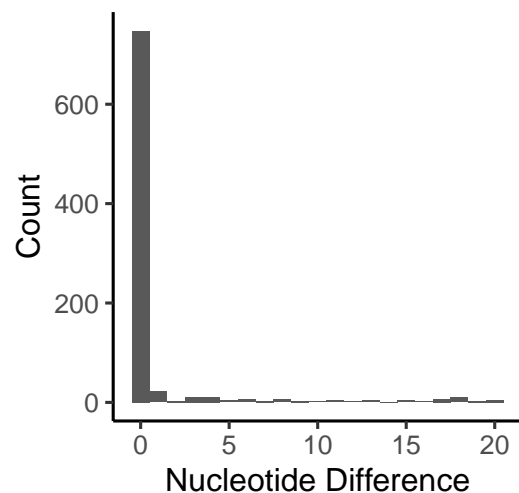
### IGHV1-8\*01

1133 sequences assigned  
780 (68.8%) exact matches, in which:  
771 unique CDR3  
6 unique J



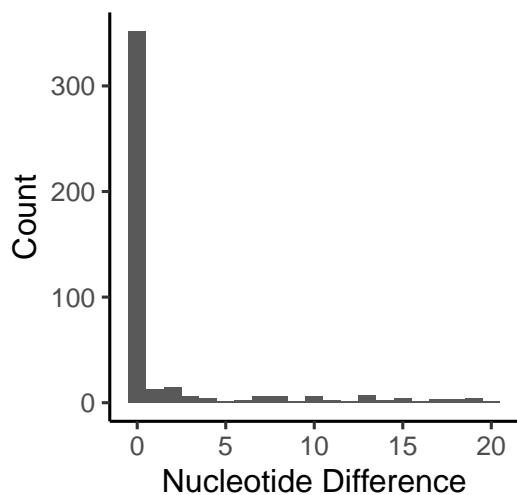
### IGHV1-24\*01

897 sequences assigned  
748 (83.4%) exact matches, in which:  
743 unique CDR3  
6 unique J



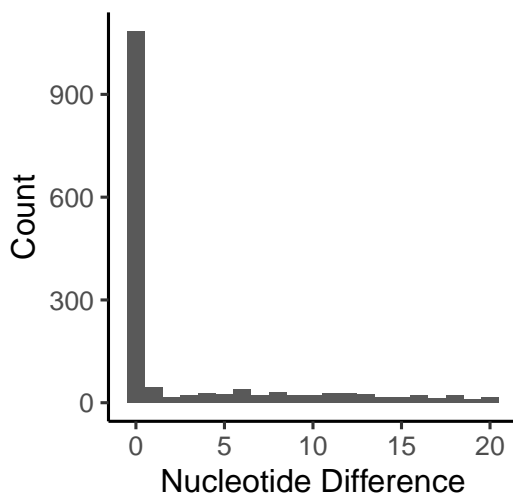
### IGHV1-2\*04

472 sequences assigned  
352 (74.6%) exact matches, in which:  
350 unique CDR3  
6 unique J



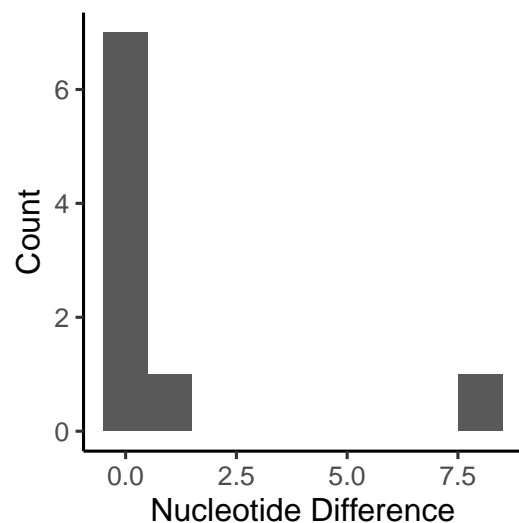
### IGHV1-18\*01

1717 sequences assigned  
1085 (63.2%) exact matches, in which:  
1069 unique CDR3  
6 unique J



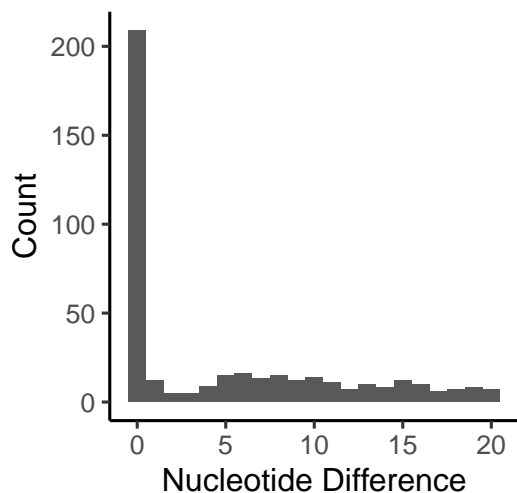
### IGHV1-45\*02

11 sequences assigned  
7 (63.6%) exact matches, in which:  
7 unique CDR3  
3 unique J



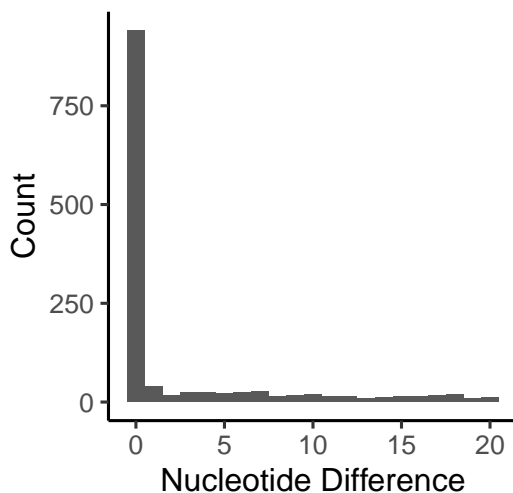
### IGHV1-3\*01\_05

475 sequences assigned  
209 (44%) exact matches, in which:  
208 unique CDR3  
6 unique J



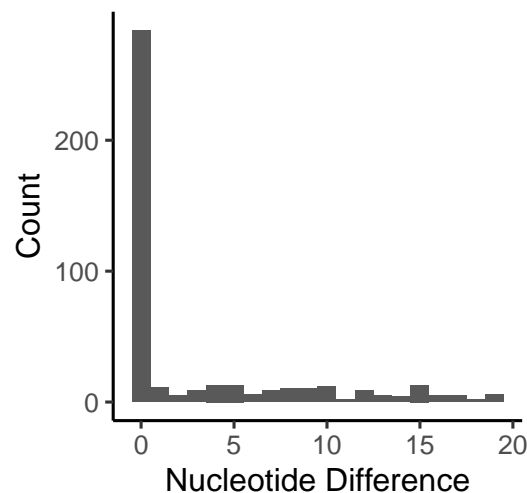
### IGHV1-18\*04

1406 sequences assigned  
941 (66.9%) exact matches, in which:  
929 unique CDR3  
6 unique J



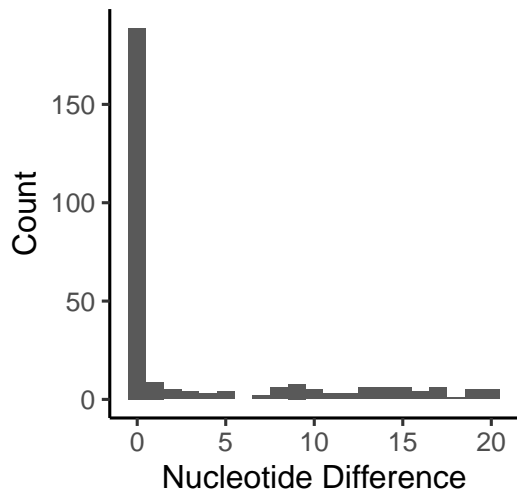
### IGHV1-46\*01

492 sequences assigned  
284 (57.7%) exact matches, in which:  
282 unique CDR3  
6 unique J



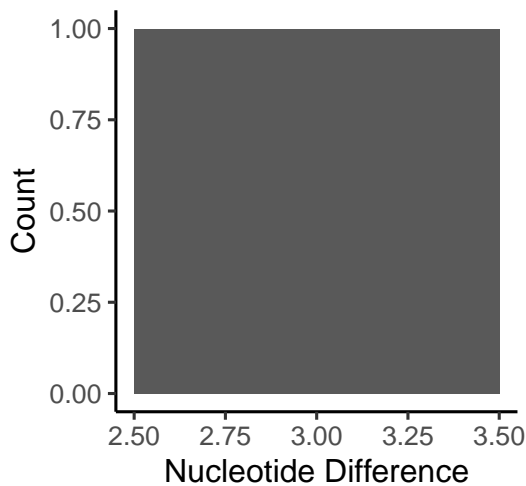
### IGHV1-46\*03

324 sequences assigned  
189 (58.3%) exact matches, in which:  
189 unique CDR3  
6 unique J



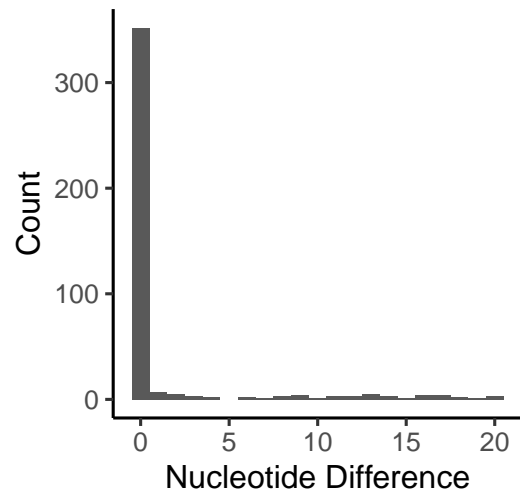
### IGHV1-68\*02\_03

2 sequences assigned  
No exact matches.



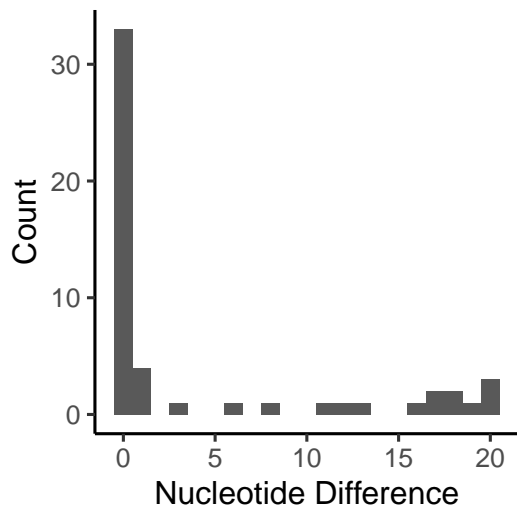
### IGHV1-69\*06\_14

446 sequences assigned  
352 (78.9%) exact matches, in which:  
352 unique CDR3  
6 unique J



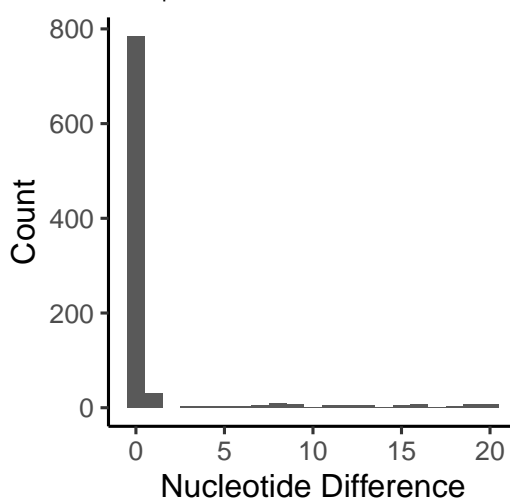
### IGHV1-58\*02

79 sequences assigned  
33 (41.8%) exact matches, in which:  
33 unique CDR3  
5 unique J



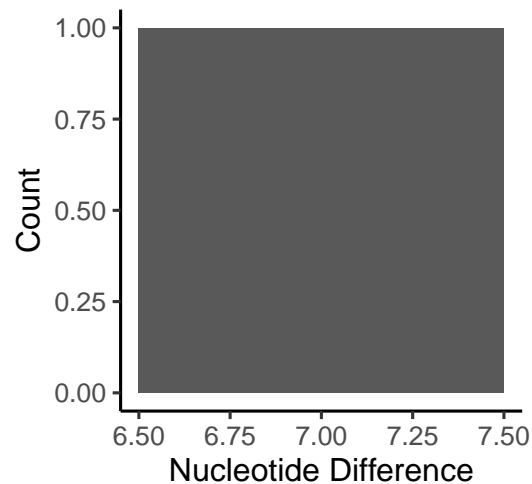
### IGHV1-69\*01\_12\_13

1005 sequences assigned  
785 (78.1%) exact matches, in which:  
784 unique CDR3  
6 unique J



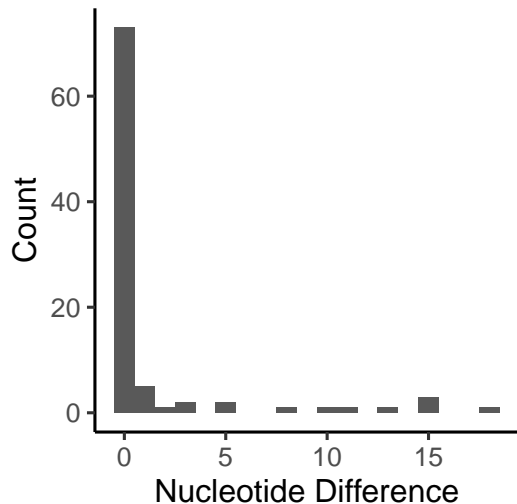
### IGHV1-NL1\*01

1 sequences assigned  
No exact matches.



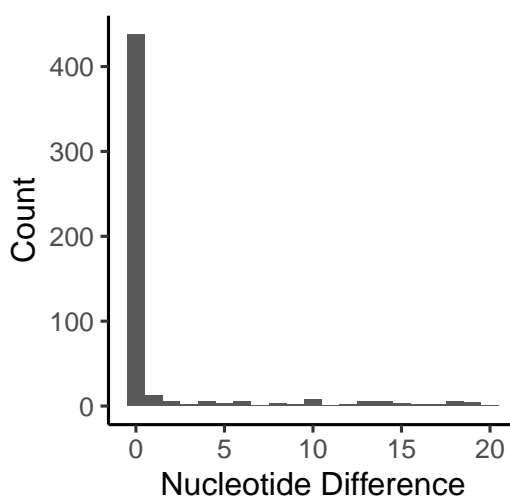
### IGHV1-58\*01\_03

97 sequences assigned  
73 (75.3%) exact matches, in which:  
73 unique CDR3  
6 unique J



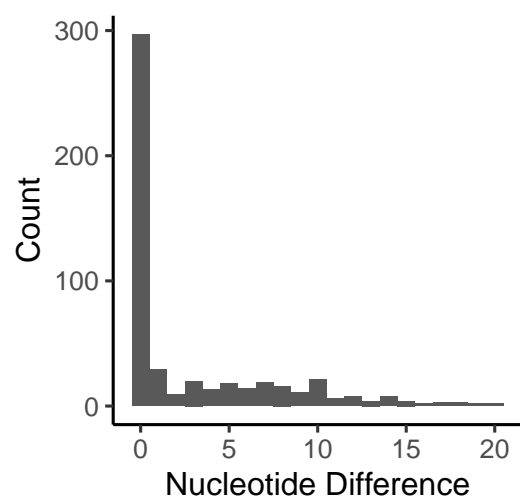
### IGHV1-69\*04\_09

571 sequences assigned  
438 (76.7%) exact matches, in which:  
436 unique CDR3  
6 unique J



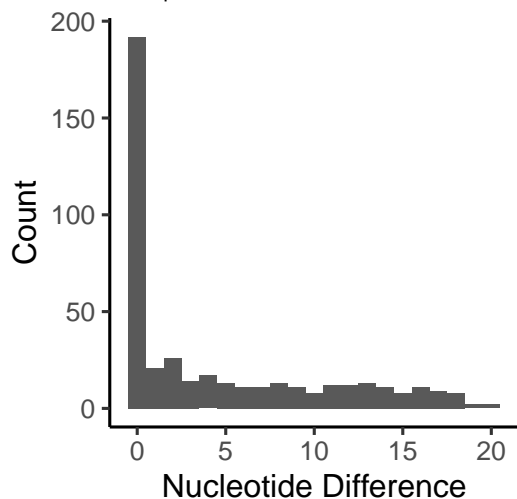
### IGHV2-5\*01

552 sequences assigned  
297 (53.8%) exact matches, in which:  
295 unique CDR3  
6 unique J



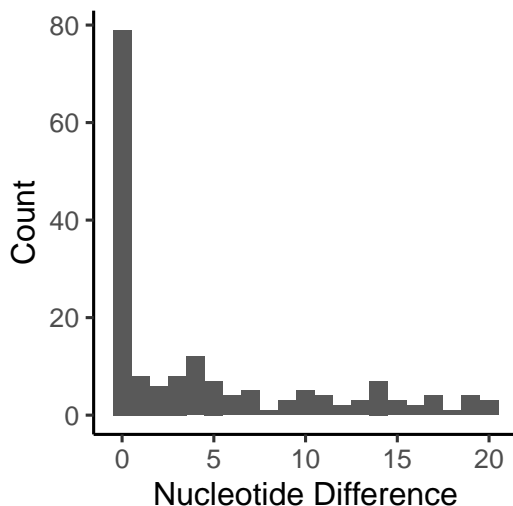
### IGHV2-5\*02

490 sequences assigned  
192 (39.2%) exact matches, in which:  
192 unique CDR3  
6 unique J



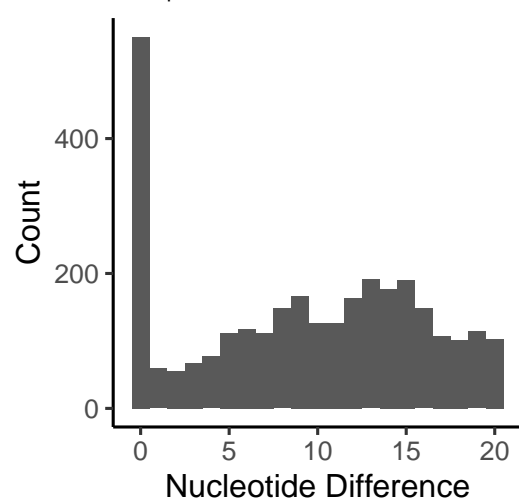
### IGHV2-70\*04

185 sequences assigned  
79 (42.7%) exact matches, in which:  
79 unique CDR3  
5 unique J



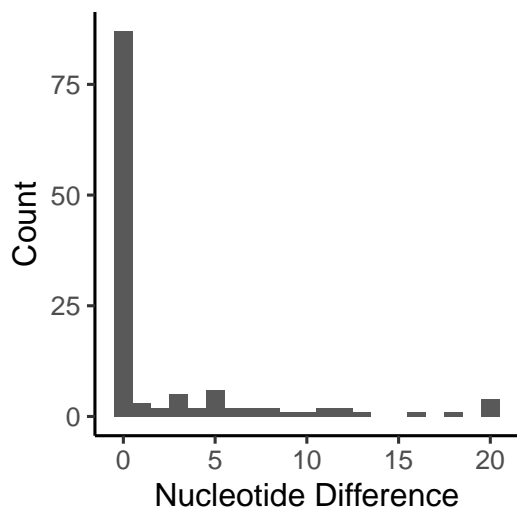
### IGHV3-7\*01

3491 sequences assigned  
551 (15.8%) exact matches, in which:  
530 unique CDR3  
6 unique J



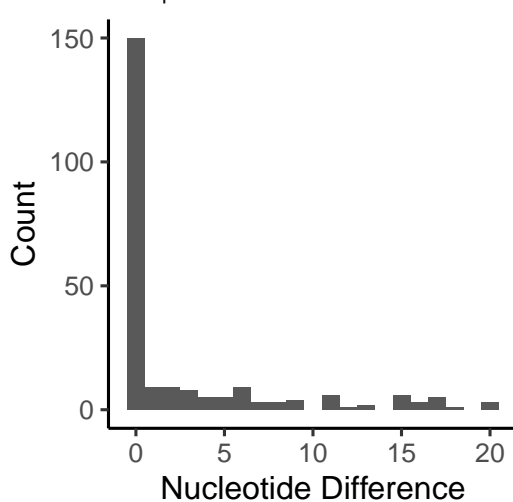
### IGHV2-26\*01

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



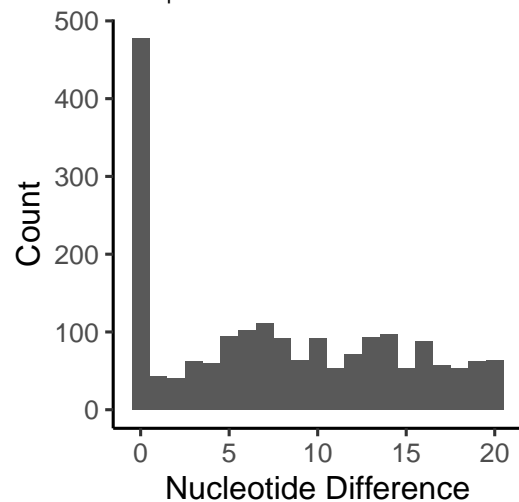
### IGHV2-70\*11\_15

239 sequences assigned  
150 (62.8%) exact matches, in which:  
147 unique CDR3  
5 unique J



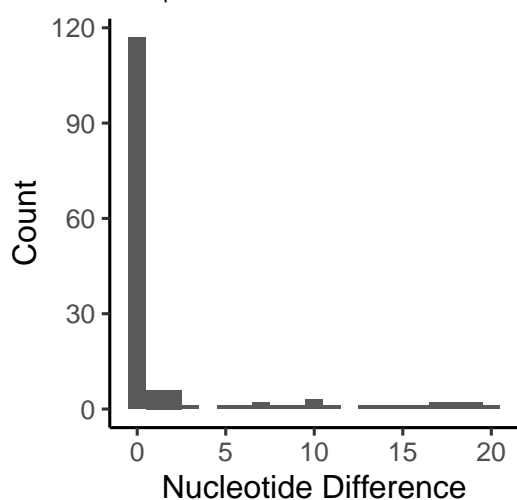
### IGHV3-7\*03

2170 sequences assigned  
478 (22%) exact matches, in which:  
450 unique CDR3  
6 unique J



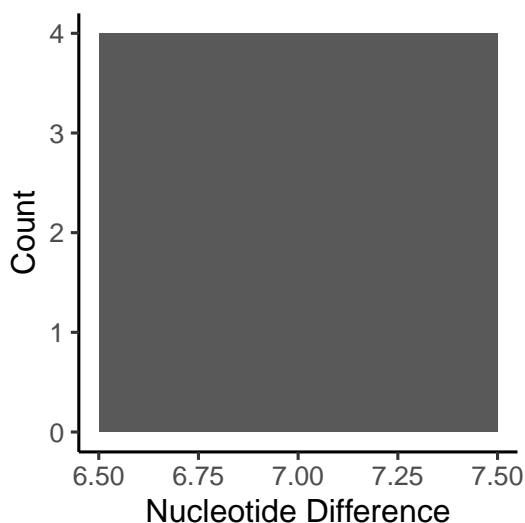
### IGHV2-70\*01

154 sequences assigned  
117 (76%) exact matches, in which:  
116 unique CDR3  
6 unique J



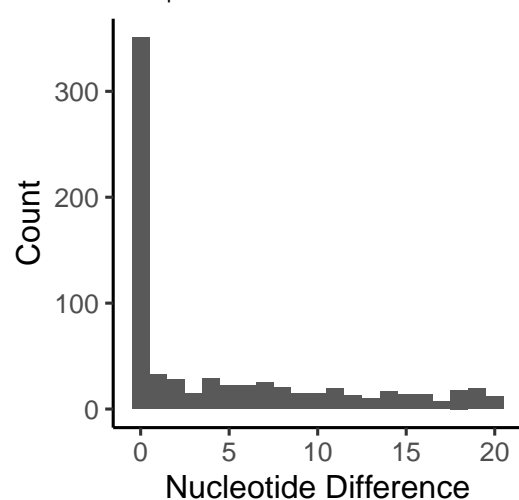
### IGHV2-70D\*14

4 sequences assigned  
No exact matches.



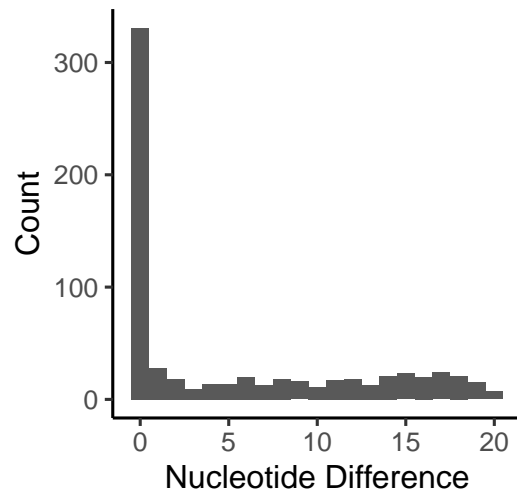
### IGHV3-9\*01

848 sequences assigned  
351 (41.4%) exact matches, in which:  
345 unique CDR3  
6 unique J



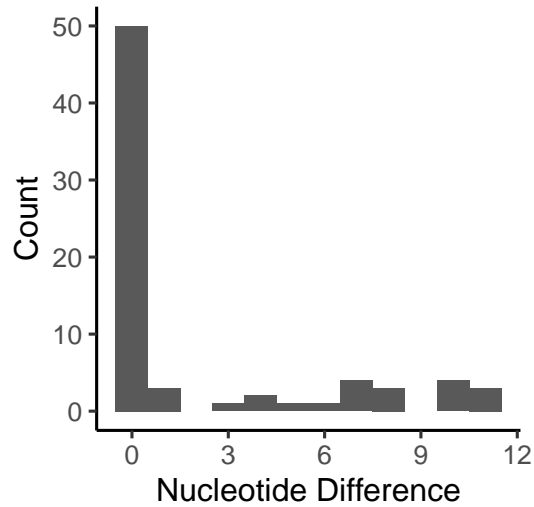
### IGHV3-11\*01

777 sequences assigned  
331 (42.6%) exact matches, in which:  
327 unique CDR3  
6 unique J



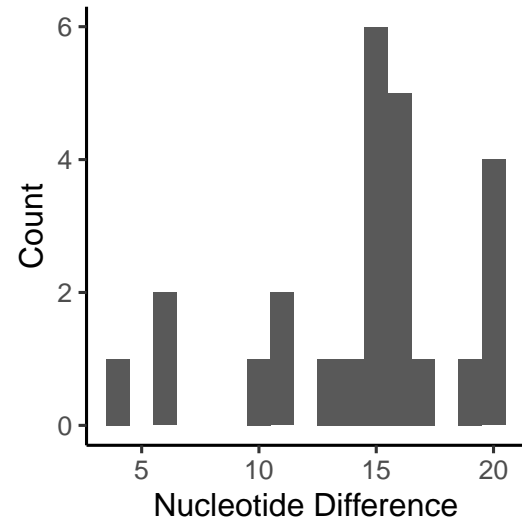
### IGHV3-13\*05

74 sequences assigned  
50 (67.6%) exact matches, in which:  
48 unique CDR3  
4 unique J



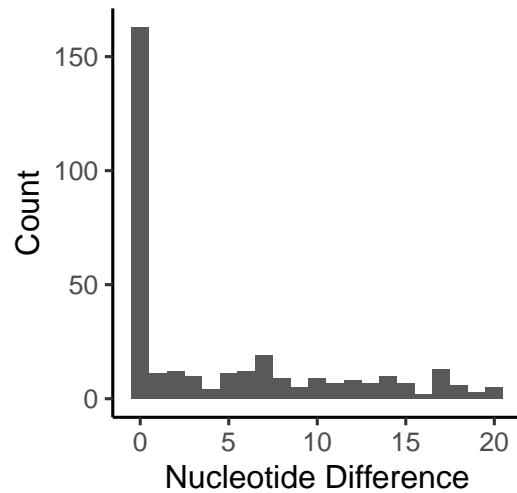
### IGHV3-20\*03\_04

54 sequences assigned  
No exact matches.



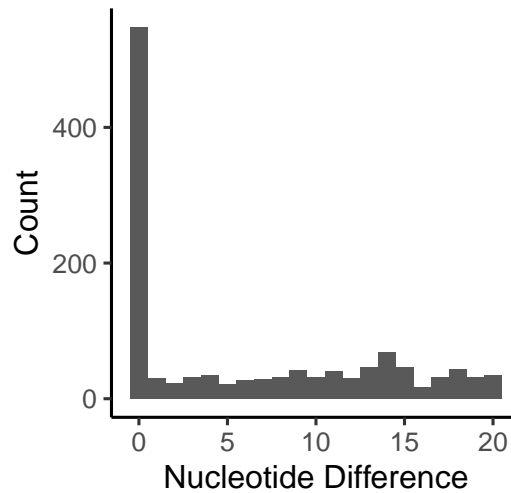
### IGHV3-11\*06

393 sequences assigned  
163 (41.5%) exact matches, in which:  
158 unique CDR3  
6 unique J



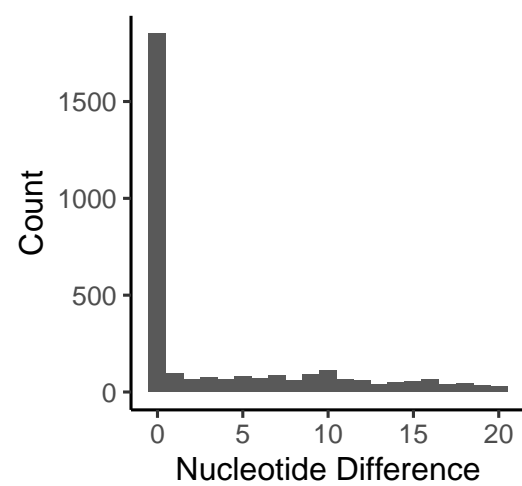
### IGHV3-15\*01\_02

1460 sequences assigned  
548 (37.5%) exact matches, in which:  
533 unique CDR3  
6 unique J



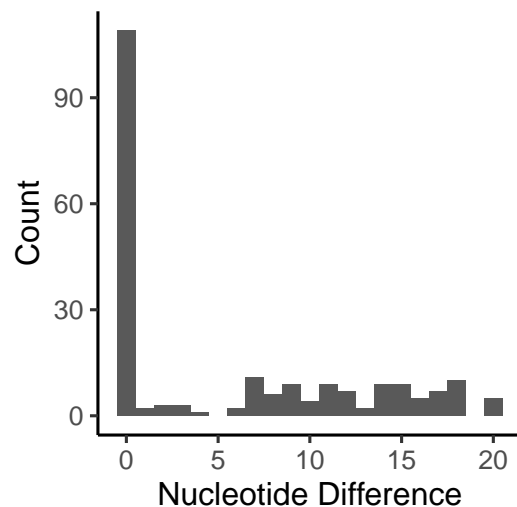
### IGHV3-21\*01\_02

3535 sequences assigned  
1850 (52.3%) exact matches, in which:  
1764 unique CDR3  
6 unique J



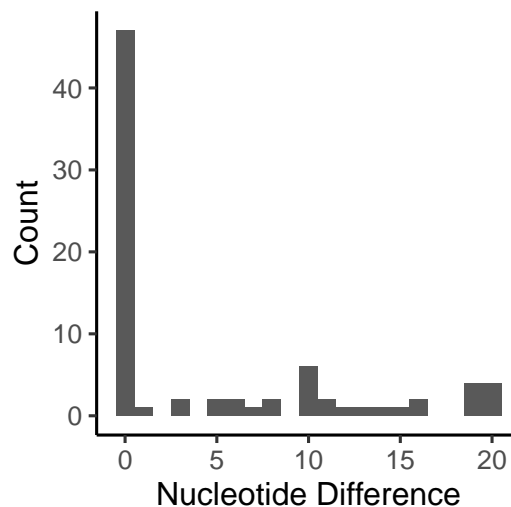
### IGHV3-13\*01

237 sequences assigned  
109 (46%) exact matches, in which:  
106 unique CDR3  
5 unique J



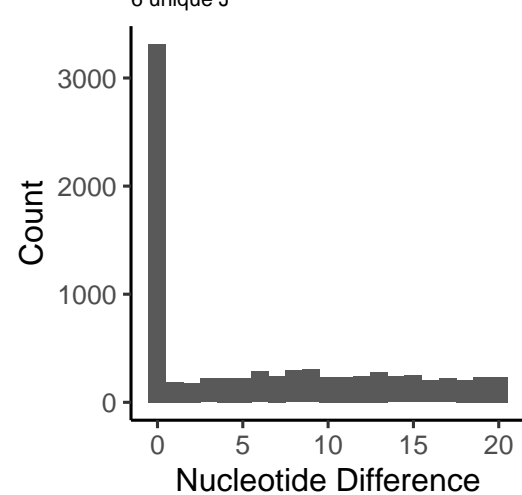
### IGHV3-20\*01\_02

87 sequences assigned  
47 (54%) exact matches, in which:  
45 unique CDR3  
5 unique J



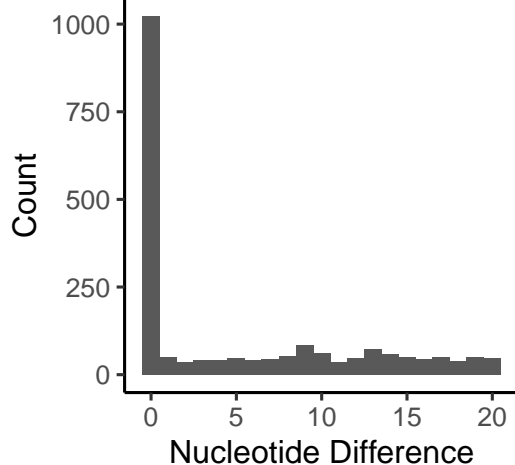
### IGHV3-23\*01\_04

9979 sequences assigned  
3314 (33.2%) exact matches, in which:  
3192 unique CDR3  
6 unique J



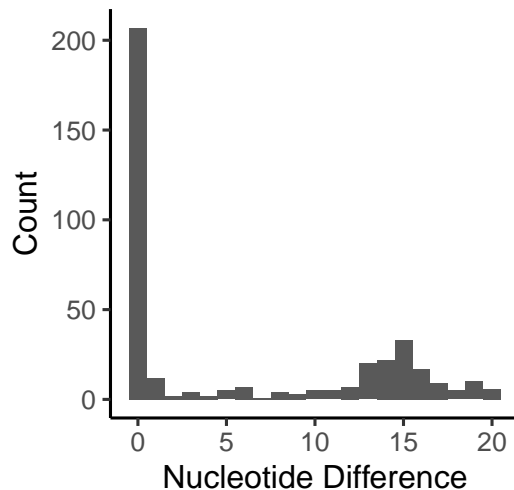
### IGHV3-30-3\*01

2402 sequences assigned  
1022 (42.5%) exact matches, in which:  
1000 unique CDR3  
6 unique J



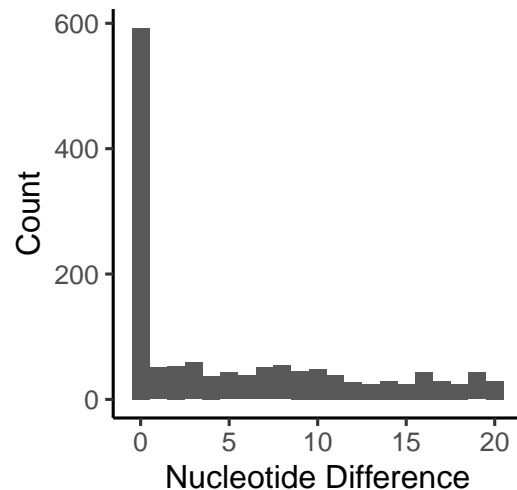
### IGHV3-43\*01

455 sequences assigned  
207 (45.5%) exact matches, in which:  
201 unique CDR3  
6 unique J



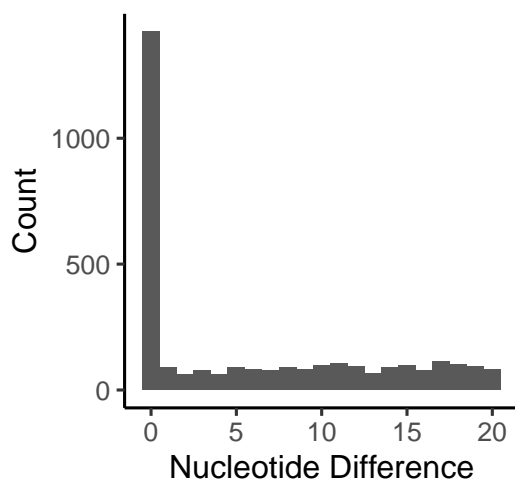
### IGHV3-48\*02

1571 sequences assigned  
593 (37.7%) exact matches, in which:  
551 unique CDR3  
6 unique J



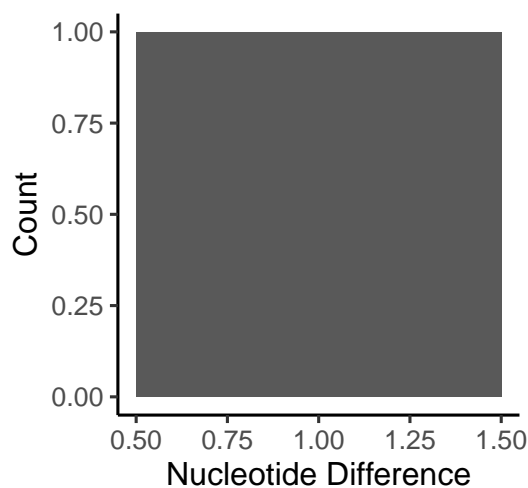
### IGHV3-30\*18

3847 sequences assigned  
1423 (37%) exact matches, in which:  
1385 unique CDR3  
6 unique J



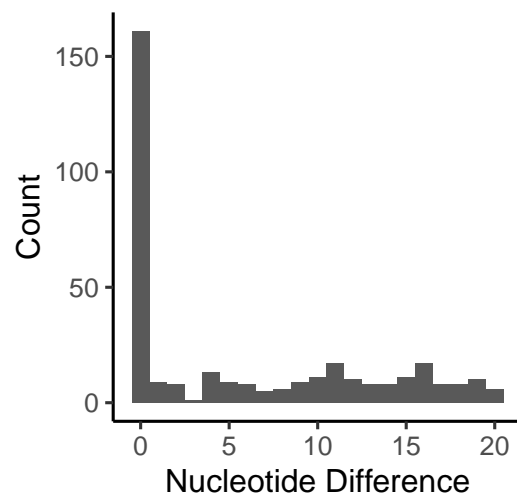
### IGHV3-47\*02

1 sequences assigned  
No exact matches.



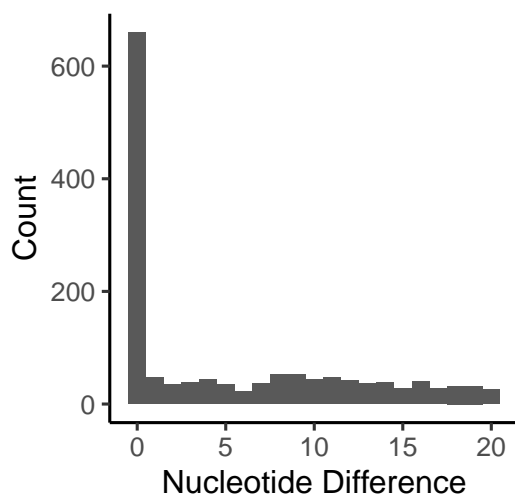
### IGHV3-49\*03\_05

413 sequences assigned  
161 (39%) exact matches, in which:  
160 unique CDR3  
6 unique J



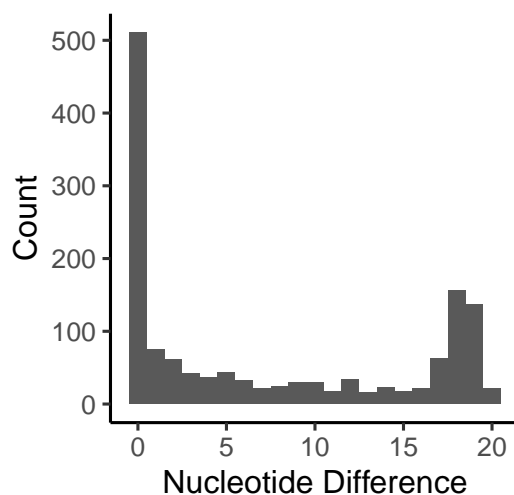
### IGHV3-33\*01

1718 sequences assigned  
660 (38.4%) exact matches, in which:  
650 unique CDR3  
6 unique J



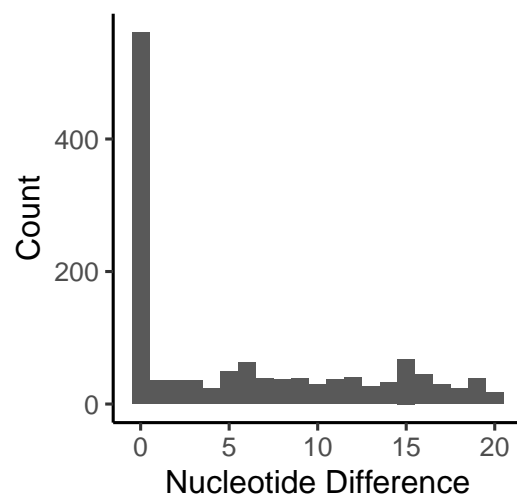
### IGHV3-48\*01

1560 sequences assigned  
511 (32.8%) exact matches, in which:  
459 unique CDR3  
6 unique J



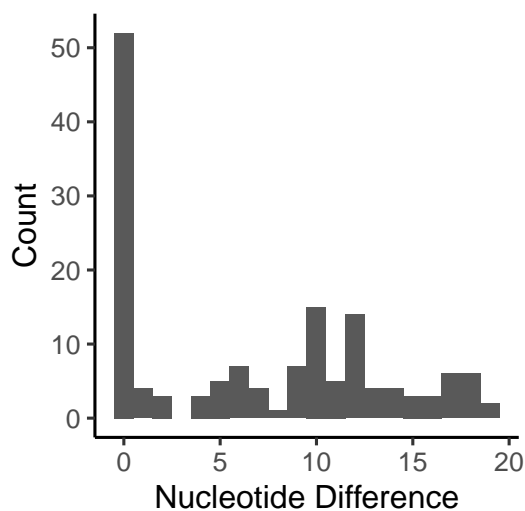
### IGHV3-53\*01\_02

1492 sequences assigned  
561 (37.6%) exact matches, in which:  
547 unique CDR3  
6 unique J



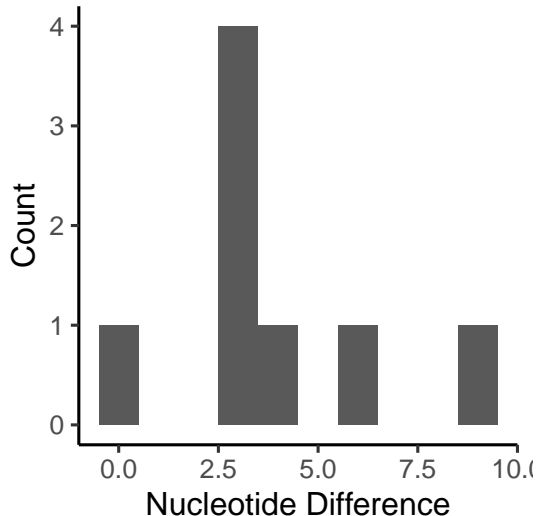
### IGHV3-64\*01

162 sequences assigned  
52 (32.1%) exact matches, in which:  
51 unique CDR3  
6 unique J



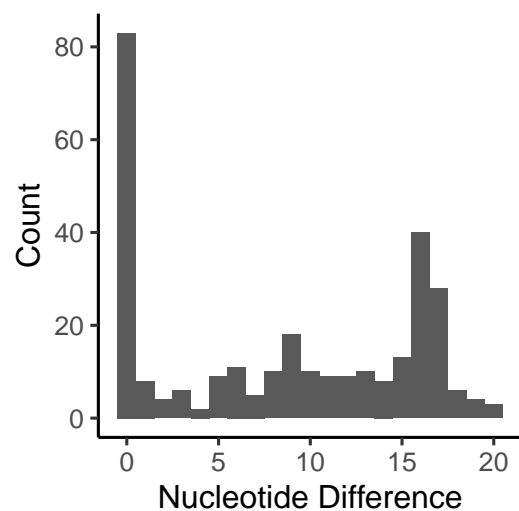
### IGHV3-69-1\*01

14 sequences assigned  
1 (7.1%) exact matches, in which:  
1 unique CDR3  
1 unique J



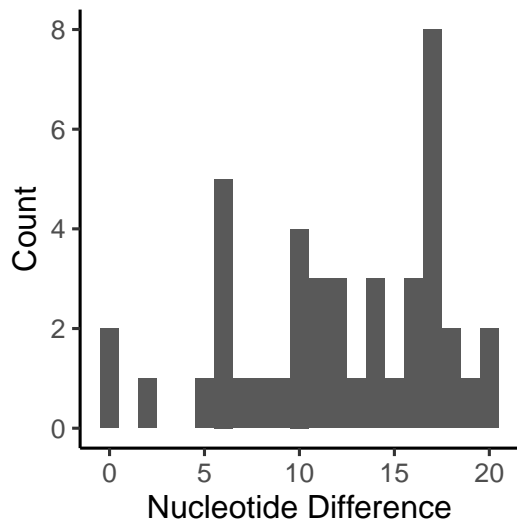
### IGHV3-73\*01\_02

343 sequences assigned  
83 (24.2%) exact matches, in which:  
82 unique CDR3  
6 unique J



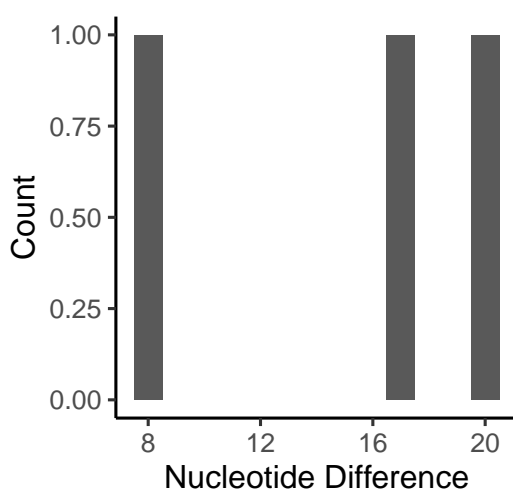
### IGHV3-64\*02\_07

59 sequences assigned  
2 (3.4%) exact matches, in which:  
2 unique CDR3  
2 unique J



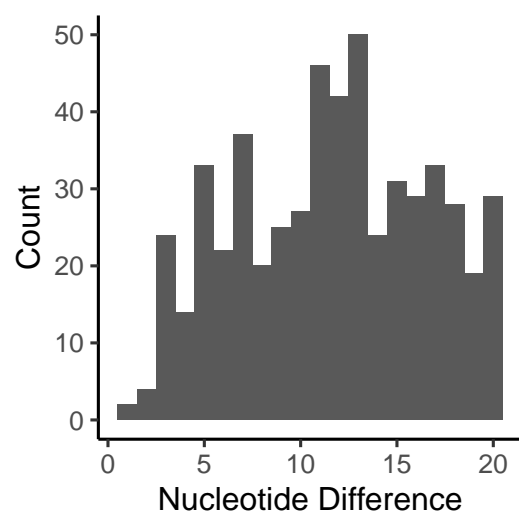
### IGHV3-69-1\*02

15 sequences assigned  
No exact matches.



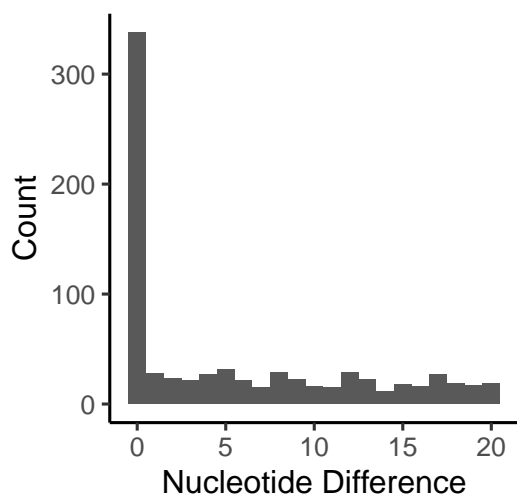
### IGHV3-74\*03

717 sequences assigned  
No exact matches.



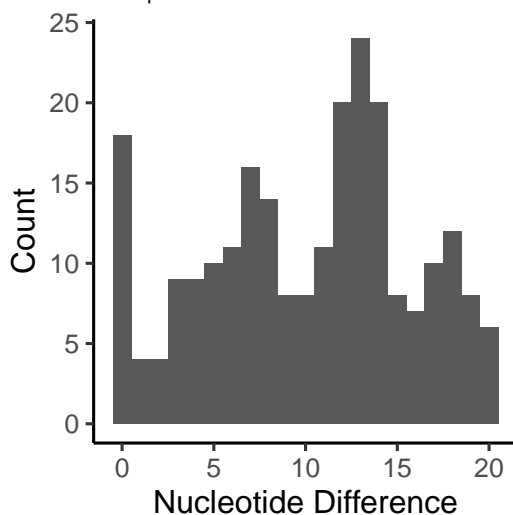
### IGHV3-66\*01

907 sequences assigned  
338 (37.3%) exact matches, in which:  
326 unique CDR3  
6 unique J



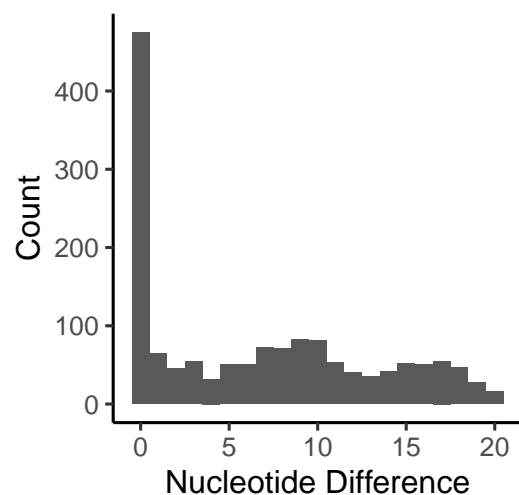
### IGHV3-72\*01

342 sequences assigned  
18 (5.3%) exact matches, in which:  
18 unique CDR3  
5 unique J



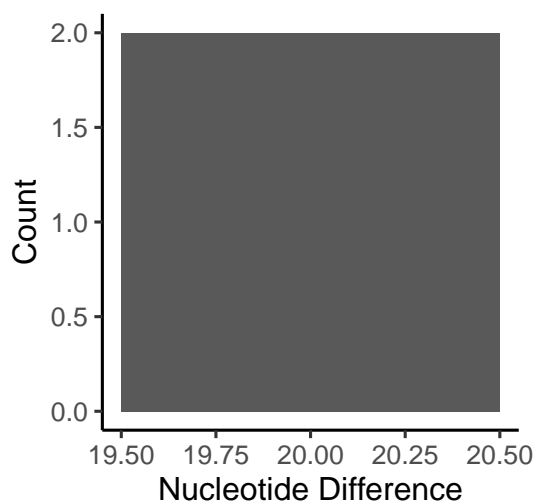
### IGHV3-74\*01\_02

1657 sequences assigned  
475 (28.7%) exact matches, in which:  
449 unique CDR3  
6 unique J



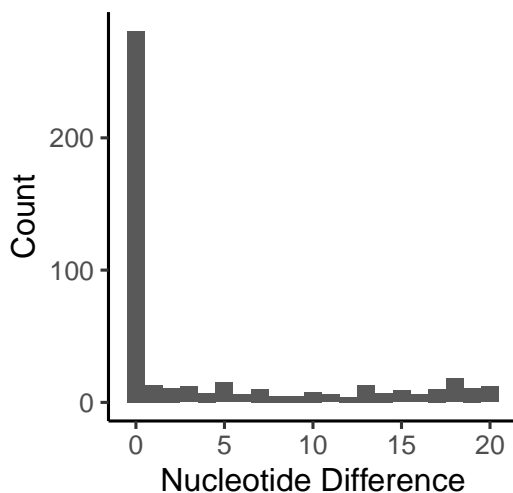
### IGHV3-43D\*04

3 sequences assigned  
No exact matches.



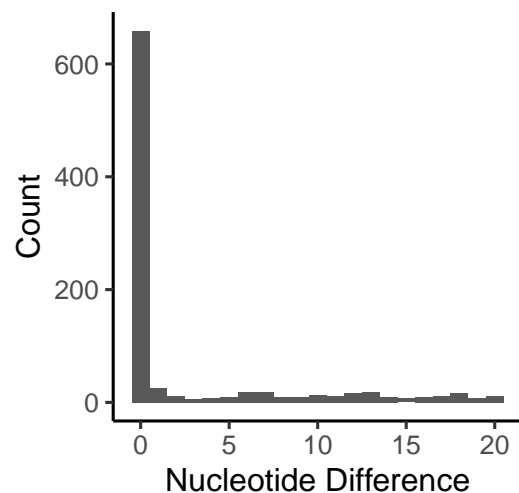
### IGHV4-4\*02\_03

657 sequences assigned  
281 (42.8%) exact matches, in which:  
275 unique CDR3  
6 unique J



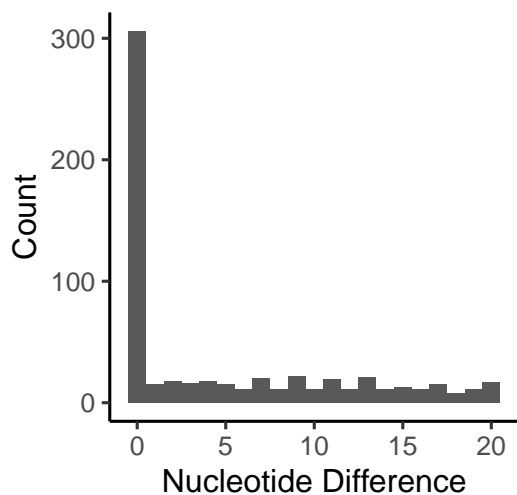
### IGHV4-30-2\*01

1035 sequences assigned  
659 (63.7%) exact matches, in which:  
644 unique CDR3  
6 unique J



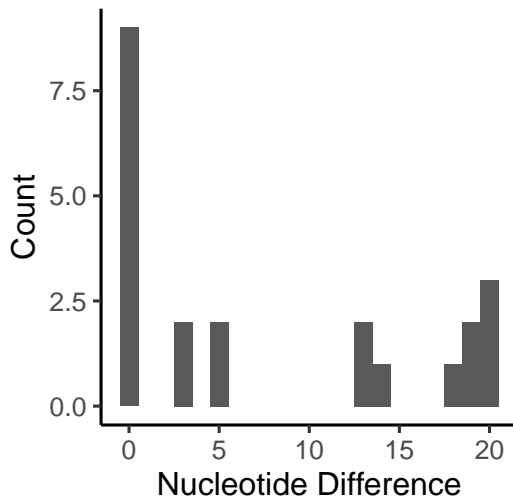
### IGHV3-64D\*06

712 sequences assigned  
306 (43%) exact matches, in which:  
300 unique CDR3  
6 unique J



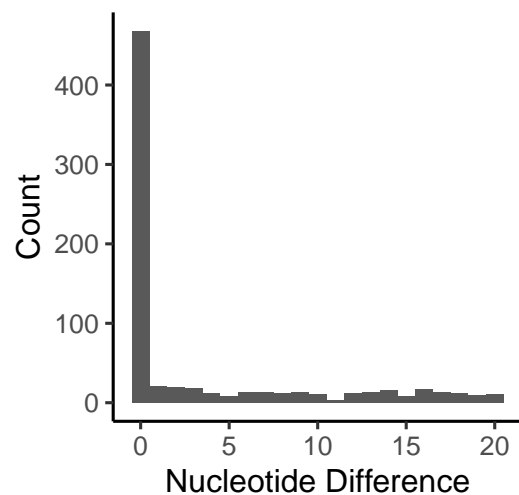
### IGHV4-28\*01\_07

32 sequences assigned  
9 (28.1%) exact matches, in which:  
9 unique CDR3  
3 unique J



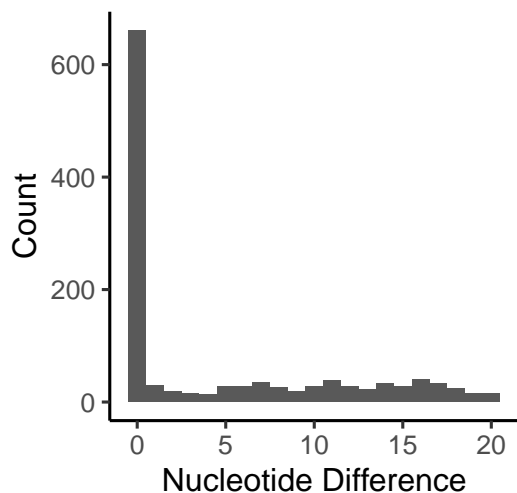
### IGHV4-30-4\*01

867 sequences assigned  
468 (54%) exact matches, in which:  
460 unique CDR3  
6 unique J



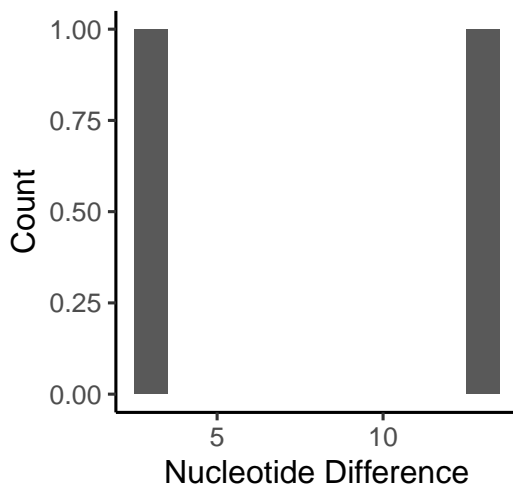
### IGHV4-4\*07

1349 sequences assigned  
661 (49%) exact matches, in which:  
633 unique CDR3  
6 unique J



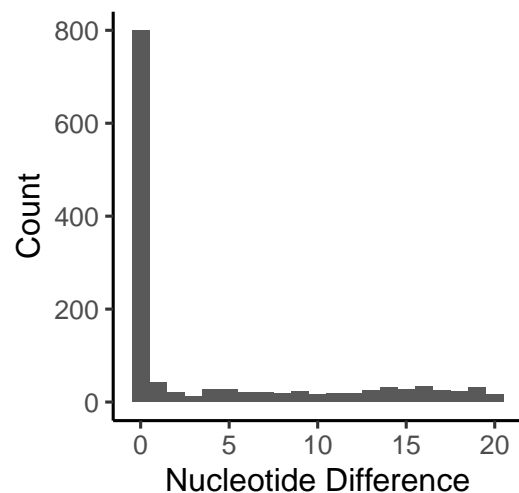
### IGHV4-28\*02\_05

2 sequences assigned  
No exact matches.



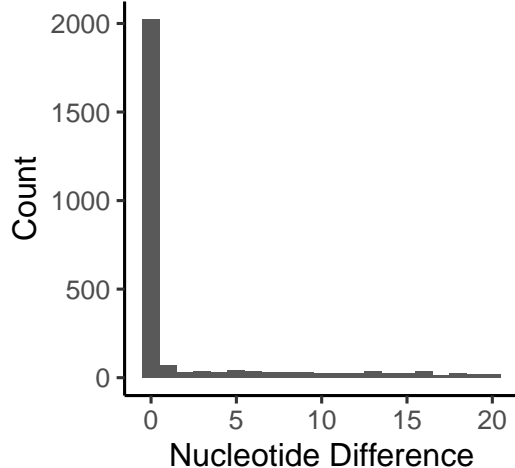
### IGHV4-31\*02

1510 sequences assigned  
800 (53%) exact matches, in which:  
788 unique CDR3  
6 unique J



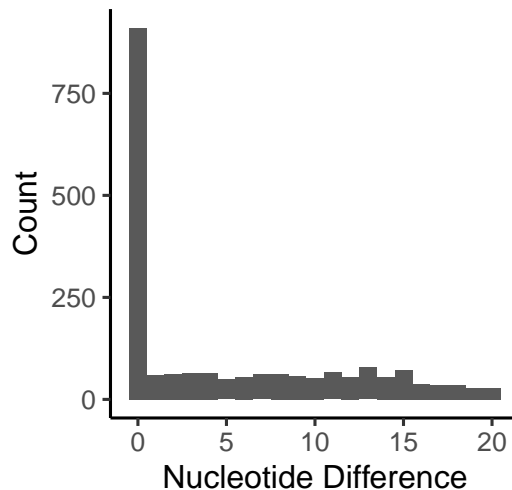
### IGHV4–34\*01\_02

2854 sequences assigned  
2023 (70.9%) exact matches, in which:  
1977 unique CDR3  
6 unique J



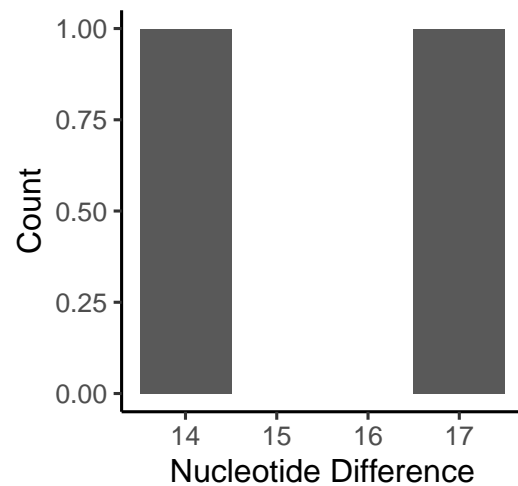
### IGHV4–59\*08

2334 sequences assigned  
911 (39%) exact matches, in which:  
889 unique CDR3  
6 unique J



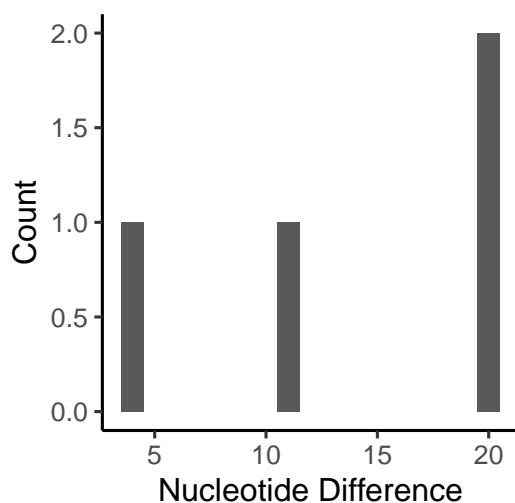
### IGHV4/OR15–8\*02

24 sequences assigned  
No exact matches.



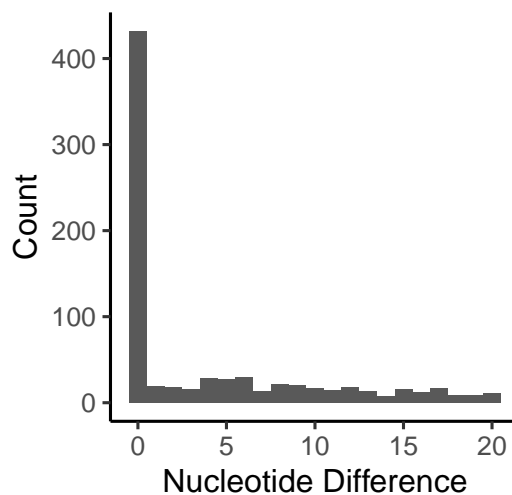
### IGHV4–38–2\*02

10 sequences assigned  
No exact matches.



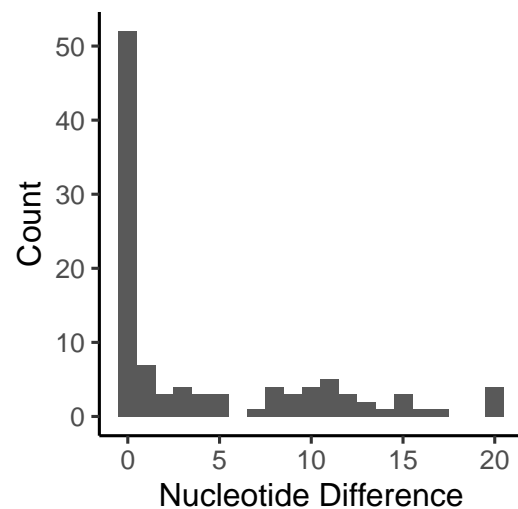
### IGHV4–61\*01

879 sequences assigned  
432 (49.1%) exact matches, in which:  
422 unique CDR3  
6 unique J



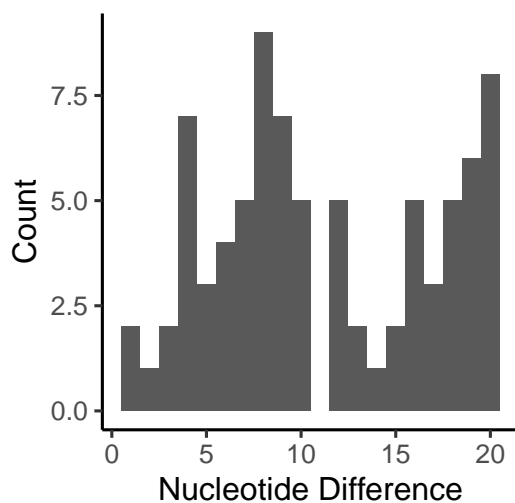
### IGHV5–10–1\*01\_03

120 sequences assigned  
52 (43.3%) exact matches, in which:  
51 unique CDR3  
5 unique J



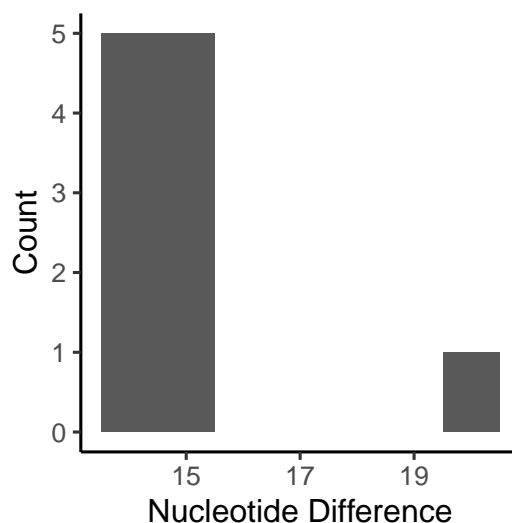
### IGHV4–39\*02

156 sequences assigned  
No exact matches.



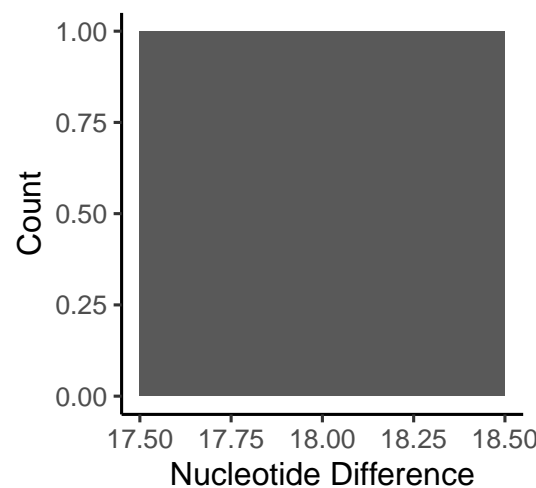
### IGHV4/OR15–8\*01

12 sequences assigned  
No exact matches.



### IGHV5–51\*06

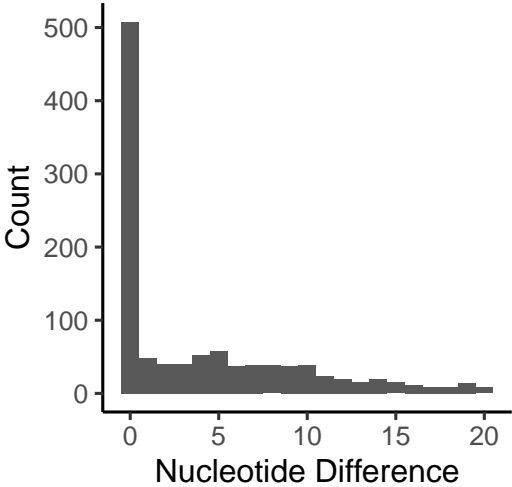
1 sequences assigned  
No exact matches.





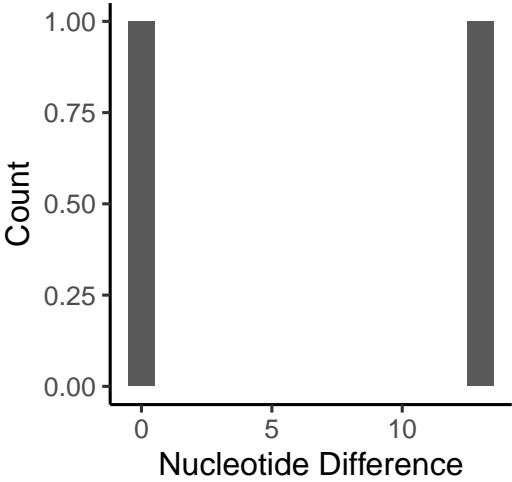
IGHV6-1\*01\_02

1123 sequences assigned  
508 (45.2%) exact matches, in which:  
493 unique CDR3  
6 unique J



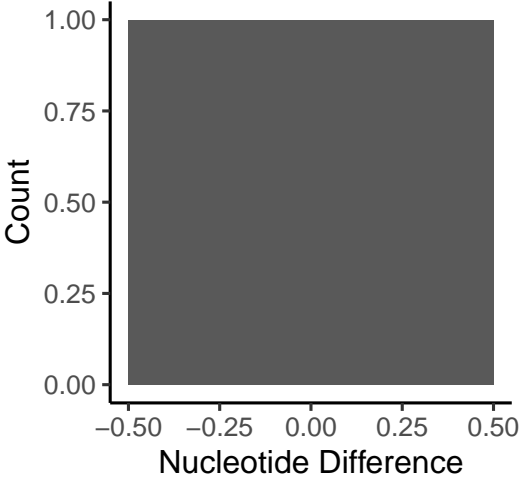
IGHV7-4-1\*01

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



IGHV7-81\*01

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





Warning – no inferred sequences found.